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Special Education Teaching Strategies

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HISTORICAL PERSPECTIVE ON THE EVOLUTION OF SPECIAL EDUCATION TEACHING STRATEGIES

There have always been individuals who have special needs or who are currently known as having disabilities or being exceptional. However, there have not always been special education services to address their needs. Contemporary special education is a profession with roots in several academic disciplines—most notably medicine, psychology, sociology, and education. Historical accounts suggest that formal special education teaching strategies first appeared in the late eighteenth century, primarily involving children who were blind or deaf. By the early nineteenth century, attempts were made to educate children with significant cognitive and behavioral challenges—individuals who were labeled insane or idiotic at the time. Across subsequent centuries, special educators developed, evaluated, refined, and disseminated a wide variety of teaching practices. These instructional strategies extended beyond common academic subjects (e.g., reading, writing, and mathematics) and included perceptual and motor training, self-help skills, leisure and vocational preparation, and behavioral and social skill development.

Contemporary special education teachers, however, are now expected to do more than at any time in our brief history. They must ensure access to general education curriculum, expectations, materials, and outcomes, while also teaching functional skills needed for daily living and successful life transitions. They must collaboratively plan, implement, and evaluate teaching strategies with general education teachers in inclusive settings, manage mountains of paperwork, and help students prepare for high-stakes state and local exams. They must also coor-

dinate with specialists in various therapies, ensuring that the skills focused on by these professionals are built into classroom and community practice. And they are expected to know about and use both educational and assistive technologies and services that will further empower their students in school and life.

What matters most, however, is that special educators provide their pupils with the highest-quality instructional services, day in and day out. As Heward (2006) suggests, special education is—first and foremost—purposeful and powerful intervention. Successful interventions prevent, eliminate, and/or overcome the obstacles that keep individuals with disabilities from learning and participating actively and fully in school and society.

THREE EXEMPLARS OF BEST-PRACTICE SPECIAL EDUCATION TEACHING STRATEGIES

Here, we highlight three exemplars of the high-quality teaching strategies that characterize effective special education service delivery: (1) best practices in literacy and content area instruction; (2) individual, classroom, and schoolwide behavior management, inclusive of self-management; and (3) vocational and life-oriented skill development. We offer these as examples of what special education has contributed to the larger literature and pool of best teaching practices.

Before proceeding, however, we must clarify a basic assumption. Contemporary special education teaching strategies are applied across a continuum of educational settings ranging from full-time inclusive general education classrooms to residential treatment facilities and community placements.

As seen in Figure 1.1, general education classrooms have emerged as the most common instructional arrangement for most students with special needs. Consequently, the distinctions among special and general educational goals, practices, and outcomes that persisted for years have become blurred. If we serve most children with special needs in inclusive educational settings, then we must be equally responsive to the needs of the normally developing peers who share their classrooms and communities. Whatever we promote as best practice or special education teaching strategies, therefore, must be effective for all students. It is our premise that—if special education is truly purposeful and powerful intervention—these strategies should be delivered on an equitable basis and must be assessed continually to monitor their ongoing effects on all pupils. Put simply, special education should be best-practice intervention for all. A more formal definition of best teaching practice is offered in Box 1.1.

Exemplar 1: Best Practice in Literacy and Content Area Instruction

The Individuals with Disabilities Education Act of 1997 (IDEA) mandates that school districts provide access to the general curriculum for students with special needs and align pupils' individualized education programs (IEPs)—exceptional students' educational blueprints—to state curriculum standards. This is often not an easy task, as both special and general education requirements have increased. Responding to external and internal criticisms regarding what is taught in our public schools, educational reformers have developed curricula that are purported to be more standards based, culturally and globally sensitive, and technologically

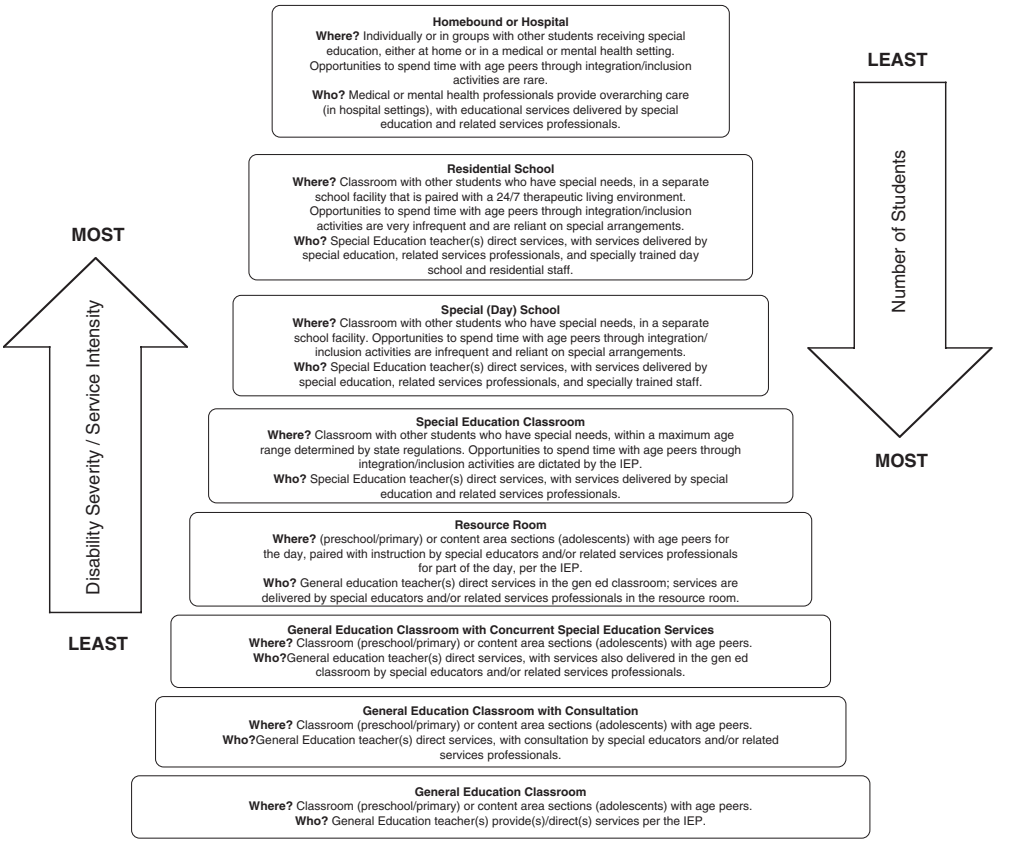

Figure 1.1 Continuum of Educational Services for Students with Disabilities (adapted from Heward, 2003).

infused. In the following sections, we highlight the qualities of best practices across three curricular areas: English language learning, mathematics, and science. We then discuss cross-content best practices.

Best Practice in English Language Learning

The ability to acquire competence in the English language is critical for success in American schools. Pupils who have clear understanding and competence in spoken and written English are likely to be successful in most other curricular areas. Yet reading, writing, and conversing in English are highly complex tasks at which a distressingly high proportion of our students continue to fail. Fortunately, broad

Box 1.1 Operational Definition of Best Teaching Practice

Best teaching practices refer to a curriculum, instructional intervention, systems change, or educational approach designed for use by families, educators, or students with the inherent expectation that its implementation will result in measurable educational, social, behavioral, and/or physical benefit. Practices may be considered evidence based or best practices when they are supported by a sufficient number of well-controlled, experimental, or quasi-experimental research studies (Odom et al., 2005).

Box 1.2 Operational Definition of Low-Risk Learning Environments

Low-risk learning environments refer to settings in which children take educational risks by making predictions and inferences about what they are learning and check their hypotheses against actual conclusions. Their teachers ask questions that elicit a wide range of possible answers, and students receive encouragement and recognition for engaging in such risky instructional activities (Vaughn, Bos, & Schumm, 2003).

levels of consensus have emerged recently regarding what constitutes effective literacy instruction (see, e.g., International Reading Association, 2003; National Council of the Teachers of English, 1996; National Reading Council, 1998). These professional organizations provide the following significant recommendations:

- Reading is a process that involves getting meaning from print.
- Students should use reading and writing actively as tools for learning.
- Teachers should provide daily opportunities for students to share and discuss what they read and write.
- Literacy assessment should match classroom practice.
- Instruction should include student choice and be provided in low-risk environments.

In Box 1.2, we provide a general description of a low-risk instructional environment.

Best Practice in Mathematics

Like literacy instruction, mathematics education has undergone substantial changes in recent years. Once more, an increased emphasis has been placed on pupils' deeper understanding of mathematical ideas and the use of an experiential and problem-solving approach to teaching and learning. Among the more significant recommendations offered by the National Council for the Teachers of Mathematics (NCTM; 1989, 1991, 1995) are the following:

- The ultimate goal of math instruction is to develop students' mathematical power.
- Students must investigate, problem solve, and communicate about mathematics.
- Understanding of math ideas is much more important than mathematical skills.
- Reasoning is fundamental to knowing and doing math.
- Mathematics is an integrated whole, not a set of discrete skills.

Best Practice in Science

It would be highly unlikely that science education would remain dormant at a time when rapid knowledge growth was occurring across the curriculum. Indeed, substantial curricular adaptations have been recommended by professional science education organizations (e.g., American Association for the Advancement of Science

[AAAS], 1989; 1993; National Research Council, 1996) responsible for determining what is taught in our science classrooms. As with literacy and math education, science educators have proposed an inquiry-based approach to science education that focuses on learning important concepts and principles within and across respective disciplines (e.g., biology, chemistry, geo-sciences, and physics). Among the more noteworthy recommendations are the following:

- Science study should involve doing science that is questioning and discovering—not just covering material.
- Hands-on inquiry involves a series of steps that builds pupils' investigative skills.
- Students should explore fewer topics but understand them in greater depth.
- Pupils outgrow misconceptions only by actively engaging in investigation.
- Good science teaching involves facilitation, collaborative group work, and limited use of information giving.

Cross-Discipline Best Instructional Practice

In addition to recommendations provided by discipline-specific professional organizations, educational researchers have provided valuable insights into best teaching practice across the curriculum. Here, we highlight the work of Doug Carnine, Ed Kame'enui, and their colleagues at the University of Oregon, as well as recent meta-analyses conducted by Robert Marzano and his colleagues. These researchers have examined the curricular and instructional conditions that promote the most effective and efficient learning of complex academic content for all pupils enrolled in inclusive educational settings. Several specific teaching strategies with strong empirical bases have generated from these efforts—all of which can be used across a range of academic content areas. Moreover, these strategies appear to work not only for those with diverse needs (i.e., those receiving special education services), but for all students.

First, Carnine, Kame'enui, and their colleagues have been clear that content area instruction should focus on big ideas. Big ideas are fundamental principles and concepts that are reflected across the curriculum and that provide the basis for more generalized learning. A focus on big ideas allows teachers to teach less content but at much greater depth, thereby resulting in more substantive learning by all students (Kame'enui, Carnine, Dixon, Simmons, & Coyne, 2002). Marzano, Pickering, and Pollock (2001) extended this emphasis by noting that clear and concise learning goals provide direction for learning yet permit flexibility to personalize accommodations for individual students. Well-planned objectives set criteria for performance that are clearly communicable to students, families, and others, and are designed so that the goals can be built into instructional feedback systems for students. Defining characteristics of big ideas are offered in Box 1.3.

Second, teachers should use nonlinguistic representations to help pupils learn content. Information is typically conveyed linguistically in most classrooms. That is, teachers talk about ideas and students listen and take notes, or pupils read and discuss what they have read with the teacher and/or peers. Research suggests, however, that, "the more we use nonlinguistic representations while learning, the better we can think about and recall our knowledge" (Marzano, Norford, Paynter, Pickering, & Gaddy, 2001, p. 143). Nonlinguistic strategies might include (1) graphic

Box 1.3 Defining Characteristics and Exemplars of Big Ideas

- Important concepts and principles reflected within and across the curriculum; for example, viewing history as a recursive process of individuals' addressing basic human rights problems, generating possible solutions, and then addressing the effects of each solution (problem—solution—effect); calculating volume of geometric shapes as a multiple of base times height; learning seven factors of the economy
- Teaching less content but at greater depth
- Using clear, concise, and measurable learning goals and objectives to guide your teaching

organizers, (2) pictographs or diagrams, (3) mental mapping, (4) physical models, (5) outlining, or (6) kinesthetic representations that allow students to manipulate their knowledge in meaningful ways. These varied visual and sometimes tactile displays illustrate key concepts and their relationships. Researchers refer to this as the use of conspicuous strategies. Conspicuous strategies promote pupils' understandings of the important connections that exist between concepts and big ideas. Research by Marzano, Pickering, et al. (2001) extends this idea by amplifying the importance of students' generating their own content visualizations, rather than responding by rote to templates constructed by their teachers.

In addition to seeing the important relationships among important big ideas within the curriculum, students must also link their newly acquired knowledge to existing understandings (i.e., prior knowledge). To assist in this process, teachers can prime students' prior knowledge by asking key questions that require them to draw comparisons between what they already know and the new concepts that they are learning. Instruction should be designed so that teaching materials provide access to the prior knowledge that we are encouraging them to use. Further, it is important that teachers—both special and general educators—systematically teach students to identify similarities and differences in concepts through various activities, including comparing, classifying, and using more complex analyses.

University of Oregon researchers also recommend the use of mediated scaffolding. These strategies provide students with instructional supports (e.g., visual cues and written prompts) that increase the likelihood that they will successfully learn new academic content. It is equally important that teachers gradually reduce support mechanisms (i.e., by fading) as students become more proficient with academic content and skills (Kame'enui et al., 2002).

A fifth recommended instructional strategy is strategic integration of academic content both within and across the curriculum. When learning new tasks or information, students must know and practice the steps that are needed to complete the tasks. Moreover, to become proficient in completing newly acquired skills, students need sufficient practice. Strategic review provides pupils with opportunities to practice the steps needed to successfully complete assigned tasks. Strategies are modeled initially by teachers who overtly display step-by-step procedures and then provide ample opportunities for pupils to apply these strategies in meaningful learning activities. Skill practice across relevant activities enables students to apply strategies whenever they encounter similar tasks. The importance of strategic integration for students with special needs is highlighted in a quotation in Box 1.4.

Judicious review, a sixth instructional strategy, gives students multiple additional opportunities to practice what they have learned and to receive constructive feedback on their performance. This strategy ensures that knowledge and skills are retained over time and can be applied in different situations. For students with spe-

Box 1.4 A Quotation Emphasizing the Importance of Strategic Integration for Students with Special Needs

For students with special needs, strategic integration is critical so that strategy and/or content learning is generalized, rather than mastered in isolated contexts, settings, or skill areas.

cial needs, systematic review of previously mastered skills and content has been referred to as *maintenance;* without ongoing opportunities to use prior skills and content, such abilities can be quickly lost, requiring reteaching and relearning.

In addition to forming these six research-based instructional strategies, special educators have played a significant role in the development of differentiated instruction, a concept that has taken hold nationwide as part of ongoing school reform movements (see, e.g., Tomlinson, 1999). *Differentiated instruction* refers to the modification of instruction and curricular content, processes, and products in response to individual student needs and abilities. In differentiated classrooms, teachers fashion instruction around essential concepts and principles, as well as around the diverse needs and skills of individual pupils.

Exemplar 2: Individual, Classroom, and Schoolwide Behavior Management

Remember when you started teaching and they told you "never smile until Christmas"? Remember when you thought that sending disruptive students to the principal's office (i.e., out of the classroom) was an effective way for reducing their misbehavior within your classroom? Did it really seem to work when we gave students who skipped school three additional days out of school on suspension? Does it really make sense to withhold positive attention from youngsters who rarely receive any positive attention outside of school? Is simply telling noncompliant and disruptive students that they should behave better the most effective way we have for getting them to do so? Shouldn't pupils be expected to know how to manage their own behavior and just do it?

Such questions, advice, policies, and practices have been evident in education for far too long. Not only have these perspectives and practices been ineffective, but in many cases they have been downright harmful. Fortunately, some of special education's strongest instructional practices have emerged from attempts to improve the individual, classroom, and schoolwide behavior of students who are least likely to comply naturally with school expectations. Six big ideas reflect special education's contributions to the improvement of pupil behavior: (1) recognize that behavior is learned, (2) identify socially important goals, (3) emphasize positive behavioral supports, (4) be proactive and with-it, (5) use self-management strategies, and (6) emphasize schoolwide implementation. These ideas are summarized in Box 1.5.

Recognize That Behavior Is Learned

Special educators recognized early on that most, if not all, human behavior was learned, typically through the complex interactions that occurred among individuals and their immediate learning environments. If most behaviors—both inappropriate and appropriate—are learned, then it followed logically that they can be unlearned or changed through systematic environmental analysis and adapta-

Box 1.5 Six Big Ideas for Influencing Student Behavior

- Recognize that behavior is learned.
- Identify socially important goals.
- Emphasize positive behavioral supports.
- Be proactive and with-it.
- Use self-management strategies.
- Emphasize schoolwide implementation.

tion. This concept was particularly important for special educators because many of their pupils had noticeable behavioral differences that set them apart from their peers and often resulted in negative educational outcomes (e.g., segregation in noninclusive classrooms, suspension, expulsion, and school dropout). The ability to change pupil behavior in a more socially appropriate manner empowered special educators to provide relief and support for children with behavioral difficulties, as well as for their teachers and caregivers. The special education and applied psychology literatures provide numerous examples of the wide range of behavior problems that have been improved through systematic behavioral interventions (e.g., self-injurious behavior, temper tantrums, social isolation, and aggression).

Identify Socially Important Goals

Special educators have also contributed significantly to the selection of functional or socially important behavioral goals: skills that will most likely help students succeed in school and society. Historically, the term *discipline* has become synonymous with punishment in our schools (see Box 1.6 for more details).

Consequently, the goals of many traditional classroom and behavior management approaches were to suppress misbehavior and produce quiet and docile yet attentive students. Indeed, the picture of a classroom of children sitting straight up in their desks with their feet firmly on the floor and staring attentively at the teacher was the hallmark of good classroom management for many educators. While there is nothing inherently wrong with quiet, seated pupils who pay attention, research has found this to be an insufficient educational outcome. Instead, students must be actively involved in their own learning, and they must acquire more socially responsible behaviors if they are to succeed in school and life. They must, for example, learn to treat themselves and others with respect, cooperate with peers and adults, and try to do their best academically. Good behavior management simply replaces inappropriate behavior with more responsible social actions.

Box 1.6 Objective and Inferred Definitions of Discipline

According to *Webster's Dictionary,* discipline is (1) training that develops self-control, (2) orderly conduct, (3) a system of rules, as for a monastic order, or (4) strict control to enforce obedience. The word *discipline* is actually a derivative of the word *disciple,* or follower of a positive image or way. However, very different meanings have been attached to the term *discipline* within America's public schools. Most often, discipline has been equated with punishment, and many educators have assumed that in order to develop good discipline one must rely on negative consequences such as reprimands, loss of privileges, or exclusion.

Box 1.7 Examples of Teacher Comments When Catching Pupils Being Good

- "I see LaChandra has her desk cleaned off and is ready to line up for gym."
- "Thank you, Janeil, for raising your hand and waiting for me to call on you before responding."
- "I see everyone is keeping their hands and feet to themselves. Very well done."
- "Yes, Jamaal, thanks for putting your completed assignment in the in box before the bell rang."
- "Armando and Daritza, you are doing a great job of taking turns and sharing your materials."

Emphasize Positive Behavioral Supports

A third best practice emphasizes the use of positive over negative or reductive consequences to teach pupils new academic and interpersonal skills more effectively and efficiently. Rather than waiting until Christmas to smile—or withholding positive attention from students who rarely receive it at home—effective educators catch pupils being good early and often throughout the school year. Moreover, they use a ratio of three or four positive comments to each reductive consequence (e.g., reprimand). When one notices pupils being good it is very important to recognize their behavior or what they are doing rather than making more global positive statements. Box 1.7 provides a few examples of appropriate praise statements.

A ratio of three or four positive comments to each reprimand not only creates a more positive learning environment but also provides frequent opportunities for students to be recognized for the many good things that they do during the school day. In school, the key lies in finding positive consequences that are natural and meaningful for students, that require little time to use, and that are relatively inexpensive.

The extensive research of Marzano, Pickering, et al. (2001) also indicates that feedback, particularly explicit information about what students are doing well compared to a performance standard, is an essential ingredient of effective instruction. Notably, they advise teachers to provide recognition for effort and accomplishments while teaching students to discriminate between their effort and personal results. This tweaking of the traditional catch-'em-being-good advice can foster self-responsibility and self-management in schools. John Hattie (1992) reported, after reviewing 8,000 studies, that "The most powerful single modification that enhances achievement is feedback. The simplest prescription for improving education must be dollops of feedback" (p. 9).

Be Proactive and With-It

Special educators also emphasize a proactive rather than reactive approach to behavior management. Instead of waiting for pupils to misbehave and then reacting by applying a reductive consequence (e.g., verbal reprimand), smart educators prevent behavior problems by structuring their classrooms for academic and behavioral success. They do so by following the tips in Box 1.8.

Highly effective special educators anticipate and prepare themselves for possible aberrant behaviors (e.g., noncompliance, disruption, bullying, and aggression) and develop preplanned strategies for responding to such occurrences. Preplanned strategies include any activities that make it less likely that pupils will misbehave

Box 1.8 Tips for Structuring Your Classroom for Success

- Use functional rules, procedures, and routines that clearly articulate classroom and school expectations and responsibilities.
- Place pupils appropriately into academic materials and engage them actively in meaningful learning tasks.
- Model prosocial behavior through your daily interactions with students and other staff.
- Offer numerous opportunities for pupils to engage in socially appropriate actions.
- Recognize students regularly and genuinely for their accomplishments and efforts.
- Use functional behavioral assessments and unique information about the student, the classroom, the school, and the family to individualize behavior support plans for your most challenging learners.

in the first place. Effective teachers also use an instructive approach when student misbehavior does occur. That is, rather than punishing students' behavioral mistakes, they treat such behaviors as legitimate opportunities to reteach pupils how to behave more appropriately in the future (Rhode, Jenson, & Reavis, 1996; Sprick, Howard, Wise, Marcum, & Haykin, 1998).

This "with-it" mindset and action orientation allows one to intervene in challenging behaviors without stigmatizing students as unteachable (Marzano, Marzano, & Pickering, 2003). Smart educators use a critical blend of technically and contextually appropriate instructional procedures to meet the needs of children as well as the desires and values of their families and teachers.

Use Self-Management Strategies

Special educators also use self-monitoring and self-management strategies to help pupils take responsibility for their own performance. Independent learning requires students to check their own behavior, to decide if it is effective, and, if necessary, to make changes to meet an expected standard. Self-management can be as simple as students' reducing the number of times they talk out in class or can extend to more complex reflections requiring them to adjust their own behaviors to an explicit set of school rules and standards. One critical component involves self-monitoring—teaching students to identify and measure their own performance. Some basic tips for using self-monitoring strategies effectively can be found in Box 1.9.

Researchers have found that simply teaching students to keep track of their own behavior often has a therapeutic effect. Individuals who eat or smoke too much usually do so less frequently when taught to count how often they do such things. Similarly, teaching students to make marks each time they interact appropriately with peers tends to increase the likelihood that they will do so in the future. If just counting does not produce desired behavior change, then students must learn to do something about it without being prompted by a teacher. Self-management is feasible for students with diverse learning needs and is applicable to both academic and behavioral expectations (Cole & Bambara, 2000; Korotitsch & Nelson-Gray, 1999; Shapiro, Durnan, Post, & Skibitsky-Levinson, 2002).

Self-monitoring and self-evaluation strategies were used initially with students' noncompliant behaviors (e.g., Rhode, Morgan, & Young, 1983). Students were taught to recognize when they were doing something inappropriate (e.g., leaving their seats, being off task) and then to record and track these incidents. By self-recording, students became more aware of their behavior, and they either self-

Box 1.9 Some Tips for the Appropriate Use of Self-Monitoring Strategies

- The primary purpose of self-monitoring strategies is to make pupils more aware of their behavior so that they can learn to control it themselves.
- Explicitly define the behavior to be self-monitored, provide examples and nonexamples, and role-play each occurrence.
- Provide a simple sheet for students to record each occurrence of the target behavior (some excellent examples are available from the Tough Kid Toolbox; Jenson, Rhode, & Reavis, 1996).
- Set a specific time limit for monitoring. A period of 15, 30, or 60 minutes per day is more than sufficient. Monitoring one's behavior indefinitely is too overwhelming for most individuals. Select the time when the problem is most prevalent and gradually increase monitoring times.
- Check your students' accuracy on a random basis and reinforce them for correctly matching your independent recordings.
- Give students frequent opportunities to self-monitor, use positive feedback for doing so, and gradually begin to fade.

modified or participated in a contingency that was teacher mediated. Teacher consequences were then faded over time as students learned to self-regulate or self-manage.

More recently, Mitchem and Young (2001) described how self-monitoring can be combined with peer-assisted learning strategies to create the Classwide Peer-Assisted Self-Management (CWPASM) program. This program, which teaches all students within a classroom to monitor their own behaviors simultaneously, would appear to be very functional for inclusive educational settings. The need to maintain orderly classroom behavior and teach children how to manage their own behavior is a critical outcome for general and special educators alike.

Schoolwide Implementation

Finally, special educators have learned most recently that they are more likely to achieve generalized behavior changes when they work on a school- or system-wide basis. Schoolwide approaches involve faculty and staff working collaboratively to identify a common set of behavioral expectations for all children, adopting a consistent set of beliefs for managing student behavior (e.g., a proactive approach), and then implementing similar practices in response to pupils' appropriate and inappropriate behavior. Research on schoolwide behavior plans and positive behavioral support systems provide two shining examples of the type of behavioral change that is possible when educational professionals are on the same page and work collaboratively to meet common educational goals (e.g., Sprick et al., 1998; Sugai & Horner, 2005). Such systems promote social responsibility among all pupils and minimize disruptive and significant behavior problems among our most challenging students. Schoolwide behavior plans are used increasingly within highly effective school districts. Positive behavioral supports are put into place for individual students (e.g., those receiving or at risk for special education services) and for schoolwide challenges such as bullying, acts of disruption, and violence. Today, the special education–born emphasis on self-management has grown significantly into schoolwide directions for fostering self-regulation, a natural blend of the special and general education worlds.

Exemplar 3: Vocational and Life-Oriented Skill Development

Our third and final exemplar of special education teaching practice is vocational and life skills instruction. In the 1970s, special educators began to look critically at their outcomes and realized that many students with special needs were leaving high school without a repertoire of functional life skills. That is, they (1) were not prepared adequately to acquire entry-level jobs, (2) required maximum assistance to get around the community, and (3) had not learned even the most essential young adult social skills (e.g., appropriate greeting and conversational skills). This realization co-occurred with the mainstreaming and community inclusion movements in which individuals with disabilities were being expected to participate more fully in school and community life. While these integration movements were well intended and had a strong philosophy of equality, they failed to provide a sound foundation for translating what we knew about good teaching into routine instructional practice. Thus, special educators began to prepare students for fuller participation outside the classroom, in areas including community mobility, prosocial skill development, job preparation, household management, and sexuality. Special educators expanded their instructional toolbox, therefore, by developing four critical knowledge bases and skill sets. Inherent in these instructional domains are teaching strategies that do the following:

- Identify knowledge and skills with lifelong functionality
- Instruct individuals in natural settings
- Use real-world jobs, training, and support
- Treat transition seriously

Identify Knowledge and Skills with Lifelong Functionality

The notion of looking at what life demands of students and then directly teaching them to do such things has set special educators apart from many of their educational peers. Making decisions about whether people with disabilities should feed, toilet, and/or dress themselves was certainly not difficult; nor were decisions about teaching appropriate language skills. Yet decisions became more complex when individuals were approaching graduation without being fully independent in even these most basic skills. Although special education had prided itself in teaching life skills, many youth were graduating without the ability to ride commercial buses, cross streets, buy groceries, prepare meals independently, or interact with the general public in socially appropriate ways (Heward, 2006). To adjust existing curricula, special educators examined real-world expectations and developed environmental inventories (see, e.g., Snell, 1987). These inventories involved careful analyses of what normally developing adults did when they engaged in community-related activities. The result was new lists of teachable goals and a functional curriculum for older exceptional students.

Special educators also had to prioritize what needed to be learned because for many students receiving special education services there simply was not enough time to teach them everything they needed to prosper outside of school. Therefore, the primary functionality question became "What is most critical for this student to learn now?" This question, in turn, required special educators to make other challenging decisions about whether to (1) bypass planned instruction and com-

plete the task in another way, (2) use substitutes to complete activities (e.g., peers, paraprofessionals, or technology), (3) teach specific skills, or (4) teach generalized skill sets (see Snell, 1987).

Instruct in Natural Settings

It soon became obvious that if special educators were going to deliver a functional, community-oriented curriculum then they would have to do so in more natural settings. In the old days, special education classrooms were equipped with beds and stoves and students would practice basic housekeeping skills right there in school. Similarly, special education students learned about safely crossing streets, sexuality, and engaging in appropriate leisure activities through the use of photos, videos, and/or models within the classroom. Full community participation, however, required students to apply their newly acquired skills in real-life settings, and to do so they had to be taught in community-based settings.

The complexities associated with community-based instruction greatly surpassed those involved with occasional field trips to parks, museums, and local restaurants. Indeed, special educators were required to conduct in-depth analyses of community placements, identify and teach critical prerequisite skills for success in each setting, and then determine the least number of settings or conditions required to maximize skill generalization. For example, if students were taught only to make and answer telephone calls on push-button desk phones, then they would be unlikely to independently use cell phones. Similarly, if they were taught to cross streets controlled solely by traffic signals, then they would likely have difficulty crossing intersections without signals. Community-based instruction, therefore, took into account both the "teaching sets" of exemplars (i.e., what is taught) and the explicit instruction required to teach these skills in naturalistic settings (i.e., how to teach). Using systematic instructional practices such as task analysis, error correction, shaping, prompting, and chaining, community-based instruction provided the necessary ingredients that many special needs youth needed for success outside of the classroom.

As special educators became more adept at teaching functional skills, modifications were made in their community-based instructional practices. For example, think about teaching appropriate language skills. Functional communication skills require individuals to use language in the context of relating to other people, irrespective of whether they are in school or the community. Special educators and related service professionals (e.g., speech/language, physical, and occupational therapists) recognized, therefore, that they must change their language instruction from more artificial conditions—repeating words and phrases in massed trials outside the context of real social interactions—to more naturally occurring contexts like saying what one wants to eat during meals and snacks and engaging in verbal turn taking during real-life conversations and games.

Use Real-World Job Training and Support

Special educators were also prompted to adapt their teaching practices when they saw what happened to their high school graduates during the 1970s. Even under the best conditions, most special education graduates were spending their days in sheltered workshops or day treatment centers, segregated sites where they did either subcontracts from real work (e.g., parts assembly) or made-up "busy" work

(e.g., sorting buttons). This often translated into meaningless work for little or no pay, certainly not the goal of a meaningful life for young adults with special needs. To rectify the situation, special educators sought out more meaningful vocational alternatives.

Initially, they identified potential work opportunities earlier in students' careers and created appropriate instructional contexts for teaching such work-related skills within the school continuum. Students with special needs were given real work opportunities in their early teens and then received more demanding and natural work-related experiences as they approached graduation. In our best special education programs, students with special needs actually worked at real-life jobs that they eventually transitioned into upon graduation.

Second, special educators used similarly smart functional decision-making skills when they designed employment programs. That is, they carefully examined what skills—social, mobility, academic, and/or motoric—were required by specific jobs, conducted in-depth environmental analyses to identify the conditions under which such skills had to be performed, and then provided direct instruction in authentic employment settings. Students with special needs were learning to do real jobs in real contexts. On-the-job training became the primary instructional vehicle. Special educators used explicit instruction to teach critical job skills, important social skills required for interacting with coworkers and supervisors, and relevant community survival skills (e.g., getting to and from work, handling pay, and eating meals on the job). Box 1.10 provides some excellent resources for facilitating employment opportunities for individuals with special needs.

Box 1.10 Additional Resources for Facilitating Employment Opportunities

Professional Journals

Career Development for Exceptional Individuals
Journal of Vocational Rehabilitation
Mouth: The Voice of Disability Rights

Books

Bellamy, G. T., Rhodes, L. E., Mank, D. M., & Albin, J. M. (1988). *Supported employment: A community implementation guide.* Baltimore: Brookes.

Benz, M. R., & Lindstrom, L. E. (1997). *Building school-to-work programs: Strategies for youth with special needs.* Austin, TX: PRO-ED.

Rusch, F. R. (1990). *Supported employment: Models, methods, and issues.* Pacific Grove, CA: Brooks/Cole.

Wehman, P., & Kregel, J. (Eds.). (1998). *More than a job: Securing satisfying careers for people with disabilities.* Baltimore: Brookes.

Web sites

Ability Network Magazine. http://www.ability.ns.ca/anet
Association of Disability Advocates. http://www.icanect.net/fpa/
The Disability Rights Activist. http://www.disrights.org
The National Home of Your Own Alliance. http://www.alliance.unh.edu

Treat Transition Seriously

Transition refers to a coordinated set of activities that promote movement from school to postschool settings. This typically includes facilitating student adjustment in three primary domains: (1) the quality of residential environment, (2) the adequacy of social and interpersonal networks, and (3) meaningful employment (Halpern, 1985; Heward, 2006). Transition planning usually begins in youths' early teens and is outlined within their respective individualized transition plans (Heward, 2006). Transition plans must be highly individualized and incorporate (1) what and where individuals will work, live, and recreate; (2) what intervention steps will be taken to promote successful postgraduation performance; and (3) how supports will be coordinated so that individuals succeed as young adults.

FUTURE DIRECTIONS FOR SPECIAL EDUCATION TEACHING STRATEGIES

Obviously, special educators have developed and refined a variety of high-quality instructional strategies over the years. They have done so partly because their students have become more challenging and partly because the requirements for living a well-rounded and independent life in a complex society have increased noticeably. As special educators persevere in their efforts to assist individuals in this regard, we see at least three constructive directions for improved teaching practice:

- Bridging the gap between research and practice
- Increasing the availability and intensity of early intervention and prevention programs
- Enhancing the general and special education partnership

While in-depth analyses of such issues are beyond the scope of this chapter, we can comment briefly on their relevance. First, although special education research has produced a significant and reliable knowledge base about effective teaching strategies (e.g., Cook & Schirmer, 2003; Lovitt, 2000; Vaughn, Gersten, & Chard, 2000), ample evidence suggests that few of these best teaching practices ever find their way into routine classroom use (e.g., Carnine, 1997; Greenwood & Maheady, 2001; Wilson, Floden, & Ferrini-Mundy, 2002). Even the most powerful teaching practices available will be of little value to individuals with special needs if their teachers do not use them. Minimally, a concerted and systematic effort must be undertaken to identify the conditions under which evidence-based teaching practices will be used and sustained in our public schools. Similarly, although we have learned that it is better to intervene earlier rather than later with individuals with special needs, we have not always done so. To the maximum extent possible, therefore, we must focus our teaching and intervention efforts on the prevention of academic and behavioral failure rather than its remediation. Early childhood special education intervention and schoolwide behavioral prevention programs come to mind in this regard. Finally, it has become increasingly clear that there are simply too many children with too many diverse needs in our classrooms for any one professional, in either special or general education, to meet all of their needs. Thus,

general and special educators must learn to work more collaboratively to meet mutual defined educational goals. We believe that we can accomplish such goals by these means:

- Using common, explicit language to discuss teaching practices that make a noticeable difference in pupil performance
- Translating evidence-based research findings into teacher-friendly products (guidebooks, curriculum maps, etc.) and making them readily available to our primary consumers (e.g., teachers, parents, and administrators; see, e.g., www.sopriswest.com)
- Developing and using common formative assessment measures (e.g., curriculum-based assessment) that are sensitive to ongoing rates of pupil progress and representative of important educational outcomes; see, e.g., Fuchs & Fuchs, 1999; Shinn, Shinn, Hamilton, & Clarke, 2002)
- Implementing and sustaining effective professional development strategies that cross disciplines and address important classroom and schoolwide needs

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