Inclusive education for students with severe disabilities has been embraced as a recommended practice by advocacy groups, such as the American Association on Intellectual and Developmental Disabilities/The ARC (2008), the National Down Syndrome Congress (2005), and TASH (2010), and professionals (Snell & Brown, 2011; Westling & Fox, 2009). Although the ultimate goal of inclusive education has always been to achieve students' equal access to the community and full participation in society, the strategies used to realize these goals have substantially changed since the mid-1990s. Consequently, the definition of inclusive education and what educational and social outcomes it should produce for students has also evolved (Hunt & McDonnell, 2007).

This chapter's purpose is to summarize what is currently known about inclusive education for students with severe disabilities and explore the issues that will affect the expansion and quality of these programs in the future. Specifically, it 1) provides a definition of inclusive education based on current knowledge, 2) reviews the most recent research on the effect of inclusive education on student achievement and growth, 3) discusses what educational and social outcomes should drive the design and implementation of inclusive education, 4) provides recommendations on strategies that may increase the ability of practitioners and individualized education program (IEP) teams to achieve meaningful outcomes for students in inclusive classes, and 5) discusses areas for future research.
INCLUSIVE EDUCATION: COMMUNITY, DIVERSITY, AND COLLABORATION

The term inclusion began to appear in the literature around 1990 (e.g., Gartner & Lipsky, 1987; Sailor, 1991; Stainback & Stainback, 1990). The definitions of inclusive education and the description of inclusion models were focused almost wholly on the full-time placement of students with disabilities in general education classrooms (Sailor & Skrtic, 1995). Although the definitions of inclusion varied, there were a number of widely accepted programmatic features that included first, and foremost, the delivery of educational services to students with disabilities through full-time placement in chronologically age-appropriate general education classes, within the context of the core curriculum and general class activities, and integrated community settings. In addition, students with disabilities attend schools that they would attend if they did not have an identified disability, their representation in schools and classrooms is in natural proportion to their representation in the district at large, and there is a zero-rejection district policy so that no student is excluded on the basis of type or extent of disability (Gartner & Lipsky, 1987; Sailor, 1991; Stainback & Stainback, 1990).

Contemporary discussions, however, often move beyond considering inclusive education as a special education service delivery model and focus on whole-school restructuring to create inclusive school communities in which all students are valued members. Emphasis is placed on educational policies and practices that ensure that all students have an equitable share of educational resources and can achieve their highest potential (Ainscow et al., 2003; Ferguson, Kosleski, & Smith, 2005; Hunt & McDonnell, 2007; Sailor & Roger, 2005; Sailor & Skrtic, 1995; TASH, 2000); thus, the focus has shifted from inclusive education as special education policy and practice to designing educational arrangements to promote membership and achievement of all children, regardless of their differences in culture, gender, language, ability, class, and ethnicity (Ainscow et al., 2003; Ferguson et al., 2005; Saldana & Waxman, 1997; TASH, 2000). In addition, emphasis is placed on unifying school resources and integrating categorical programs in ways that benefit all students in general education classrooms (Ferguson et al., 2005; Miles & Darling-Hammond, 1998; Sailor & Roger, 2005).

All students in a successful inclusive school are presumed competent and able to benefit from the general education curriculum. Educators not only have high expectations for all students, but they also believe that they (the educators) can gain the knowledge and skills they need to effectively teach all students by engaging in collaborative working arrangements with other educators and family members (Ainscow et al., 2003; Ferguson et al., 2005; Hunt, Hirose-Hatae, Doering, Karasoff & Goetz, 2000; Sailor & Roger, 2005; Snell & Janney, 2005; TASH, 2000). Collaborative teaching provides the vehicle for blurring the lines between general, special, and bilingual education and other categorical programs to create a unified school system that “anchors its work in curriculum content, students' performance, and learning assessment strategies, all of which reflect learning outcomes that are valued by local communities and families and informed by national and state standards, curriculum frameworks, and assessment strategies” (Ferguson et al., 2005, p. 7). Fiscal and staff resources are allocated to promote the academic achievement and social development of all students in the school, and educational services are planned and delivered by qualified general and special education teachers and paraprofessional staff (Miles & Darling-Hammond, 1998; Sailor & Roger, 2005).

The collaborative teaching process provides opportunities for general and special educators and family members to share their knowledge, skills, and experience to identify strategies to individualize learning, increase students' engagement in educational activities, and support the development of positive social relationships (Giangreco, Cloninger, Dennis, & Edelman, 2002; Hunt, Soto, Maier, & Doering, 2003; Udvari-Solner & Thousand, 1996). Support plans generated through collaborative processes are based on real-life (local) knowledge and a shared repertoire of experiences with the child, and implementing the individualized supports requires joint enterprise and shared responsibility and accountability (Giangreco et al., 2002; Hunt et al., 2005; Mortier, Hunt, Leroy, De Schauwer, & Van Howe, 2010). Faculty and staff in inclusive classrooms strive to create communities in which all students are valued members, and emphasis is placed on the value of diversity, multiculturalism, social justice, and belonging for everyone (Hunt et al., 2000; Kohn, 2006; Sapon-Shevin, 1990; TASH, 2000). Teachers promote community building by employing strategies to increase individual students' sense of identity and self-worth while, at the same time, increasing the students' capacity for cooperation, interdependence, and respect for cultural, language, and ability differences. Priority is given to implementing facilitation strategies and social supports to develop positive social relationships and friendships between classmates with and without disabilities. Students are given ongoing and structured opportunities to recognize each other's accomplishments. Literature is used to teach lessons addressing equity, cultural and ability diversity, and social justice, and regularly scheduled class meetings may be used for problem solving and conflict resolution (Gibbs, 1994; Hunt et al., 2000; Kohn, 2006; Sapon-Shevin, 1990).

Designing curriculum and employing instructional practices and technologies that make the core curriculum accessible and meaningful to all students is a final key dimension of inclusive schools. Universal Design for Learning principles guide curriculum development to ensure that 1) content is presented in different ways to increase accessibility, 2) students are given the opportunity to express what they know through multiple means, and 3) attention is given to engaging students in learning activities by stimulating their interest and motivation (Center for Applied Special Technology [CAST], 2012; Curry, 2003). In addition, differentiated instruction is used to develop and implement curricular and instructional adaptations and modifications needed to increase accessibility and engagement for all students, align IEP goals of students with disabilities with the general education curriculum, and support student progress in achieving those goals (Janney & Snell, 1997; Wehmeyer, 2005).

RESEARCH ON THE EFFECT OF INCLUSIVE EDUCATION

Research on the effect of inclusive education has examined a number of different outcomes for students and can be categorized into two broad groups. The first and largest group of studies examined the immediate effect of inclusive education on student educational achievement and social connectedness. The second group focused on the effect of inclusive education on students' postschool outcomes. This area of research has received surprisingly little attention in spite of the obvious importance...
of understanding how inclusive education affects the quality of students' lives after they leave school (Hunt & McDonnell, 2007; Ryndak, Alper, Hughes, & McDonnell, 2012). The following section summarizes the research on the short- and long-term outcomes of inclusive education.

**Short-Term Outcomes of Inclusive Education**

Research on inclusive education addressed a number of issues, including its effect on student achievement and learning, social connectedness, the characteristics and contexts of the instruction that students receive, and the validation of curriculum and instructional strategies that support students in general education classes (Hunt & McDonnell, 2007). A full review of this literature is beyond the scope of the present chapter, so we focus on selected studies examining the relative effectiveness of inclusive education on student achievement, friendships and social connections, and quality of instruction that students receive in inclusive education classes.

**Academic Achievement and Student Learning**

Several studies directly compared the academic achievement of students in inclusive and separate educational programs (Cole, Waldron, & Majd, 2004; Fisher & Meyer, 2002; Peetsma, Vergeer, Roeleveld, & Karsten, 2001). For example, Fisher and Meyer compared the development of adaptive behavior and the social competence of two matched groups of students with moderate to profound disabilities who were educated in general education classes for the majority of the school day or in self-contained special education classrooms. They found that only the students served in inclusive educational programs made significant gains in adaptive behavior and social competence. Comparisons between the groups showed that gains in adaptive behavior were significantly higher for students in inclusive classes than those in self-contained classes, and no significant differences in gains were found in social competence.

A common criticism of inclusive education is that placing students with disabilities in general education classrooms will negatively affect the achievement of peers without disabilities (Kauffman & Hallahan, 1995). Studies that have directly examined this issue, however, found that there is no effect on the academic performance of students without disabilities when students with severe disabilities are included in general education classes (Cole et al., 2004; McDonnell et al., 2003; Sharpe, York, & Knight, 1994).

For example, McDonnell et al. (2003) examined the educational achievement of 14 students with severe disabilities served in general education classes and 546 of their peers without disabilities enrolled in five elementary schools. The achievement of students with severe disabilities was measured using a standardized assessment of adaptive behavior in a pre-post design. The academic performance of students without disabilities was measured using scores from a state-mandated, criterion-referenced test in reading/language arts and mathematics. A posttest-only control group design was used to compare scores of students without disabilities enrolled in classes with one of the students with severe disabilities to students enrolled in classes that did not include students with severe disabilities. The authors found that 13 of the 14 students with developmental disabilities made significant gains in adaptive behavior, and no differences were found between the two groups of students without disabilities in either reading or math performance.

**Friendships and Social Connections**

Numerous studies examined how inclusive education affects the development of friendships and the social connections between pairs of students with and without disabilities (Boutot & Bryant, 2005; Cole & Meyer, 1991; Fryxell & Kennedy, 1995; Hunt, Farron-Davis, Beckstead, Curtis, & Goetz, 1994; Kennedy & Itkonen, 1994; Kennedy, Shukla, & Fryxell, 1997). These studies suggested that there are numerous social benefits of inclusive education when practitioners take active steps to promote social interactions between peers with and without disabilities.

Fryxell and Kennedy (1995) compared the social interactions of two matched groups of students enrolled full time in general education classes or in self-contained special education classrooms. They found that students served in general education classes had significantly more social contacts with peers without disabilities than students enrolled in self-contained classrooms. Students served in general education classes on average had more than seven times the number of contacts per day with peers without disabilities than students served in self-contained special education classes. Students enrolled in general education classes also received significantly more social support from others during the school day and provided more social support to their peers without disabilities than students in self-contained classes. Finally, the mean number of peers without disabilities identified by students with severe disabilities as members of their social networks was 17 times higher for students served in the general education classes than those served in self-contained classes.

Hunt et al. (1994) conducted a program evaluation examining the effects of placement in inclusive and separate special education programs on a number of variables including the extent to which students with severe disabilities initiated and engaged in social interactions with peers. The researchers conducted six observations with randomly selected stratified samples of students based on severity of disability. These observations were conducted with two students in each of eight full inclusion and eight special education classes. They found students in inclusive education programs had higher rates of initiating social interactions with peers. These social interactions were significantly more social than task oriented for students less affected by intellectual disability. Both groups of students with severe disabilities enrolled in inclusive education programs had significantly higher rates of reciprocal interactions with peers without disabilities.

**Quality of Instruction**

The nature and quality of instruction that students with severe disabilities receive in general education classes is another area of research that has received a substantial amount of attention (Foreman, Arther-Kelly, & Pascoe, 2004; Hunt et al., 1994; Logan & Keefe, 1997; McDonnell, Thorson, McQuilvy, & Kiefer-O'Donnell, 1997; Soukup, Wehmeyer, Bashinski, & Bovard, 2007). These studies found that the instruction provided to students in inclusive educational settings is comparable with or superior to the instruction provided to students in separate educational settings. Furthermore, the more time students spend in general education classes, the more likely it is that they will participate in instruction that is aligned with the general education curriculum.

Logan and Keefe (1997) conducted an observational study examining the instructional context, teacher behavior, and engaged behavior of 30 elementary students with developmental disabilities enrolled in general education and self-
contained special education classrooms. Their analysis showed that students enrolled in general education classes received a greater proportion of their instruction through academic rather than functional daily living activities as compared with students served in special education classes. In addition, they found that students in general education classes received more one-to-one instruction and more attention from the classroom teacher than students in self-contained classrooms. Finally, no differences were found between the two groups on their level of task engagement.

Soukup et al. (2007) examined the extent to which 18 students with severe disabilities gained access to the general education curriculum in various educational placements. Students were divided into three groups: students (n = 6) who spent between 75% and 100% in general education classes, students (n = 7) who spent between 51% and 74% of the school day in general education classes, and students (n = 6) who spent less than 50% of the school day in general education classes. Students were observed using the Access Code for Instructional Structure and Student Response (Access CISSAR) during science and social studies classes. The authors found that students who spent more than 75% of the school day in general education classes were working on core curriculum standards during 98% of the day; students who spent between 51% and 75% of the school day in general education classes were working on core curriculum standards during 93% of the observation intervals; and students who spent less than 50% of the school day in general education classes worked on core curriculum standards during 46% of the observation intervals.

**Effect of Inclusive Education on Postschool Outcomes**

Although there is a substantial base of research examining the immediate effect of inclusive education on students' learning and quality of instruction, the amount of research examining the effects of these programs on students' postschool quality of life is surprisingly limited (Ryndak et al., 2012). Several studies reported improved adjustment to employment for students enrolled in general education classes, especially if they had taken general vocational education classes (Baer et al., 2003; Benz, Lindstrom, & Yovanoff, 2000; Benz, Yovanoff, & Doren, 1997; Blackorby, Hancock, & Siegel, 1993; Hea! Khoju, & Rusch, 1997; Ryndak, Ward, Alper, Montgomery, & Storch, 2010; Wagner, Blackorby, Cameto, & Newman, 1993; Wagner, Newman, Cameto, Levine, & Garza, 2006; White & Weiner, 2004). For example, White and Weiner (2004) conducted a correlational study examining the relationship between educational placement and community-based instruction on employment outcomes for 164 young adults with severe disabilities. One of the strongest predictors of paid community employment for these students following school was the degree to which they were included in general education contexts with age-appropriate peers prior to graduation.

Inclusive education also appears to have a positive effect on students' adjustment to community living (Blackorby et al., 1993; Hea! Khoju, & Rusch, 1995; Hea! et al., 1997, Ryndak et al., 2010). Ryndak et al. conducted a retrospective qualitative study that examined the effect of inclusive education on two individuals with severe disabilities who attended the same self-contained class when they were 15 years of age. Data sources included 1) observations at age 15 and 25; 2) interviews with the individuals with severe disabilities, family members, friends, and adult services providers; and 3) educational and adult services records. One of these individuals was identified as the student in his or her class less affected by intellectual disability, and the other was identified as the student most affected by disability. The first student remained in self-contained classes in subsequent school years, whereas the second student received services in general education classes. Three years after exiting the educational system, the student more affected by disability, yet educated in general education classes, consistently had been employed as a judicial system government employee, living in an apartment with weekly support for budgeting and independent functioning, and participating within an extensive social support network. In contrast, the other student had lost numerous jobs and at the time was working at a sheltered workshop, living with family members, and had no social support network beyond family members.

**WHAT OUTCOMES SHOULD DRIVE INCLUSIVE EDUCATION?**

It is perhaps not surprising that the expected outcomes for students in inclusive educational programs and the curriculum models used to drive educational planning have changed as the number of students served in general education classes has grown and the amount of time they spend in these settings has increased. Students with severe disabilities were served most often in special schools or separate classes located in typical schools in the 1980s and 1990s. The predominant curricular approaches were person-centered ecological curricular frameworks (see Brown et al., 1979; Ford et al., 1989; Neel et al., 2003; Blackorby, Hancock, & Siegel, 1993; Giangreco et al., 2006; Blackorby, Hancock, & Siegel, 1997; Blackorby, Hancock, & Siegel, 1993; Wagner, Newman, Cameto, Levine, & Garza, 2006; White & Weiner, 2004). The underlying assumptions of these frameworks were that educational programs should enhance students' ability to use community resources, live where and with whom they chose, have paid employment in typical businesses and industries, and be independent and have autonomy in making their own lifestyle choices. Emphasis was placed on increasing students' presence and competence in community rather than school settings. These frameworks typically resulted in identifying functional IEP goals and objectives that targeted teaching routines, activities, and key academic and developmental skills that would have a tangible effect on students' immediate and future quality of life.

It soon became clear, however, that simply making students more competent in community settings was insufficient to achieve students' full acceptance and membership in the community. As a result, the expected outcomes of these curricular frameworks were expanded from increasing students' presence and participation in the community to developing age-appropriate social relationships and friendships (Giangreco, Dennis, Cloninger, Edelman, & Schattman, 1993; Giangreco & Putnam, 1991). Social connectedness became as important in defining students' quality of life as having satisfying work and a comfortable home, being able to use community resources, and having control over one's life.

Advocates and researchers began to emphasize the need for students to attend their neighborhood schools, participate in the instructional and extracurricular activities of general education classes and the school, and develop meaningful friendships with peers without disabilities. This led to efforts to validate instructional approaches and strategies that would allow students to learn content in the general education curriculum. Indeed, the body of research showing that if students with severe disabilities were provided systematic instruction, curricular adaptations and modifications, and adequate support, then these students could successfully participate in the instructional activities of general education classes and learn com-
plex curriculum content expanded rapidly (Fisher & Frey, 2001; Gilberte, Agran, Hughes, & Wehmeyer, 2001; Hughes et al., 2002; Janney & Snell, 1997; King-Sears, 1999; Koegel, Harrower, & Koegel, 1999; McDonnell, Mathot-Buckner, Thorson, & Fister, 2001; Ryndak, Morrison, & Sommerstein, 1999).

The passage of the No Child Left Behind Act (NCLB) of 2001 (PL 107-110) and the Individuals with Disabilities Education Improvement Act (IDEA) of 2004 (PL 108-446) was a watershed in how the field thought about educational outcomes and curriculum for students with severe disabilities. These laws created a new set of expectations for teachers, schools, and school districts. These two statutes established the requirement that IEP teams identify how students with disabilities, including those with severe disabilities, will be involved and progress in the general education curriculum in reading and language arts, mathematics, and science (Yell, Shriner, & Katsiyannis, 2006). NCLB mandated that states establish rigorous academic content and academic achievement standards for all students in the areas of reading and language arts, mathematics, and science. Academic achievement standards must be aligned with the academic content standards and be incorporated into a comprehensive assessment system that is used to assess students' adequate yearly progress toward mastering the academic content standards. IDEA 2004 requires that students with disabilities participate in the statewide assessment system or an alternate assessment that is linked to grade-level academic content standards. State and local education agencies must use these assessment data to determine if students with disabilities are making adequate yearly progress in mastering the academic content standards.

The enactment of these mandates has generated concern and sparked discussion among advocates and researchers given the broad support in the field for an ecological approach to curriculum development with a focus on quality of life outcomes for students with severe disabilities. Some researchers suggested that the IDEA 2004 mandate for all students to be involved and progress in the general education curriculum has forced a reexamination of expectations for individuals with severe disabilities. Wehmeyer wrote, "We are now asked to think about the potential that students with severe disabilities could learn to read, do math, and engage in science. It may be hard to imagine now, but I am guessing that in 10 years from now we will wonder how we could not see the potential. (2006, p. 325)

A growing body of research provides evidence that students with severe disabilities can learn complex academic skills when provided with explicit and systematic instruction (Bradford, Shippen, Alberto, Houchins, & Flores, 2006; Browder, Ahlgrim-Delzell, Courtade, Gibbs, & Flowers, 2006; Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2006; McDonnell, Johnson, Polychronis, & Riesen, 2002, Ryndak et al., 1999). It has also been argued that students with severe disabilities have the right to full access to the general education curriculum and that "to deny someone an opportunity that all other members of a society are afforded should require a compelling rationale" (Courtade, Spooner, Browder, & Jimenez, 2012, p. 5).

Other researchers, however, expressed concern that the emphasis on academic content, standards-based academic goals, and high-stakes testing will result in the abandonment of an ecological approach as the basis for selecting IEP goals and designing curriculum and instruction for students with severe disabilities. They envisioned a shift in the focus of educational programs from teaching functional routines and skills that are necessary to live, work, and participate in the community to the instruction of isolated language arts, mathematics, and science concepts and skills that have little application and potential to generalize to students' everyday lives (Ayres, Douglas, Lowrey, & Sievers, 2011; Lowrey, Drasgow, Renzaglia, & Chezan, 2007; Ryndak et al., 2012). There is concern that instruction on grade-level academic content takes time away from instruction of functional skills needed for adult life (Ayres et al., 2011).

We have suggested recently that the potential outcomes of inclusive education could be improved by reconciling these two curricular approaches through a process that allows IEP teams to work within an ecological curricular framework to develop standards-based goals that reflect meaningful knowledge and skills that are tailored to students' individual needs and applicable to their everyday lives (Hunt, McDonnell, & Crockett, 2012). This process must begin with a clear vision of the high-priority, quality-of-life goal areas identified for students through person-centered planning processes. These valued life goals should serve as the primary consideration throughout the process of selecting core content standards and designing the extensions of those standards to address students' current levels of symbol understanding and use and academic progress. In addition, we have proposed that in order to reconcile an ecological curricular framework with a standards-based academic curriculum, the traditional quality-of-life domains should be broadened beyond home, friendships, community participation, and work to include acquiring academic knowledge and skills that 1) enrich students' lives because they enhance their understanding of the arts, literature, science, history, and culture; 2) affect students' roles as citizens in the community; 3) promote students' ability to become lifelong learners; or 4) support students' personal growth and development.

This kind of approach would provide several advantages to developing educational goals. First, an educational planning approach driven by valued life goals would ensure an appropriate balance in students' IEPs of standards-based academic and functional goals that address, for example, developing communicative and social competence and positive peer relationships; increasing independence within school, community, and vocational routines; and teaching self-determination and problem-solving skills. Second, because IEP teams would approach state standards frameworks with a clear vision of students' valued life goals to guide them in prioritizing and selecting content standards, the decisions that IEP teams make would be more meaningful to students and would not be based on team member preferences or arbitrary guidelines. Third, IEP teams would be encouraged to examine subject area domains in standards frameworks beyond literacy, math, and science to identify other domains that might contribute to achieving students' valued life goals. It would allow IEP teams to think broadly about how students could more fully participate in all instructional contexts in general education classes.

**IMPLICATIONS FOR PRACTICE**

An educational planning process based on valued life outcomes that are linked to standards-based academic content challenges practitioners to expand their thinking about how instruction and social supports are used to achieve students' IEP goals and objectives in inclusive education programs. The solutions to improving educational effectiveness for students with severe disabilities require that professionals think more broadly about how they would improve the effectiveness of instructional
and social supports for all students in a class. Although technology is still emerging, at least three strategies appear to be especially critical in improving the effectiveness of instruction in inclusive education, including using approaches that enhance generalization, establishing and sustaining social interactions between students and their peers, and promoting collaboration and data-based problem solving by faculty and staff.

Enhance Generalization

Research demonstrated that instruction can be organized and delivered in general education classes in ways that will promote students’ acquisition of a wide array of complex concepts and skills (Gilberts et al., 2001; McDonnell et al., 2002; McDonnell, Thorson, Allen, & Mathot-Buckner, 2000; Neef, Nelles, Iwata, & Page, 2003). These studies also showed that students can generalize these skills to other stimulus materials, tasks, and settings in the school, but no studies have specifically examined the generalization of skills learned in general education classes to typical performance settings. The existing literature on promoting generalization by students with severe disabilities, however, suggests that several strategies can improve the likelihood that this will occur (Horner, McDonnell, & Bellamy, 1986; Rosenthal-Malek & Bloom, 1998).

The first strategy is to teach instructional targets in multiple ways during the school day. This means using different strategies and teaching formats such as embedded instruction (McDonnell et al., 2002), cooperative learning (Dugan et al., 1995), peer-mediated learning (McDonnell et al., 2000), and heterogeneous small groups (Rankin et al., 1999) to teach the same skill to students throughout the day. Using multiple strategies and formats provides the practitioner with opportunities to present learning tasks that vary stimulus materials, response options, and irrelevant contextual variables. Systematically varying these factors during instruction has been shown to substantially increase the likelihood that students will generalize knowledge and skills to nontrained tasks and settings (Cooper, Heron, & Heward, 2007).

Second, practitioners should infuse authentic tasks into instruction. Students should be required to complete real-world problems that reflect the actual demands of their daily lives during instruction on academic content. Extending instructional activities to include authentic learning activities creates opportunities for students to use knowledge and skills across a variety of contexts and to use materials and responses that more closely reflect typical performance conditions. Anchoring instruction to activities that are important to students may also increase motivation by allowing them to see the link between instruction and their day-to-day activities.

Third, practitioners should design instruction to help students to control their own learning and to work as part of a team to independently solve problems. The ability to generalize concepts, operations, and processes to new problems and situations is inherent in the independent use of knowledge and skills. Furthermore, these abilities also provide the basis for students to become self-directed, lifelong learners and to continue to use their knowledge and skills to increase their independence and autonomy. This includes using strategies such as the Self-Determined Learning Model of Instruction (Agran, Cavin, Wehmeyer, & Palmer, 2006) and cooperative learning (Cushing, Kennedy, Shukla, Davis, & Meyer, 1997; Hunt et al., 1994).

Establish and Sustain Social Interactions

Developing positive social relationships and friendships with peers is a valued life goal for all students and a high-priority educational outcome. Abundant evidence shows that students’ developmental and emotional well-being are significantly affected by the quality of their social relationships. Positive peer relationships provide nurturance, support, membership, and companionship and promote self-esteem and self-confidence (Bukowski, Newcomb, & Hartup, 1996; Janney & Snell, 2006; Ladd, 1990; Schwartz, Staab, Peck, & Gallucci, 2006). In addition, evidence shows that children who have positive peer relationships develop more positive attitudes toward school and actively engage in academic activities in ways that promote learning (Ladd & Kochenderfer, 1996). Finally, child development theorists with varying theoretical backgrounds (e.g., Bruner, Flavel, Piaget, and Vygotsky) suggested that positive peer relationships provide a context and a mechanism for developing social, communication, and cognitive abilities.

Establishing inclusive school and classroom communities in which all students are valued members and diversity is celebrated provides the context for developing positive social relationships and friendships between students with disabilities and their peers; however, it is likely that these positive relationships will not evolve unless they are actively encouraged and systematically facilitated by educational team members who consider positive peer relationships to be a high-priority educational outcome (Carter & Hughes, 2007; Hunt, Doering, Maier, & Minta, 2009; Janney & Snell, 2006). Numerous conditions have been identified that are essential to developing positive social relationships for students with disabilities, including 1) opportunities to be with peers with diverse abilities, backgrounds, and interests; 2) motivation to interact with schoolmates and having an effective means to do so; 3) availability of informed and motivated peers; and 4) social supports to facilitate positive social interactions and the development and sustenance of friendships (Carter & Hughes, 2007; Hunt, Farron-Davis, Wrenn, Hirose-Hatae, & Goetz, 1997; Janney & Snell, 2006; Kennedy, 2002). A comprehensive package of social supports is necessary to ensure that each of these conditions is addressed.

Hunt and her colleagues (Hunt et al., 2009) suggested that there are at least three major building blocks for establishing and maintaining positive relationships. The first building block is information provided to peers that will assist them in developing positive social relationships with their schoolmates with disabilities. Multiple formats have been used to share information with peers, including class lessons that explore concepts related to cultural and ability diversity, equity and democracy, and cooperation and independence (Gibbs, 1994; Hunt et al., 1997; Janney et al., 1999; Swanson, 1992).
Learning and other educational resources are organized to meet the needs of all students and for coordinating team member activities. The second building block is identifying and using a variety of interactive media that serve as the basis for reciprocal social interactions. Interactive media provide a means—or both a means and a context—for supporting sustained interactions between students with disabilities and their peers (Hunt et al., 1997, 2000). These connectors include, for example, nonverbal communicative behaviors, low- and high-tech communication systems, and conversation books, as well as interactive educational activities, interactive toy play, and games and other leisure activities that allow the participants to focus on each other and require turn taking and reciprocity.

The final building block is the arrangement of interactive activities and implementation of facilitation strategies to promote positive social interactions across activities and settings (Causton-Theoharis & Malmgren, 2005; Hunt et al., 1997; Janney & Snell, 2006; Merges, Durand, & Youngblade, 2005). Peer partner activities and interactive, small-group educational and leisure activities offer multiple opportunities for social exchanges, turn taking, and interdependent participation to complete a task and to share materials and information. Social facilitators structure the activities, prepare augmentative and alternative communication (AAC) devices, and provide the adaptations and peer supports necessary to ensure that students with disabilities are actively engaged and interacting with other students. They also give information to both students with disabilities and their peers on how to interdependently participate to accomplish a task or play a game. Social facilitators provide information to peers at naturally occurring opportunities during interactive activities about the communicative system, assistive technology, equipment, and adaptations that the students with disabilities may be using. In addition, information or modeling is provided that helps peers to interpret the nonsymbolic communicative behaviors of their classmates with disabilities or the comments made by them using an AAC device so that the peers can be responsive and effective communication partners. Finally, an effective adult facilitator knows when to facilitate and when to step back; that is, facilitators fade their physical presence in order to avoid creating adult dependency and interfering with student-to-student social interactions. They do this by initially providing support using strategies such as those previously described and then fading their support and physical presence once it is clear that social interactions between students are spontaneously occurring and students with disabilities are independently participating or are receiving adequate support from peers.

All three components of the social support package are implemented through the collaborative efforts of members of the educational team, and regularly scheduled team meetings can serve as the vehicle for tailoring the intervention to meet the needs of individual students and for coordinating team member activities.

**Promote Collaboration and Data-Based Problem Solving**

Learning and other educational resources are organized to meet the needs of all students in general education classrooms to provide an effective, quality education for a heterogeneous student body in an inclusive school. Team processes are used by teachers, principals, and other educational personnel to examine how best to organize people and time to deliver educational services to students and engage in data-based problem solving (Ferguson et al., 2005; Hunt et al., 2000; Iano, 2004; Miles & Darling-Hammond, 1998; Sailor & Roger, 2005).

The benefits of a collaborative, team-planning approach are significant. Teachers no longer have to face the challenges of meeting the range of student needs presented by an ever-changing and diverse student population alone. In addition, collaborative planning and problem solving "synergistically increases the powers and capabilities of all teachers as their diverse ideas are brought together and combined" (Hunt et al., 2004, p. 337). The collaborative teaming process at the classroom level offers ongoing opportunities for general and special educators and parents to share knowledge and skills to generate novel methods for individualizing learning. Collaborative planning meetings and activities might focus on developing and implementing individualized academic and social supports for any students in inclusive classrooms who need them, creating classroom curricula and activities through the combined efforts of general and special educators that incorporate the principles of universal design for learning, and designing and implementing a variety of cooperative teaching models that incorporate the expertise and interests of each of the general and special educators (Hunt et al., 2003; Snell & Janney, 2006; Thousand & Villa, 2000).

Collaborative teaming activities are informed by both educational process and student outcome data. An effective collaborative teaming process requires not only a structure for addressing the issues but also a system for monitoring individual accountability for agreed-on responsibilities (Nevin, Thousand, Paolucci-Whitecomb, & Villa, 1990; Salisbury, Evans, & Palombaro, 1997). Student progress data guide the selection of curricula, the design of educational activities, and the allocation of educational resources. In addition, student progress data can serve as a powerful motivator when they provide evidence that the actions of educators have had a positive effect on student learning and engagement in the learning process (Ainscow et al., 2003).

**FUTURE RESEARCH**

Although the accumulated evidence suggests that inclusive educational programs have a positive effect on students' education and social outcomes, significant expansion of inclusive educational programs will require that a number of curriculum, instruction, school organization, and policy challenges be addressed. The future research agenda on inclusive education must address a number of interrelated components that affect the immediate and long-term outcomes achieved by students, including the following.

- Developing and validating schoolwide models of inclusive education. Although there is general agreement that staff and resources in inclusive educational programs need to be organized in ways that meet the needs of all students (Ferguson et al., 2005; Miles & Darling-Hammond, 1998; Sailor & Roger, 2005), the effect of these structures on the educational and social outcomes for students with severe disabilities have not been closely examined. Practitioners also need to understand how these structural changes affect the contexts of instruction for...
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students, such as where instruction is delivered, who provides instruction, and what instructional formats are used to promote student learning.

- **Restructuring fiscal policies to support expansion of inclusive education.** Current fiscal policy at both the state and federal levels presents significant challenges to establishing the kind of schoolwide models that can meet the needs of all students, including those with severe disabilities. These include 1) regulations that govern fiscal accountability, 2) a lack of understanding of what is and is not required by the law, and 3) a lack of a cohesive state and federal policy framework (McLaughlin & Verstegen, 1998). Not only does the current fiscal policy structure limit the ability of practitioners and administrators to use all available resources in schools, but some funding models may also create disincentives for developing inclusive educational programs and incentivize school districts to serve students with the most severe disabilities in separate educational settings.

- **Further development of person-centered educational planning systems that align ecological curricular frameworks and academic content standards.** Practitioners need to examine issues such as whether these planning systems have an observable effect on the balance of functional and standards-based goals within IEPs, how IEP teams extend academic content standards for students who currently do not use symbols to communicate, and the social validity of such systems in enhancing students' quality of life (Hunt et al., 2012; Ryndak et al., 2012).

- **Continued refinement of and research on the effect of universally designed curriculum and instruction.** The active participation of students with severe disabilities in the general education curriculum means that both special and general education teachers have access to curriculum materials and teaching resources that can be quickly and easily adjusted to the specific learning needs of all students in a class.

- **Development and validation of strategies that lead to the generalization of knowledge and skills acquired in general education classes to typical performance settings.** This may include approaches such as integrated computer and web-based technologies and service learning.

- **Evaluation of preservice and in-service teacher education models that prepare teachers to work in inclusive educational settings.** Although a number of approaches to preparing teachers to work in inclusive programs have been described in the literature (Paul, Epanchin, Rosselli, Duchnowski, & Cranston-Gingras, 2002; Sindelar, Pugach, Griffin, & Seid, 1995), there has been no comprehensive evaluation of whether these programs lead to documented improved teacher practice or student outcomes. A close examination of the preparation practices that result in improved teacher effectiveness in inclusive educational programs is warranted given the current political environment and questions about the value of preparation for teachers nationally.

- **Conduct longitudinal studies that examine the effect of inclusive education on students' quality of life and the unique and combined contribution that key programmatic features of inclusive education have on these outcomes.** Although the available evidence suggests that there is some association between inclusive education and improved post-school outcomes (Ryndak et al., 2012), it seems clear that the expansion of these programs in the future will require additional research that assesses their impact on students’ quality of life after exiting school.

**CONCLUSION**

The expected outcomes of inclusive education are that all students become full members of the community and have the educational opportunities necessary to realize their dreams and aspirations. The significant progress that has been made in achieving these outcomes since the mid-1990s is rooted in the field’s commitment to social justice, strong advocacy, and research focused on developing and validating practical approaches to meeting students’ needs. The current challenge is moving inclusive education from recommended practice to common practice.

Inclusive education is and should be about maximizing student learning in all areas of life and creating classroom and school environments that promote students’ full acceptance. As practitioners have become more successful in supporting students in these settings, it is only logical that they ask whether students can do and learn more. These questions should prod them to challenge their conventional ways of thinking about curriculum and instruction and to continuously reassess the expected outcomes of inclusive education. It is clear that students have exceeded what was thought possible in the mid-1990s, and it seems likely that they will continue to exceed expectations if given the opportunity.

Creating those opportunities, however, necessitates maintaining a continued focus on research and development. New methods, strategies, and approaches for supporting students in inclusive classrooms that are built on validated practices that reflect common values and beliefs need to be vigorously pursued. This chapter offered a number of recommendations for how the continued development and expansion of inclusive education for students with severe disabilities can be sustained.

**Questions for Study and Reflection**

1. Contemporary discussions of inclusive education often move beyond inclusion as a special education service delivery model and focus on whole-school restructuring to create inclusive schools where all students are valued members. Describe the roles of general and special educators, the principal, and families in such a school.

2. What does the research say about the characteristics of general education classrooms that may contribute to educational outcomes and social connectedness for students with severe disabilities? What are priority questions for future research in this area?

3. What did IDEA 2004 and NCLB require related to access, student outcomes, and accountability for students with disabilities? How might the emphasis on standards-based academic goals and instruction be reconciled with an ecological approach to curriculum development with a focus on quality-of-life outcomes?
What strategies can be used to increase the likelihood that students with severe disabilities will generalize academic knowledge and skills from classroom instruction to everyday contexts? What social supports and facilitation strategies can educational team members use to facilitate the development of positive peer relationships?

How do collaborative planning and problem solving by general and special educators increase the capabilities of all the teachers?

REFERENCES


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Inclusive Education and Meaningful School Outcomes


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