

However, accommodations and modifications should not be considered only in light of teacher beliefs. IDEA is clear that the unique needs of students take precedence over the convenience of schools and professionals. With imagination and some input from special educators, you will undoubtedly find strategies that match your teaching approach while maximizing your students' learning.

- *Determine Whether You Are Dealing with a “Can’t” or a “Won’t” Problem:* Blankenship and Lilly (1981) describe a “can’t” problem as one in which the student, no matter how highly motivated, is unable to do what is expected. A “won’t” problem is one in which the student could do what is expected but is not motivated to do so. Each type of problem may require a different accommodation. A student unable to do what is expected might need a bypass strategy; a student unwilling to do the work might need a behavior management strategy. Making this distinction can also save you time. For example, if a student fails a test because she does not feel like working on the day of the test, then a teacher’s attempt to provide extra tutorial assistance will likely be wasted effort. “Can’t” and “won’t” problems are particularly relevant for adolescents, who are often less likely than younger students to work to please their teachers.
- *Give Students Choices:* Adding the element of choice challenges students to make decisions, encourages them to be more responsible for their own learning, and allows them to more readily demonstrate what they know by tapping into their strengths and interests (Anderson, 2007; Carolan & Guinn, 2007).
- *Select Strategies with Demonstrated Effectiveness:* Over the past 30 years, a massive body of professional literature on effective teaching practices has accumulated. Being familiar with this research can help you avoid fads and other unvalidated practices. The strategies suggested throughout this text are based on research and form a starting point for your understanding of validated practices. Such an understanding has always been important, but it is particularly important in view of the recent emphasis placed on evidence-based practices in IDEA and ESEA legislation, as well as in RtI, which requires the use of evidence-based practices in all of its instructional tiers. Ways to select evidence-based practices are described in the Professional Edge.

fyi

To learn more about how to critically read single subject and group experimental research articles see Tankersley et al. (2008) and Cook et al. (2006).

Step 7: Evaluate Student Progress

Although there are many effective teaching practices, it is difficult to predict which will be effective for a given student. As a result, once an accommodation or modification is implemented, the *E* step of INCLUDE is essential: Evaluate strategy effectiveness. You can track effectiveness through grades; observations; analysis of student work; portfolios; performance assessments; and teacher, parent, and student ratings. Monitoring student progress in this way will help you decide whether to continue, change, or discontinue an intervention. In RtI, information obtained through progress monitoring is used to assign students to more intensive instructional tiers, including special education.

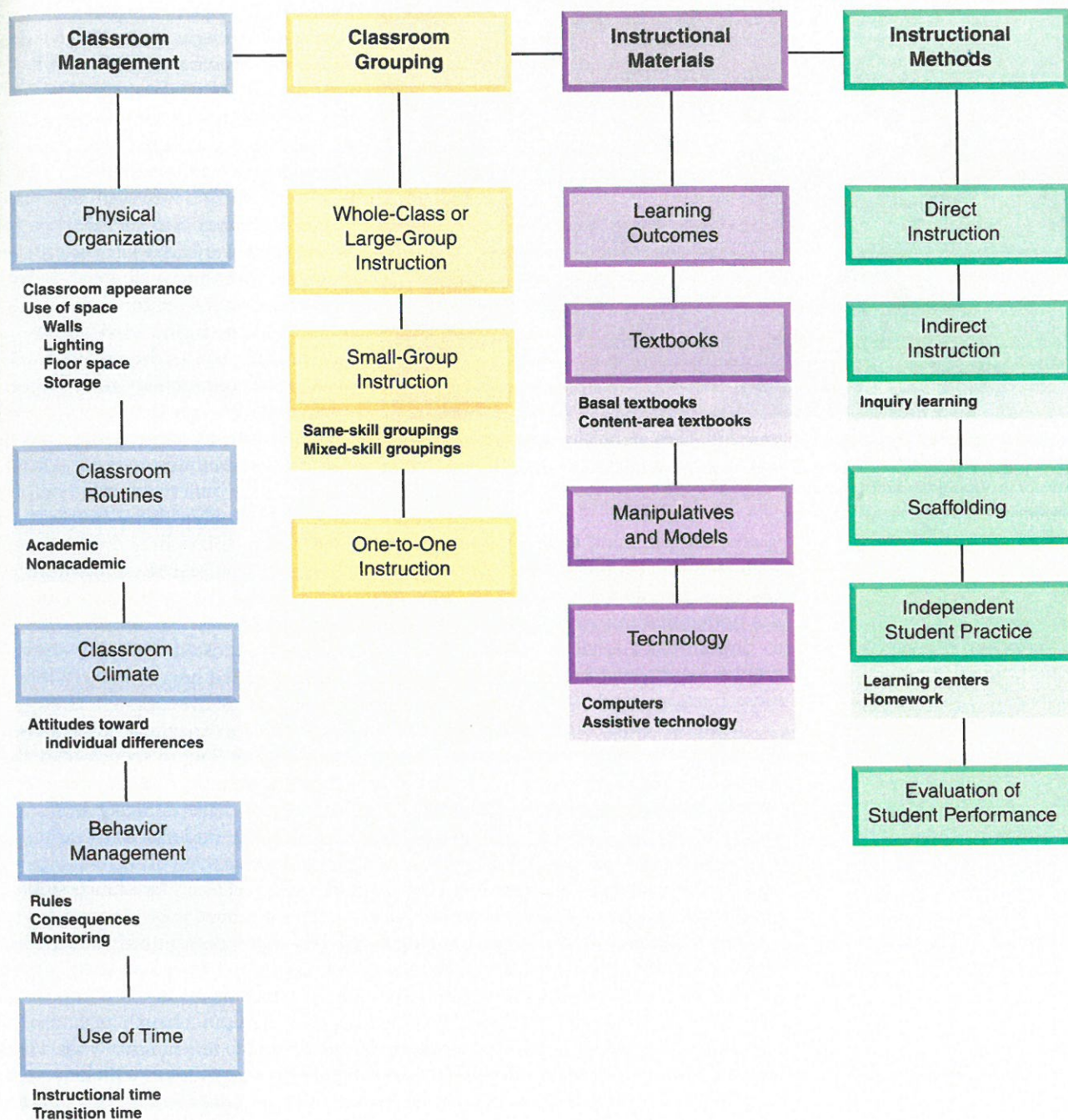
In the next section, the relationship between how you run your classroom and the diverse needs of learners is examined. As you have read, the use of effective practices allows teachers to accommodate more diversity in their classrooms while at the same time reducing the need for making more individualized adaptations. The key features that contribute to a successful classroom are shown in Figure 5.1. These features include classroom management, classroom grouping, instructional materials, and instructional methods.

How Is an Inclusive Classroom Managed?

Classroom management comprises all of the things teachers do to organize students, space, time, and materials to maximize effective teaching and student learning (Wong & Wong, 1998). As described here, classroom management involves physical organization, routines for classroom business, classroom climate, behavior management,

INCLUDE

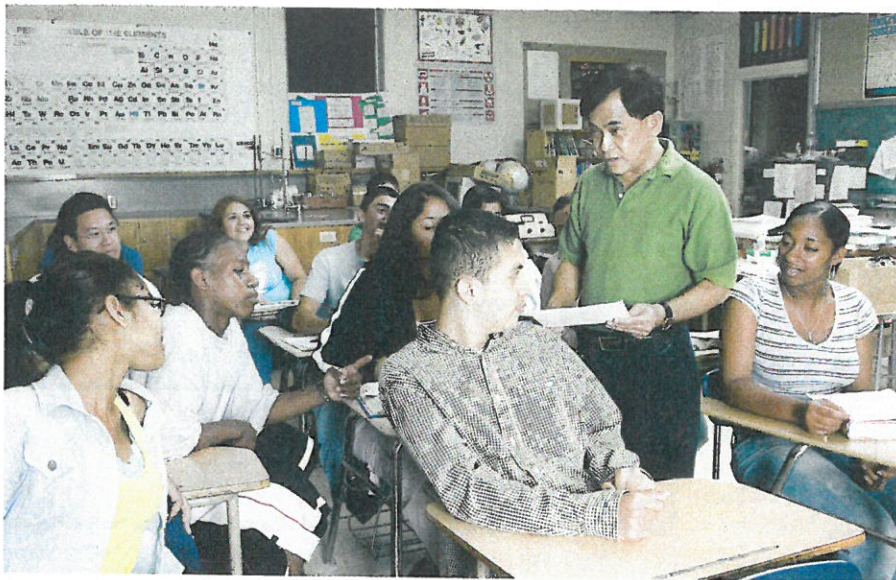
FIGURE 5.1 Overview of Classroom Environments



and use of time. The classroom management strategies described in the following sections are part of a larger body of strategies for promoting positive student behavior called *positive behavior supports (PBS)* (Sugai & Horner, 2008). You also may need to use the INCLUDE strategy to make accommodations for students with special needs in all of these areas.

Physical Organization

The way a classroom is physically organized can affect student learning and behavior in a number of areas (Kerr & Nelson, 2009). Carefully arranged classrooms can decrease noise and disruption, improve the level and quality of student interactions, and



This is a teacher-centered grouping arrangement for large-group instruction. What are some advantages and disadvantages of this strategy for students with special needs? What other ways of grouping students should be part of a teacher's instructional repertoire?
Michael Newman/PhotoEdit Inc.

increase the percentage of time that students spend on academic tasks (Paine, Radicchi, Rosellini, Deutchman, & Darch, 1983; Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008). The physical organization of a classroom influences learning conditions for all students, as well as the accessibility of instructional presentations and materials for students with sensory and physical disabilities. Physical organization includes the appearance of the classroom and the use of space, including wall areas, lighting, floor space, and storage.

Wall areas can be used for decorating, posting rules, displaying student work, and reinforcing class content, sometimes through the use of bulletin boards. For example, one teacher taught a note-taking strategy and posted the steps on a bulletin board to help her students remember them. In using wall

space, keep in mind two possible problems. First, wall displays may divert students with attention problems from concentrating on instruction. These students should be placed where they are least likely to be distracted by displays. Second, students may not notice that important information appears on a display, and teachers may need to direct their attention to it. For example, Ms. Huerta posted a display showing graphic representations of the basic fractions. She reminded her students to look at these fractions while they were doing their independent math work.

Lighting, either from windows or ceiling lights, also can affect students with disabilities. Students with hearing loss might need adequate light to speech-read; they also are likely to have problems with glare in areas where the light source comes from behind the speaker. Students with visual impairments also have difficulty working in areas that are not glare free and well lighted. Occasionally, students with learning or emotional disabilities may be sensitive to and respond negatively to certain types of light. In most cases, problems with lighting can be remedied easily by seating students away from the glare caused by sunshine coming through the classroom windows.

The organization of floor space and the kinds and placement of furniture used also need to be considered. For example, floors that do not have a nonslip surface can make wheelchair and other travel difficult for some students. Furniture that is placed in lanes can block access to the chalkboard or equipment such as computers and make mobility difficult for students in wheelchairs or students with visual impairments. Tables, pencil sharpeners, and chalkboards that are too high may prove inaccessible to students who use wheelchairs. Desks that are too low can interfere with students who have prostheses (artificial limbs). Placement and configuration of special equipment in science labs, computer centers, and vocational areas also can present difficulties in accessibility for students with special needs. For example, the lathe in the woodworking room might be positioned too high for a person in a wheelchair to operate; the space between work areas in the science lab might not be wide enough for a wheelchair to pass. Many of these physical features of classrooms may be beyond your control. If they become a problem, seek assistance from a special education teacher.

The arrangement of your class should be predictable. This means that you should not make major changes without first considering their impact on students with disabilities and then informing these students so they have time to adapt. For example, Mr. Tate decided to move one of the bookshelves in his classroom. He noticed, however, that the new location blocked the passageway from the door to the desk of a

student in his class who was blind. Mr. Tate informed the student of the move in advance, and together they worked out an alternative route to the student's desk.

The arrangement of student desks, whether in rows, circles, or small groups, can have considerable impact on students with disabilities and other special needs. For example, traditional row configurations, which provide students with an immediate, unobstructed view of the teacher, have been shown to help students with attention disorders focus better when the teacher is instructing the whole group at one time. However, the placement of desks into clusters of four works better when using mixed-ability, cooperative learning groups to help integrate a student who is socially withdrawn. Another important consideration about floor space concerns student monitoring: Teachers should be able to see all parts of the classroom at all times, whether they are teaching large or small groups or are working at their desks. Designing such visual access means that all specially designated areas in the classroom, such as learning/interest centers, computer stations, small-group instructional areas, and study carrels, need to be positioned so they can be monitored.

An additional area of physical organization is storage. For example, students with visual disabilities may need to store equipment such as audio recorders, large-print books, braille books, and magnifying devices. For students with severe disabilities, space might be needed to store book holders, paper holders, page turners, braces, crutches, and communication boards.

Routines for Classroom Business

Establishing clear routines in both academic and nonacademic areas is important for two reasons. First, routines that are carefully structured (that is, clear to students and used consistently) reduce nonacademic time and increase learning time. Second, you can prevent many discipline problems by having predictable classroom routines.

Most students, especially those with special needs, find stability in knowing that classroom activities will be similar each day. In the absence of this stability, misbehavior often follows. Many examples of misbehavior can be related to breaks in school routines. On the day of a field trip, elementary school students are more likely to hit or push, to delay beginning assignments, and to do poor work. In middle schools and high schools, teachers often dread shortened schedules for assemblies and other school programs because of increased student behavior problems.

You can create daily classroom routines that help students learn. For example, you might expect fourth graders to enter your classroom each morning, begin their morning work, and read quietly if they finish before instruction begins. Having routines for sharing time, setting up science experiments, preparing to go to physical education, moving to the computer lab, and so on helps students meet your expectations. Routines are especially helpful to students who need a strong sense of structure in classroom life. In secondary schools, routines might include having specific lab procedures, starting each class with a five-minute review, or scheduling a particular activity on the same day every week. For example, in a geometry class, students who complete their assignments might choose to begin the day's homework, complete a Math Challenger worksheet from the activity file, or work on research papers or other long-term projects.

Classroom Climate

A number of authors have noted that classroom climate contributes significantly to the number and seriousness of classroom behavior problems (Marzano & Marzano, 2003) as well as student achievement (Hattie, 2009). Classroom climate concerns the overall atmosphere in the classroom—whether it is friendly or unfriendly, pleasant or unpleasant, and so on. Climate is influenced by the attitudes of the teacher and students toward individual differences. For instance, is the classroom characterized by a cooperative or a competitive atmosphere? Is the classroom a safe place for all students to take risks? Are skills for interacting positively with students and adults actively supported in the classroom?

dimensions of DIVERSITY

Kleinfeld (cited in Gay, 2002), in her 1974/1975 research on Athabaskan Inuit and American Indian children, found that the most effective teachers demonstrated personal caring and concern for students while at the same time demanding and facilitating high academic performance. Foster (1995, 1997) and Ladson-Billings (1994) observed similar traits among effective teachers of African-American students.

Teachers who communicate respect and trust to their students are more successful in creating a positive classroom environment in which fewer behavior problems occur (Arends, 2004; Marzano, 2003). For example, Mr. Elliott reprimanded a student who talked out of turn by saying, "I know you have a question about your work, and I'm glad you care enough to ask for help; but I need to have you raise your hand because I can only help people one at a time." Mr. Elliott showed respect for the student and built the student's trust by not putting her down. Yet Mr. Elliott stuck to his rule about not speaking before being called on and explained why it was important. Similarly, Ms. Belson asked Harriet to define the word *diffident*. Harriet gave an incorrect definition, saying it meant "being bored." Ms. Belson said, "Harriet, I can see how you might think the meaning is 'bored' because *diffident* looks a lot like *indifferent*. The word actually means 'lacking in confidence.'"

You can build the overall quality of your communication with your students in many small ways. For example, finding the time each week to speak privately with students lets them know that you care about them as individuals. Asking older students sincere questions about their friends, out-of-school activities, or part-time jobs also conveys your interest in them. Taking the time to write positive comments on papers lets students know that you appreciate their strengths and do not focus only on their special needs. When you encourage each student to achieve his or her own potential without continually comparing students to one another, you are communicating the idea that each class member has a valuable contribution to make. Teachers who fail to take these small steps toward positive communication with students or who publicly embarrass a student or punish a group because of the behavior of a few soon may create a negative classroom climate that thwarts appropriate and effective learning.

A final dimension of teacher-student communication concerns language differences. When students struggle to understand English, their behaviors may at first appear to be challenging. For example, a first grader is asked to complete several directions at one time and has a tantrum as a result of the frustration of not understanding. Similarly, a high school student apparently ignores a teacher's direction to put away project supplies and spend any remaining time beginning the homework assignment. When the teacher addresses this behavior, the student pushes everything off his desk. Is this a behavior problem or an example of misunderstanding and frustration? Teachers working with students who are not proficient English speakers should take care to distinguish problems that result from language differences from misbehavior.

RESEARCH NOTE

Research suggests that the most effective classroom rules are ones that students develop themselves and express with teacher guidance (Bullara, 1993).

dimensions of DIVERSITY

If your classroom includes students who are not native English speakers, you need to make sure that they understand classroom expectations. You may need to explain in concrete terms in a one-to-one situation what you expect, with the possible help of a translator, a student's parents, or both.

Behavior Management

Behavior management refers to teacher activities that directly promote positive student behavior. It includes establishing classroom rules, providing consistent consequences, and monitoring student behavior.

Rules help create a sense of order and expectations for a classroom, and they form a significant first step in setting up a learning environment based on preventive classroom management. Teachers who are effective classroom managers have well-defined rules for their classrooms (Marzano, 2003; Olson, Platt, & Dieker, 2007; Ornstein & Lasley, 2004).

Effective classroom rules share three key characteristics: They are brief and specific, positively worded and clearly understood by students (Alberto & Trautman, 2008; Doyle, 1990), and accommodate students from different cultures (Grossman, 1995).

Be sure to explain rules carefully to your students so that they are understood. Post rules during the first weeks of school, explain and discuss them, and model them for students. Early attention to setting your classroom expectations has a yearlong payoff. By rehearsing and focusing student attention on rules, you make them part of students' understanding of their classroom interactions. If you do not take this time to teach the rules, too often they become merely a bulletin board display, ignored by teachers and students alike.

Also, be sure that your rules accommodate students from different cultures. For example, rules about respecting other students' property may be puzzling for Latino

students, for whom sharing one's belongings is a highly valued activity. Similarly, rules related to aggressive behavior may need to be enforced with care for students whose parents expect them to stand up for themselves, especially when someone says something derogatory about a student's family (Grossman, 1995). It is important to note that taking cultural differences into account does not necessarily mean that the rules need to be changed, only that the rules may need to be more carefully explained and enforced.

In addition to having clear expectations, teachers also need to tie their expectations to a set of consistent *consequences*. This means demonstrating that the same consequences apply to everyone and on a consistent basis. For example, Ms. DuBois has a rule that students are to raise their hands before speaking in class. She has also established the consequence that students receive one point for each class period they go without a single talk-out. Points earned figure into each student's grades for the class. Ms. DuBois is careful only to give points to students who meet the criterion of no talk-outs per day, regardless of who is involved or what the circumstances are, because she knows that enforcing rules arbitrarily greatly diminishes their effectiveness. Ms. DuBois also is sure to provide specific verbal praise along with the points to increase students' future chances of behaving appropriately without receiving points. Of course, Ms. DuBois realizes that sometimes rules need to be individualized, as in the case of Justin, a student with Tourette's syndrome, who is allowed one talk-out per class as specified on the behavior intervention plan (BIP) included in his individualized education program (IEP).

Finally, teachers need to *monitor* student classroom behaviors frequently. For example, you should scan the room to check that students are following the rules. To do this, you always need to have a clear view of the entire class, regardless of the activity in which you or the class are engaged. When student behavior is not carefully monitored, students choose not to follow the rules consistently. For example, Charmaine was a student in Ms. Patrick's fifth-grade class who had behavior problems. Ms. Patrick had a rule that students needed to complete all their independent work before they could go to the computer station to play a problem-solving game. Ms. Patrick did not have time to monitor Charmaine's behavior. One day, she saw Charmaine at the computer station and asked her whether she had completed her assignments. Not only had Charmaine not completed her assignments on that day, but she hadn't done any work for the past three days. Thereafter, Ms. Patrick was careful to monitor the work progress of all her students.

Use of Time

The way teachers use time in the classroom is one of the most important aspects of classroom organization. Effectively using instructional time and managing transition time constitute two particularly important tasks.

Using Instructional Time The amount of time that students are meaningfully and successfully engaged in academic activities in school is referred to as **academic learning time** (Arends, 2004). Research has shown that more academic learning time in a classroom results in increased student learning (Berliner, 1990). Time usage is particularly important for students with special needs, who may need more time to learn than their peers.

Paine et al. (1983) suggest several ways in which teachers can maximize academic learning time. One way is to minimize the time spent on organizational activities such as taking the lunch counts, completing opening activities, getting drinks, sharpening pencils, cleaning out desks, and going to the bathroom. For example, teach students how to perform organizational tasks efficiently and how to observe a firm time schedule when carrying them out. Another way is to select activities that have the greatest teaching potential and that contribute most to students' achieving the core school curriculum. Although learning activities can be fun, they should ultimately be selected for the purpose of teaching students something important. Finally, the research-based

RESEARCH NOTE

Stichter, Stormont, and Lewis (2008) studied the use of time in high and low-poverty schools. They found that teachers in high-poverty schools engaged in more noninstructional talk, had more instructional down time, and had higher numbers of students exiting during instruction. Why do you think this is so?



Using “Sponges” to Increase Academic Learning Time

You almost always have times during the day when you have a minute or two before a scheduled academic activity or before the class goes to lunch, an assembly, or recess. You can fill that extra time with productive activities by using “sponges.” Sponges are activities that fit into brief periods of time and give students practice or review on skills and content you have already covered in class. The following lists of sponges can help you “soak up” that extra classroom time.

EARLY ELEMENTARY SPONGES

1. Tell students to be ready to state one playground rule.
2. Tell students to be ready to list the names of classmates that begin with *J* or *M* and so on.
3. Tell students to be ready to draw something that is drawn only with circles.
4. Tell students to be ready to think of a good health habit.
5. Flash fingers—have students tell how many fingers you hold up.
6. Say numbers, days of the week, and months and have students tell what comes next.
7. Ask what number comes between two numbers: for example, 31 and 33, 45 and 47.
8. Ask students what number comes before or after 46, 52, 13, and so on.
9. Write a word on the board. Have students make a list of words that rhyme with it.
10. Count to 100 by 2s, 5s, 10s, and so on, either orally or in writing.
11. Think of animals that live on a farm, in the jungle, in water, and so forth.
12. Name fruits, vegetables, meats, and the like.
13. List things you can touch, things you can smell, and so on.

DISMISSAL SPONGES

1. “I Spy”—ask students to find something in the room that starts with *M*, *P*, and so on.
2. Ask students to find something in the room that has the sound of short *a*, long *a*, and so forth.
3. Number rows or tables. Signal the number of the table with fingers, and allow students to leave accordingly.
4. Count in order or by 2s, 5s, and so on.
5. Say the days of the week, the months of the year, and so on.
6. Ask what day it is, what month it is, what date it is, or what year it is. Ask how many months are in a year, how many days are in a week, and so on.

7. Use reward activities:

“We have had a good day! Who helped it to be a good day for all of us? Betty, you brought flowers to brighten our room. You may leave. John, you remembered to rinse your hands, good for you. You may leave. Ellen showed us that she could be quiet coming into the room today. You may leave, Ellen. Bob remembered his library book all by himself. Dawn walked all the way to the playground—she remembered our safety rules. Lori brought things to share with us. Tom surprised us with a perfect paper—he must have practiced. . . .” Students’ good deeds can be grouped together to speed up dismissal. The teacher can finish with, “You’re all learning to be very thoughtful. I’m very proud of all of you and you should be very proud of yourselves.”

8. Use flashcards. The first correct answer earns dismissal.
9. Review the four basic shapes. Each student names an object in the room in the shape of a triangle, circle, square, or rectangle.

UPPER ELEMENTARY AND MIDDLE SCHOOL SPONGES

1. List the continents.
2. Name as many gems or precious stones as you can.
3. List as many states as you can.
4. Write an abbreviation, a roman numeral, a trademark, a proper name (biological), or a proper name (geographical).
5. Name as many countries and their capitals as you can.
6. List the names of five parts of the body above the neck that are spelled with three letters.
7. List one manufactured item for each letter of the alphabet.
8. List as many nouns in the room as you can.
9. List one proper noun for each letter of the alphabet.
10. Name as many parts of a car as you can.
11. List as many kinds of trees as you can.
12. List as many personal pronouns as you can.
13. Name as many politicians as you can.

How many sponges can you think of for your grade or subject area? Additional ideas for sponges can be found at the Busy Teachers’ Web Site K–12: <http://www.ceismc.gatech.edu/busyt>.

Sources: From “Effective Teaching for Higher Achievement,” by D. Sparks and G. M. Sparks, 1984, *Educational Leadership*, 49(7).

strategies described in this chapter and throughout this book for managing your classroom, grouping your students, and adapting your methods and materials also help ensure the productive use of your students’ time. One specific technique to increase the academic learning time of your students is described in the Professional Edge.

Managing Transition Time Just as important as the amount of time spent in activities is the management of transition time. **Transition time** is the time it takes to change from one activity to another. Transition time occurs when students remain at their seats and change from one subject to another, move from their seats to an

activity in another part of the classroom, move from somewhere else in the classroom back to their seats, leave the classroom to go outside or to another part of the school building, or come back into the classroom from outside or from another part of the building (Paine et al., 1983).

Research studies show that teachers sometimes waste academic learning time by not managing transitions carefully (Ornstein & Lasley, 2004). Paine et al. (1983) suggest that you have rules devoted specifically to transitions and that you teach these rules directly to students. As with all rules, those for transitions need to be consistently monitored and reinforced.

The way you organize classroom materials also can affect the management of transitions. For example, you need to have all materials ready for each subject and activity. In addition, materials should be organized so that they are easily accessible. No matter how well organized your transitions are, you still may need to adapt them for some students with disabilities. Students with physical disabilities may need more time to take out or put away their books. Students with physical and visual disabilities may have mobility problems that cause them to take more time with such transitional activities as getting into instructional groups or moving from room to room. Furthermore, you may need an individualized system of rewards or other consequences to guide students with ADHD or behavior disorders through transition times.

How Can You Group All Your Students for Instruction in Inclusive Classrooms?

Students with special needs benefit from a variety of classroom grouping arrangements, including large- and small-group instruction, one-to-one instruction, and mixed- and same-skill groupings. The flexible use of classroom grouping arrangements is an important part of differentiated instruction (Broderick, Mehta-Parekh, & Reid, 2005). Remember that the particular arrangement you choose depends on your instructional objectives as well as your students' particular needs.

Whole-Class or Large-Group Instruction

Students with special needs benefit from both whole-class (or large-group) and small-group instruction. Tier 1 in RtI is whole-class instruction. One advantage of whole-class instruction is that students spend the entire time with the teacher. In small-group instruction, students spend part of the time with the teacher and also spend time working independently while the teacher works with other small groups. Research shows that the more time students spend with the teacher, the more likely they are to be engaged (Rimm-Kaufman, La Paro, Downer, & Pianta, 2005) and the more they learn (Rosenshine, 1997; Rosenshine & Stevens, 1986). This increase in learning may be because students are more likely to go off task when they are working on their own, particularly when they have learning or behavior problems. Whatever grouping arrangements you use, try to make sure that students spend as much time as possible working with you.

Another advantage of whole-group instruction is that it does not single out students with special needs as being different from their peers. However, you may need to make accommodations within whole-group instruction for students with disabilities. For example, students in Mr. Nichols's fourth-grade class were reading *Charlotte's Web* as a large-group instructional activity. Simone read more slowly than the rest of the class. To help her keep up, Mr. Nichols provided a digital version of the book. He also gave Simone more time to answer comprehension questions about the story in class because it took her longer to look up some of the answers. In another example, before his lectures, a high school science teacher identified technical words he was going to use and then worked before school with a small group of students with vocabulary problems to help them learn the words.

dimensions of DIVERSITY

For ideas about designing lesson plans for English-language learners, go to <http://coe.sdsu.edu/people/imora/MoraModules/ELDInstruction.htm>.

PROFESSIONAL EDGE



Guidelines for Evaluating Basals and Other Basic Skills Curricula

Before evaluating any material, read the evaluative questions below and place an asterisk next to each that is critical for the type of material you are examining. Answer each question with yes or no. Examine all your responses in a single area, paying special attention to the questions you designated as critical. Rate each area inadequate (1), adequate (2), or excellent (3). If the area is inadequate, designate whether the features can be easily modified (M).

Rating Scale:	Inadequate 1	Adequate 2	Excellent 3	Easily modified M
1 2 3 M	Effectiveness of Material			
Yes	No	Is information provided that indicates successful field testing or class testing of the material?		
Yes	No	Has the material been successfully field tested with students similar to the target population?		
Yes	No	Are testimonials and publisher claims clearly differentiated from research findings?		
1 2 3 M	Prerequisite Skills			
Yes	No	Are the prerequisite student skills and abilities needed to work with ease in the material specified?		
Yes	No	Are the prerequisite student skills and abilities compatible with the objectives of the material?		
Yes	No	Are the prerequisite student skills and abilities compatible with the target population?		
1 2 3 M	Content			
Yes	No	Are students provided with specific strategies rather than a series of isolated skills?		
Yes	No	Does the selection of subject matter, facts, and skills adequately represent the content area?		
Yes	No	Is the content consistent with the stated objectives?		
Yes	No	Is the information presented in the material accurate?		
Yes	No	Is the information presented in the material current?		
Yes	No	Are various points of view—including treatment of cultural diversity, individuals with disabilities, ideologies, social values, gender roles, and socioeconomic status—represented objectively?		
Yes	No	Are the content and the topic of the material relevant to the needs of students with disabilities?		
1 2 3 M	Sequence of Instruction			
Yes	No	Is the scope and sequence of the material clearly specified?		
Yes	No	Are facts, concepts, and skills ordered logically?		
Yes	No	Does the sequence of instruction proceed from simple to complex?		
Yes	No	Does the sequence proceed in small, easily attainable steps?		

students' strengths and needs, not their labels. Teachers tend to choose outcomes requiring lower levels of thought for students with disabilities and other special needs, regardless of their learning profiles. Use the INCLUDE strategy to choose the appropriate level of learning for all of your students.

The nature of the instructional materials you use is another very important consideration in accommodating students with special needs in your classroom. Consider the learning outcomes you desire as you select instructional materials that include textbooks, manipulatives and models, and technology.

Textbooks

Basal textbooks (often called *basals*) are books used for instruction in any subject area that contain all the key components of the curriculum being taught for that subject. The careful evaluation of basals is vital. Well-designed textbooks require fewer accommodations for students with special needs, thereby saving you much time and energy. For example, a math basal that contains plenty of practice activities does not need to be adapted for students who require lots of practice to master a skill. Similarly, a science textbook that highlights critical vocabulary and includes clear context cues to help students figure out the words on their own may make it unnecessary for

Rating Scale:	Inadequate 1	Adequate 2	Excellent 3	Easily modified M
1 2 3 M	Behavioral Objectives			
	Yes	No	Are objectives or outcomes for the material clearly stated?	
	Yes	No	Are the objectives or outcomes consistent with the goals for the target population?	
	Yes	No	Are the objectives or outcomes stated in behavioral terms, including the desired behavior, the conditions for measurement of the behavior, and the desired standard of performance?	
1 2 3 M	Initial Assessment and Placement			
	Yes	No	Does the material provide a method to determine initial student placement in the curriculum?	
	Yes	No	Does the initial assessment for placement contain enough items to place the learner accurately?	
1 2 3 M	Ongoing Assessment and Evaluation			
	Yes	No	Does the material provide evaluation procedures for measuring progress and mastery of objectives?	
	Yes	No	Are there enough evaluative items to measure learner progress accurately?	
	Yes	No	Are procedures and/or materials for ongoing record keeping provided?	
1 2 3 M	Instructional Input (Teaching Procedures)			
	Yes	No	Are instructional procedures for each lesson either clearly specified or self-evident?	
	Yes	No	Does the instruction provide for active student involvement and responses?	
	Yes	No	Are the lessons adaptable to small-group and individualized instruction?	
	Yes	No	Are a variety of cueing and prompting techniques used to gain correct student responses?	
	Yes	No	When using verbal instruction, does the instruction proceed clearly and logically?	
	Yes	No	Does the material use teacher modeling and demonstration when appropriate to the skills being taught?	
	Yes	No	Does the material specify correction and feedback procedures for use during instruction?	
1 2 3 M	Practice and Review			
	Yes	No	Does the material contain appropriate practice activities that contribute to mastery of the skills and concepts?	
	Yes	No	Do practice activities relate directly to the desired outcome behaviors?	
	Yes	No	Does the material provide enough practice for students with learning problems?	
	Yes	No	Are skills systematically and cumulatively reviewed throughout the curriculum?	

Source: From *Instructional Materials for the Mildly Handicapped: Selection, Utilization, and Modification*, by A. Archer, 1977, Eugene: University of Oregon, Northwest Learning Resources System. Used by permission of the author.

teachers to prepare extensive vocabulary study guides. A set of questions to help you evaluate basals and other basic skills materials is included in the Professional Edge.

Carefully evaluating basals helps alert you to any accommodations you may need to make. For example, a spelling basal with little provision for review can be troublesome for students who have problems retaining information; you may want to develop review activities for every three lessons rather than every five, as is done in a given book. Many teachers choose to develop or collect their own materials rather than depend on published basal series. For example, some teachers have their students read trade books instead of traditional reading books; others have their students engage in the actual writing process rather than, or in addition to, answering questions in a book. Still others involve their students in real-life math-problem solving rather than use basal math books. Even if your school does not use basals, the guidelines discussed here for teaching basic skills apply. Of course, the selection of materials is also critical in RTI schools where evidence-based practices are required within all of the instructional tiers. For example, having a research-based reading basal as part of a core curriculum in reading in Tier 1 makes the use of proven practices more likely, provides continuity for children and adults, supplies most necessary teaching tools, and ensures a systematic progression of skills or content, not leaving instruction to chance (Bursuck & Damer, 2011).

RESEARCH NOTE

Harniss, Caros, and Gersten (2007) found that students with special needs learned more when using a text that linked content information into “big ideas,” helped students organize information, and provided extensive practice and review.

Content-area textbooks, which are books used for instruction in subject areas such as science and social studies, also need to be evaluated. In secondary schools, students often are expected to read their textbooks to access curriculum content (Sabornie & deBettencourt, 2009; Mercer & Pullen, 2009). Because students are required to read and understand their texts, often without previous instruction, the texts should be written at a level at which students can easily understand them. Armbruster and Anderson (1988) refer to readable textbooks as “considerate.” Considerate textbooks are easier for students to use independently and require fewer teacher adaptations. The following guidelines refer to aspects of considerate textbooks involving content, organization, and quality of writing.

Check the Content Covered in the Text to See Whether It Stresses “Big Ideas” Rather Than Facts in Isolation “Big ideas” are important principles that enable learners to understand the connections among facts and concepts they learn (Coyné et al., 2007). For example, in a text that stressed facts in isolation, students learned that Rosa Parks was an important figure because she led the Montgomery bus boycott in 1955. In a text that stressed big ideas, students learned that the bus boycott, led by Rosa Parks in 1955, was carried out in response to the problem of segregation in the South in the early 1950s and that the boycott was the first in a series of civil rights protests eventually leading to the Civil Rights Act of 1965.

Check to See Whether Support Is Provided for Student Comprehension Support for student comprehension can be detected in the following three ways:

1. *Check the organization of the headings and subheadings:* Make an outline of the headings and subheadings in a few chapters. How reasonable is the structure revealed? Is it consistent with your knowledge of the subject matter?
2. *Check the consistency of organization in discussions of similar topics:* For example, in a science chapter on vertebrates, information about the different groups of vertebrates should be similarly organized; that is, if the section on amphibians discusses structure, body covering, subgroups, and reproduction, the section on reptiles should discuss the same topics, in the same order.
3. *Look for clear signaling of the structure:* A well-designed text includes information headings and subheadings. The most helpful headings are those that are the most specific about the content in the upcoming section. For example, the heading “Chemical Weathering” is a more helpful content clue than the heading “Another Kind of Weathering.” A well-signaled text also includes format clues to organization. Page layouts, paragraphing, marginal notations, graphic aids, and the use of boldface, italics, and/or underlining can all serve to highlight or reinforce the structure. For example, a discussion of the four stages in the life cycle of butterflies could be signaled by using a separate, numbered paragraph for each state (that is, 1. Egg; 2. Larva; 3. Pupa; 4. Adult) and by including a picture for each stage. Finally, look for signal words and phrases that designate particular patterns of organization. For example, the phrases *in contrast* and *on the other hand* signal a compare-and-contrast organization, whereas the words *first*, *second*, and *third* indicate an enumeration or list pattern.

Check to See That Important Background Knowledge Is Activated Despite the importance of background knowledge for comprehension (Beck & McKeown, 2002; Marzano, 2004), many textbooks assume unrealistic levels of students’ background knowledge (Gersten, Fuchs, Williams, & Baker, 2001). A failure to activate important background knowledge may be especially problematic for students with special needs, who are more likely to lack this information (Hallahan et al., 2005; Lerner & Johns, 2008). A number of textbook features indicate adequate attention to background knowledge. For example, social studies texts often activate background knowledge by providing definitions for important vocabulary content, displaying geographical information on maps, and featuring timelines delineating when key events took place (Coyné et al., 2007). As with all of the dimensions of effective materials we

have discussed, using a text that fails to adequately take background knowledge into account means that you will have to provide it.

Check for Quality of Writing The quality and clarity of writing can also affect student comprehension. Quality of writing can be evaluated in five ways:

1. *Look for explicit or obvious connectives, or conjunctions:* The absence of connectives can be particularly troublesome when the connective is a causal one (for example, *because, since, therefore*), which is frequently the case in content-area textbooks. Therefore, look especially for causal connectives. For example, the sentence *Because the guard cells relax, the openings close* is a better explanation than the sentences *The guard cells relax. The openings close.*
2. *Check for clear references:* Another problem to watch for is confusing pronoun references when more than one noun is used. For example, consider the following: *Both the stem of the plant and the leaf produce chloroform, but in different ways. For one, the sun hits it, and then . . .* Here, the pronouns *one* and *it* could be referring to either the stem or the leaf. Also, look out for vague quantifiers, those that do not modify the noun being quantified (for example, *some, many, few*). For example, the sentence *Some whales have become extinct* is clearer than *Some have become extinct*. In addition, check for definite pronouns without a clear referent (for example, *She saw him*, where the identity of *him* is not specified).
3. *Look for transition statements:* Transitions help the reader move easily from idea to idea. Given that a text covers many topics, make sure that the topic shifts are smooth. For example, in a biology chapter on the respiratory system, the text signals the transition from naming the parts of the respiratory system to describing the actual respiratory process by stating *Next, the role each of these parts of the body plays in the respiratory process will be described.*
4. *Make sure chronological sequences are easy to follow:* In a discussion of a sequence of events, the order of presentation in the text should generally proceed from first to last; any alteration of the order could cause confusion if not clearly signaled.
5. *Make sure graphic aids are clearly related to the text:* Graphic aids should contribute to understanding the material rather than simply provide decoration or fill space, should be easy to read and interpret, and should be clearly titled and labeled and referenced in the text so the reader knows when to look at them.

No matter how well designed conventional basal and content-area texts may be, they are still largely print based and fixed and uniform in format. As a result, conventional materials are likely to present barriers for students with disabilities (Pisha, 2003). For example, students who are blind will need a print alternative, such as braille; students with physical challenges may be unable to turn the pages in a text; students with attention and organizational problems may be unable to identify main ideas; and students with reading disabilities may not be able to read material accurately and quickly enough to comprehend it. Unfortunately, teachers may lack both the time and expertise to adapt these materials.

Modern digital texts can present the same content as conventional printed books but in a format that is more flexible and accessible (Pisha & Stahl, 2005). Digital versions of texts can be easily converted to braille, virtual pages can be turned with the slight press of a switch, and any words in the text can be read aloud.

Manipulatives and Models

Manipulatives and models can help students make connections between the abstractions often presented in school and the real-life products and situations these abstractions represent. *Manipulatives* are concrete objects or representational items, such as blocks and counters (for example, base-10 blocks for math), used as part of instruction. *Models* are also tangible objects; they provide a physical representation of an abstraction (for example, a scale model of the solar system). Strategies to help

dimensions of DIVERSITY

Duke (2000) studied the use of informational texts in first-grade classrooms. She found few informational texts present, and that only 3.6 minutes of class time per day involved activities with information texts. The use of informational texts was even lower in high-poverty schools. Why is it important to spend time using informational text?

www.resources

Acquiring digital texts can be difficult. Bookshare offers free for all students with disabilities access to thousands of digital books, textbooks, teacher-recommended reading, periodicals, and assistive technology tools. For more information go to <http://www.Bookshare.org>.



The use of manipulatives and models in this biology class makes learning more concrete. What are ways manipulatives and models can be used to make subject matter content in other areas more concrete? Jupiter Images - Food Pix - Creatas

www.resources

Virtual manipulatives are available online at the following websites: National Library of Virtual Manipulatives (<http://nlvm.usu.edu>); Math Tools (<http://www.mathforum.org/mathtools/>); Illuminations (<http://illuminations.nctm.org/>); Interactivate (<http://www.shodor.org/interactivate/activities/>); and Arcytech (<http://arcytech.org/java/>) (Bouck & Flanagan, 2010).

students make these connections have great potential benefit for students with special needs, who may lack the background knowledge and reasoning skills to understand abstractions (Cass, Cates, Smith, & Jackson, 2003; Smith, 2004). Still, manipulatives and models should be used carefully, because their use with students with special needs has not been heavily researched (Cass et al., 2003; Stein, Kinder, Silbert, & Carnine, 2005). When using these tools, consider the following seven guidelines (Marzola, 1987; Ross & Kurtz, 1993):

1. *Select materials that suit the concept and developmental stage of the students:* When you are first introducing a concept, materials should be easy to comprehend. Generally, the order in which you introduce materials should follow the same order as students' understanding: from the concrete to the representational to the abstract. However, not all students need to start at the same level. For example, in a biology lesson on the heart, many students benefit from viewing a three-dimensional model of a human heart, whereas other students are able to understand how a heart works just by seeing a picture of one.
2. *Use a variety of materials:* Students with disabilities may have trouble transferring their understanding of a concept from one form to another. For example, Curtis's teacher always demonstrated place value using base-10 blocks. When Curtis was given a place-value problem using coffee stirrers, he was unable to do it. Curtis's teacher could have prevented this problem in the first place by demonstrating place value using a range of manipulative materials, such as coffee stirrers, paper clips, and so on.
3. *Use verbal explanations whenever possible to accompany object manipulation:* Models and manipulative demonstrations should be preceded and accompanied by verbal explanations of the concept or skill being demonstrated. Verbal explanations are valuable because students may not be able to identify the important features of the model on their own. For example, Ms. Balou put a model of a two-digit-by-two-digit multiplication problem on the board. She verbally explained to her students all the steps in computing the problem and wrote each step on the whiteboard as it was completed.
4. *Encourage active interaction:* It is not enough just to have the teacher demonstrate with manipulatives or models as students observe. Students need to interact actively with models and manipulatives. Hands-on experience helps them construct their own meaning from the materials.
5. *Elicit student explanations of their manipulations or use of models:* Encourage your students to verbalize what they are doing as they work with models and manipulatives. This is a good way for you to assess whether they really understand the concept or skill. For example, Ms. Conway had her students name the main parts of the human heart using a model. Mr. Abeles had his students explain out loud how they would subtract 43 from 52 using base-10 blocks. Although explanations can help you evaluate how your students process information, students with special needs may not be able to articulate concepts right away because of language problems or a lack of reasoning skills. These students may require frequent demonstrations of how to articulate what they are doing.

6. *Present clear guidelines for handling manipulatives to prevent management problems:* Although manipulatives can be helpful instructional tools, they also can create management problems, particularly in larger groups when your physical access to students is limited. For example, Ms. Leifheit wanted her students to manipulate blocks to show the sounds in words. Each child received three blocks. When the children heard a word such as *man*, they were to move a block as they said each sound: *m-a-n*. Ms. Leifheit had trouble getting students' attention at the beginning of the lesson because they were busy handling the blocks. She also found that students were not listening to her say the words, again because they were playing with the blocks. Ms. Leifheit decided to break the class into smaller groups so she could more carefully monitor student use of the blocks. She also established a simple rule: When the teacher is talking, students are not to touch their blocks.
7. *Move your students beyond the concrete level when they are ready:* Some students with special needs may have trouble moving from one learning stage to another. One effective way to help students make the transition from the concrete to the abstract is to pair concrete tasks with paper-and-pencil tasks. For example, Ms. Conway had her students label a picture of a human heart (representational stage) after they had observed and discussed a physical model (concrete stage). Mr. Abeles had his second-graders solve subtraction problems using manipulatives and then record their answers on a traditional worksheet without the presence of any pictures (abstract stage).

Technology

Teachers today have available to them a broad array of technologies to enhance the presentation of material to their students. Technologies range from low- to high-tech options. One common use of computers in inclusive classrooms is to provide instruction to students through drill-and-practice programs, tutorials, and simulations. In general, *drill-and-practice programs* are used often with students with special needs. Such programs have been shown to be effective for these students largely because they allow students to learn in small steps, provide systematic feedback, and allow for lots of practice to mastery. Still, not all drill-and-practice programs are created equal (Bursuck & Damer, 2011; Okolo, 2000). Look for programs that

- Directly relate student responding to the instructional objective
- Have animation or graphics that support the skill being practiced
- Provide feedback that helps students locate and correct their mistakes
- Store information about student performance or progress that can be accessed later by the teacher
- Have options for controlling features such as speed of problem presentation, type of feedback, problem difficulty, and amount of practice

Computers also can provide initial, sequenced instruction for students, using tutorials in problem solving, decision making, and risk taking and using simulations. Each of these forms of computer-assisted instruction has potential advantages and disadvantages (Roblyer, Edwards, & Havriluk, 2004). For example, *tutorials* can present instruction to mastery in small, sequential steps, an instructional approach shown to be effective with students with special needs. Tutorials also can provide one-to-one instruction at varying levels of difficulty, something teachers usually do not have time to do. Still, you need to check to be sure that students have the necessary prerequisite skills to benefit from the tutorials. In addition, tutorials may not provide sufficient review for students, and students may not be motivated enough to work through them independently (Roblyer et al., 2004). *Simulations* are of great potential benefit in teaching students to be active learners by confronting real-life situations. However, simulations may be difficult

www.resources

The National Center to Improve Practice in Special Education through Technology, Media and Materials has gathered and synthesized information about technology, disabilities, and instructional practices through a broad range of resources. This site also provides opportunities for teachers to exchange information, build knowledge, and practice through collaborative dialogue: <http://www2.edc.org/ncip>.

to integrate with academic curriculum, may require much teacher assistance, and can be time consuming (Roblyer et al., 2004).

Assistive technology (AT) is an important part of an inclusive classroom. An assistive-technology device is any piece of equipment that is used to increase, maintain, or improve the functional capabilities of a child with a disability. An assistive-technology service is any service that directly assists a child in the selection, acquisition, or use of an assistive-technology device, according to the Technology-Related Assistance for Individuals with Disabilities Act of 1998. As you have already learned, a range of high- to low-tech AT is available to enable students with disabilities to communicate or to access information by allowing them to bypass their disability. Ways to use INCLUDE to determine the AT needs of students with disabilities are described in the Technology Notes.

TECHNOLOGY NOTES

Using INCLUDE to Determine Assistive-Technology Needs

According to IDEA, the IEP team must consider whether a child needs assistive-technology (AT) devices and services as part of his or her plan for an appropriate education. This decision is further complicated by the fact that more than 29,000 AT devices exist for individuals with disabilities and aging adults (Baush & Hasselbring, 2004). The INCLUDE strategy can assist greatly in helping the team make this decision. What follows is a series of questions related to AT that teams may want to incorporate into the INCLUDE process. These questions were adapted from ones originally suggested by Beigel (2000); Marino, Marino, and Shaw (2006); and Pedrotty-Bryant, Bryant, and Raskind (1998).

IDENTIFY CLASSROOM DEMANDS

1. How do you present information? For example, teachers who use a lot of classroom discussions place a particular demand on students' speaking abilities; teachers who lecture frequently place a strain on students' writing and organizational skills.
2. What types of grouping arrangements do you use? An emphasis on cooperative learning places a burden on student communication skills.
3. What types of assignments do you make? For example, a project-driven class requires students to find and organize resource materials and then present them to the class in a clear, orderly way.
4. What are the primary ways you assess and evaluate your students? Oral assessments can place a strain on student verbal communication skills; written assessments place demands on written language skills such as handwriting, spelling, and sentence and paragraph construction.
5. How comfortable are you with having a learner who uses AT in the classroom? Your role in this process is very important. Without your support for learning to use AT and then continuing its use, a student may abandon her device.

6. What is the physical structure of your classroom and school? Issues such as whether there are adequate electrical outlets or tables large enough to accommodate a computer and various peripherals need to be considered.

NOTE LEARNER STRENGTHS AND NEEDS AND CHECK FOR POTENTIAL SUCCESS AND PROBLEM AREAS

1. What purposeful motoric movement does the student have? A purposeful movement is one that the learner controls in a conscious, consistent manner (Beigel, 2000, p. 240). Examples of purposeful motoric movement include raising an eyebrow, moving the fingers of one hand in a motion similar to that of typing, and using a pen or pencil to write or draw.
2. How willing is the student to try new activities or tasks? Using AT requires a willingness to change on the part of the student. Your knowledge of the student in this area can help determine the nature of the equipment selected (for example, easy to use or hard to use) as well as the amount of time needed to achieve independent usage.
3. What does the student desire from the use of AT? The personal goals of the learner can greatly influence AT usage. Relevance of the material is an important factor in learning to perform any skill. For example, Tamra had an expressed desire to write poetry and was quite receptive to learning to use a laptop with a large keyboard especially designed for her.
4. What emotional and psychological supports does the student need when learning to use the device? Some students may require considerable emotional and psychological support as they learn to use an AT device. You or other staff working with the student should provide such support when it is needed, as students who become frustrated or disinterested will not likely use the device. It is important to remember that

students cannot be forced to use AT; they can only be encouraged and supported whenever using the device.

5. What level of training do the student and others who interact with the student need? You, the student, and other staff working with the student need to be given the opportunity to see how the various devices work and to see who needs training and in what areas.
6. What impact, if any, do the student's socioeconomic status and cultural background have on the use of AT? Students who live in poverty, as well as their parents, are less likely to have previous experience with technology and may need more extensive training. There is also the question of the impact of culture on the acceptance of AT by students and their families.

BRAINSTORM AND DIFFERENTIATE INSTRUCTION

You need to consider the features of the technical devices as well as the extent to which they help students meet identified IEP goals:

1. How durable is the device? All devices that are used in schools should be able to withstand bumps and jars common in schools.
2. What setup and maintenance issues must be addressed? How easy is the device to update and repair? Do compatibility issues with other technology already in the classroom need to be addressed? Devices that are difficult to maintain, take a long time to repair, are not easily upgraded, or are incompatible with other technology should be avoided because eventually they will be abandoned.
3. How willing is the vendor of the device to provide a trial or loaner period of use for the student? You often need to try several devices in the school environment before a final AT decision can be made.
4. What is the reputation of the company in terms of construction, service, training, and reliability? These questions can be answered by consulting publications that deal with AT (*Team Rehab*, *TAM Connector*), contacting organizations (Council for Exceptional Children, Center for Applied Special Technology), and asking others who use AT.
5. Does the student have the psychomotor skills needed to use the device in a functional manner? This question

should be answered during student assessment. Many devices can be adapted for students with limited motoric control; if a device cannot be adapted, then it is unrealistic to expect that it will be used.

6. Is the device aesthetically acceptable to the student? Some students may prefer a certain color or type of mouse; others may prefer a brightly colored exterior as opposed to the typical colors of blue, black, and beige; still others may want to decorate their equipment (as long as this doesn't interfere with its function). If students' aesthetic needs are not addressed, they may feel the device does not fit into their social milieu and will not likely use it.
7. Does the device meet the student's needs in a way that is easily understood by others? Students should be able to use their devices without causing a distraction. In addition, the device should not be so complex that only the vendor is able to program the device or explain how it can be used.
8. How portable is the device? For AT to be useful, the student or support person must be able to move the device from one class to another—from an elementary classroom to a special class such as art or physical education or between various academic classes in a middle or high school environment.

EVALUATE STUDENT PROGRESS

The ultimate goal of AT is to enable students to more readily meet their IEP goals. Pedrotty-Bryant et al. (1998, p. 55) suggest that teachers ask the following questions when determining whether the assistive technology selected is an appropriate match for the student.

- To what extent does the AT assist the student in compensating for the disability?
- To what degree does the technology promote student independence?
- What is the student's opinion of the technology adaptation?
- What is the family's opinion of the AT?
- Is the AT efficient and easy for the student to use?
- Does the device promote meeting IEP goals and objectives in the least restrictive environment?

How Can You Analyze Instructional Methods in Relation to Student Needs?

Teachers use a number of instructional methods in class, including direct instruction, indirect methods of instruction, scaffolding, independent student practice, and evaluation of student performance. Each of these methods should be analyzed in relation to student needs and then used and/or adapted as needed.

Elements of Direct Instruction

Several decades of research in teaching effectiveness have shown that many students learn skills and subject matter more readily when it is presented systematically and