Making Progress in the General Curriculum: Rethinking Effective Instructional Practices

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Research strongly supports including students with extensive support needs in general education settings and providing them access to the general curriculum. Yet, there is limited research indicating how to provide them authentic access to this curriculum. This article explores several instructional approaches to provide access including (a) use of existing general education practices with students with extensive support needs (e.g., inquiry learning), (b) use of evidence-based practices associated with special education settings (e.g., embedded instruction), and (c) use of a response to intervention framework to improve instruction within the general curriculum.

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The reauthorization of the Elementary and Secondary Education Act (No Child Left Behind Act, 2001) and the subsequent alignment of the Individuals With Disabilities Education Act 2004 (IDEA, 2004) with the No Child Left Behind Act require that all students be provided with supports and services that allow them to participate and progress in the general education curriculum (20 U.S.C. 1414[A] {iii} [II]). Teachers are also required to use evidence-based instructional practices to teach this core content (IDEA, 2004, Sec. 663 (c) [5] [E]). The intent of this and related mandates to increase access to the general curriculum is to prepare students for meaningful and successful lives as they enter adulthood (Dymond & Orelove, 2001). "Participation in a rigorous and relevant education curriculum" (National Center on Secondary Education and Transition, 2004, p. 4) was listed by the 2000 OSEP Expert Strategy Panel on Secondary Education, Transition, and Employment as one of the five primary issues related to improving transition services and thus outcomes for students with disabilities. However, outcomes for students with disabilities as a whole and for students with extensive support needs in particular continue to be disappointing (NLTS2, 2009).

These legislative and policy changes have resulted in a number of significant shifts in how education is provided to students with extensive support needs. These include increased placement of students with extensive support needs within general education settings (Williamson, McLeskey, Hoppey, & Rentz, 2006), inclusion of these students in standards-based assessment (Browder et al., 2003), and continuing discussion of how to best provide access for them to the general curriculum (Spooner, Dymond, Smith, & Kennedy, 2006). In this article, we will consider the later issue: What we have learned about effective instruction for students with extensive support needs that provides authentic access to a "rigorous and relevant educational curriculum" (National Center on Secondary Education and Transition, 2004, p. 4) and what might be some future directions to consider. We begin by briefly reviewing overall outcomes associated with inclusive education of students with extensive support needs. Next, we review general learning characteristics of these students, and instructional strategies research shows are effective in supporting these needs. We then consider research findings regarding effective instruction that promotes access to the general education settings for this group of learners. Then we explore how educators might use existing evidence-based general education instructional practices with students with extensive support needs as well as how they might use evidence-based practices associated with special education in general education settings. Next, we consider how the response to intervention (RtI) process might provide access to the general curriculum for this group of learners. Lastly, we offer some final considerations for educators as they make decisions about what content to teach and how and where to teach it.

Student Outcomes Associated With Inclusive Education

There is a strong research base demonstrating positive outcomes of including students with extensive support needs in general education settings (e.g., Ryndak & Fisher, 2003). For example, participation of these students in inclusive settings has been associated with increased social interaction, friendships, and social competence (e.g., Carter, Sisco, Brown, Brickham, & Al-Khabbaz, 2008; Hunt, Soto, Maier, & Doering, 2003; see also Ryndak & Fisher, 2003). There also have been positive social and

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behavioral outcomes for students without disabilities in inclusive classrooms, such as improved self-esteem, development of personal principles like morals and ethics, decreased fear of differences and disabilities, and decreased prejudices toward people with disabilities (for a review, see Fisher, Roach, & Frey, 2002).

In addition, in response to concerns that students without disabilities in inclusive classrooms may experience negative consequences related to academic achievement, there has been a fairly large body of research related to the academic achievement of children without disabilities in inclusive classrooms across academic areas, including reading, mathematics, language arts, science, and physical education (e.g., Idol, 2006; Kalambouka, Farrell, Dyson, & Kaplan, 2007; McDonnell et al., 2003; Sharpe & York, 1994). In a meta-analysis of the research in this area, Kalambouka et al. (2007) reported that 81% of the studies included in their analysis reported neutral or positive academic benefits for the students without disabilities. It is important to note that these studies used varying definitions of inclusion, ranging from classrooms that included students with extensive needs for support in general education for most the school day to schools that educated these students alongside their typically developing peers; but often there was no clear indication of the nature of the inclusive programming delivered (e.g., amount of the school day, access to the general curriculum, etc.). However, the differences reported by Kalambouka et al. were present, despite these differences in the definition of inclusion and the types of supports needed by the students with disabilities. Overall, these studies have reported positive or neutral outcomes on the academic performance of children without disabilities in inclusive classrooms (e.g., Gandhi, 2007; McDonnell et al., 2003; Sharpe & York, 1994).

Interestingly, although there is a relatively large body of research regarding the impact of inclusion on the academic achievement of students without disabilities, there is a paucity of research on the academic impact of inclusion on students with significant support needs. In 2000, Farrell suggested, after conducting a review of the literature, that children with disabilities may experience social, but not academic, benefits from inclusion. As noted, this lack of academic benefit may be a result of the quality (or lack of) of instruction available in the inclusive settings, rather than the setting itself. Conversely, Baker, Wang, and Walberg (1995) reported on three meta-analytic studies examining the impact of inclusion on the learning of students with support needs in inclusive settings. All three studies reported positive effects on academic skills for students with disabilities and found that these effects were consistent across grade levels and type and level of students' support needs. Specifically, Carlberg and Kavale (1980) found that children with cognitive disabilities demonstrated better academic achievement when placed in general education settings rather than segregated set-tings. Ryndak, Morrison, and Sommerstein (1999) in a later study examining academic outcomes associated with inclusive placements reported on the substantial academic growth of a young woman with extensive support needs when she was moved from a segregated to an inclusive general education setting. In general, however, a number of studies have not gathered data on the academic performance of the students with disabilities or gathered data on nonacademic skills such as adaptive behavior (e.g., McDonnell et al., 2003).

Learning Characteristics of Students With Extensive Support Needs

Individuals with extensive support needs are a diverse group; each individual has unique learning needs and strength areas. However, there are some general learning characteristics shared by many individuals (e.g., communication and language challenges; Westling & Fox, 2004). During the past 30 years, researchers have examined various instructional approaches that take into account these general learning characteristics. This body of work has produced a number of useful and effective instructional strategies for these learners. An examination of some of these evidence-based strategies is a useful starting point in considering how best to provide access to the general curriculum for students with extensive support needs. In the following section, we briefly describe some of the general learning characteristics of these students and the instructional practices that support these challenges.

Language and short-term memory challenges can make it difficult for individuals with extensive support needs to synthesize several different skills needed to complete activities composed of multiple components (Brown et al., 1983; Heller, Forney, Alberto, Best, & Schwartzman, 2009). For example, a student may have acquired a small sight word vocabulary of food words, recognized numerals through 50, and learned to identify dollar bills and quarters. However, this same individual may have difficulty selecting and paying for her lunch in the school cafeteria, although she has all of the needed component skills. Particularly during the early stages of learning, two general instructional strategies that may be very useful for these learners are task analysis instruction (i.e., breaking a complex task into smaller steps and teaching these steps; Brown & Snell, 2006) and the use of visual supports, such as providing a pictorial list of activities to be completed sequentially (e.g., Copeland & Hughes, 2000). In addition, to promote the synthesis of different skills, learners may benefit from ongoing opportunities to practice targeted skills within a varied range of activities requiring these skills (Heller et al., 2009). For example, the student described above might also benefit from instruction on purchasing her lunch in the restaurants in the food court at the local mall her family patronizes. This additional practice in varied

settings would facilitate her understanding of how to combine the discrete skills she has learned in novel ways to successfully order and pay for lunch across restaurants.

Many individuals with extensive support needs have difficulty transferring knowledge or skills learned in one setting to a novel environment (Heller et al., 2009; Westling & Fox, 2004). This learning challenge can affect all areas of learning, including communication, social, employment, functional, and academic skills. Using authentic instructional materials (e.g., real vs. play money to teach adding dollar bills) and teaching in the actual settings in which targeted skills will be used have proved effective in facilitating generalization (Wolery & Schuster, 1997). Carefully selecting multiple teaching examples that represent the range of possible situations a student may encounter (i.e., general case instruction) is another highly effective practice that supports generalization (Browder, 2001).

An additional learning challenge for some individuals with extensive support needs is the need for both multiple opportunities to respond to instruction (i.e., to practice a new skill) and to respond across the school day. Distributed practice opportunities, such as using embedded instruction, seem to be superior to massed practice opportunities for many of these students (e.g., Collins, Evans, Creech-Galloway, Karl, & Miller, 2007; McDonnell, 1998). In other words, providing a large number of trials to practice a skill once a day is generally not sufficient for students to master the skill and to use it fluently. It is more effective to embed opportunities or take advantage of naturally occurring opportunities to practice the skill throughout the day. An example is a student who is working to write his name. Practicing name writing once a day for 10 trials may not be enough for the student to master the skill and learn when to use it. More effective instruction would offer him opportunities to write his name on schoolwork, forms, art projects, etc., across the school day.

Providing multiple opportunities to respond to instruction can also address another learning challenge faced by some individuals with extensive support needs: motivation to attend and stay focused (Westling & Fox, 2004). Instruction that promotes active student engagement is also highly effective in addressing this learning challenge (McDonnell, 1998). Providing opportunities to make choice about materials and instructional activities may also improve performance and sustain attention to instruction (Bannerman, Sheldon, Sherman, & Harchik, 1990; Snell, 2007).

Some individuals with extensive support needs may have difficulty establishing peer relationships (Meyer, 2001). This can occur because of multiple factors, such as having limited communication skills, difficulty reading social cues, or lack of access to peers (e.g., when receiving all of one's educational services in a segregated setting with fellow individuals with extensive support needs and communication and social difficulties; Schwartz,

Staub, Peck, & Gallucci, 2006). By providing opportunities for interaction with peers, students with extensive support needs will be able to observe competent peer models, and many of these learners will be able to acquire social, communication, and adaptive skills through that observation (Wolery & Schuster, 1997). Although modeling is generally an effective instructional practice for these learners, it is important to note that some students with extensive support needs may require direct instruction to learn to imitate peer behavior to benefit from these learning opportunities (Wolery & Schuster, 1997). Some students with extensive support needs also benefit from explicit instruction on specific social skills. This is most effective when it occurs within the context of social activities in general education settings. These contexts offer authentic, motivating opportunities to practice social skills and thus may support development of social relationships for students who have difficulty transferring skills learned in a self-contained setting to the actual school environments where they will encounter peers (Schwartz et al., 2006).

Another way to address issues of motivation and attention is through using peers to teach students with extensive support needs. Research supports having typically developing peers provide direct instruction on a range of skills to students with extensive support needs (i.e., peer tutoring; McDonnell, 1998). Students may be more motivated to work with peers than adults. Hughes et al. (2000), for example, described a study in which typically developing high school students taught four peers with extensive support needs a self-prompting strategy to initiate conversations with other high school students using a communication book. All the participants with extensive support needs increased both the appropriate social initiation with their typically developing peers and the number of conversational topics they used in social interactions.

Because of the learning challenges described above, some students with extensive support needs may benefit from direct instruction in functional skills in nonschool settings (e.g., purchasing skills) in addition to academic instruction (Brown et al., 1983; Spooner & Browder, 2006). These learning challenges can be effectively addressed by using direct instruction for carefully selected skills in the actual setting where the skills are used. In fact, combining quality simulated instruction at school with instruction in actual community sites seems to be the most effective and efficient way to provide instruction for individuals with extensive support needs (e.g., Cihak, Alberto, Kessler, & Taber, 2004). Extending instruction into the community is commonly called community-based (CBI) or community-referenced instruction (CRI) (Kluth, 2000). There are several ways to incorporate this instruction within a student's educational program. It is most appropriate to provide CBI or CRI to older students (adolescents) because leaving the school campus to receive instruction in the community is not generally age appropriate for

younger children (Westling & Fox, 2004). This type of instruction should include mixed ability grouping because students with and without disabilities can benefit from CRI (Kluth, 2000). Offering CRI/CBI opportunities within vocational education coursework is also age appropriate and provides opportunities for students with extensive support needs to be actively engaged in programs that include individuals with and without disabilities. In fact, some community and 4-year colleges offer CBI/CRI instruction as a part of their postsecondary programs for young adults who need to acquire additional functional skills to enhance their successful transition to adulthood (Neubert, Moon, Grigal, & Redd, 2001).

Effective Instructional Practices to Improve Access to the General Curriculum

In the 2006 special issue of *Research and Practice for Persons With Severe Disabilities*, which was centered on what it means for students with extensive support needs to access the general curriculum, Wehmeyer (2006) stressed that it was time for the field to move beyond a focus on mere access to the general curriculum for these students and instead to focus on developing strategies to help all students to progress in the general curriculum. If students are to acquire the core knowledge and skills contained in the general curriculum, merely being present in a general education setting or having limited or superficial access (e.g., an audiotape of a text) without adequate instructional supports is not sufficient. Instead, students need thoughtfully designed instruction with multiple means to acquire and practice new academic skills.

The emerging research strongly supports including students with extensive support needs in general education settings and providing them access to the general curriculum (Browder, Spooner, Wakeman, Trela, & Baker, 2006). In addition, there is a strong evidence base for using certain instructional practices such as response prompts (e.g., Schuster et al., 1998) to teach functional skills (e.g., daily living skills, community sight word recognition). However, there is limited research examining instructional practices to teach core academic content to these students (Agran, Cavin, Wehmeyer, & Palmer, 2006; Browder et al., 2006).

There are likely several reasons for the limited research about core academic instructional practices. Low expectations of the learning capacities of individuals with significant cognitive disabilities, for example, continue to affect the educational opportunities provided to them (Downing, 2006). It is also true that for many years some experts have stressed that students with extensive support needs required instruction best delivered in one-to-one teaching situations and focused primarily on a relatively narrow range of functional skills (e.g., self-help skills, cooking skills) rather than on academic skills (Alper, 2003; Browder & Cooper-Duffy, 2003; McDonnell, 1998).

The combination of these and other factors has resulted in few researchers exploring effective academic instructional strategies for this group of students beyond functional academics (e.g., learning community sight words).

There is even less research on effective academic instructional strategies for students with extensive support needs within general education (inclusive) classes (Agran et al., 2006). Most of the few studies examining academic instruction in core content areas have taken place within segregated settings (e.g., Browder, Trela, & Jimenez, 2007). In fact, students with more extensive support needs due to either a significant cognitive impairment or a complex motor or speech needs are less often placed in general education classes and receive more of their supports from educational assistants than from licensed teachers (e.g., Dymond & Russell, 2004). These findings are concerning, especially because what is known about inclusion of students with extensive support needs within general education settings suggests that students in these settings are more likely to progress in the general curriculum than similar students in more restrictive placements. Existing research indicates that students with extensive support needs in general education settings have more access to the general curriculum content than similar students in segregated settings, and they are more academically engaged (Hunt, Farron-Davis, Beckstead, Curtis, & Goetz, 1994; Logan, Bakeman, & Keefe, 1997; Soukup, Wehmeyer, Bashinski, & Bovaird, 2007; Logan & Keefe, 1997; Wehmeyer, Lattin, Lapp-Rincker, & Agran, 2003). In other words, the context within which instruction is provided does appear to make a difference in students' academic development (Jackson, Ryndak, & Wehmeyer, 2008/2009). Given these positive findings, it is critical to better understand the factors that support academic content learning within general education for this group of students. This includes examining the types of instructional strategies that best facilitate their learning.

Using Existing General Education Practices With Students With Extensive Support Needs

It is important to avoid the "boy in the bubble approach to teaching" (McDonnell, 1998, p. 201) when developing instructional practices to assist students with extensive supports needs to acquire core content within general education settings. Using instructional practices that are widely different in both focus and implementation from practices used with typically developing students in general education settings risks creating continued separation between children receiving special education services and those who do not. This could result in continued denial to authentic access to the curriculum. Avoiding this situation necessitates carefully examining which instructional practices to use and when to use them.

One approach that may prove useful is to use existing "general education" instructional approaches rather than automatically assuming that students with extensive support needs require specialized strategies in all areas of instruction. Indeed, there is a number of highly effective instructional practices used by general educators. Although not yet thoroughly researched with students with extensive support needs, these practices do have a strong evidence base with students without disabilities and, in some cases, with students with mild disabilities. It is probable that these strategies also can assist students with extensive support needs to acquire core academic content knowledge and skills.

Supporting use of instructional approaches typically used in general education settings with students with extensive support needs does not deny the very real learning challenges of these students, nor does it advocate abandoning the highly effective strategies developed over the past 30 years for this group of learners. Instead, we suggest that it is time to put aside old assumptions and critically examine whether instructional strategies typically used in general education can be successful for students with extensive support needs, and if so, how these might need to be adjusted. Collins et al. (2007), for example, compared the acquisition of functional and core content sight words using massed trial instruction in a special education setting, distributed trial instruction within a general education classroom, and naturalistic instruction within a general education classroom (i.e., learning words within the typical classroom routines and activities). Participants with extensive support needs across grade levels acquired and maintained words taught with each strategy. Although this is only one small study, the findings are intriguing. They suggest that students with extensive support needs may acquire some types of critical content knowledge through typical classroom instruction in inclusive settings as easily as through use of more specialized instruction. This finding may not apply to all students with extensive support needs, but it does warrant additional research. If we as educators are to work seriously toward better understanding of how to provide instruction in the general curriculum within inclusive settings for these learners, we must be willing to reconsider some of our past ideas about how students learn and under what conditions. In the following sections, we describe some of the evidence-based instructional strategies typically used in general education and discuss the small but growing research base, illustrating their utility with students with extensive support needs within general education settings.

Cooperative Learning

Several different models of cooperative learning have been developed, but in general, this strategy can be defined as small groups of students with mixed ability levels working together, with each member having equal status within the group, to help each other accomplish a specified learning task (Slavin, 1983). Cooperative learning has been used widely in general education across grade levels and across academic areas. There is a strong body of research showing that its use is associated with improved academic achievement and social outcomes among students without disabilities (McDonnell, 1998; McMaster & Fuchs, 2002). Its use also has been associated with positive academic or social outcomes for students with mild disabilities (e.g., learning disabilities), although some of the findings from this research indicate mixed results (McMaster & Fuchs, 2002). Researchers have found general education teachers to be highly supportive of cooperative learning for students with and without disabilities (Jenkins, Antil, Wayne, & Vadasy, 2003), suggesting that it is a practice that teachers can and do use regularly in their classes. This is an important finding because general education teachers may be more likely to include students with extensive support needs in academic content instruction if they can continue to use methods with which they are familiar and feel comfortable.

Research examining cooperative learning groups that included children with extensive support needs most often has focused on social skill outcomes. These studies have found increased interaction between students with disabilities and their typically developing peers (e.g., Putnam, Rynders, Johnson, & Johnson, 1989) and increased social acceptance of children with disabilities by their peers (e.g., Piercy, Wilton, & Townsend, 2002). Fewer studies have focused on academic outcomes within cooperative learning groups for students with extensive support needs. However, Hunt et al. (1994) examined the acquisition of Individualized Educational Program (IEP) objectives (for motor and communication skills) by students with multiple severe disabilities included in cooperative learning math groups in their general education classroom. Students' IEP skills were embedded within the cooperative group's task (e.g., passing needed materials to a group member). Researchers taught the typically developing peers to cue and prompt their peers with disabilities to engage in the targeted motor or communication skills. General education students' academic learning related to the group's task also was measured as a part of the study. Results indicated that all students with multiple severe disabilities acquired the target skills and that the academic learning of their peers was not negatively affected by providing support for their group members with disabilities.

Although Hunt et al. (1994) did not measure academic knowledge and skill acquisition of the students with extensive support needs in their study, their results are promising and point to areas for future research. Cooperative learning seems well-suited to the learning needs of these students because it provides opportunities for observational learning to occur, for peers to support each other in acquiring new skills, and for enhancing students' motivation to engage in academic tasks.

Inquiry Learning

Inquiry learning (IL) is structured so that students develop questions about a phenomenon and then use investigative processes to answer these questions and draw conclusions, thus constructing knowledge as they engage in the inquiry process (Kuhn, Black, Keselman, & Kaplan, 2000). Students engaged in IL acquire academic content knowledge and develop reasoning and problem-solving skills (Hmelo-Silver, Duncan, & Chinn, 2007). This approach to instruction is characterized by collaborative learning and by active engagement in the inquiry process in the context of a problem to be solved or a question to be answered (Hmelo-Silver et al., 2007). It is used frequently in science instruction but is also applicable to other content areas.

The teacher's role in IL is (a) to develop the context or problem, (b) to facilitate the inquiry process, and (c) to scaffold student learning using a range of strategies as indicated by students' progress. These strategies can vary from direct instruction on essential information to modeling how to formulate questions in a problem-solving context to asking questions that guide students to important understandings (Hmelo-Silver et al., 2007). The teacher's careful scaffolding supports students to engage with complex tasks and concepts that they might not be able to work through individually.

There is a growing body of research indicating the success of IL with students without identified disabilities and students with mild disabilities. Scruggs and Mastropieri (1994), among others, have reported that students with mild disabilities (e.g., those with limited needs for support due to cognitive disabilities) have been more successful in acquiring core science content when taught with this type of guided but structured learning process than through direct instruction. It should be noted, however, that these researchers also found that students with cognitive disabilities required adaptations to the IL process, including more opportunities for structured practice. This must be kept in mind when considering use of IL with students who have more extensive support needs.

As of yet, there is little research examining IL with learners with extensive support needs (Spooner, DiBiase, & Courtade-Little, 2006). In one of the few pieces of research located, Rapp (2005) studied an inclusive third grade class who engaged in IL at a local children's museum across several weeks. Students in the class included those with limited and extensive needs for support as well as students without identified disabilities and students identified as gifted. Rapp documented both cognitive and social growth in all of the participating students as they engaged in the IL activities. She reported that several key aspects of the experience contributed to the students' success. For example, she noted the importance of scaffolded instruction in students' acquisition of new content or social skills. Rapp also observed that engaging in learning within meaningful contexts was an important factor in the children's academic and social growth. She noted that the IL activities provided a way for students to recognize one another's strengths and to form mini-learning communities around particular activities. Students with greater support needs could demonstrate their particular expertise to their peers and thus be seen in a different role both by their peers and by themselves. The design of the IL activities also allowed students to regulate their own learning; they could work at their own pace to explore and solve problems presented in each museum exhibit.

IL offers a promising instructional method for students with diverse abilities, including those with extensive support needs. The collaborative nature of the IL activities coupled with scaffolded instruction based on students' current understandings match some of what is known about how this group of students learns best. In addition, IL instruction requires hands-on learning and is based on contextualized problems rather than abstract, disconnected information. These two additional characteristics are well matched to the learning needs of students with extensive support needs who do best when novel information or skills are taught within a meaningful context and when they are given multiple opportunities to practice new skills.

Universal Design for Learning

Universal design, as applied to instruction, concentrates on creating instruction that meets the learning characteristics of students with a wide range of ability and experience levels (CAST, 2009). Instruction is planned from the beginning to create multiple means of (a) representing the content to be taught (e.g., providing content through picture books, large print textbooks, or by watching a video), (b) engaging with the content (e.g., using cooperative groups, independent practice), and (c) expressing (i.e., demonstrating) what students have learned (e.g., creating a PowerPoint slide show, writing an essay). This planning is done before instruction begins rather than providing instruction and then adjusting it after students fail to make progress. Planning instruction in this manner makes it more likely that the learning needs of students in a class, including those who are working above grade level and those who require extensive supports, are considered and addressed.

Universal design for learning (UDL) principles have been applied successfully with students in inclusive classrooms across a range of content areas (CAST, 2009). Most of the classrooms studied, however, have included only students with mild disabilities. Dymond et al. (2006) are among the few researchers who have investigated the application of UDL on core academic learning of students with extensive support needs within general education classrooms. These researchers conducted a case study in which they worked with general and special educators to redesign two sections of a basic high school science course using principles of universal design. Students in

these inclusive classes included those without disabilities who were considered low achievers, students with mild disabilities, and students requiring extensive supports due to significant cognitive and/or physical disabilities. Changes to the course included carefully identifying the curriculum standards that would be addressed, using a range of instructional strategies and materials that offered students choices, and offering multiple methods of assessment.

At the end of the two-semester study, all students in the classes, both with and without disabilities, experienced benefits to varying degrees. Students with extensive support needs made progress in acquiring basic science information and increased their active participation in both classroom activities and social interactions. The researchers reported that as the study progressed and the team of educators continued to work with UDL principles, their planning and implementation moved beyond merely providing a physical space for students with extensive support needs within the class. Their planning and implementation progressed to focusing on social interactions, then focusing on IEP goals, and finally to providing meaningful participation in instructional activities for the science content.

Carroll, Blumberg, and Petroff (2008) presented another example of using UDL to create access to the general curriculum. They described a postsecondary program for students with intellectual disabilities at The College of New Jersey developed to provide these students a meaningful transition to adulthood and continued opportunities to develop literacy and content knowledge. The program components included inclusive college courses designed with UDL principles. Faculty teaching these courses created varied means of presenting content (e.g., lectures, films, preteaching sessions on the course's big ideas), engaging students in learning (e.g., small group discussions or conducting a science experiment), and demonstrating student learning (e.g., conducting an oral history). The authors reported that these courses proved successful both for the students with extensive support needs and for their peers without identified disabilities. Although not a research study, this report illustrates the flexibility available when applying UDL principles to instruction and demonstrates the possibilities this type of approach can create for continued meaningful access to content knowledge and skills.

In summary, UDL has great potential as a framework for planning to facilitate active participation and progress in the general curriculum for students with extensive support needs. Learning academic and social skills within meaningful activities alongside typically developing peers who may act as models meets some of the critical learning needs of many students with extensive support needs. In addition, the flexibility with which students can express what they have learned in a UDL-designed class allows these students to demonstrate new knowledge and skills and be recognized for this. De-

signing instruction using UDL principles is also appealing because it takes into consideration the learning needs of all students in a class. Educators have increasing pressures to ensure that students make progress in meeting the mandated curriculum standards. Using an instructional planning approach that facilitates learning for students across a range of ability, interest, and experience levels is a practical and effective way to address this concern. Learning to apply UDL also seems relatively practicable for educators. Spooner, Baker, Harris, Ahlgrim-Delzell, and Browder (2007), for example, demonstrated that general and special education teachers could acquire skill in using UDL to create instruction for diverse learners after a relatively brief professional development session.

Using Effective Special Education Practices Within General Education Settings

It also may be useful to consider ways to use some of the evidence-based instructional practices that teachers often use in special education settings within general education settings to assist students in acquisition of general curriculum knowledge and skills. Some students with extensive support needs will likely require more structured and individualized strategies in particular content areas or during particular learning activities; interestingly, some of these strategies may also be beneficial for students without disabilities who have particular learning needs. Dymond et al. (2006), for example, discovered that all of the students in a class benefited when changes were made to course instruction that took into account the needs of students with extensive support needs. In the following sections, we examine practices that might be used within general education settings in a manner that does not stigmatize students with extensive support needs and that fit in with typical instructional routines in these settings. We also consider whether these practices could be used to teach content to other students in these settings (e.g., those with mild disabilities or those without identified disabilities; McDonnell, 1998).

Response Prompting

Response prompts are the actions of a teacher before the student responding or after an incorrect response that help the student make a correct response (Cooper, Heron, & Heward, 2007). These prompts include verbal cues, gestures, modeling, or full physical assistance that are faded as students demonstrate progress on a target skill. There is a long history of successfully using response prompts to teach a range of both discrete and chained skills to students with extensive support needs, including academic skills (e.g., Rao & Kane, 2009). Response prompts have been used most often in 1:1 teaching situations, but some studies have examined their use in small group formats (e.g., Schoen & Ogden, 1995).

Although most of the studies using response prompting have taken place in segregated settings, some researchers

have implemented response prompts to teach skills within general education classes. Evans-Cosbey and Johnston (2006), for example, used response prompts combined with time delay to teach young children with extensive support needs to initiate peer interactions using a voice-activated communication aid during naturally occurring opportunities in the students' inclusive classes. Participating children acquired the targeted skills, and two of the children generalized them to other general education settings (e.g., recess).

Response prompt procedures characteristically are associated with instruction for students with extensive support needs. Nonetheless, a small number of researchers has examined the use of response prompts to teach academic skills to heterogeneous groups of students (e.g., Fickel, Schuster, & Collins, 1998; Schoen & Ogden, 1995). The findings of these studies suggest that this strategy can be implemented successfully with students without disabilities, thus offering an additional advantage for its use within general education settings.

Embedded Instruction

Embedded instruction is a strategy with a growing evidence base supporting its utility within general education settings. It provides intensive, individualized instruction to students with extensive support needs within the ongoing activities of the class (McDonnell et al., 2006). Teachers using this instructional practice typically use response prompts and some form of time delay to teach targeted skills within the routines of the class rather than in a massed trials format. This has both the benefit of not stigmatizing students by using instruction that looks very different from that provided to peers and not disrupting ongoing class routines.

There are numerous studies demonstrating the efficacy of embedded instruction within special education settings to teach a range of skills (Riesen, McDonnell, Johnson, Polychronis, & Jameson, 2003). Research evidence to date suggests that using this method to teach academic content (e.g., content vocabulary) to students with extensive support needs is as effective as massed trials instruction (McDonnell et al., 2006; Jameson, McDonnell, Johnson, Risen, & Polychronis, 2007), although the studies have shown some variability within participants. Several researchers also found its use within general education settings at the elementary and middle school levels to be associated with successful acquisition of academic content knowledge (e.g., Jameson et al., 2007; Riesen et al., 2003; Wolery, Anthony, Snyder, Werts, & Katzenmeyer, 1997). Riesen et al. (2003) also demonstrated that students who acquired vocabulary knowledge in core academic classes by using this strategy were able to apply that information to some of the typical instructional activities within their general education classes. General and special education teachers and paraprofessionals all have implemented embedded instruction successfully within general education settings. Embedded instruction thus seems to be a promising method to provide more structured teaching when it is needed, but in a manner that fits within ongoing general education class activities. It offers students who need added opportunities to practice new skills multiple opportunities to respond and provides the systematic prompting some students need to acquire key content knowledge.

Peer Support Strategies

Peer support strategies typically involve students without disabilities providing social and/or academic support to their classmates with disabilities while being supervised by an educator (Carter, Sisco, Melekoglu, & Kurkowski, 2007). Peer support interventions are associated with increased social interaction and academic engagement for students with extensive support needs (e.g., Shukla, Kennedy, & Cushing, 1999). When compared to support delivered by adults (e.g., paraprofessionals), peer support often has resulted in higher levels of engagement, and the students with extensive support needs have expressed more satisfaction than when provided adult supports (e.g., Carter et al., 2007). Students serving as peer supports also reported benefits from these arrangements, such as developing increased expectations of their peers with disabilities and developing friendships with them (Copeland et al., 2004).

Researchers also have investigated the effects of peers with and without disabilities supporting each other in academic tasks (e.g., McDonnell, Thorson, Allen, & Mathot-Buckner, 2000) or engaging in cross-age tutoring (e.g., Kamps, Dugan, Potucek, & Collins, 1999). Both of these arrangements resulted in either increased academic engagement or achievement for students with and without disabilities as well as increased social interaction.

The positive academic and social outcomes associated with peer support arrangements for both the provider and the recipient of the support lend a substantial advantage to their use within general education settings. Because the general curriculum is more than just academic knowledge (Ryndak, Moore, Delano, & Wickham, 2008/2009), peer support strategies offer an opportunity for students with extensive support needs to acquire important social skills as well. Peer support arrangements also fit well with typical general education classroom activities. Teachers can create ongoing peer support activities or create peer support arrangements as needed for particular students without having to make substantial changes to their other teaching approaches (McDonnell, 1998).

Self-determination Strategies

Field, Martin, Miller, Ward, and Wehmeyer (1998) defined self-determination as the "skills, knowledge, and beliefs that enable [individuals] to engage in goal-directed, self-regulated, autonomous behavior" (p. 2, 1998). Self-determination has been linked with positive adult outcomes for individuals with disabilities, including those with extensive support needs (e.g., Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1998). Strategies that teach

students the component skills of self-determination (e.g., goal setting, choice making, decision making, problem solving, self-observation and evaluation, and self-awareness) have been found to be highly effective in helping individuals with extensive support needs improve a range of skills, including academic skills in core content areas (e.g., Agran, King-Sears, Wehmeyer, & Copeland, 2003; Fowler, Konrad, Walker, Test, & Wood, 2007; Palmer, Wehmeyer, Gipson, & Agran, 2004). Many of the more recent studies in this area have taken place within general education settings (e.g., Lee, Wehmeyer, Palmer, Soukup, & Little, 2008). The findings of these studies add to the evidence that self-determination strategies can be implemented successfully within inclusive settings while still supporting and facilitating the active participation of students with extensive support needs in the general education curriculum. An additional advantage of these instructional strategies is that they teach broader skills (e.g., problem solving) that students can use across the lifespan in different life areas. Another appeal of these instructional practices is that all students can benefit from learning the component skills of self-determination. Indeed, acquiring problem solving, goal setting, and self-evaluation skills is a highly desired outcome of education in general. Consequently, using self-determination interventions within general education is potentially beneficial for all students.

Using an RtI Framework to Enhance Access to the General Curriculum

With the reauthorization of IDEA in 1997 came the growth of an instructional model known as RtI. This model has been used effectively to provide positive behavioral interventions and supports schoolwide using a tiered system of supports and has been found to promote appropriate social behavior and decrease disruptive behaviors (Sailor et al., 2006; Sailor, 2008/2009). However, the research supporting the use of RtI to promote academic skills is still in its infancy. This model was developed out of concerns regarding the methods used for the diagnosis of children with specific learning disabilities (SLDs) and continues to be used primarily for assessment and eligibility purposes related to SLDs. Therefore, most the research regarding RtI focuses on its use before a child's referral for special education services. However, RtI is a model that can and should be applied within general education classes to provide effective instruction to all children, including those with extensive support needs (Sailor et al., 2006). In the next sections, we will provide an overview of how RtI can be used to provide effective instruction to help students progress in the general curriculum and then address specifically how this framework can be used to facilitate learning of essential academic content for students with extensive support needs.

As we mentioned, RtI primarily has been used and researched as a method to effectively identify students with learning disabilities and was introduced with the reauthorization of IDEA (1997) as an alternative to the traditional ability-achievement discrepancy model. Within this model, schools and classrooms operate under a tiered model for providing instruction, with most models consisting of three tiers. The first tier, Tier 1, consists of providing classroom-wide interventions paired with universal screenings for all students. Data from these universal screenings are used to identify students who may not be progressing appropriately with the use of classroom-wide interventions. For these students, some additional instruction occurs within the context of the general education classroom, and their progress is monitored over a period of several weeks to see how they respond to this minor change to their instruction. If the students are demonstrating expected growth in their skills, the intervention is continued. If a student is not showing expected growth with this type of instruction, the educational team may decide to provide Tier 2 interventions. These interventions are more intensive and intrusive; they may include small group instruction and increased frequency of instruction. While receiving Tier 2 interventions, the student's progress is monitored continually. Again, if the students are making expected progress, the interventions continue. If the progress is less than expected, the educational team may decide to try an alternative intervention or a different format of instruction or provide Tier 3 interventions. Of the three tiers of interventions, Tier 3 interventions are the most individualized and specialized. It is expected that only 1% to 5% of students will require Tier 3 interventions.

Given the current focus on the RtI framework, a critical question being asked by educators who work with students who have extensive support needs is: How do we use this larger framework of RtI to guide instruction for students with extensive support needs in ways that best facilitate learning of key academic content? Rather than developing and using a separate system to guide instruction, Sailor (2008/2009) suggested that it is more appropriate to take the existing RtI framework system and use it to guide instruction for these students. This would pair what we know about effective general education strategies with our knowledge about effective strategies that are more individualized and specialized. To maximize effectiveness, Tier 1 would begin with effective general education instructional strategies that are designed following UDL principles, ensuring that the learning needs of all students in the class are considered (e.g., Dymond et al., 2006; Spooner et al., 2007). Tier 1 instruction may include curriculum adaptation strategies, differentiated instruction, and less intrusive instructional strategies discussed previously (e.g., cooperative learning groups, IL, and effective literacy instruction strategies) as well as to other commonly used research-based strategies (e.g., using graphic organizers or mnemonic strategies; Lee et al., 2006; Sailor, 2008/2009). Whether students are receiving special education supports, those who are not making expected progress with these effective general

teaching strategies would then access Tier 2 instructional supports, including more frequent monitoring of their progress. The instructional strategies in Tier 2 may include increased curriculum augmentation (i.e., teaching students strategies that allow them to acquire or use information, such as self-determination skills), systematic prompting, and more frequent small group instruction. On the basis of frequent progress monitoring data, the students who still are not making expected progress would receive Tier 3 instructional supports. For example, these supports could include embedded instruction and curriculum alteration, as needed. Curriculum alteration might include instruction in life skills or CBI, which some students with extensive support needs may require in addition to instruction in the general curriculum, to achieve positive adult outcomes (as mentioned in a prior section; Lee et al., 2006). It is important to note that although some students may require Tier 3 instructional supports, it does not suggest that they need to be removed from general education settings (Sailor, 2008/2009; Sailor et al., 2006). In fact, it is possible to embed these instructional supports into existing general education programs, such as vocational education, culinary arts programs, and services provided on college campuses.

There are four key principles that must be respected when using RtI or any tiered system for providing instructional supports. These principles are particularly relevant for using RtI with students with extensive support needs. A poorly applied RtI model would serve to further segregate and isolate these students, keeping them removed from the general education curriculum and environments rather than facilitating their access to and participation in general education programs.

First, it is imperative that professionals recognize that the tiers within the RtI model should be additive, not exclusionary. In other words, both Tier 2 and Tier 3 interventions are designed to be supplemental to the Tier 1 strategies that continue to be applied with all students, regardless of the other levels of support they are receiving. Students who receive Tier 3 supports in a particular area should continue to have access to the effective Tier 1 general teaching strategies that are available to the other students in the classroom (e.g., those based on UDL principles) as well as the Tier 2 services provided to other students who require additional support. Decisions regarding instructional strategies should be made in a manner that neither separates students, including those with extensive support needs, nor narrows the general education content they are learning. The system should not be used to lower expectations or reduce opportunities for any student, including those with extensive support needs.

Second, professionals should use the RtI model to frame services and supports related to instructional strategies, not to make placement determinations. Using Tier 2 or Tier 3 strategies should result in a change of instructional strategies used, not a removal of a student from the general education setting (Sailor, 2008/2009). Instead, students with additional learning needs, including students with extensive support needs, should receive supports such as small group instruction, curriculum augmentation, and curriculum alteration within their original general education setting. Although the RtI model involves modifying student grouping and instructional strategies, throughout the RtI process it is important to be cautious about the use of small groups and curriculum alteration to ensure that students with extensive support needs are not inadvertently segregated by being limited to educational opportunities involving only other students with similar support needs (e.g., self-contained classrooms or highly specialized, segregated programs). Using diverse grouping strategies, such as cooperative learning groups, and embedding instruction within existing general education opportunities (e.g., culinary arts programs, small and large group reading activities, and extracurricular activities) can serve to ensure that students with extensive support needs continue to have meaningful access to the general curriculum and that the instructional strategies selected do not isolate these students.

Third, decisions regarding changes in tiers and instructional supports within the RtI model must be based on the use of data to make decisions. Under this model, students should receive more individualized and specialized instructional strategies only as data indicate and only in the academic areas indicated by the data. Teachers should not assume that simply because a student requires Tier 3 instructional strategies in one subject area, the student will require Tier 3 instructional strategies in all academic areas. For example, it is possible that a student may require Tier 3 supports for reading but be successful with Tier 2 supports for math and science and Tier 1 supports during social studies. One of the greatest challenges that professionals face when applying an RtI model is in determining how to use data to determine when a student requires more intensive supports. As one of the hallmark features of the RtI process is to evaluate student progress against a criterion or standard to determine if the student is making expected progress, it is essential that professionals be able to clearly define and determine what constitutes expected progress. Experts using RtI as a diagnostic process to identify students with less extensive support needs (e.g., students with SLDs) have expressed difficulty in determining what criterion to use to define "expected progress." It may prove even more difficult to define what "expected progress" should look like for students with extensive support needs. However, difficult the task may be, it is imperative that all decisions regarding instructional supports be based on data linked to each student's performance in each particular academic and behavioral area.

Finally, when professionals are evaluating the student's performance data to determine the need for instructional supports, it is essential that the data are based on the student's performance under situations where the

instructional strategies used are not only effective and research based but also have been demonstrated to be effective with the particular group of students with whom they are being used. It is not enough simply to indicate that a student is not making "expected progress" when there has not been adequate documentation that appropriate instructional strategies have been selected and implemented. This means that teachers need to be knowledgeable in instructional strategies and accommodations that are effective for a variety of learners and be permitted to select the most appropriate strategies for teaching their specific students. Despite the importance of recognizing and addressing individual students' learning differences, there is a trend toward using manualized programs under the RtI model, particularly for students receiving Tier 2 and Tier 3 supports (Grigorenko, 2009). Manualized programs generally are published programs that move the students through a highly structured and sequenced curriculum and require teachers to follow scripted instructions. Some districts are mandating that teachers use only certain published programs to provide reading or math instruction to students receiving Tiers 2 or 3 supports and do not allow the teachers to deviate in any way from the published program's scripted instruction. This poses significant risks for students, as these programs generally do not allow for the individualization necessary to address students' needs at these levels of support needs.

Considerations in Selecting Content and Instructional Practices

A serious reflection on instructional practices for students with extensive support needs must take into account several considerations. First, IEP goals are not the only important content for students with extensive support needs. These students must also acquire the information and skills contained in the general curriculum if they are to have authentic opportunities to experience the same positive adult outcomes as their peers. The general curriculum contains knowledge and skills that local communities have deemed important. Without opportunities to learn these socially valued skills, students will continue to be at a disadvantage in developing satisfying adult lives, and we, as educators, will have failed to fulfill the overarching purposes of education as outlined by Jackson et al. (2008/2009).

Second, decisions about what to teach and how to teach a student with extensive support needs must be made in a manner that ensures that the academic knowledge and skills targeted for instruction are meaningful for the individual student and will lead to positive meaningful outcomes for that student (Downing, 2006; Dymond & Orelove, 2001). In the effort to increase educational opportunities, IEP teams must not lose sight of the specific needs of each student with extensive support needs and must plan accordingly. Careful selection of

general curriculum standards and content for instruction that help students in their current and future lives is critical to the process. Choosing instructional practices to teach that content should include careful consideration of both specialized and general instructional strategies that match the students' needs. Involving a student and his or her family in determining the instructional content and the context within which it is taught is a part of the planning process that cannot be overemphasized.

Third, as discussed earlier, students with extensive support needs have particular learning characteristics. One of these is a need to learn content in a meaningful context rather than as a series of isolated skills. The content taught must be linked to a student's prior experiences and to activities within a learning community that allow the student to observe peer models and encounter authentic learning activities. Accumulating research indicates that most often this context is general education settings. Effective instruction for students with extensive support needs might also include additional opportunities to practice skills in community settings, but these should not replace membership and participation in general education classrooms (Kluth, 2000). Related services personnel also can facilitate progress in the general curriculum by providing services and supports within general education settings that enhance a student's progress (e.g., Hunt et al., 2003) rather than providing services in separate settings that are disconnected from general education.

Finally, an often overlooked consideration regarding instruction for students with extensive support needs is how educators can provide instruction for students whose home language is not English. Although the number of such students is increasing nationwide, little attention has been paid to how best to provide their instruction (Mueller, Singer, & Carranza, 2006). The language of instruction selected is critical for these students who most likely will experience difficulty with language learning in general and have additional difficulties if instruction is primarily provided in English. Because these students must have access to both the general curriculum and the instruction that facilitates their progress, this is a critical area for future research.

What Remains to Be Learned?

The answer to this question is, "A lot!" Although the field has developed a solid base of knowledge about instructional practices for students with extensive support needs, we still know little about how to provide effective instruction for them within general education settings in a manner that provides authentic access to the general curriculum. The promising practices discussed in this article offer a way to begin instructional planning for students. The accumulating research indicating that, when given the opportunity, students with extensive support needs acquire general education content knowledge and skills is also promising. However, if students

are to have opportunities to acquire the full range of skills in the general curriculum, then researchers must examine instructional strategies within general versus special education settings. This may require that the field put aside some of the long held beliefs that this group of learners requires highly specialized learning strategies across all skill areas. Instead, there is a need to examine the utility of other strategies that historically have been used with students without disabilities. Finally, educational planning teams must be sure to maintain a flexible and individualized approach when planning instruction for students—an approach that does not dictate placement, curriculum, or instruction based merely on an educational diagnosis.

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