DIFFERENTIATED INSTRUCTION: INCLUSIVE STRATEGIES FOR STANDARDS-BASED LEARNING THAT BENEFIT THE WHOLE CLASS

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ABSTRACT

With suitable supports, including differentiated instruction, students ranging from gifted to those with significant disabilities can receive an appropriate education in general education classrooms. A multilevel lesson planning system is presented here that is manageable in a standards-based instructional context, along with a variety of helpful instructional strategies and real-life examples. Supports are outlined for students with mild disabilities, and adaptations are explained for students with severe disabilities and for students with special gifts and talents. Advice is provided for making a manageable change to differentiated instruction.

INTRODUCTION

Although Jo has severe cognitive disabilities, she has been successfully included in general education classrooms for many years. While she is far behind her classmates, she is making steady progress. Jo is not required to "keep up" with the other students, or to "pass" (in the traditional sense) to be a member of general education classrooms. Instead, individualized goals are set for her by a collaborative team that includes

general education teachers, the special education teacher, a speech therapist, an occupational therapist, a part-time paraprofessional, and her parents. Jo's report card reflects her progress toward these IEP (Individual Education Plan) goals.

Jo's favorite subject is science, especially labs. She also enjoys art and wants to be an artist when she leaves school. Her worst subject is social studies. Jo recognizes and can write most consonant letters; she can read a few basic sight words. She recognizes numbers up to 20, and can use manipulatives to solve simple addition and subtraction problems. Jo is one of the most motivated students in her grade. Her strengths are in spatial and interpersonal intelligences. She is outgoing and well-liked by most people she knows at school. Her speech can be difficult to understand. She needs to have changes in her routine explained in advance whenever possible, and may become upset and cry when this is not possible.

An important responsibility of the collaborative team is to identify ways for Jo to meaningfully participate in lessons that would otherwise be much too difficult for her. The team meets regularly to discuss Jo's progress and to collaborate on adaptations needed for upcoming units. For example, when other students perform math operations with large numbers, Jo participates by building models of some of these numbers using hands-on place value manipulatives; this is related to her IEP goal to improve number concepts. Other examples include working on IEP goals to improve her printing and keyboarding skills while the rest of the class works on more complex writing assignments.

Andy is extremely frustrated with school. Although he makes some effort to study for tests, these are largely ineffective. The only resource materials available to him are textbooks which are significantly above his reading level, and his own woefully insufficient notes. He does not understand much of what he tries to read and is currently failing two subjects. Andy is not lacking in intelligence; he is very knowledgeable about his family's horticulture business, for example, and is entrusted to act as the cashier when the family is short-handed. Math is definitely his strong subject; although he has difficulty with memorization, he is generally able to achieve at grade level in this area. The music department considers him one of their more talented students. Whenever grade-level reading and writing are required, however, he is "sunk."

In addition, Andy has never been an easily managed student behaviorally. He is very fidgety in class, and tends to be what even his favorite teacher had labeled as "mischievous." These problems are increasing,

and new ones are cropping up. He rips up or refuses to complete assignments, and is disrespectful to his special and general education teachers. He frequently comments that he does not need school, since he is counting on a job in the family business. He has been seen smoking in the parking lot across the street from the school and is increasingly involved in fights on the bus—even on the most recent class trip.

Nita's family has recently immigrated to the United States. Although she is gifted academically and artistically, her spoken English is poor and she is very quiet in class. She has good independent work skills, perhaps too good. She prefers to work alone, and both her parents and her teacher are concerned about her social adjustment. Nita prefers science over any other subject and is visibly uninterested in Social Studies, particularly history. She plans to pursue a Ph.D. in chemistry.

John is an average student academically, although he is not reliable about homework and is prone to cut corners on assignments if he can get away with it. He is also an exceptionally skilled athlete. His heroes are sports superstars, and his outlook on the world is very competitive. He is the first to cry "unfair" if someone in the class is provided with support that is not extended to him, although he does not usually need it. His family is active in local politics; John would like to be the mayor of his town when he grows up.

Classrooms increasingly are populated by students who are diverse in a variety of ways. Of course, even students traditionally found in general education classrooms were not homogeneous. Singer & Donlan (1989), for example, estimated a reading ability span in a typical classroom of two-thirds the average chronological age of the students. In a traditional class of 15-year-olds a teacher should expect a 10-year range of reading levels. Given the availability of strategies such as differentiated instruction, responsible pedagogy no longer allows us to teach as if students all learned in one way, and at the same pace. If we are to maximize achievement of general curriculum standards, we must increase our efforts to differentiate instruction. Differentiated instruction benefits students with a very wide range of ability levels (Neber, Finsterwald, & Urban, 2001), learning styles, and cultural/linguistic backgrounds (Convery & Coyle, 1993).

INCLUSION, HIGH STANDARDS, & DIFFERENTIATED INSTRUCTION

Differentiated instructional planning recognizes and supports the classroom as a community to which age peers belong, where they can and should be nourished as individual learners. According to Tomlinson &

Kalbfleisch (1998) differentiated classrooms are "responsive to students' varying readiness levels, varying interests, and varying learning profiles" (p. 54). As explained by Waldron & McLeskey (2001), "differentiating instruction means that teachers will create different levels of expectations for task completion within a lesson or unit" (p. 176). They emphasize helping schools create environments in which all learners can be successful; for inclusion to be successful, all students must benefit. Differentiated instruction is as important for students who find school easy as it is for those who find it difficult. All students benefit from the availability of a variety of methods and supports and an appropriate balance of challenge and success.

The approach described in this article builds upon the work of educators such as Vaughn, Bos, & Schumm (2000), who have extended their basic, 3-level planning pyramid with a modification that allows for individualized goals for students with severe intellectual disabilities. Suggestions presented here build upon systems such as these, with specific attention to the following issues that remain troublesome for many teachers:

- Making multilevel instructional decisions (e.g., who learns at what level?) in a way that is manageable within a standards-based instructional context.
- Devising additional supports for struggling learners, especially resources that can be provided with or without additional staff assigned to the general education classroom.
- Providing an appropriate education for students with special gifts and talents and for students with severe disabilities, who both may be members of the same heterogeneous, inclusive classrooms.
- Differentiating primarily within whole-class lessons, avoiding separate, parallel tasks as much as possible.

Differentiated instruction is helpful to any teacher and critical for teachers in inclusive classrooms. Unlike mainstreaming, inclusive education does not separate students with disabilities who are unable to "keep up" without significant support. This makes differentiated instructional strategies a must, especially given the simultaneous push for all students to achieve high standards. If students with disabilities are to reach higher general curriculum standards, they need to learn in classrooms where they can both access the general curriculum, and reap the benefits of high expectations (Good, 2001; Kolb & Jussim, 1994; Lee & Smith, 1999; Rosenthal & Jacobson, 1968).

## THE PROCESS OF DIFFERENTIATED INSTRUCTIONAL PLANNING

This article presents a method for bringing differentiated instruction, inclusive secondary schools, and high standards together using a manageable instructional planning strategy. An additional concern addressed in this article is the potential for reproducing tracking. Care must be taken that, in our efforts to meet the diverse needs found in heterogeneous classrooms, we do not import problems of homogeneous classrooms such as debilitating low expectations for some students.

Differentiation can be thought of as serving two broad goals. The first is to maximize attainment of the grade-level general curriculum standards (represented in Figure 1 as a sphere) for all students. As the figure shows, an important strategy for maximizing attainment of the general curriculum is providing additional supports for struggling students. The second broad goal is to provide adapted curricula for students who need it. This goal is represented in Figure 1 by the areas identified as Enriched and Prioritized curriculum. Each of these elements of differentiation will be discussed in the remainder of this article.

GETTING STARTED WITH DIFFERENTIATED INSTRUCTIONAL PLANNING

Not surprisingly, effective differentiated instruction starts with high-quality general education lessons; both differentiated instruction and inclusion are much more difficult and stressful within traditional, passive instruction. Desirable qualities for general education lessons include those that:

Figure 1. A Model of Differentiation
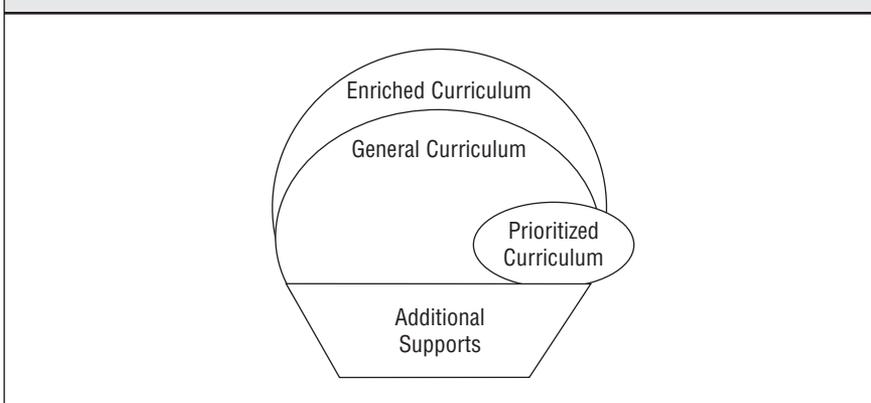
1. Promote active learning, including hands-on experiences, concrete and multi sensory representations, cooperative learning, and real life applications of concepts/skills.
2. Connect subject matter with students' interests (Warner & Cheney, 1996), communities (Gladdens, 2002), and experiences (Hollins & Oliver, 1999).
3. Incorporate multiple intelligences and I learning styles.

Given a high-quality lesson as a base, we are ready to consider differentiation within that lesson. An important strategy for maximizing attainment of the general curriculum is providing additional supports for struggling students.

ACHIEVING GENERAL CURRICULUM STANDARDS
THROUGH ADDITIONAL SUPPORTS

"Additional Supports" to allow struggling students to achieve the general curriculum standards are represented in Figure 1 as the trapezoid-shaped foundation that supports "Grade-level General Curriculum." For these students, grade level standards are appropriate, but very challenging. Without Additional Supports, many of these students will fail.

Students in this group include those identified as having mild disabilities, those at risk for being identified as having disabilities, students for whom English is a second language, students with limited prerequisite skills, learning strategies, and background knowledge/experiences, and students with behavioral difficulties such as low motivation. These students are intellectually capable, but complex; they experience specific difficulties (e.g., processing and/or experiential differences) that prevent them from being successful without significant supports. Students with learning disabilities, for example, have intelligence within the average range (by definition), but often have reading and writing difficulties that block their ability to a) effectively access and b) demonstrate their understanding of subject matter using traditional print-based formats.

Given the push for high standards and the wealth of research documenting the importance of high expectations, it is critical to maintain the learning standard for these students; accordingly, instructional modifications need to be provided that enable them to both access the content and demonstrate what they've learned (King-Sears, 2001). This combination of high expectations and support is associated with success for students at risk of failure (Lee & Smith, 1999).

As with active learning, availability of Additional Supports benefits all students, not just struggling students. An important goal is for students to experience high rates of success, and low rates of failure. Fewer student errors result in more efficient learning, even for students with severe disabilities including autism (Heflin & Alberto, 2001). These Additional Supports can be divided into two general categories; the first category helps students access the general education curriculum, while the second category lends additional structure to the curriculum.

ACCESS TO THE GENERAL CURRICULUM

This category targets students such as Andy (see introduction), who is capable of learning grade-level content, but is impeded by factors such as the way content is traditionally presented and tested. Andy is quite capable intellectually, but specific reading and writing disabilities make print materials inaccessible to him unless they are written at his reading level. Organizational and memory problems also interfere. Other students can effectively access information by reading the textbook, record information by taking notes, study by reviewing what is in the text and their notes, and communicate what they've learned by reading and writing traditional paper-and-pencil tests, but these print-based avenues are essentially closed to Andy. Students such as Andy are frequently placed in an untenable situation; they're smart enough to learn what is being taught, but cannot learn in the way that it is being taught. A pattern of failure over time causes these students to gradually lose faith in themselves as learners, another powerful barrier to their success. The following strategies are helpful in providing access to the general curriculum for students such as Andy, along with students for whom English is a second language, and students with limited prerequisite skills, learning strategies, or background knowledge/experiences.

ASSISTIVE TECHNOLOGY. In the past, nearly the only option to provide poor readers with access to grade-level subject matter was oral presentation; today however, a wide variety of assistive technology solutions is available. These include taped books, screen reading programs, software to support written expression (e.g., through webbing, speech feedback, and/or voice recognition), simulation software to illustrate science and social studies concepts, math media that illustrate real-life applications, and so forth. Increasingly, instructional software is equipped with speech capability, reducing interference from reading difficulties. (See http://www.ataccess.org for more information about assistive technology access, including an extensive list of products and vendors.)

FIND VS. GUESS. As noted previously, all students benefit from an appropriate balance of challenge and success; this balance is not identical from student to student. Although students who are amply capable and confident may benefit from a "trial and error" approach, students with a history of failure will require methods that structure successful experiences in order to bolster both their skills and their confidence in themselves as learners. For these students, a variety of resource materials can be provided to empower them to find answers they don't know rather than guess at them (probably incorrectly). Figure 2 shows examples of extra support that are structured to help struggling students successfully practice a skill/concept (and avoid practicing errors).

This "find" strategy emphasizes what Eisner (1984, p. 5) refers to as "intellectual independence," or being able to "find and use resources for dealing with tasks and problems." These are critical skills for any student in today's Information Age with its accompanying information glut. In

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Figure 2. Types of Resources for Extra Support

Manipulatives, e.g., students can use cubes representing the base-10 number system to create models and solve problems concretely. Because they denote the base-10 system, even complex problems can be modeled using this approach. Transparent cubes are available for use with an overhead projector.

Visual aids, e.g., diagrams, models, story maps, etc. For another example, see Harmon & Hedrick's (2000) visual representation of vocabulary related to Harriet Tubman.

Charts, e.g., when memorization is needed, students create their own charts to allow them to look up facts that they've not yet memorized (again, as opposed to practicing incorrect answers).

Outlines (partially completed when appropriate), summaries, organizers, & reading guides (see Gianuzzi & Hudson, 1998). For example, when the textbook is beyond the student's reading level, 1-2 page chapter summaries that highlight the most important information and are written at the student's reading level can be provided. To help ensure a match between students' reading levels and reading materials, word processing programs can provide reading level estimates of text (e.g., using the Spelling & Grammar checking tool). For nonreaders, summaries can be audio taped or accessed using screen reading software (e.g., go to www.ReadPlease.com for a free text-to-speech software download).

Picture cues, e.g., combining vocabulary words with graphics and other illustrations.

Audio taped books, instructions, etc.

addition to using Additional Supports in the classroom; students benefit from locating answers in the library, on the Internet, and in the community (including use of primary sources such as interviews or historical documents). This does not mean that there is no value in memorizing; however, it is overemphasized at times. Further, there is little value in requiring struggling students to continually work at a frustration level, repeatedly practicing their errors. This is the likely result in situations where students do not know the correct answer and have no means of finding it (especially when traditional resources, such as textbooks, are inaccessible to them). Under such circumstances, students are left with few alternatives to random guessing.

PERSONAL ASSISTANCE. Personal assistance, including both peer tutoring and help from adults, can also serve the purpose of providing access to grade-level curriculum but should be used with caution to avoid unnecessary dependencies.

Additional Supports are most effective when they provide the least assistance necessary to allow the student to practice successfully. They are particularly useful during practice and study sessions, since they allow struggling students to avoid practicing errors. Of course, use of Additional Supports should be limited to those who need them; students able to practice with reasonable levels of accuracy without such supports (such as John, see introduction) should not be allowed to depend upon them.

ADDING STRUCTURE

Students such as Andy also benefit from strategies that add structure to the general curriculum. These students may lack learning and study strategies that seem to come naturally to more successful students. The following section includes both instructional strategies for the teacher, and learning strategies for the student.

EMPHASIZE THE MOST IMPORTANT CONCEPTS AND SKILLS. Not all aspects of the curriculum are equally important; a characteristic of successful students is that they are able to hone in on main ideas, and discount minor details. However, students in need of Additional Supports often require assistance in prioritizing the most important content on which to focus their efforts. This strategy also helps the class as a whole, since it helps focus their efforts on the most critical information. For example, Mrs. Green makes available a one-page summary of the "key concepts," a study guide, and a concept map in both paper and electronic format in her 11th-grade social studies class (See Figure 3). Andy relies heavily on these to help him concentrate on the most important ideas and connections. A screen reading program allows the classroom computer to read

Figure 3. An Example of Additional Structure		
Lesson Example	*Additional Supports*	*Goal Adaptations*
Social Studies: Mr. Green's 11th graders are learning about the Homestead Act. He is using paintings and folk songs from the period to illustrate various concepts. In addition, Mr. Green has greatly reduced the time that he spends lecturing about the reading assignments; instead, students are creating a variety of hands-on projects to develop their understanding of key concepts. These include the purpose of the Act, cost of and eligibility to purchase land under the Act, guidelines for land usage, and the relationships of the Act to the concept of "manifest destiny," to Native American treaties, and to current land usage. He uses a holistic rubric to evaluate the projects, insuring that key concepts are included in each.	With the help of the librarian, Mr. Green and his class have assembled a variety of resource materials related to the Homestead Act. These include paper and electronic texts at various reading difficulty levels, a video, websites, etc. Also available are a one-page summary of the "key concepts," a study guide, and a concept map, in both paper and electronic format. Some materials were created by a part-time paraprofessional, under the direction of Mr. Green and special education teacher. **Andy (Grade-level Curriculum):** Andy works on improving independent reading and writing skills in the context of shorter assignments, while utilizing technology that allows him to both access and demonstrate his understanding of general curriculum content. He relies heavily on the summary, study guide, and concept map to help him focus on the most important ideas and connections. He also uses assistive technology designated on his IEP, including a screen reading program that reads electronic text aloud, books-on-tape, and word processing and voice recognition programs (to allow him to produce longer written assignments). The IEP team has identified use of these programs as job skills for the transition component of his IEP, as well as strategies for current content-area assignments.	**Jo (Prioritized Curriculum):** Jo also uses taped books, the summary, and concept map to gain access grade-level curriculum (and sometimes learns things that surprise her teachers). However, the content priority for her is current land usage (e.g., the role of the Midwest in providing food for the nation). She also works on her IEP goals to improve articulation, printing and keyboarding skills. **Nita (Enriched Curriculum):** In addition to being responsible to demonstrate mastery of general curriculum, Nita's project responsibilities include more detailed exploration of immigrants' perspectives toward the concept of "manifest destiny."

electronic versions aloud for students who are auditory learners or poor readers.

      PROVIDE CLEAR EXPECTATIONS AND EXAMPLES. This advice is most often heard in relation to behavior management; however, it also applies to instruction. This strategy may be especially important for students whose

background differs from that of the teacher. Students who have more school experience and those from cultures and backgrounds similar to the teacher's (including race/ethnicity, socioeconomic status, etc.) will have an easier time interpreting the expectations of the teacher, given their common histories. However, even these students will benefit from greater explicitness, more precise instructions, and examples of past student work. Examples (with names removed) can serve to point out both exemplary features and mistakes to be avoided. If your students tend to model too closely, limit their access to examples once the point being illustrated has been made. Students with reading and memory difficulties will need an accessible record of instructions to use as they work (e.g., a checklist at the student's reading level, audio taped instructions, and a word processing file to which the student can listen using a screen reading program, etc.). These need not always be prepared in advance, e.g., instructions can be audio taped (by the teacher, or by a student) as they are given verbally to the large group.

SYSTEMATIC BREAKDOWN OF SPECIFIC STRATEGIES, SKILLS, AND CONCEPTS. Readers with special education background will recognize in this suggestion familiar concepts such as cognitive strategy training and task analysis; however, students without disabilities also benefit from this approach. Desirable student performance is analyzed and recorded in step-by-step format, as in the following example for math problem-solving (adapted from Polya's four-stage problem solving model in Pressley & Woloshyn, 1995):

a. Describe problem in your own words.
b. Decide if the answer should be more or less than what you started with.
c. Represent the problem concretely (e.g., use manipulatives or draw pictures).
d. Write the problem and the answer.
e. Check the answer.
f. Self-evaluate (did I complete all the steps?).

Warner & Cheney (1996) teach strategies such as how to get important information from oral or print sources, how to communicate information gathered/learned to others (including to teachers for assessment purposes), and how to approach assignments in an organized way. These skills apply to future academic and occupational situations as well as to the current school setting.

MAKE SPECIFIC CONNECTIONS WITH PRIOR KNOWLEDGE AND EXPERIENCES. This strategy helps students to create a space for new information/skills within their existing cognitive schema, an essential aspect of learning and retention. Harmon & Hedrick (2000), for example, extend conventional concept teaching (describing prototypes and characteristics, providing examples and non-examples) to include such strategies as rank ordering important information related to the concept, brainstorming a list of unrelated or improbable ideas, and situating the current concept in relation to other important concepts. Connections with students' interests, communities, and experiences should of course incorporate students' cultures, a strategy also supported by research on reducing school violence (Gladdens, 2002).

WORK TOWARD INCREASED INDEPENDENCE BY FADING ASSISTANCE SYSTEMATICALLY. Traditionally, systematic fading of assistance has utilized a graduated guidance sequence structured on a continuum from greatest to least amounts/types of assistance. For example, in learning to perform manual tasks, a student may gradually progress from needing physical guidance, to following a model, to verbal feedback, to independence. Fading is also used to promote independence in cognitive strategy training. In the math problem-solving strategy (above), a student may initially rely upon specific verbal instructions provided by the teacher (perhaps on audiotape), followed by talking himself through the steps (e.g., by whispering), followed by silent self-monitoring (and perhaps self-recording) of strategy use.

Use of additional supports such as those described above will better enable struggling students to achieve in the general curriculum (King-Sears, 2001). Because they rely largely upon use of resource materials and group instructional strategies, they minimize the danger of creating dependencies on support personnel. Differentiated instructional strategies for students requiring more extensive adaptations (to content and expectations) are described in the next section.

GOAL ADAPTATIONS TO THE GENERAL CURRICULUM

If secondary schools are to achieve the vision of inclusive education as a community that supports all learners, the needs of another broad group of students also must be considered when planning multi-level instruction--those who need Goal Adaptations. These students benefit from the instructional supports described above, but also need adapted instructional goals. For students such as Jo and Nita (described in the introduction), only parts of the grade-level general curriculum constitute

appropriate instructional goals. In Nita's case, more advanced goals are
needed because much of the content has already been mastered (or will
be mastered much more quickly than by most students); in Jo's case, less
advanced and/or functional curriculum goals are needed. Goal
Adaptations for both groups are explained in the next section, with
Enriched Curriculum for students with special gifts and talents, and
Prioritized Curriculum for students with significant disabilities.

　　Both groups of students have been served in pull-out programs, either
for the gifted, or in self-contained special education classrooms. For
gifted students, services are often not required by law, and may be nonex-
istent, neglected, or subject to inconsistent funding. Yet, as argued by
Tomlinson (1994-1995), differentiated instruction is at least as important
for students with significantly higher ability as for students with signifi-
cantly lower ability. For these students, differentiated instruction in
general education classrooms provides a means to better meet their needs
even in the absence of a comprehensive "Gifted & Talented" program.
Further, the sense of isolation sometimes experienced by students in pull-
out programs can be avoided when differentiated instruction is provided
for them within the general education classroom.

ENRICHED CURRICULUM

Enriched Curriculum for students with special gifts and talents is repre-
sented in Figure 1 by the large oval, indicating that opportunities for more
challenging and/or creative work are provided above and beyond grade-
level curriculum standards. The goal of Enriched Curriculum is to provide
a more appropriate education for students with special gifts and talents
within the general education classroom program. An additional advantage
to providing enriched opportunities within the general education class-
room is that they can be available even to students from traditionally
marginalized groups that have often been underrepresented in gifted and
talented programs, including students from diverse racial/ethnic groups,
students with disabilities, and girls (Vaughn, Bos, & Schumm, 2000).
Teachers are encouraged to think in broad terms when considering
students in their classrooms who may be in need of enriched curricula.
While these students would certainly include those who are academically
gifted, others in need of enriched curricula include students who are
talented in a variety of other ways (e.g., mechanically, interpersonally, and
artistically including the visual arts, drama, dance, and music).

　　A practical way of providing differentiated instruction for students
with special gifts and talents is using cooperative groups with individual-

ized roles. In math, Nita participates in a small-group math game with age peers but is responsible for more advanced problems (see Sapon-Shevin, 1990 for additional suggestions for using cooperative groups in heterogeneous, inclusive classrooms). For students whose strengths are artistic (including those who may not be academically gifted), Goal Adaptations can provide additional opportunities for creative work. In the Social Studies example (see Figure 2), students express their under-standing of important concepts in American history (in this case, the Homestead Act) by creating a variety of hands-on projects. These projects could include paintings, sculptures, dioramas, songs, dance, drama, etc. (Goldberg, 1997); given the variety of forms that such projects take, it is important that the evaluation system is structured to ensure that key concepts are included. For example, a holistic rubric can be devised that addresses the same key concepts that would be included on a paper-and-pencil test, but allows them to be expressed in a variety of ways. Of course, students generally will benefit from these opportunities; for some, the opportunity to express their learning using the arts may mitigate written language difficulties.

Some students may also be able to pursue independent study involving higher-level concepts and skills. In the Social Studies example (see Figure 2), all students are involved in creating a variety of projects; Nita's responsibilities include critique of concepts such as "manifest destiny." In some cases, the first step may be teaching (or refining) inde-pendent work skills. Teaching these skills initially using grade-level content (rather than enriched curricula) may not only make providing this instruction more manageable, but can also provide access to such instruc-tion for the entire class. School and community librarians are natural allies in this effort; classroom volunteers (including senior citizens, cross-age tutors, and student interns) may also find it enjoyable to assist a talented student in pursuing projects related to his/her interests. (For addi-tional suggestions, see "Making It Manageable," Figure 4.) Caution should be exercised in the use of independent projects that are not connected with the work of the class as a whole; they may detract from the culture of the classroom as a community, or function to further isolate students such as Nita (who already tends to be somewhat reclusive).

PRIORITIZED CURRICULUM

The goal of Prioritized Curriculum is to allow students with severe disabil-ities to reap the benefits of general class placement while addressing indi-vidual needs. As noted by King-Sears (2001), adaptations can be made

that will enable such a student to participate in general curriculum "while accomplishing very different content or curriculum goals" (p. 75). Educators are understandably likely to be uncomfortable with inclusion when the needs of students with severe disabilities for functional skills instruction are neglected (Lawrence-Brown, 2000a). ("Functional" skills are those that directly make the student less dependent upon others, e.g., communication, motor, interpersonal, independent living skills, job skills, and so forth.) IEP's for students with severe disabilities will often need to balance these goals with academics at the student's level; a frequent mistake in inclusive settings is overemphasis on one or the other for these students. Either the general curriculum is emphasized to the near exclusion of functional skills instruction, or functional skills instruction is emphasized to the near exclusion of general curriculum. Often, the latter results in over-reliance upon parallel tasks; "inclusion" takes place only in the sense of being physically present. A vital support for students with severe disabilities in general education classrooms is addressing their IEP goals within the context of large-group lessons. By addressing goals that have been prioritized for the individual student by a knowledgeable and caring IEP team, general and special educators can feel confident that they are taking a major step toward providing an appropriate education for the student.

Contrary to long-held assumptions, students with disabilities do not usually learn more in self-contained special education classrooms; equal or superior results are obtained when appropriate supports are provided in general education classrooms (Affleck, Madge, Adams, & Lowenbraun, 1988; Banerji & Dailey, 1995; Bunch & Valeo, 1997; Cole & Meyer, 1991; Freeman & Alkin, 2000; Fryxell & Kennedy, 1995; Hunt & Goetz, 1997; Ingraham & Daugherty, 1995; Logan & Keefe, 1997; Lipsky & Gartner, 1995; Madden, Slavin, Karweit, Dolan & Wasik, 1993; McGregor & Vogelsberg, 1998; Schulte, Osborne, & McKinney, 1990; Wang & Birch, 1984; Waldron & McLeskey, 1998; Willrodt & Claybrook, 1995). This evidence, along with a presumptive legal right to general class placement (Individuals with Disabilities Education Act of 1997), suggests that students with disabilities should ordinarily be included unless good-faith efforts to support a particular student in general education classrooms have indicated that s/he cannot receive an appropriate education there.

It is unacceptable to place students in special education classrooms simply based on labels indicating a particular level or type of disability (e.g., severe mental retardation), without measuring the student's progress in appropriately supported general education classrooms (Individuals with

Disabilities Education Act of 1997). Of course, teachers are concerned about the progress of students without disabilities as well; in this case the outcomes research is equally reassuring, with equal or superior academic, social, and behavioral outcomes for students without disabilities in inclusive general education classrooms compared to non-inclusive classrooms (Holloway, Salisbury, Rainforth, & Palombar, 1995; Peck, Donaldson, & Pezzoli, 1990; Salend, 1999; Sasso & Rude, 1988; Sharpe, York, & Knight, 1994).

Prioritized Curriculum for students with severe disabilities is represented in Figure 1 by the small oval. Students with severe disabilities can learn of course, but at a much slower pace. This makes setting priorities a must. When the number of things that can be learned is limited due to length of time needed to learn any one thing, it is essential that students' and teachers' time is invested in those that are most critical. What is "most critical" will vary from student to student; central to the IEP process is determining and communicating those individualized priorities. They must be determined based upon the individual strengths, needs, interests, and preferences of a particular student, not by the setting in which s/he is placed. Teachers in both general and special education settings have been criticized for failure to individualize instruction for struggling students (Kauffman, 1993; Tomlinson & Kalbfleisch, 1998).

For most students with severe disabilities, Prioritized Curriculum will include a mixture of academic and functional skills goals. As shown in Figure 1, Prioritized Curriculum includes material that falls within the general curriculum sphere, but also includes goals such as functional daily living skills that fall outside of it. The amount and proportion of general curriculum content to functional skills goals will vary from student to student. Again, priorities for an individual student will be determined by the specific strengths, needs, interests, and preferences of that student. Person-centered planning approaches can be helpful in determining these individualized priorities (e.g., see Dennis, Williams, Giangreco, & Cloninger, 1993 for further information).

Priorities for students with severe disabilities are likely to include communication, interpersonal, and motor skills. Ongoing opportunities to learn prioritized skills must be provided as part of special education services (Warner & Cheney, 1996). Fortunately for practitioners of differentiated instruction, these are among the easiest Prioritized Curriculum goals to address in general education settings because they are natural parts of most active lessons. We tend not to focus on them, of course, because most general education students have already mastered these skills (and

thus provide good models for students who have not) but communicating, moving, and getting along with others are parts of nearly all active lessons. Examples include asking for help/materials, answering questions intelligibly, moving materials and themselves from place to place, sharing materials, taking turns, working cooperatively, and so forth.

Generalization difficulties common to students with severe disabilities (e.g., transfer of skills from the training setting to the natural setting) are significantly reduced when skills are taught directly in the natural environment. The general education class, with nondisabled peers, provides a more natural environment for learning these critical skills than special education classrooms; if students with severe disabilities are to relate effectively in integrated settings (now and as adults), they need to be taught in integrated settings. This will normally require the collaborative efforts of both the general education teacher and a special education teacher who "pushes in" to the general education classroom on a frequent basis to provide direct support to the student and the general education teacher.

IEP goals for Jo (see introduction) are sufficiently different from the general curriculum that they may be difficult to schedule without a specific strategy for doing so. A simple strategy is construction of an individual matrix that connects Jo's schedule in the general education classroom with her IEP goals (see Figure 4).

A matrix not only illustrates how IEP goals connect to general curriculum subjects, but also provides a means of facilitating other important outcomes. It helps ensure that IEP goals can be addressed regularly, and provides a starting point for discussions during regular collaborative team meetings of adaptations needed for upcoming units of instruction. When necessary, matrices can provide direction for impromptu adaptations that are inevitably needed in classrooms (e.g., when changes arise in the classroom schedule, or in the event that time does not permit the team to discuss all adaptations on the team meeting agenda).

As noted previously, addressing these skills will require additional personnel at times (e.g., some push-in special education teacher time, possibly also a paraprofessional on a full or part-time basis), but general education teachers and students who are knowledgeable about the student also can address them. This can take place in a natural and unobtrusive manner that does not detract from the lesson. Jo's special education teacher provides "push-in" support that rotates among various classes, but she also has taught other team members and students how to respond in helpful ways in her absence.

Figure 4. IEP Goals & Schedule Matrix Example		
Subject	*Modifications*	*IEP Goals*
English	• Taped books (from National Library Service for the Blind & Physically Handicapped); screen reading program. • Can use personal spelling list (e.g., from community signs goal), or work on regular list emphasizing comprehension of vocabulary vs. spelling. • Use word processing program for written assignments. Composes using velcro word/picture card system or by dictating to aide or peer, then types into computer. Needs assistance with sentence structure. Loves to compose and share dictated stories with the class.	• Articulate target sounds (s, z, f). • Request information/assistance. • Use velcro word/picture card communication system. • Improve knowledge of word meanings. • Improve keyboarding skills.
Social Studies	Taped textbooks (from Recordings for the Blind & Dyslexic). Creating picture timeline in lieu of worksheet assignments. Takes modified (multiple-choice) tests on main ideas. Needs processing time for answering questions in large-group discussions.	
Science	Taped textbooks (from Recordings for the Blind & Dyslexic). Emphasize functional applications of content. Use word processing program for modified written assignments. Takes modified (multiple-choice) tests on functional applications. Needs processing time for answering questions in large-group discussions.	• Improve fine motor dexterity (open containers, use hand-held implements). • Improve counting skills. • Improve calculator use. • Articulate target sounds (s and, z, f). • Request information/assistance. • Use velcro word/picture card system. • Improve knowledge of word meanings. • Improve keyboarding skills.
Math	Uses talking calculator. Emphasize functional applications of math operations. Takes modified (multiple-choice) tests using calculator to solve problems utilizing functional applications. May substitute community-based and/or vocational instruction for some units (as prioritized by the collaborative team).	• Improve calculator use. • Improve counting skills. • Request information/assistance.

An additional benefit of her frequent presence in the general education classroom is that Jo's special education teacher has become familiar with the needs of students without disabilities. This has enabled her to effectively collaborate with Jo's teacher when concerns have arisen about the skills of other students in the class. Similar benefits accrue when therapists "push-in" to the general education classroom, along with avoiding difficulties generalizing from "pull-out" settings back to the classroom.

Communication, motor, and interpersonal skills have been referred to as "embedded" skills (Schnorr, Ford, Davern, Park-Lee, & Meyer, 1989), because they are embedded in other tasks. The concept of embedded skills can also be applied to lower-level academic skills, for example, Jo's IEP goals for improved printing skills and improved understanding of number concepts. While these would not be part of the general curriculum past elementary school, they can be viewed at the secondary level as skills embedded within more complex tasks. Examples relevant to Figure 4 include working on beginning reading skills during the same lesson in which other students work on more advanced English objectives such as analysis of literature, or working on counting and number identification as part of more complex math lessons. The alternative is pulling the student aside to work on parallel tasks; this needs to be avoided as much as possible.

As noted in the Enriched Curriculum section, cooperative learning with individualized roles is an effective way to provide differentiated instruction for students with special gifts and talents; the same is true for students with significant disabilities. When students are responsible to assist each other in accomplishing goals set for them, both academic skills and interpersonal relationships improve (Johnson & Johnson, 1999). In math, for example, a heterogeneous, small-group game format can provide opportunities for some students to work on grade-level problems, for Jo to work on basic number concepts, and for Nita to work on more advanced problems.

AUTHENTIC INSTRUCTION

Additional goals for students with severe disabilities can be addressed with relatively minor changes in emphasis and presentation of large-group lessons, focusing on real-life applications of general curriculum content. This is known today as authentic instruction or applied curriculum. Again, this strategy benefits the class as a whole. General educators as far back as John Dewey (1916/1944) have advocated its use, and it is still being

recommended today in both the general and special education literature (Christ, 1995; Cox & Firpo, 1993; Gladdens, 2002; Hamill & Everington, 2002; Kluth, 2000; Miller, Shambaugh, Robinson, & Wimberly, 1995; Moore, 1996; Newmann & Wehlage, 1995; Perkins, 1993; Yager, 1987).

Miller, et al, (1995), for example, describe authentic instruction in middle school science. Students learned required science content through a partnership with a local botanic garden. Students created self-sustaining ecosystems, propagated plants for landscaping their campus, and created brochures and trail maps for the botanic garden. Project-based learning such as this has a number of benefits for a wide range of students. It provides a motivating, authentic, real-life context for all students to learn academic content, and it allows students to see and apply interdisciplinary connections. For example, note the connections above between science, technology, and English. For additional examples in math, history, and English see Christ (1995), Cox and Firpo (1993), and Kluth (2000).

Authentic instruction is not an add-on, but a means of teaching the same general curriculum content and skills that would be taught in traditional, passive lessons. The botanic garden partnership was developed as a way of teaching required subject matter (sustaining life and balanced ecosystems) in a way that was both more motivating to students and increased the complexity of their learning. In addition to life science content, students also acquired research skills such as using multiple resources (botanical texts, the Internet, and government resources such as the local county extension agent), collecting and analyzing data, drawing conclusions, and disseminating their results.

For students with significant disabilities, authentic instruction provides opportunities for learning various skills that are likely to have been prioritized on their IEP's, including functional academics and communication, interpersonal, and motor skills. Functional academics refers to academic skills applied in functional, everyday situations. Examples include applying number recognition skills in the context of finding the correct room or bus number, applying reading skills to finding the correct restroom, applying writing skills to labeling personal items with one's name or filling out a job application. These opportunities are important because students with severe disabilities are unlikely to automatically transfer skills learned in isolation to natural settings in which the skills are needed.

Authentic instruction provides many opportunities to teach functional academics. For example, while many educators would find it challenging to include Jo in a secondary science unit heavily dependent upon text and

worksheet tasks, it becomes much easier in the botanic garden project described above. She has many opportunities to work on IEP goals such as printing and keyboarding skills while helping to develop brochures and trail maps, etc.

In addition, classmates John, Nita, and Andy have a motivating, authentic, real-life context for learning academic content, including inter-disciplinary connections. As in the Social Studies example (Figure 3), Andy will still need summaries and concept maps for text-based informa-tion. Several other students benefit from these as well, including Jo (although she is not responsible for all of the information contained in these documents). Nita has opportunities for working on both her spoken English and more advanced content through interviewing a botanic garden staff person. See "Making It Manageable" (Figure 5) for tips on getting started without becoming overwhelmed.

The emphasis in the Prioritized Curriculum discussion so far has been on IEP goals. However, general education classrooms provide much more for students with disabilities than integrated environments for learning IEP goals; they also provide important opportunities to learn from the general curriculum in ways that may not be specifically addressed in the IEP. In the Social Studies example (Figure 3), Jo works on her IEP goals to improve articulation, printing and keyboarding skills; however, the team has also identified current land usage in the region affected by the Homestead Act (e.g., the role of the Midwest in providing food for the nation) as a general curriculum focus for her in this unit. In determining these foci for particular units, the team looks for aspects of the general curriculum that seem relevant to Jo's daily life, including her interests, increased independence, and general understanding of the world around her. As another example, a focus for Jo in a general curriculum unit about the requirements for sustaining life and balanced ecosystems (whether in the context of the botanic garden project, or a more traditional presenta-tion) might relate basic concepts from this unit to daily living concerns such as care of house plants, gardens, and pets.

In addition to acquiring IEP goals and general curriculum foci identi-fied in advance by the collaborative team, students with significant disabilities may surprise their teachers by revealing additional, unantici-pated strengths related to the general curriculum. For example, Jo (who is based on a real student), not only progressed in her IEP goals for printing, keyboarding, and articulation skills through her participation in a general education English class, but showed a real gift and delight for composing and sharing short stories with her class. The curricula for students in the

special education class in which Jo would have been placed had she not been included was almost entirely focused upon functional skills and readiness-level academics (Lawrence-Brown, 2000b). This is an incidental but important benefit of exposure to general curriculum for students with significant disabilities that is not available to them in special education curricula. Special education curricula are of necessity directed by educators' perceptions of students' disabilities, and are unlikely to include opportunities to learn at levels significantly above that. The power and importance of high expectations for students with disabilities is once again illustrated.

COMMUNITY-BASED INSTRUCTION

Although the general classroom provides the most appropriate integrated, natural environment for learning most IEP goals for students with significant disabilities, some goals will need to be addressed outside of the general education classroom. For example, Jo's goal to improve street safety skills (cross only when cars are not approaching) must be implemented in the community to be learned effectively. Other goals, e.g., hygiene skills, eating skills, and so forth are most properly addressed outside of the classroom, in areas such as restrooms, locker rooms, lunchrooms, etc. Here a teacher with extensive experience supporting students with severe disabilities in inclusive programs explains:

> [We have a] simple model. Essentially, no special ed room. We'd have like a little kind of, resource room kind of thing, where you could do private therapy, where the therapists and I could have our team meetings, where you could do parent meetings, where you could store stuff, where you could take a kid if they were having, like, an outburst of some sort that was really disruptive. . . .
>
> Because you look at, like, Ryndak's model [cf. Ryndak & Alper, 1996] . . . taking the goals that the kids really need.... These are, like, 10, or 15 things this kid really needs to learn this year, and when can we do them? Well, we can do these in a regular environment, we can do these in the community, and surrounding the school, or we can do these in alternate sites within the school.... Anyplace else, but not in a special ed. room. (Lawrence-Brown, 2000a, pp. 55-56)

The benefits of community-based instruction are not limited to students with disabilities. It is increasingly recommended for students without disabilities as well, often in the form of school-to-work or service

learning (Alleman & Brophy, 1994; Schukar, 1997; Wade & Saxe, 1996).

EVALUATING EFFECTIVENESS

In judging the effectiveness of these efforts, teachers need usable data about students' learning. For most students, existing classroom assessment data will serve this purpose. For students whose performance falls either above or below the range of existing classroom assessment data, additional data that is specific to their adapted goals will be needed. For IEP goals (the primary means of evaluating progress for students with severe disabilities), these data collection systems should already be in place (e.g., Individuals with the Disabilities Education Act of 1997). Halverson & Neary (2001) emphasize that record-keeping systems must be simple and convenient enough to be practical for consistent classroom use, and provide examples such as self-graphing data collection forms (see p. 107).

CAUTIONS

As with any other school change effort, care must be taken to avoid unintended consequences of the change. For differentiated instruction, these include the following:

1. Reproducing tracking within the classroom. Always consider active participation in the lesson as an objective for students who traditionally have been served in segregated settings (whether special education or programs for the gifted and talented). Parallel tasks should be considered a last resort, when no other way can be devised to meet the student's needs. Actively avoid fixed groups, especially those based on ability; as an alternative, consider interest-based groups. Interest-based groups can avoid problems associated with low expectations for students in the "low group" while still providing the benefits of small group instruction.

2. Keep in mind that needs vary from lesson to lesson, even for the same student. Some students may need Additional Supports in some lessons and Enriched or Prioritized Curriculum in other lessons. For example, Andy may need Prioritized Curriculum for reading (focusing on decoding and comprehension skills at his level, while other students work on more advanced skills), but only Additional Supports for social studies when reading disabilities are mitigated using assistive technology to provide oral presentation of content. In the botanic garden project described previously, Andy may need Enriched Curriculum due to his extensive knowledge of horticulture, e.g., more

advanced topics such as genetics and fungi that attack plants. It is particularly important to recognize, even seek out, such strengths in students like Andy, whose experiences in school are likely to have been dominated by failure and frustration.

3. Conceptualize differentiated instruction broadly do not merely focus on ability levels, but also consider learning styles and multiple intelligences, cultural/linguistic backgrounds, and creative abilities. Students with special talents in art, music, or movement. need opportunities to develop these gifts at least as much as students with academic gifts (Goldberg, 1997). By using the arts as a vehicle to present content and by allowing students to express their learning using the arts, teachers not only provide important opportunities to develop these skills, but open doors for students to acquire and express their learning in ways that are closed off by traditional text-based approaches. Instructional applications of the arts can also help teachers to identify special gift and talents that may otherwise not be recognized, especially in students who also are identified as having disabilities.

4. Seek out professional development for the team in specific collaboration skills. Ongoing and effective team collaboration (involving general and special education teachers, therapists, paraprofessionals, and parents) is critical to successful inclusion. Yet effective collaborators are made, not born. Most teams will benefit from professional development in specific teaming skills, such as active listening, group problem solving, conflict management, etc.

5. Keep it manageable (see Figure 5).

CONCLUSION

Discussion of legal issues related to inclusion has deliberately been minimized here. Although the law has had an important role in opening doors for students with disabilities, it is not the most important reason for including students with disabilities, and can be overemphasized. More important than the law is the spirit in which the law was designed. The Education of All Handicapped Children Act of 1975 was an outgrowth of widespread civil rights efforts of the 1960s and 1970s; it employs the same legal foundations as the Civil Rights Act of 1964, including the 5th and 14th Amendments to the Constitution and the landmark 1954 Supreme Court case, Brown vs. the Board of Education. Separate is not equal; we now know, as noted previously, that students with disabilities

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Figure 5: Making It Manageable

- Don't panic-- not all of these supports will be needed for every lesson; the team will decide which supports are needed for individual students of concern. For example, while Andy needs oral and/or hand-on methods to learn and demonstrate his learning in Science and Social Studies, these supports are not usually needed in math.

- Don't try to do everything at once-- making changes in your classroom is something like remodeling a house. If you let yourself get overwhelmed with everything you'd like to do, you'll never get anything done. If you have help (e.g., from a collaborative team), progress will be faster; however, even teams need to prioritize. Start with the highest priority, and work your way down the list.

- Address issues of fairness as needed, with students and/or your team. Redirect students who may prefer to rely on Additional Supports, but do not need them (see John example).

- Gradually build a collection of materials for Additional Supports and Enriched Curricula, enlisting support within your department, building/district, local professional association, etc. Potential resources include your librarian, paraprofessionals, teachers in grade levels above and below yours, special area teachers, special education teachers, etc. (see Social Studies example). Consider enlisting the assistance of your PTA or curriculum personnel to provide such materials in a common area available to any teacher. Include availability to teachers of materials and resources to diversify instruction as part of the district's curriculum/program evaluation criteria (King-Sears, 2001).

- Build upon your own strengths and talents. For example, one teacher may have a special interest in horticulture, leading him to develop projects such as those associated with the botanic garden project, above. Other teachers will develop projects more in line with their own interests, e.g., in sports, the arts, etc. Student interests may also be reflected in such projects; older students can be enlisted as co-developers of authentic instructional projects.

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generally learn as much or more in appropriately supported general education classrooms as they do in special education classrooms. A teacher with extensive experience supporting students with disabilities in inclusive classrooms comments:

> It's a statement of one's outlook on life. . . . What do you think in your life about people who are different? . . . . Because this isn't, like, what did I learn in teacher's college. This is, like, what do I think about life, and where should people be (Lawrence-Brown, 2000a, p. 84).

Segregation harms not only those who are segregated, but society in general. According to Martin Luther King, Jr., "All life is interrelated.

All... are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly." Differentiated instruction supports the classroom as a community to which age peers belong and can/should be nourished as individuals. With differentiated instruction and appropriate supports, intended benefits of inclusion for both sudents with and without disabilities can be realized.

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