The Strategies Intervention Model:  
*A Model for Supported Inclusion at the Secondary Level*

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**ABSTRACT**

In order for the inclusion of students with mild disabilities to be successful at the secondary level, it is important to carefully consider the demands and expectations of secondary schools on both students and faculty. This article presents two case examples of schools that have attempted to successfully include students with mild disabilities throughout the general education program. In each instance, it was learned that the process of building an environment that is conducive to inclusion takes considerable time and a broad base of faculty and administrative support and commitment. Additionally, each example clearly illustrates the need for “supported inclusion” and not merely “inclusion” for an educational program that results in meaningful student outcomes.

Successfully including students with mild disabilities in secondary classrooms is a complex and difficult assignment for classroom teachers and administrators for a variety of reasons, including the following:

- Teachers are under great pressure to cover large amounts of content to meet the demands of the Excellence in Education movement;
- Teaching loads of at least 125 students daily allow little time for individualization and extra support for at-risk students;
- Teachers have limited meaningful planning or collaboration time during the school day;
- Students with mild disabilities lack many of the necessary skills and strategies required to respond successfully to the demands of the secondary setting;
- The prevailing culture in many secondary schools is more supportive of a content-centered than a student-centered orientation toward education. As a result, steps to accommodate the needs of the students with disabilities are not top priorities of teachers and administrators; and
- For many teachers, raising overall class achievement is an important goal, but they may be unwilling to engage in heroic efforts on the behalf of a few students with disabilities in their classes.

Because of these realities, unless classroom teachers receive proper training and support, inclusion of students with mild disabilities (e.g., learning disabilities) within secondary classrooms may be accomplished in name only.
Toward a Solution

Clearly, methods for ensuring the success of students with disabilities are needed. In response to this need, the mission of the University of Kansas Center for Research in Learning (KU-CRL) has been to design instructional methods and procedures that enable teachers to address the challenges represented by the realities outlined above. Since 1977, KU-CRL researchers have teamed with teachers to create and validate a variety of interventions to increase the likelihood that students with disabilities can succeed in general education classrooms.

The interventions developed through this research are collectively called the Strategies Intervention Model (SIM; hereafter referred to as "the Model"). They can be grouped into three major categories (Deshler & Schumaker, 1988). The first group of interventions, called learning strategy interventions, were developed because many students with disabilities are ineffective learners who lack information-processing skills to cope with the wide range of content and complexity of tasks they encounter in secondary classes. For example, they need to learn how to assess a classroom situation and then use an appropriate learning strategy or a combination of strategies to help them respond to the requirements and demands of that situation. In order to prepare students for the academic demands they will face as lifelong learners, each of the learning strategies constitutes a strategy system, a complex set of cognitive strategies to be used in sequence to successfully complete a generic academic task (e.g., to study for a test, take a test, or write a paper). These strategy systems have been designed to be used in a variety of combinations. (See Figure 1 for descriptions of the learning strategies.)

When students with mild disabilities receive intensive instruction in targeted learning strategies in a resource room or other support setting, they can be taught to be strategic learners (see, e.g., Schumaker & Deshler, 1992). In addition, they can also learn these strategies to mastery in the general education classroom when classroom teachers devote sufficient instructional time to ensuring that they master the strategy to a point of fluency (Scanlon, Deshler, & Schumaker, in press). The critical features of successful strategy instruction include (a) daily and sustained instruction, (b) multiple opportunities to practice the strategy in a variety of situations, (c) individualized feedback, and (d) required mastery of the strategy (Ellis, Deshler, Lenz, Schumaker, & Clark, 1991).

The second category of interventions, content enhancement routines, are instructional routines teachers use to enhance their delivery of content information and improve their students’ understanding and recall of the content. Many cognitively and emotionally challenged students have difficulty organizing, understanding, storing, and remembering the information presented during large-group instruction in the general education classroom. KU-CRL research has shown that students’ understanding and recall of subject-matter information improve markedly when teachers enhance their delivery of the information by emphasizing critical features of the content (Schumaker, Deshler, & McKnight, 1991). Specifically, when teachers carefully select the content that they are going to teach and then provide students with a well-structured overview of the information at the beginning of a block of instruction (e.g., a unit or lesson), students’ understanding and recall of key sets of information improve (Lenz, Alley, & Schumaker, 1987). Additionally, student comprehension and retention of key concepts (e.g., federalism) in general education classes improve when teachers use graphic devices and structured teaching routines to present those key concepts (Bulgren, Schumaker, & Deshler, 1988). (See Figure 2 for a description of the content enhancement routines.)

Transforming students from ineffective and, in many respects, helpless learners into learners who can compete within demanding secondary school settings requires more than merely teaching them to be strategic learners or enhancing content delivery. The third group of interventions in the Model are the empowerment interventions, which are geared toward empowering students to perform at their best and to create positive relationships with others in the school setting. For example, several social and motivational strategies have been developed to enable students to interact in positive ways with peers and teachers as well as to engage in self-advocacy (e.g., Schumaker, Hazel, & Pederson, 1988; Van Reusen, Bos, Schumaker, & Deshler, 1994; Vernon, Schumaker, & Deshler, 1993).

"One-shot," sporadic interventions have not produced success at average or above-average achievement levels for students with disabilities in inclusive placements (Deshler & Schumaker, 1993). Instead, to significantly impact the performance of students with disabilities in secondary settings, these three groups of interventions must be well coordinated across numerous teachers and classes. Teachers need to plan together and to collaboratively solve problems over sustained periods of time in order for these students to achieve success in school (Knackendoffel, Robinson, Schumaker, & Deshler, 1992).

The essence of the need for comprehensive interventions for this population was underscored recently in findings reported by the Joint Committee on Teacher Planning for Students with Disabilities (1995). The overwhelming consensus of several teams of researchers who studied the inclusion of students with learning disabilities was the following: "In order for students with disabilities to be successfully included in the general education classroom, educators need to think in terms of 'supported inclusion,' not simply 'inclusion'" (p. 3).

"Supported inclusion" refers to a set of instructional conditions in which classroom teachers

1. Are philosophically committed to meeting the needs of all students in the general
ACQUISITION STRATEGIES

**Word Identification Strategy:** teaches students a problem-solving procedure for quickly attacking and decoding unknown words in reading materials allowing them to move on quickly for the purpose of comprehending the passage.

**Paraphrasing Strategy:** directs students to read a limited section of material, ask themselves the main idea and the details of the section, and put that information in their own words. This strategy is designed to improve comprehension by focusing attention on the important information of a passage and by stimulating active involvement with the passage.

**Self-questioning Strategy:** aids reading comprehension by having students actively ask questions about key pieces of information in a passage and then read to find the answers for these questions.

**Visual Imagery Strategy:** is designed to improve students' acquisition, storage, and recall of prose material. Students improve reading comprehension by reading short passages and visualizing the scene which is described, incorporating actors, action, and details.

**Interpreting Visuals Strategy:** is designed to aid students in the use and interpretation of visuals such as maps, graphs, pictures, and tables to increase their ability to extract needed information from written materials.

**Multipass Strategy:** involves making three passes through a passage for the purpose of focusing attention on key details and main ideas. Students survey a chapter or passage to get an overview, size up sections of the chapter by systematically scanning to locate relevant information which they note, and sort out important information in the chapter by locating answers to specific questions.

STORAGE STRATEGIES

**FIRST-Letter Mnemonic Strategy:** is designed to aid students in memorizing lists of information by teaching them to design mnemonics or memorization aids, and in finding and making lists of crucial information. (Published by Edge Enterprises)

**Paired Associates Strategy:** is designed to aid students in memorizing pairs or small groups of information by using visual imagery, matching pertinent information with familiar objects, coding important dates, and a first-syllable technique.

**Listening and Notetaking Strategy:** is designed to teach students to develop skills which will enhance their ability to learn from listening experiences by identifying the speaker's verbal cues or mannerisms which signal that important information is about to be given, noting key words, and organizing their notes into an outline for future reference or study.

EXPRESSION AND DEMONSTRATION OF COMPETENCE STRATEGIES

**Sentence Writing Strategy:** is designed to teach students how to recognize and generate four types of sentences: simple, compound, complex, and compound-complex.

**Paragraph Writing Strategy:** is designed to teach students how to write well-organized, complete paragraphs by outlining ideas, selecting a point-of-view and tense for the paragraph, sequencing ideas, and checking their work.

**Error Monitoring Strategy:** is designed to teach students a process for detecting and correcting errors in their writing and for producing a neater written product. Students are taught to locate errors in paragraph organization, sentence structure, capitalization, overall editing and appearance, punctuation, and spelling by asking themselves a series of questions. Students correct their errors and rewrite the passage before submitting it to their teacher.

**Theme Writing Strategy:** teaches students to write a five-paragraph theme. They learn how to generate ideas for themes and how to organize these ideas into a logical sequence. Then the student learns how to write the paragraphs, monitor errors, and rewrite the theme.

**Assignment Completion Strategy:** teaches students to monitor their assignments from the time an assignment is given until it is completed and submitted to the teacher. Students write down assignments; analyze the assignments; schedule various subtasks; complete the subtasks, and ultimately, the entire task; and submit the completed assignment.

**Test Taking Strategy:** is designed to be used by the student during a test. The student is taught to allocate time and read instructions and questions carefully. A question is either answered or abandoned for later consideration. The obviously wrong answers are eliminated from the abandoned questions and a reasonable guess is made. The last step is to survey the entire test for unanswered questions.

FIGURE 1. The learning strategies curriculum.
ORGANIZATIONAL ROUTINES

Course Organizer Routine: Used to orient students to the "big ideas" of the course and the course plan including the units to be covered during the course.

Unit Organizer Routine: Used to orient students to a new unit including how it relates to the course plan, previous and future units, and major parts within the unit and relationships among those parts.

Chapter Survey Routine: Used to orient students to a new chapter in the textbook.

Lesson Organizer Routine: Used to orient students to a particularly difficult lesson or group of lessons including how the lesson(s) relates to previous and future lessons, and the major parts of the lesson.

CONCEPT ROUTINES

Concept Mastery Routine: Used to introduce a major concept like "democracy" to students.

Concept Anchoring Routine: Used to tie a new concept to a concept students already understand.

Concept Comparison Routine: Used to compare and contrast two or more concepts.

education classroom, including those of students with mild disabilities;

- Have sufficient time to think about and plan for the diverse needs of students in their class(es);
- Incorporate teaching practices that enable them to better meet the needs of all students in their class(es);
- Work collaboratively with special education teachers to assess student needs, teach in productive ways, and monitor student progress;
- Have the option for their students to receive short-term, intensive instructional support from a special education teacher; and
- Have the option for their students to receive sustained instruction in basic skills or learning strategies that cannot be provided in the general education classroom.

The Model incorporates these instructional conditions in such a way that general and special education teachers work together on behalf of students with disabilities.

The following accounts describe two efforts to translate the philosophy and instructional components of the Model into practice. In the first account, Rosemary Tralli, a special education teacher at Wethersfield High School in Wethersfield, Connecticut, describes how the Model is being implemented throughout her district and how commitment by key administrators and teachers over an extended period has resulted in dramatic changes in the performance of students with disabilities. In the second account, Bev Columbo, a secondary special education teacher in Clayton High School in Clayton, Missouri, describes how components of the Model were used to address the challenges encountered when her high school eliminated tracking in an attempt to create an inclusive school. Common to each of these accounts is the amount of time devoted to planning and collaboration.

DISTRICT-LEVEL IMPLEMENTATION—WETHERSFIELD PUBLIC SCHOOL SYSTEM

The Model has been implemented in the Wethersfield public school system since 1988 (see Note 1). Prior to this, support services for students with mild disabilities primarily emphasized tutorial assistance for classroom assignments or remedial instruction in basic skills. Institutionalization of the Model across multiple teachers and schools required several years and has involved a deliberate plan to ensure application in both the special and general education programs. After 7 years, the Model is now deeply embedded in the educational system. Thus, the Model has become part of a strategic plan to meet the needs of diverse student populations within general education settings and to ensure more genuine inclusion of students with special education needs.

Factors Contributing to Success

Successful application of the Model in the Wethersfield district has not been happenstance; rather, it is the result
of carefully adapting its components to the unique characteristics of school programs and staffs as well as the following factors:

**PHILOSOPHICAL AGREEMENT.** Foremost, the philosophical underpinnings of the Model reflect the mission statement of the school system. The Model is based on the belief that all students should develop their potential as independent and strategic learners across learning, social, motivational, and executive domains. In keeping with this view, the educational goals of Wethersfield public schools are that each student (a) acquire skills and knowledge for lifetime learning; (b) develop a positive sense of self; (c) develop self-discipline and function as a responsible citizen in society; and (d) understand his or her own ethical, aesthetic, and intellectual values and respect those of others. Additionally, the Model's philosophy emphasizes the shared responsibility of each member of the learning community. Similarly, in Wethersfield, students are recognized as individuals within a learning community that is built to develop strategic and independent learners. Teachers are viewed as facilitators of learning rather than simply as imparters of content knowledge. In short, the strong congruence between the philosophical underpinnings of the Model and those valued by the district has aided the adoption process.

**SUPPORT MECHANISMS.** Administrative support (both in the central office and at the building level) has been a critical element in the development and integration of the Model. Support has consisted of providing funding for district-level professional development opportunities; granting release time for teachers to engage in training; purchasing instructional materials; and guiding the creation of a strategic plan that explicitly accommodates the Model across grades, schools, and programs. Administrators have demonstrated their commitment to the Model in several ways: (1) The superintendent frequently speaks of the Model at staff meetings and at each annual orientation session for all district personnel and writes personal letters to staff members who demonstrate implementation success. (2) The assistant superintendent ensures that professional development opportunities for learning how to implement the Model are included in each year's staff development program. (3) The principals use faculty meetings to talk about the program to faculty, publicize the program in school newsletters, and offer insights to visiting administrators about how to integrate the Model in light of site-based reform efforts. (4) The director of pupil personnel and the supervisor of special education frequently publicize information about the Model in the local newspaper.

To further underscore their support of the Model, administrators attend and actively participate in staff development sessions with faculty. Their active participation has made it clear that the Model is going to be a central part of the educational process of the Wethersfield school system and that all staff are expected to be engaged and supportive.

**TRAINING OPPORTUNITIES.** Ongoing Model training continues to support and expand implementation. Initially, such training was provided by trainers from the KU-CRL. In 1988, however, the district provided funding for a special education faculty member to become a certified Model trainer. Currently, two other faculty members are fulfilling trainer certification requirements so that district-level training initiatives can be expanded. Teachers are trained through formal professional development strands that last from 1 to 3 years. Following initial training on an intervention package, teachers practice implementing the procedure with their students and return to training sessions for debriefing and problem solving. With district support, the training sequence has been arranged so that training strands involve multiple sessions over an extended period of time, thereby affording teachers sufficient opportunities to become comfortable with teaching the new strategy or using the new routine.

**CURRICULUM DEVELOPMENT.** A scope and sequence of strategies instruction has been developed and is updated continually to ensure that the program responds to the setting demands faced by students at each grade level (see Figure 3). Students are taught only those strategies that are germane to their own needs and that assist them in responding to the demands in their general education classes. Given the shortage of instructional time for skill and strategy instruction, especially at the secondary level, great emphasis is placed on collaboration between general and special educators as well as between personnel at different schools and grade levels with regard to what strategies a given student will learn. Such collaboration minimizes fragmented interventions that generally do little to improve student performance. Additionally, to make the most of the limited instructional time, 90% of a student's time in the resource room is devoted to strategy instruction. Further, to ensure that current instruction systematically builds on previous instruction, cumulative records are kept of student progress within the Model sequence of instruction and accompany each student from one grade level and/or school to the next.

Strategy instruction applied in Wethersfield resource rooms builds from the simpler strategies to the more complex across Grades 5 through 12. Simpler strategies are taught in the upper elementary grades to introduce the concept of strategic learning and to provide students with tools for coping with academic tasks. In Grades 7 and 8, at least four additional strategies are taught. Generally, these are strategies that bolster students' ability to respond successfully to advanced reading and writing demands. As students move into high school, the most complex strategies are taught. At each grade level, teachers deliberately

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<th>Grade Level</th>
<th>Strategies Taught</th>
<th>Content Enhancement</th>
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| 5 + 6       | • Sentence Writing (Preskills & Simple & Compound Sentences)  
              • Paraphrasing (Preskills)  
              • Word Identification |                     |
| 7 + 8       | • Assignment Completion  
              • Sentence Writing  
              • Error Monitoring  
              • Test-Taking  
              • LINCs  
              • Paraphrasing  
              • Visual Imagery  
              • SLANT | Concept Mastery |
| 9 + 12      | • FIRST-Letter  
              • Self-Advocacy  
              • Paragraph Writing  
              • Theme Writing  
              • *Intra-strategy* Integration | Lesson Organizer  
              Unit Organizer  
              Concept Anchoring  
              TRIMS  
              *Intra-strategy* Integration |

Prompt students to review and use strategies they have already learned; continual reminders to apply and refine previously learned strategies are critical to developing independent learners and performers. Typically, high school students who have completed this sequence of strategies instruction are able to apply at least 8 to 10 core strategies across a variety of settings.

In addition, general education English, foreign language, and social studies courses at the middle school and high school levels integrate learning strategies instruction and the use of content enhancement routines. For example, strategies are taught in English and foreign language classes to help students master new vocabulary. As students experience strategic learning opportunities across a variety of settings and over multiple years, they become increasingly more independent and proactive as learners. Students who have mastered several strategies achieve higher grades and progress to more advanced course levels more rapidly than do their peers who do not receive strategies instruction.

**Parental Support.** Parental involvement in and support for the Model has also impacted student growth. When the Model was initially adopted, some parents were apprehensive about shifting from a tutorial model to a strategic model because they were comfortable (yet not always satisfied) with methods that centered on content instruction and tutorial review. During the first few years of implementation, parental support was primarily enlisted through presentations at meetings of the local Learning Disabilities Association. Opportunities for parents to observe the program firsthand were made available through a demonstration site at the middle school level. These measures solidified parental support. Parents now regularly prompt their children to use strategies they have learned to complete homework assignments and insist that the program emphasis across the grades be strategic instruction. Parental involvement has contributed greatly to bringing focus and stabilization to the program.

**Focus on the Learning Process.** In both special education and general education settings, SIM instruction focuses on both process and content. Continual attention is given to exploring the learning process, talking about how to learn the content in the class and complete particular tasks, and discussing the benefits of using strategic tools. Additionally, in each class, students are encouraged to determine which parts of the strategies work best for them and to apply them accordingly. Students are also encouraged to create and apply adaptations of the strategies they have learned. For example, they may combine steps from several strategies or several whole strategies to approach a new academic task. Once students identify aspects of the strategies that work best for them and apply them in a variety of situations in a variety of combinations, they become more invested in independently using them.
COLLABORATIVE EFFORTS TO ENSURE GENERALIZATION. Another key to the successful implementation of the Model is the strong emphasis placed on collaboration between special education and general education teachers to maximize student generalization of mastered strategies. Unless explicitly taught, students may not identify those situations where a targeted learning strategy should be applied. Thus, special and general education teachers regularly communicate to ensure that students are taught learning strategies that are applicable to their general education classes. When a student is ready to use a strategy, the general education teacher cues the student to use that strategy when an appropriate situation arises. This teacher also monitors the student’s use of the strategy and may provide immediate feedback concerning that application. The general education teacher also provides critical information to the special education teacher about the student’s performance. As a result, decisions can be made about aspects of strategy use that need to be bolstered in the resource setting under controlled learning conditions.

The Special Education Component

As described above, instruction within the resource room programs at the upper-elementary, middle, and high school levels is based on a specified scope and sequence of strategies created for each level. All students have mild to moderate learning disabilities and are enrolled in mainstream content courses at low, middle or high tracking (or difficulty) levels for a majority of the school day. The long-term goal for the majority of these students is to enter post-secondary educational programs.

In order to tie a student’s educational experience together at the high school level with regard to coordinated strategy instruction across the grades and to ensure successful transitions to postsecondary settings, students are taught the self-advocacy strategy (Van Reusen, Bos, Schumaker, & Deshler, 1994). This strategy has been found essential to the initiation of a specialized educational program for an individual student as well as subsequent instruction and evaluation of student progress. Use of the self-advocacy strategy affords students an opportunity to inventory their learning strengths and weaknesses, to express goals and expectations, and to take an active role in shaping their educational programs in team meetings and individual conferences. Instruction in this strategy is based on the idea that before they can become invested in their individual educational programs, students must understand their own learning characteristics in relation to the demands present in a variety of educational settings. In short, since a major goal associated with the Model is to empower students and to create independent learners and performers, students receive hands-on experience in thinking about and giving direction to their programs.

To begin instruction in the self-advocacy strategy, students are introduced to the concept of self-advocacy and the importance of being able to effectively talk with others about themselves and about things that are important to them. Next, they are taught how to identify and understand their special needs. For example, the meaning of being a student with a learning disability is discussed. Misconceptions about learning disabilities are dispelled through candid dialogue and instruction. A concept diagram from the concept mastery routine (Bulgren, Deshler, & Schumaker, 1993) is filled out in an interactive process with the students so they can gain a clear understanding of the essential elements embodied within the learning disabilities construct (see Figure 4).

Students report that they have achieved a new level of self-awareness and often express relief as a result of this process. Some students admit they did not want to discuss their special needs for fear of discovering that a learning disability might be a form of mental illness or low intelligence. Students have also explained that they are generally aware that they are different learners than their peers, but that they think these differences are the equivalent to “something wrong” since they have been excluded or protected from discussions about their needs.

Next, students complete the self-advocacy strategy skill inventory (a device that assists students in thinking about themselves as learners) and analyze specific academic, social, vocational, and motivational skills and strategies that they possess. Once students can identify the strengths they bring to school, the seed of empowerment has been planted. By comparing their strengths to the demands present in their classes, students are also able to identify what skills and strategies they need to learn. On the basis of these analyses, each student sets personal learning goals each school quarter and has a major voice in decisions about what strategies will be learned. As new skills and strategies are mastered, students add them to their skills inventories.

Students also learn to use the self-advocacy strategy to prepare for and participate in pupil planning team meetings, transition conferences, and other conferences with teachers. They are taught appropriate communication skills, called the SHARE behaviors (Van Reusen et al., 1994), which are to be used in these conferences (see Figure 5). Each student completes a special worksheet to identify expected task demands related to each upcoming course scheduled for the next school year and to list those demands that might be difficult given current strategy and skill levels. These demands are then discussed, and Individualized Education Program (IEP) goals are written related to pertinent strategies that should be learned during the upcoming school year. Students also specify needed instructional modifications as a result of identifying personal learning styles and teaching methods they prefer their teachers to use.

A similar process is used to assist older students in thinking about transitioning from high school to post-secondary life. Using the Transition Planning Inventory (Van Reusen et al., 1994), students identify their strengths
A learning disability is a possible barrier to success in school that is caused by difficulties in processing information. Individuals with LD have average to above average IQ, have difficulties achieving in certain areas but are successful in other areas. A learning disability can be dealt with through effective learning strategies.

FIGURE 4. Concept diagram.
The content enhancement routines are used to introduce and clarify new concepts across all course levels to elevate learning for students of varying abilities. For example, the concept mastery routine (Bulgren et al., 1993) may be used to introduce a concept such as feudalism in a social studies course. Later in the course, the concept comparison routine (Bulgren et al., 1995) may be used to compare and contrast feudalism with another concept, such as manorialism. This approach allows students to explore concepts in new and exciting ways. It also allows teachers to present critical aspects of the curriculum in ways from which all students in an academically diverse class can benefit.

Summary

In Wethersfield, adoption of the Model is taking place slowly but steadily. True system change is occurring because key components of the Model have been shaped to meet the unique strengths and needs within the district. The strong and long-term support of administrators and parents, in addition to the commitment of staff to work together in meaningful collaboration within and across school settings, has provided the foundation for successful implementation. However, although this experience has clearly shown that students with mild disabilities can successfully compete in general education course offerings and graduate from high school prepared to enter meaningful postsecondary options, the present results were not achieved by “blindly” including students in the mainstream through administrative fiat. Inclusion has worked in this district only because it is supported inclusion.

School-Level Implementation—Clayton High School

Six freshmen diagnosed as having learning and language disabilities were about to enter Clayton High School in Clayton, Missouri (see Note 2) with a mixture of emotions ranging from hope and optimism to fear and uncertainty. They faced the challenges that confront students with disabilities entering a competitive, college preparatory, public high school in an affluent community. But, these students faced an additional challenge: Clayton High School was in the process of restructuring its academic program to reduce tracking. All basic or low-track courses were being eliminated, resulting in heterogeneously grouped classes in all required content courses (with the exception of a few honors or advanced placement courses). The basic classes, offered previously in English, science, and math, had been designed to meet the needs of low-achieving students, including students with disabilities. These classes were generally smaller and slower paced. They were not watered-down classes, but rather an adapted version of the average track classes. In reality, they were as stringent as average classes in other high schools in St. Louis County.

The elimination of these basic classes in the move toward heterogeneous grouping concerned the special and general educators who had taught the basic classes. Although most of the staff philosophically agreed with the goals associated with eliminating these classes, they shared the fear that many low-achieving students who were struggling in the basic classes would fail in the heterogeneous classes. Given the magnitude of learning problems that many of the students with learning disabilities experienced, the special education teachers were uneasy about all students being included in general education classes during seven periods of an eight-period day. They were particularly concerned about the incoming freshmen and the sophomores, whose schedules were packed with required courses they had to pass to satisfy graduation requirements. Traditionally, some students with more significant learning disabilities had been scheduled into basic classes while others who were more capable were scheduled into a combination of basic classes and general classes, based on their ability to respond to the demands in the various classes. The special education teachers were worried that the basic class safety net was being removed with no plan for catching students who might fail. Although the most pressing concern was for the six entering freshmen, the teachers were also fearful for the sophomores as well as the at-risk students who were not eligible for special education. Given these concerns, the resource teachers and general educa-

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<th>S</th>
<th>Sit up straight</th>
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<tr>
<td>H</td>
<td>Have a pleasant tone of voice</td>
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<td>A</td>
<td>Activate your thinking</td>
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<td>R</td>
<td>Relax</td>
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<td>Engage in eye communication</td>
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- Tell yourself to pay attention
- Tell yourself to participate
- Tell yourself to compare ideas
- Don't look uptight
- Tell yourself to stay calm

**FIGURE 5.** SHARE behaviors.
tors who taught the basic classes formed a planning team and met for a year to formulate a plan of action to accommodate these students.

The Planning Year Experiment

The planning team decided to use the planning year to run an experiment to determine how students with disabilities could best be accommodated within the confines of general education classes. The plan called for resource and general education teachers to co-teach a basic English class to test methods to be used in future heterogeneous English classes. They hoped that the co-teaching arrangement would improve the overall effectiveness of the instruction because the teachers would be able to mediate each other’s instruction as well as give extra assistance to students who required help during a class period. The plan included infusing of instruction of some writing strategies into the English class because teachers on the planning team had observed the powerful results of strategy instruction to small groups of students in the resource room during the past 5 years. These results included significant changes in student academic performance as well as in self-esteem and confidence. Many of the students who had learned strategies in the resource room over the course of their 4-year high school career had experienced the “snowball effect” from learning several strategies, exhibiting more growth than anyone had dreamed possible (Deshler, 1990). In light of the changes the planning team had witnessed as a result of intensive strategy instruction in the resource room, team members wanted to determine whether strategies could be taught effectively within the general education classroom.

One of the most significant challenges was designing a way of teaching the learning strategies to large groups of students. Foremost among the challenges were managing the multiple practice opportunities required by each student, providing feedback to students after each practice attempt, maintaining student interest, and ensuring that all students progressed through the instruction at a rapid pace.

To address these challenges, the following steps were implemented. First, an academically diverse English class was divided into two groups, novice and experienced learners. The novice group was assigned to the resource teacher and the experienced group to the general education teacher. Second, the course schedule was organized so that the sentence-writing strategy was taught 3 days per week. This arrangement allowed sufficient flexibility for providing additional practice to those students who were struggling or who had been absent. Third, group instruction techniques were designed that included a thorough review of earlier strategy lessons and a brief model of a new dimension of the strategy. Students were encouraged to take turns leading the group in activities related to completing new practice lessons and to write different types of sentences. In addition, classwide peer tutoring and peer assistance were implemented during various stages of strategy mastery to provide additional opportunities for teachers and others to give individual feedback to students.

All the students in the class learned to use the sentence-writing strategy to write simple, compound, and complex sentences, and several of the students learned to write compound-complex sentences. Moreover, generalization of the strategy to other classes in which the students were enrolled was readily accomplished. The degree of generalization to other settings and situations, which is often a problem when strategies are taught in a special education setting (Schmidt, Deshler, Schumaker, & Alley, 1989), was high in this class. The English teacher, who knew the strategy well, cued its use for writing assignments about the literature the students were studying and prompted them to apply it and self-correct their sentence structure and punctuation during individual writing conferences.

Writing instruction in this class, as in all English classes at Clayton High, was based on the writing process model, in which students learn a prewriting, writing, and revision process and participate in individual conferences with the teacher about their writing. The mechanics of writing are usually not taught directly but are discussed during writing conferences. Thus, direct instruction on sentence structure through the introduction of the sentence-writing strategy was a significant departure from the typical holistic style of instruction. As underscored by the success of this experience, direct instruction could be effectively combined with holistic practices, and learning strategy instruction can be successfully infused into a general education course based on a holistic model.

The Implementation Year

Once success became apparent during the planning year, the planning team decided to focus their efforts for the following year on English and science. To prepare, English, science, and special education teachers participated in extensive strategy and co-teaching training and wrote a proposal to become a formal pilot site for state field-testing of the Class-Within-A-Class co-teaching model (Hudson, 1992).

The planning team realized that general education teachers were willing to infuse learning strategy instruction into their courses as long as the time required to do so was "reasonable." That is, these teachers did not think they could sacrifice content to teach strategies because of the pressures they felt to ensure that their students met certain curriculum expectations. They were most willing to incorporate strategy instruction that emphasized organization of time and materials, studying for tests, and task completion. They believed that special educators would be most helpful to all students by providing study skills instruction and by developing supplementary learning activities and materials to help students learn the content.
Even the English teacher, who had been eager to teach the sentence-writing strategy in the basic class during the planning year, placed limits on how much time she was willing to take away from her other teaching objectives to teach the sentence-writing strategy in heterogeneous classes. There were several reasons why she was not willing to spend 4 to 6 weeks teaching the strategy to mastery. First, because the class was a heterogeneous, average to above-average, class, she believed that the content should be the same as that covered in comparable classes. Her previous experiences in these classes had convinced her that most students were very proficient at writing sentences and paragraphs and fairly proficient in writing five-paragraph essays (unlike the students with whom she had worked in the basic class during the planning year). Since the expectation for this course, as well as for all other English courses, was to write six multiparagraph themes per semester, she concluded that sentence and paragraph writing were prerequisite skills students should have mastered. If students lacked those skills, she did not feel she could justify taking time in the general education classroom to teach them.

As a result of hearing her concerns, the resource teachers agreed to assume major responsibility for teaching the sentence-writing strategy and the paragraph-writing strategy (Schumaker & Lyerla, 1991) in the resource room so that students with disabilities would have the option of receiving intensive and extensive instructional support to master these strategies. Through collaborative planning, all the teachers specified that instruction in certain parts of the paragraph-writing strategy and use of various graphic organizers and other prewriting skills would be integrated into writing instruction in the English class. This compromise was accepted because the resource room staff could provide the intensity of instruction and practice that students with disabilities needed and that, in large part, would be absent in the general education classroom.

For the science classes, an agreement was also made on the types of strategic instruction that would take place in the resource room and in the science classes. Specifically, resource teachers agreed to teach parts of the test-taking strategy (Hughes, Schumaker, Deshler, & Mercer, 1988) and various study skills (e.g., outlining) using the principles of strategic instruction (Ellis, Deshler, Lenz, Schumaker, & Clark, 1989).

All of the teachers agreed to use the content enhancement routines. They saw these procedures as being helpful in the identification and delivery of critical content to academically diverse classes. Some teachers used the unit organizer routine (Lenz, Bulgren, Schumaker, Deshler, & Boudah, 1994) to plan and present key blocks of instruction. The content enhancement routine that was used most broadly was the content mastery routine (Bulgren, Deshler, & Schumaker, 1993). This routine enabled teachers to teach critical content that was especially complex or abstract in such a way that all students could understand it. Over the course of the year, the teachers teamed together for the purpose of developing a concept diagram for each important concept in the course (i.e., those foundational concepts that students were expected to know by the end of the year). The literature-based concepts that were taught through the use of the concept mastery routine in the English class included symbolism, analogy, allusion, and theme as well as rhetorical concepts such as narration and exposition. To optimize student involvement, each diagram was co-constructed with the students when the concept was initially introduced. As each new piece of literature was covered in class, relevant concepts were reviewed using the concept diagram and additional examples were added to the examples list, if necessary.

Additionally, teachers modified the tests they used to ensure that they allowed students to demonstrate their competence with critical concepts as opposed to requiring only rote memorization of facts. Test results and the English teacher's evaluation indicated that all the students in the classes (including those with disabilities) not only mastered the critical course concepts but also exhibited a much deeper knowledge and greater ability to apply their knowledge to novel situations than students had in the past.

At the end of the first year, the project was evaluated. Overall, the six freshmen and other students with disabilities were relatively successful. Specifically, all of the students had received credit in English and science. Some received a P grade for "passing" rather than a letter grade, however, indicating that they had met individualized goals but had not met the course objectives at the required level of proficiency. Their level of accomplishment was sufficient, however, to enable them to earn course credit. The students also demonstrated good proficiency with the targeted strategies. Some of them had required additional instruction in the resource room in order to be able to reach a mastery level of performance on strategies taught in the general education classes.

The benefits of knowing strategies were revealed to students with disabilities in several ways in their English classes. For example, as a result of instruction in the sentence-writing strategy, they experienced the pleasure of being the only ones who automatically knew the answers to questions about subordinating conjunctions or who could discuss where and why commas and semicolons were needed! Also, because they knew how to use the paragraph diagram as a result of instruction in the paragraph-writing strategy, they were able to generalize that skill when using other "idea diagrams" that were introduced in their English classes. Learning games developed by the resource teacher such as A Separate Peace, Jeopardy, and Vocabulary Concentration helped students learn the required content and score higher on tests. In science class, they used the test-taking strategy (Hughes et al., 1988) and other study skills to take tests and complete assignments. They received additional support and instruction in the resource room.
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thusiastic about the use of content enhancement routines.

Lessons Learned

What was learned from this journey? First, the six fresh-

men learned that they could succeed in general classes, as
did other at-risk students and students with disabilities.
The general and special educators learned several teaching
procedures that worked under a co-teaching arrangement.
The school staff learned that inclusion would not succeed
unless major changes were made in terms of the content
that was taught, the methods used to assess competence,
and the support provided to teachers and students when
difficulties were encountered in the general education
classroom.

Second, the planning team learned that general edu-
cators at Clayton High were reluctant to give up teaching
content for learning strategy instruction, particularly if the
class was a heterogeneous class designed for average to
above-average students. Although teachers at Clayton High
received tremendous latitude in making decisions about
curriculum, they still felt pressure to teach certain core
skills and competencies and to keep expectations at a very
high level. However, they were willing to integrate brief
instruction in related study skills and were especially en-
thusiastic about the use of content enhancement routines.

Third, the teachers found that students with disabili-
ies needed more intensive instruction and many more
practice opportunities to master learning strategies than
did typical students. This type of instruction requires time
that is often not available in general education classes.
Given the limitations of the general education classroom,
the Clayton High staff now believes that the ideal plan for
inclusion is to teach students with disabilities strategies in
the resource room and then teach all students a brief,
adapted version of relevant strategies in general education
classes. This approach provides instruction in strategies for
all students, while providing a review for students with
disabilities, who are then more likely to use the strategy
because it is part of the general education curriculum.

Finally, the teachers discovered—as many other edu-
cators and researchers have concluded—that detracking
and inclusion of students with mild disabilities in heter-
ogeneous classes requires extensive planning. Clayton High
has a history of including students with disabilities in
general education classes. Many of these students have
had significant learning and behavioral disabilities, includ-
ing autism, schizophrenia, Tourette’s syndrome, mild to
moderate retardation, and conduct disorders, as well as
learning and language disabilities. The faculty has always
been and continues to be a group of hard-working, dedi-
cated, competent professionals who care about students
and are willing to make adaptations and modifications for
the benefit of students. However, even this group of pro-
essionals could not make detracking or inclusion work for
everyone without significant changes in teaching and as-
essment methods and in support systems. Inclusion can
work, but only if it is supported inclusion.

Conclusions

Successfully including students with mild disabilities at the
secondary level requires both administrative and instruc-
tional adjustments. In the two case studies presented here,
teachers received considerable time for planning and on-
going administrative support throughout the change pro-
cess. Change required considerable time and effort. The
instructional program was characterized by a high level of
 collaboration among general and special education teach-
ers, specifying a scope and sequence of learning strategy
instruction across classes and grades, and a commitment
to alter what and how content was delivered in the general
education classroom through the use of various content
enforcement routines. In short, successful inclusion of
students with learning disabilities within the general edu-
cation classroom was realized only when the set of instruc-
tional conditions associated with the notion of supported
inclusion was met.

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NOTES

1. The student population of the school district is 3,032, including
864 students at the high school level. About 10% of the student
population comes from minority groups, approximately 10% have
disabilities, and more than 80% of the graduates attend colleges
and universities.
2. Student enrollment is 800. Approximately 95% of graduates go to
college, and 25% of the student body consists of minority students
who are voluntary transfer students from inner-city St. Louis.
Approximately 10% of the student body has disabilities and more
than 90% of the graduates attend colleges and universities.

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