Preparing Highly Effective Teachers

EDUCATIONAL INNOVATORS	KEY IDEAS	PROFESSIONAL DEVELOPMENT THAT EQUIPS TEACHERS TO BE HIGHLY EFFECTIVE	PRIMARY WEBSITE (INFORMATION SOURCE)
Dr. Barrie Bennett	**Instructional Intelligence:** Pedagogies for Essential Learning	*Teachers as subject matter experts* *Teachers as experts in instruction*	www.instructionalintelligence.ca/
Dr. Robert Brooks	**Mindsets:** Nurturing Motivation and Resilience	*Teachers who believe all children can learn* *Teachers who place educational welfare above all else*	www.drrobertbrooks.com
Dr. Don Deshler	**Strategic Instruction Model:** Content Enhancement	*Teachers as subject matter experts* *Teachers as experts in instruction*	www.ku-crl.org
Mr. Richard Lavoie	**Learning disabilities and social skills:** Motivating the struggling student	*Teachers who believe all children can learn* *Teachers who place educational welfare above all else*	www.ricklavoie.com
Dr. Mel Levine	**Neurodevelopmental profiles:** A strength-based model	*Teachers as experts in development* *Teachers as keen observers of children*	www.allkindsofminds.org

Michael D. Eisner College of Education—Center for Teaching and Learning (Coleman, 2007)

WHAT IS INSTRUCTIONAL INTELLIGENCE?

By Barrie Bennett

Instructional intelligence is the ability of teachers to intersect content knowledge, instructional methods, and assessment literacy based on their grasp of how students learn. Instructional intelligence is unlikely to evolve in the absence of understanding and taking action on what is known about educational change – a subset of which is valuing teachers as life-long learners. Therefore, an added component of instructional intelligence is understanding and acting on the wisdom related to educational change.

<u>The power of instruction is in the integration of multiple instructional approaches.</u>

Teaching is complex yet elegant. It is one place where art (valuing multiple perspectives) and science (finding the best way) merge. And what makes it so exciting is that no one way exists in the design of powerful learning environments.

So, what does it mean to be an expert? What does it mean to demonstrate intelligent behavior in terms of how we teach students? At the broadest level, expert behavior is what people do as the result of their intense and thoughtful effort over time. And, from my reading of research, it takes about ten years of intense effort to become an expert in anything (surfing, chess, piano, skating, etc.).

Chart 2–2. The Design of Instructional Components

Pedagogy

1. **Structure:** The instructional concepts, skills, tactics, strategies, and organizers that a teacher can apply to affect learning.
2. **Purpose:** To increase the chances that a teacher can more effectively respond to the needs of the learner.
3. **Examples:** Interest (concept), Wait Time (skill), Think/Pair/Share (tactic), Mind Mapping (strategy), and Multiple Intelligences (organizer).
4. **Argument:** Pedagogical ideas and practices represent one of the critical distinguishing attributes of a teacher—with pedagogy, one is more likely to construct a meaningful learning environment.

Instructional Concepts

1. **Structure:** Qualities of effective teaching and learning which teachers seek to enact through the application of a variety of instructional skills, tactics, strategies and organizers.
2. **Purpose:** To provide lenses to understand how, when, and where to apply one's instructional repertoire.
3. **Examples:** Safety, Accountability, Relevance, Authenticity, Novelty, and Meaning.
4. **Argument:** They increase the chances that a teacher more effectively selects and integrates those instructional skills, tactics, and strategies that make a difference in learning.

Instructional Organizers

1. **Structure:** Frameworks that assist teachers to organize an array of instructional ideas and practices into an interrelated yet open-ended pedagogical set.
2. **Purpose:** To act as lenses to clarify or enhance communication and thought about instruction.
3. **Examples:** Multiple Intelligence, Learning Styles, Bloom's Taxonomy, Children at Risk Research, Learning Disabilities, Gender, Ethnicity.
4. **Argument:** They increase teacher wisdom in making decisions about the teaching and learning process; to make instructional decisions through the needs and inclinations of the learner(s).

Instructional Strategies

1. **Structure:** These instructional practices involve a sequence of steps or a number of related concepts. They often have applicability across grade levels and subject areas.
2. **Purpose:** They have specific, although varying, effects on student learning. They can affect logical thinking, social action, etc.
3. **Examples:** Cooperative Learning (Johnson's 5 elements, and Tinelan's Group Investigation: 6 steps)—social theory; Mind Mapping (5 factors and a process)—information processing and memory.
4. **Argument:** Usually supported by research and theory. They engage students in powerful processes and meet diverse learner needs.

Chart 2–2. CONTINUED

Instructional Tactics

1. **Structure:** Actions usually invoked by the teacher, they are less complex than those found in Strategies. Tactics cut across most subjects and grade levels, and may be linked to other instructional tactics and skills in the enactment of a broader strategy.
2. **Purpose:** To involve students in an activity that has a specific purpose.
3. **Examples:** de Bono's CoRT program (e.g., EBS-Examine Both Sides of an Arugment; PMI-Plus, Minus, Interesting); Kagan's simpler cooperative learning structures (e.g., Think/Pair/Share and Round Robin).
4. **Argument:** Often employed to enrich or strengthen the application of instructional strategies.

Instructional Skills

1. **Structure:** Specific and relatively simple instructional actions of teachers that enhance learning.
2. **Purpose:** To increase the chances that the more complex instructional processes (tactics and strategies) are effectively implemented.
3. **Examples:** Framing questions at different levels of complexity; providing time to think after asking a question; linking to the learners' past experiences; checking to see if students understand; providing models or visual representation.
4. **Argument:** Without them, we would find it difficult to engage some/all learners in learning. Without the skills, the power of the tactics and strategies is drastically reduced.

Power

1. **Structure:** A statement (usually a number) that communicates the educational worthiness of something.
2. **Purpose:** To inform us of the effects we can expect from one approach to learning as compared to other approaches.
3. **Examples:** how fast (time); how much (frequency or percent); what is remembered (total score); usually refers to an effect size statistic. Effect size represents how far you can move the mean score of one group (experimental group) away from another (the control group).
4. **Argument:** The size of the effect assists us in making decisions related to what we decide to employ in the classroom, as well as what we decide to learn as teachers as part of our professional development.

Integrating Pedagogy

1. **Structure:** The interconnected use of instructional organizers, concepts, skills, tactics, and strategies.
2. **Purpose:** To engage students in a variety of approaches to learning to achieve multiple effects.
3. **Examples:** Students work with a partner through a Concept Attainment strategy to identify the essence of 'simile.' Next, students work alone to classify all the NO examples and testers into groups that represent other figures of speech (Inductive Thinking). They then form cooperative groups of four, compare their classifications, and then work alone to complete a Mind Map (Strategy) on figures of speech.
4. **Argument:** To more effectively engage learners and their diverse needs and abilities.

The New School Year: Orienting Staff and Students for Success

Robert Brooks, P.h.D.

In the past few weeks millions of children and adolescents have started or will soon start a new school year. As they do, I am reminded of many patients I have seen who have struggled with the demands of school and learning. While most were apprehensive as the first day of school approached, there were a number who also felt a sense of excitement, hoping that this year would be filled with success and achievement rather than frustration and failure. Unfortunately, for many, their hopes soon faded, overshadowed by feelings of inadequacy, loneliness, and despair.

Professionals who have attended my workshops are aware that I have long advocated instituting an "orientation" period at the beginning of the school year. During this period the main curriculum would not involve books or course material but rather activities that specifically build a foundation for a school climate that nurtures motivation, self-discipline, cooperation, hope, and resilience in students. I am not suggesting that formal academic work be avoided during the orientation period. However, the primary goal would be to strengthen a positive attitude towards teaching and a positive relationship with students; academic work would be included if it furthers this goal. If the initial days of the school year were used to foster a positive relationship with students, it would serve to enhance the learning process that occurs throughout the year. While I believe the best time to engage in this orientation period is at the start of the school year, the activities I describe below can occur at any point.

I envision two phases to the orientation period, the first directed at the staff and faculty a day or two before the students arrive and the second occurring during the first couple of days of school when students are in attendance.

The First Phase

The purpose of the first phase is to reinforce a positive mindset in teachers. While most educators already possess this mindset, it is well worth nurturing and refining. My colleague Sam Goldstein and I use the concept of "mindset" in many of our writings. Mindsets are assumptions

we possess about ourselves and other people. Sometimes we are not even aware of these assumptions, but they dictate our behaviors and the way we respond to others. For instance, if a teacher assumes a student's difficulties in school are a result of "laziness" and a "lack of motivation," that teacher will typically respond in a more accusatory, punitive way to the student's struggles than a teacher who views the same student's behavior not as a matter of laziness or a lack of will but rather as an indication that the student is burdened by learning difficulties.

In addition to the mindsets that teachers hold about students, the mindsets they have about themselves also impact on the classroom environment. If teachers enter a classroom and believe that they are not very competent in managing a group of students or that their influence on a student's life is inconsequential, they are less likely to be passionate, purposeful, and competent in their roles as educators. Students know which teachers believe in themselves and their students.

In the first phase of the orientation, school administrators can involve teachers in several activities to reinforce a positive mindset. They can encourage staff to reflect upon and share with their colleagues why they became teachers (or other professionals in the school) as a way of emphasizing one's purpose at work. A clear sense of purpose or commitment serves to lessen feelings of disillusionment and burnout. Staff can also consider what factors they believe are most critical in creating a positive school climate and what steps can be taken to achieve this climate. They can be asked to describe teachers they liked and disliked when they were students and then make a list of the words they hoped their students would use to describe them during the upcoming year. As these words are listed, staff can be engaged in reflecting upon their behaviors with students and designing activities to maximize the likelihood that students will describe them with positive words.

Another exercise that I have recommended is for staff to share their most positive and negative memories of school from their childhood and to recognize that just as they hold on to these memories for a lifetime, so too will their students have indelible memories of them. I often ask teachers, "What memories do you hope your students take from your classroom and what are you doing to increase the likelihood that these are the memories they will have?"

These and similar activities introduced during the first phase can evoke a more positive mindset in school personnel accompanied with specific, constructive strategies for engaging students.

The Second Phase

The second phase of the orientation period can be implemented during the initial day or two of school, but its activities can be modified and reinforced throughout the school year. As noted earlier, during this second phase I recommend that teachers not feel compelled to introduce academic content. Some educators have questioned if this would be a waste of precious classroom teaching time. However, it has been my experience that devoting the first few days of school to address the social-emotional needs of students is invaluable. Teachers can use the time to develop and enrich their relationship with students so that students will be more motivated to learn, more involved in their own education, more capable of managing frustration and mistakes, and more self-disciplined. As I once heard from an educator, "Students don't care how much you know, until they first know you care."

Edward Deci, a psychologist at the University of Rochester and one of the foremost experts on the topic of motivation, has noted that students will be increasingly motivated to confront and persevere at tasks when the staff has developed an environment in which certain basic needs are satisfied, namely, the need to belong or feel connected, the need for self-determination or autonomy, which heightens a sense of ownership, and the need to feel competent. These needs can be actively addressed during the first few days of school.

To Belong and Feel Connected: A sense of belonging is reinforced when students feel welcome in school. When I asked students of all ages what they thought educators could do to help them feel welcome, the two most frequent responses were "greet me by name" and "smile at me." Educators who quickly learn the names of their students and express a warm, genuine smile vividly communicate the importance they place on the teacher-student relationship. I met a kindergarten teacher when one of my patients was assigned to her class. A few days before school began, she sent a postcard to each student that contained the following message (obviously the parents read the words to their child): "Welcome to kindergarten. When you come to class the first day if you have a

drawing you've done or your photo, bring it in so we can hang it up." I had an appointment with my patient on the afternoon of the second day of school. He had been very anxious about starting kindergarten, but he excitedly told me, "My teacher put up my drawing and my photo. She likes me."

A middle school adopted as a primary goal the strengthening of "connections with students." When the students arrived for the new school year, they discovered hundreds of paper stars hanging in the halls; each star had the name of a student written on it. Some might wonder if young adolescents would find this practice contrived or trivial. This was not the case. The students responded very positively. During an interview one of the students noted that the teachers must have spent many hours cutting out the stars and writing the names of students on each star. He commented, "That shows they really care about you."

A high school teacher I met informed each of his classes during the first day of school, "Sometimes I don't have a chance to get to know you as much as I would like, so during the year I plan to call each of you at least twice at home in the evening to find out how you're doing." He said this practice didn't take time from his own family since the calls were not lengthy and, very importantly, his reaching out in this way provided him with more time for his family since he had fewer discipline problems, the students were more likely to meet their classroom responsibilities, and their achievement scores improved. This is another example of highlighting the power of connections during the first couple of days of school.

To Experience Self-Determination and Autonomy: Students will be more motivated to learn and more willing to accept responsibility for their behaviors if they feel their voices are being heard and they have some choice about what is transpiring in school. As I recommended in my December, 2003 website article, teachers can reinforce a sense of ownership at the beginning of the school year by explaining to students the purpose of classroom practices that are typically seen as "givens." The rationale for these "givens," which include such activities as tests, reports, and homework, is rarely, if ever, discussed in classrooms. Some may counter that a teacher should not consume valuable class time to explain to students the purpose of these basic features of education. However, I believe doing so will enhance one's teaching. Also, such

explanation does not suggest abdicating responsibility for one's classroom or allowing students to make up all of the rules or deciding which classroom requirements are acceptable. Rather, it means educating students about the rationale for various class activities with the goal of increasing their feeling of ownership and motivation.

A middle school teacher reported that a student surprised her by asking about the purpose of homework. This teacher, rather than becoming defensive, wisely used the question as an opportunity to discuss her thoughts about the function of homework. She also encouraged her students to ask other questions they had about her class expectations. She told me, "I was so impressed with their questions that I decided that in the future I would not wait for students to ask me any questions they had about classroom requirements. I realized they might not do so since I had not structured time for such questions. Instead, I decided I would take part of the first day of class at the beginning of each new school year to review my expectations and what I saw as the purpose of homework or tests or reports. It was a good exercise for me since I was forced to think about why I gave homework or why I gave tests in certain formats."

This teacher continued, "I would have never thought of having this kind of discussion if the student had not asked me about the purpose of homework. Yet now I would not think of not having this kind of discussion."

Another example of promoting self-determination involves enlisting students to help create class rules and consequences, especially once a teacher has reviewed two or three nonnegotiable rules. Not only are students more apt to adhere to rules that they helped to design, but in the process teachers can reinforce problem-solving and decision-making skills and, very importantly, nurture self-discipline or self-control. As an example, a middle school teacher engaged students in developing class rules the first day of school; he recorded these rules as a "class constitution" with each student signing his or her name on the document. He told me that this practice greatly diminished discipline problems.

To Feel Competent: Teachers can use the first couple of days to identify each student's "islands of competence" or areas of strength and plan strategies for reinforcing these strengths throughout the school year. I

have recommended that elementary school teachers set aside a few minutes alone with each student to ask the student to identify his or her strengths (if a student says, "I don't know," a teacher can simply respond, "That's okay, many kids aren't sure what they're good at, but it's something we can figure out"). Similarly, teachers can ask students about their interests and then consider how these interests might be incorporated into academic assignments. Interviewing students about their strengths and interests conveys the message that teachers appreciate that all students possess special interests and competencies that can be used in the educational process.

Since it is more difficult for a secondary school teacher to meet individually with each student given the number of students one has, I was impressed with the practice of a high school teacher I met. Prior to the new school year, he sent a four-page questionnaire to each of his incoming students. One of the questions asked students to list three things that they "were good at," while another question asked them to list three of their "academic strengths." Other questions asked them the areas in which they would like to improve and what they perceived to be the characteristics of effective and ineffective teachers. An accompanying letter informed students that completing the questionnaire would help him to be a better teacher. An administrator informed me that students in this teacher's classes were noted for the responsible academic and social behavior they exhibited.

If students are to feel competent, teachers must lessen the fear of making mistakes and looking foolish, a fear that can play a major role in any classroom and often serves as one of the most potent obstacles to learning. I have met students who are so desperate to avoid appearing "stupid" or "dumb" that they would rather act like bullies or class clowns than risk failing to learn. One of my patients with learning problems said, "I would rather hit another kid and be sent to the principal's office than have to be in the classroom where I feel like a dummy."

I believe that teachers can minimize this fear of humiliation and create a more supportive, less stressful classroom environment by openly addressing this fear during the orientation period. Prior to the introduction of any academic work, teachers can ask their class, "Who in this class thinks they will make a mistake and not understand something this year?" Before any student can respond, teachers can raise their own

hand and share memories of their own anxieties when they were students. Teachers can then involve the class in a discussion about the best ways to insure that no student will be worried about being called upon, not understanding the material, asking questions, or being teased by other students because of an incorrect answer. This discussion will serve to minimize the potency of the fear of mistakes and fortify a more resilient mindset in students.

Concluding Comment

The implementation of the two phases of the orientation period described in this article represents a proactive approach to creating a positive school climate. The specific strategies used may vary from one educator and one school to the next, but the goals will be similar. Instead of waiting for the possible appearance of staff burnout, tense teacher-student relationships, poor motivation, and disruptive student behavior, it makes eminently more sense to plan and initiate practices that minimize these problems from emerging. The time spent in these orientation activities will more than offset the time and frustration involved in dealing with school environments that are filled with dissatisfaction and negativity; when negativity permeates the corridors and classrooms of a school, teaching and learning are compromised and all who inhabit that school suffer. It is essential that we engage in practices that will allow a positive mindset to become the dominant force in a school.

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SIM

Strategic Instruction Model™

Since 1978, we have conducted research designed to develop ways to help students meet the demands of life, not just in school but after they leave school as well. Our overriding goal has been to develop an integrated model to address many of the needs of diverse learners. Out of this effort, the Strategic Instruction Model™, or SIM, has evolved.

In essence, SIM is about promoting effective teaching and learning of critical content in schools. SIM strives to help teachers make decisions about what is of greatest importance, what we can teach students to help them to learn, and how to teach them well.

We advocate trying to teach a little less content, but teaching it better.

Underlying our research and all components of SIM, we adhere to four philosophical principles:

1. Most low-achieving adolescents can learn to function independently in general education settings.
2. The role of the support-class teacher is to teach low-achieving adolescents strategies that will enable them to be independent learners and performers.
3. The role of the content teacher is to promote strategic behavior and to deliver subject-matter information in a manner that can be understood and remembered by low-achieving adolescents.
4. Adolescents should have a major voice in decisions about what strategies they are to learn and how fast they are to learn these strategies.

Building on these principles, we have developed two kinds of interventions to address the performance gap, the gap between what students are expected to do and what students are able to do.

1. Teacher-focused interventions are directed at how teachers think about, adapt, and present their critical content in "learner-friendly" fashion. Content Enhancement Routines are sets of inclusive teaching practices that help teachers carefully organize and present critical information in such a way that students identify, organize, comprehend, and recall it.

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2. Student-focused interventions are designed to provide the skills and strategies students need to learn the content. The Learning Strategies Curriculum encompasses strategies for acquiring information from the printed word, strategies for organizing and memorizing information, strategies for solving math problems, and strategies for expressing information in writing (including on tests).

In addition to these two types of interventions, SIM addresses the realities teachers face in today's classrooms through the use of a planning technique called SMARTER and recognition of the need for teamwork to achieve instructional goals.

SMARTER planning is a framework teachers can turn to when making decisions about content at the course, unit, or lesson level of planning.

Teamwork among teachers, administrators, parents, and others involved in students' lives can help provide a sustained, well-coordinated, and well-orchestrated balance of curriculum content, skills, and strategies.

RIGOROUS STANDARDS

The Strategic Instruction Model is based on research from a variety of fields and theoretical perspectives and is designed to serve as a guide or umbrella for secondary program development. All components of the model have been evaluated in light of rigorous standards we have set for ourselves.

First, an instructional procedure must be palatable for teachers. If it isn't, teachers won't adopt it for use in their classrooms.

Second, the instructional procedure must have value and be perceived to have value by high-achieving and average-achieving students.

Third, the procedure must be sufficiently powerful to have an effect on low-achieving students.

Fourth, the procedure must result in statistically significant gains for students.

Fifth, the procedure must result in socially significant gains for students. In other words, if a procedure results in an increase in a student's performance from 20 percent to 40 percent, although the result might be statistically significant, it is not socially significant because the student is still failing.

Finally, the degree to which students will maintain a skill or strategy they have been taught and generalize it for use in other settings is important in determining whether the instructional procedure is successful and has merit.

SIM's components—Content Enhancement Routines, Learning Strategies Curriculum, and supporting materials—give teachers access to a breadth and depth of instructional procedures to address many of the challenges they face in the classroom. As a result, more students who are at risk now can realize success in school.

The key to making strategic instruction a reality is to realize that it takes time—months or years even—and a strong administrative and instructional commitment.

KU CENTER FOR RESEARCH ON LEARNING
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SIM
Strategic Instruction Model™

Content Enhancement

The teaching routines described here have been successfully field tested in general education classrooms characterized by significant academic diversity. The classes contained students judged to be at risk for academic school failure as well as students judged to have learning disabilities. Research has demonstrated that consistent and explicit instruction and use of each routine is a key ingredient for instructional success.

The research took place in public schools, primarily in middle and high school settings, and the routines were field tested by teachers.

The routines were designed for use during group instruction to help a teacher provide instruction more sensitive to the learning needs of individuals in the group. A combination of instructional models involving general education teachers and special education teachers, individually and collaboratively, have been successfully tested. All of the routines are taught using a standard set of instructional procedures, which define the necessary instructional conditions needed regardless of where the routine is used.

ROUTINES FOR PLANNING & LEADING LEARNING

• The *Course Organizer Routine* is used to plan courses around essential learning and critical concepts. The teacher uses the routine to introduce the course and the rituals that will be used throughout the course. The teacher then uses this framework throughout the year to maintain the big ideas and rituals. Research showed that the use of the *Course Organizer Routine* helps teachers and students keep the big ideas in mind and focus their attention to understand important relationships. Instruction results in learning more about the big picture and less in trying to cover large amounts of information. Teachers using the routine spent more time introducing major course ideas, concepts, themes, and routines to students than did the comparison teachers who did not learn the routine. Students with LD answered an average of three "big idea" course questions correctly at the beginning of the year. Students with LD in the class that used the *Course Organizer* answered correctly an average of eight "big idea" questions by the end of the course while students with LD in the class that did not use the *Course Organizer* answered only an average of four of the "big idea" questions correctly.

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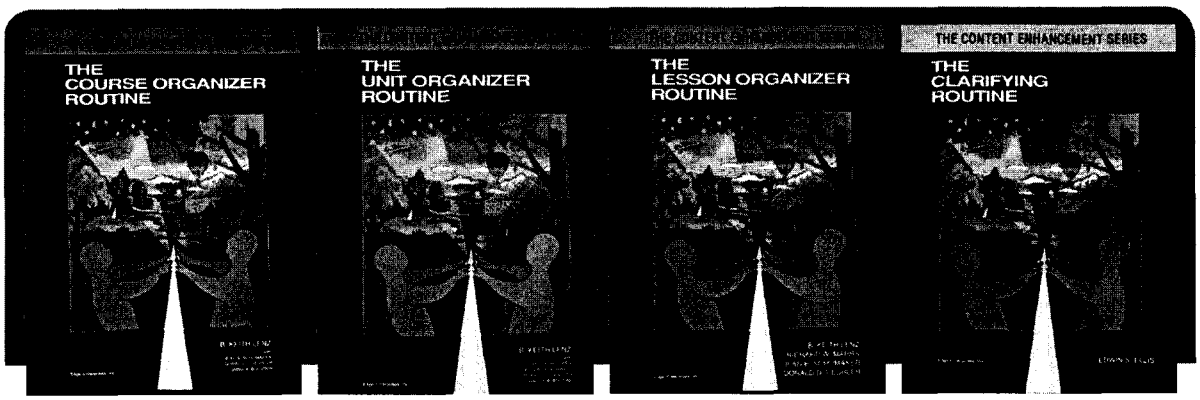


• The *Unit Organizer Routine* is used to plan units; introduce and maintain the big ideas in units; and show how units, critical information, and concepts are related. Research results showed that when teachers used the *Unit Organizer Routine,* understanding and retention of information by low-achieving students, students with learning disabilities, and average-achieving students improved substantially over baseline as reflected in unit test scores and in scores on unit content maps and explanations of these maps. Students of teachers who used the *Unit Organizer Routine* regularly and consistently scored an average of 15 percentage points higher on unit tests than students of teachers who used it only irregularly.

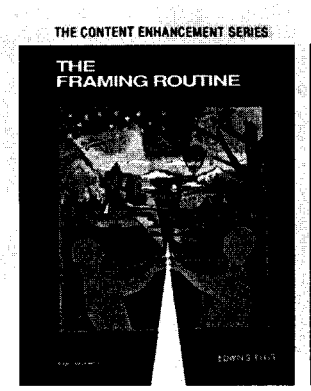
• The *Lesson Organizer Routine* is used to plan lessons and then introduce and connect ideas to the unit and the course. Research has shown that regular, explicit, and flexible use of the lesson organizer routine by secondary classroom teachers can have a significant influence on student learning. Studies showed that use of the routine increased student learning and performance. Research results showed that the students of teachers who used the *Lesson Organizer Routine* regularly and consistently scored an average of 15 percentage points higher on unit tests than students of teachers who used it irregularly.

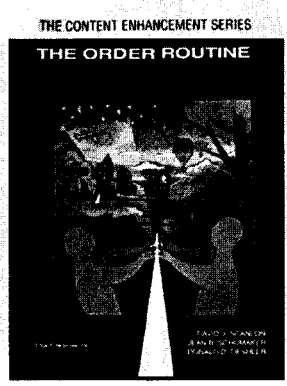
ROUTINES FOR EXPLORING TEXT, TOPICS & DETAILS

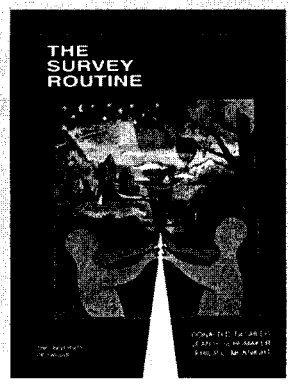
• The *Clarifying Routine* is used to focus on a topic and then explore related details and the topic's importance to the critical ideas and concepts. Using this routine, teachers can help students master the meaning of targeted words and phrases. Studies in upper-elementary and middle-school general education classes composed of highly diverse student populations, including students with learning disabilities and those for whom English is a second language, have shown that students benefit from teacher use of the routine. When teachers used the *Clarifying Routine,* high socioeconomic level students improved their number of correct answers by an average of 14 percentage points, middle socioeconomic level students by an average of 30 percentage points, and low socioeconomic level students by an average of 20 percentage points.

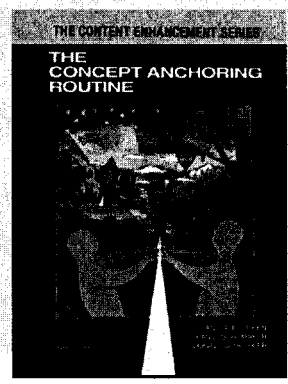
• The *Framing Routine* is used to transform abstract main ideas and key topics into a concrete representation that helps students think and talk about the key topic and essential related information. Research results have consistently demonstrated that the routine can effectively facilitate subject-matter learning as well as the development of literacy and thinking skills. In a study focusing on written products of 35 eighth-grade students, students who were taught with the *Framing Routine* wrote an average of 102 words more per product than did the students who were in the comparison group.

• The *ORDER Routine* is used to organize and make sense of information once it has been "received." Students take a second pass at new information, think about what they have just learned or read, understand how it all fits together, look for any missing information or errors in their notes, and begin to apply it by trying to fit it all together to make a graphic organizer. The *ORDER Routine* was studied in intermediate and secondary classes (grades 7 to 12) characterized by diversity. In each study, teachers and researchers observed student learning gains. In one study, students without LD in the ORDER classes far outperformed compari-









son students during the posttest, even though comparison students, on average, earned more points during the pretest. Average gains for students with LD in the ORDER classes also were greater than those of students in comparison classes.

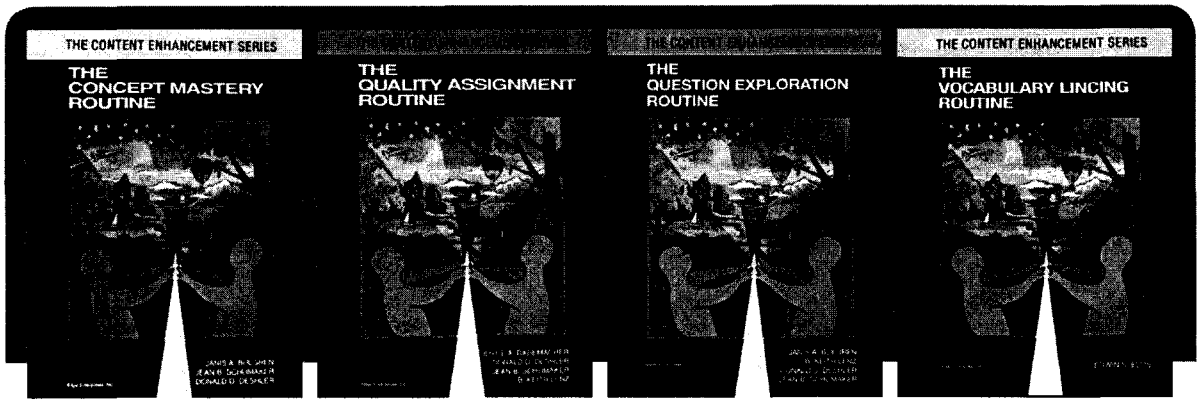
• The *Survey Routine* provides an overview of a reading assignment when students are having difficulty reading and sorting out information from inconsiderate text. Research has shown that students with LD and other low-achieving students as well as average- and high-achieving students correctly answered an average of 10 percent to 15 percent more of their test questions when the *Survey Routine* was used than when the *Survey Routine* was not used.

ROUTINES FOR TEACHING CONCEPTS

• The *Concept Anchoring Routine* is used to introduce and anchor a new concept to a concept that is already familiar to students. In research studies with students in secondary science and social studies classes, high-achieving, average-achieving, and low-achieving students (including those with learning disabilities) who had been taught with the *Concept Anchoring Routine* correctly answered more test questions than students who had not received the routine instruction. Students with LD taught with the *Concept Anchoring Routine* scored an average of 25 percentage points higher than those who were not taught with the routine. Low-achieving, average-achieving, and high-achieving students taught with the *Concept Anchoring Routine* scored averages of 27, 19, and 7 percentage points higher than their respective groups that were not taught with the routine.

• The *Concept Comparison Routine* is used to help students compare and contrast key concepts. Research with students enrolled in general secondary science and social studies classes showed that students correctly answered substantially more test questions related to information that had been presented through the use of the routine than test questions related to information presented using traditional teaching methods. Students with LD and other low-achieving students correctly answered an average of 71.2 percent (LD) and 86.4 percent (NLD) of the test questions associated with information presented through the use of the routine, compared to 56.7 percent (LD) and 62.6 percent (NLD) of the questions associated with information presented through traditional means. The experimental study involved 107 students.

• The *Concept Mastery Routine* is used to define, summarize, and explain a major concept and where it fits within a larger body of knowledge. Research shows that secondary teacher use of the routine benefits the student in several ways. First, students scored significantly better on tests designed to assess concept acquisition. Second, students scored significantly better on regularly scheduled, teacher-made or commercial unit tests during the enhancement condition than during baseline. Gains by students with LD (from a mean score of 60 percent to 71 percent) were comparable to those of their NLD peers (from a mean score of 72 percent to 87 percent) on these regular tests. The percentage of students with LD who passed increased from 57 percent to 75 percent; the percentage of NLD students who passed increased from 68 percent to 97 percent. Third, the students took better notes during the enhancement condition than before using the routine.



ROUTINES FOR INCREASING PERFORMANCE

• The *Quality Assignment Routine* is used to plan, present, and engage students in quality assignments and then evaluate assignments with students. In a research study, teachers and students completed surveys and groups of teachers and students participated in focus groups. From these activities, researchers identified characteristics of good assignments and the important elements such as planning behaviors, presentation behaviors, and evaluation procedures. Research study results showed the following: Before the study, teachers were observed to include an average of 50.5 percent of the planning behaviors, 32.8 percent of the presentation behaviors, and 8.2 percent of the evaluation procedures. After the intervention, participants used an average of 96.1 percent of the planning behaviors, 89.3 percent of the presentation behaviors, and 93.8 percent of the evaluation procedures. In contrast, a group of comparison teachers used an average of 45 percent of the planning behaviors, 26 percent of the assignment presentation behaviors, and 10 percent of the evaluation procedures at the end of the study. Teachers who received instruction in the use of the routine and their students were significantly more satisfied with assignments.

• The *Question Exploration Routine* is a package of instructional methods that teachers can use to help a diverse student population understand a body of content information by carefully answering a "critical question" to arrive at a main idea answer. Research results showed that students who were taught a lesson using the *Question Exploration Routine* earned an average test score of 70 percent while students who were taught the lesson with traditional methods scored an average of 48 percent.

• The *Recall Enhancement Routine* focuses on procedures teachers can use to help students remember information. A post-test only comparison group study indicated that performance of students was related to the teacher's use of the routine. Students with or without disabilities in the classes of teachers who used the routine performed significantly better on test items that could best be addressed through the creation of the types of Recall Devices that their teachers had presented than did students in the comparison classes. The recall performance of both LD and NLD students in the experimental group was higher by 29.10 and 20.5 points, respectively, than the performance of similar students in the control group on reviewed facts.

• The *Vocabulary LINCing Routine* is designed to facilitate student use of two powerful tools—an auditory memory device and a visual memory device—that will help them learn and remember the meaning of complex terms. Research results showed that students, including those with LD, improved their performance by an average of 19 percentage points on vocabulary tests.

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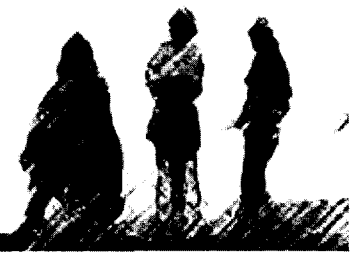
The Teacher's Role in Developing Social Skills

by Richard D. Lavoie, M.A., M.Ed.



The effective educator must be ever mindful of the simple fact that children go to school for a living. School is their job, their livelihood, their identity. Therefore, the critical role that school plays in the child's social development and self-concept must be recognized. Even if a child is enjoying academic success in the classroom, his attitude about school will be determined by the degree of social success that he experiences.

There is much that the teacher can do to foster and promote social development in the student. Children tend to fall into four basic social categories in the school setting:

REJECTED - Students who are consistently subjected to ridicule, bullying and harassment by classmates.
ISOLATED - Students who, although not openly rejected, are ignored by classmates and are uninvolved in the social aspects of school.
CONTROVERSIAL - Students who have established a circle of friends based upon common interests or proximity but seldom move beyond that circle.
POPULAR - Students who have successfully established positive relationships within a variety of groups.

Many students with learning disabilities find themselves in the rejected or isolated subgroups. Their reputations as "low status" individuals plague them throughout their school careers. It is important for the teacher to assist the students' classmates in changing their view of this child.

Punishment is an extremely ineffective method of modifying bullying or rejecting behavior. If you punish Billy for rejecting Joey, you only increase Billy's resentment of his classmate. However, you can increase a child's level of acceptance in several ways.

First, the teacher must become a "talent scout." Attempt to determine specific interests, hobbies or strengths of the rejected child. This can be accomplished via discussions, interviews or surveys. Once you have identified the child's strengths, celebrate it in a very public manner. For example, if the student has a particular interest in citizen band radios, seek out a read-aloud adventure story in which a short-wave radio plays an important role in the plot. Encourage the child to bring his CB into class and conduct a demonstration of its use. By playing the expert role, a rejected or isolated child can greatly increase his status.

Assign the isolated child to a leadership position in the classroom wherein his classmates become dependent upon him. This can also serve to increase his status and acceptance among his peers. Be mindful of the fact that this may be an unfamiliar role for him and he may require some guidance from you in order to ensure his success.

Most important, **the teacher must clearly demonstrate acceptance of and affection for the isolated or rejected child.** This conveys the constant message that the child is worthy of attention. The teacher should use her status as a leader to increase the status of the child.

The teacher can assist the child by making him aware of the traits that are widely-accepted and admired by his peers. Among these traits are:

- smiles/laughs
- greets others
- extends invitations
- converses
- shares
- gives compliments

It is important that the teacher recognize the crucial role that the child's parents and siblings can play in the development of social competence. Ask his parents to visit school for a conference to discuss the child's social status and needs. School and home must work in concert to ensure that target skills are reinforced and monitored. Social goals should be listed and prioritized. It is important to focus upon a small group of skills such as sharing and taking turns, rather than attempting to deal simultaneously with the entire inventory of social skills.

Working with Preschoolers

Early childhood educators are in a particularly good position to foster the acceptance of the socially incompetent child. By demonstrating acceptance of the child despite his behavioral or language weaknesses, the teacher generally finds that this attitude is mirrored by the child's classmates. The teacher's goals should focus on promoting age-appropriate language/communication skills for the child. This instruction should be provided in a positive, supportive and accepting manner.

Working with Elementary School Children

Assign the troubled child to work in pairs with a high-status child who will be accepting and supportive. Cooperative education activities can be particularly effective in this effort to include the rejected child in the classroom. These activities enable the child to use his academic strengths while simultaneously developing his social skills.

The teacher must constantly **search for opportunities to promote and encourage appropriate social interactions** for the socially inept child (e.g.. "Andrew, would you please go over to Sally's desk and tell her that I would like her to bring me her math folder?") Have students work in pairs to complete experiments, bulletin boards and peer tutoring.

The student with social skill deficits invariably experiences rejection in any activity that requires students to select classmates for teams or groups. This selection process generally finds the rejected child in the painful position of being the "last one picked". Avoid these humiliating and destructive situations by **pre-selecting the teams or drawing names from a hat**. An option is to

intervene at the point when six or eight students remain unselected. Arbitrarily assign half of the students to one team and the remaining students to another. This prevents any one student from being in the damaging position of being "last picked".

Board games and card games can be used effectively to monitor and foster social development in the classroom. Such activities require students to utilize a variety of social skills (voice modulation, taking turns, sportsmanship, dealing with competition, etc.). These enjoyable activities can also be used to promote academic skills. Because games are often motivating for students, these activities can be used as a positive reinforcer. This setting also provides an opportunity to conduct effective social autopsies. However, these activities should be limited to a few times each week.

Working with Secondary School Students

Teachers at the high school level must be particularly aware of the student who is being ignored or rejected by peers. During adolescence, it is critically important that the student be accepted by his classmates. The rejection suffered by adolescents with social skill deficits often places the student at risk for emotional problems. It may be unrealistic to expect an overworked algebra teacher to conduct social skill activities but the professional should, at a minimum, be willing and able to refer the child to appropriate resources in the school administration or guidance department.

The socially incompetent child often experiences isolation and rejection in his neighborhood, on the school bus and in group social activities. The teacher can provide this student with a classroom setting wherein he can feel comfortable, accepted and welcome. In the words of Robert DeBruyn, "Coming to school every day can become a hopeless task for some children unless they succeed at what they do. We teachers are sentries against that hopelessness".

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20 Tips to Promote Positive Self-esteem

by Richard D. Lavoie, M.A., M.Ed.

A dynamic relationship exists between self-esteem and skill development. As a child improves in self-esteem, his academic competence increases. And as that competence increases, his self-esteem improves. The caring and concerned caregiver must come to realize that positive self-esteem is both a prerequisite and a consequence of academic success. Here are 20 tips to help foster a child's self-esteem:

1. Value each child as an individual with unique strengths, needs, interests and skills.
2. Focus on the child's strengths. Emphasize and celebrate his "islands of competence."
3. Reject the child's behavior, but never reject the child. Use affectionate terms and nicknames when scolding ("Your room is a mess, honey. Now turn off the TV and make your bed.").
4. Remember that sincere interest can be more effective and meaningful than praise. Demonstrate a genuine interest in her activities, hobbies, etc.
5. Establish realistic, achievable goals for your child. Anticipate success.
6. Avoid using sarcasm with kids - children with language problems often misinterpret it.
7. When discussing an issue or a problem, avoid bringing up past difficulties.
8. Never compare one child to another.
9. Help the child develop decision-making and problem-solving skills.
10. Understand that mistakes are an inevitable (and valuable!) part of any learning experience. Use these as an opportunity to teach and assist.
11. Divide large tasks into smaller, manageable ones. This will ensure success, mastery, and retention.
12. Maintain a file of his academic work. Use this to demonstrate his progress and development when he is feeling down.
13. Encourage him to maintain "collections" (e.g., baseball cards, stamps, rocks, etc.). This allows him to be the resident expert on a topic.
14. If she does not participate in team sports, promote individual sports (e.g., skiing, golf, swimming). This will provide opportunities for success, exercise, and peer interaction.
15. Communicate your confidence in the child **and** in her future.
16. Permit and encourage the child to follow the normal fads of his peer group (e.g., clothing, music). This will enhance his acceptance at school and in the community.
17. Emphasize the positive aspects of her behavior or performance, even if the task was not completely successful. Reward direction, not perfection.
18. Anticipate that the child will have plateaus, failures, backslides, setbacks, and regressions. Support and encourage him at these times. Kids need love most when they deserve it least!
19. Look for opportunities to offer him choices to allow him to practice decision-making skills.
20. Never, ever, communicate disappointment to your child. The disappointment of an adult may be too great a burden for a child to carry.

Remember:

- Your child's self-esteem will be determined by the conditional acceptance that he receives from others - and the unconditional acceptance that he receives from you and
- Your child's self-esteem will be determined by success and progress in four areas:
  - Social (acceptance, friendships)
  - Competence (in a skill area)
  - Physical (clothing, attractiveness)
  - Character (effort, generosity, etc.)

Emphasize, recognize and reinforce all four areas!

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MEMORIES ARE MADE OF THIS

By Mel Levine

"Every time I write, I lose my memory."

"I always understand stuff when she, like, explains it to us in class, but then I completely lose it on the test."

"Paul seems to have no trouble learning procedures in math, but then he can never seem to remember how and when to apply them when faced with a problem."

"We drill Myra over and over on her spelling words – it's incredible how hard it is to get new material into her head. But I will say this: once she knows something, she really knows it – forever."

"Why is it that Billy can remember what color tie Uncle Stan wore at Thanksgiving five years ago but can't remember his vocabulary words from last night?"

"Keisha knows what sounds go with what letter combinations, but when she sounds out an unfamiliar word, by the time she gets to the last sound, she's forgotten the first two, so she has trouble re-blending the word and putting it all back together in her mind."

These authentic quotations capture the agony and confusion of the many children who struggle valiantly but are overtaken and overcome by the unremitting onslaught of memory demands in school. Too often their obstructed remembering goes unrecognized by their teachers, their parents, and by the student victims themselves. To rekindle such students, we need to start with greater adult awareness of the kinds of memory processes required for academic success. Additionally, educators and clinicians must be able to identify and treat the diverse forms of memory shortfall that impede learning and academic output in otherwise competent students.

√ *School work demands far more memory agility than is required in just about any career you can identify.* Our grown-up occupations allow us to open up the same general kinds of memory files day after day for years and years. During elementary, middle, and high school, students are expected to transition with efficiency and precision from memory for math to memory for Spanish to memory for chemistry and on to memory

for history. A seemingly unending succession of files must be opened and closed every 50 minutes or so, and for the most part, these files contain mainly new acquisitions. Kids with memory impairments need the justified reassurance that if they "hang in there," life will become easier, as their chosen career niches will inflict far less strenuous memory wounds than they had to contend with at school.

√ *There are numerous forms of human memory.* No one of us possesses a uniformly good or poor memory. We always have to inquire, "Which kind of memory?" and "Memory for what?"

√ *Memory is not monogamous; it is wedded to multiple partners.* It relates intimately to attention, language, sequencing, and even motor function. Trouble with memory may masquerade as an attention deficit (i.e., why listen if you can't remember the input?), a language dysfunction (such as weak memory causing trouble with word retrieval), a sequencing weakness (trouble remembering steps in the right order), or a motor deficit (poor recall of letter formations while writing).

√ *It is easier to remember something you understand than it is to remember that which makes little sense to you.* Education, therefore, always must calibrate the precarious balance between understanding and remembering. Imbalances lead to tenuous learning.

√ *Some students endowed with high memory capacities may come to over-rely on rote storage and recall, receiving exemplary grades and gratifying teacher plaudits because they are so phenomenally talented at regurgitating facts and mimicking procedures on examinations.* Consequently, their understanding and their joy in learning may be underdeveloped. In fact, teachers should take care not to administer tests that are pure memory assessments (i.e., fail to tap into authentic comprehension, conceptualization, and critical thinking).

√ *There exist intuitively endowed memorizers; they know how to operate the intricate memory circuits that support learning.* They don't need our help to remember. But other learners have to be taught to apply conscious strategies in order to retain information and skills. Fortunately, memory is one component of neurodevelopmental function that is most amenable to the application of clever cognitive tactics.

Clearly, the roles of memory and the manifestations of impaired memory are complex and varied. Yet, those of us who work with students, whether we realize it or not, are forever grappling with the mysteries of memory.

The Impact of the Schools Attuned® Program

A Snapshot of Research Results

All Kinds of Minds®

A NON-PROFIT INSTITUTE FOR THE UNDERSTANDING OF DIFFERENCES IN LEARNING

All Kinds of Minds is committed to the use of objective and focused outcomes research to inform the development of our programs for K-12 educators. Our R & D team is fully engaged in understanding and nurturing the educational needs of all children by translating new knowledge and research into practice. Research guides every aspect of our work:

- The content of our programs is based on the latest advances in educational, psychological, medical, and clinical knowledge;
- The design and delivery of our programs is based on research on professional development that changes teaching practice and has a positive impact on student outcomes; and
- Our comprehensive research agenda includes internally conducted evaluation as well as rigorous independent research designed to examine the impact of our programs on students, teachers, families, schools, and educational policies.

Since 2000, we have supported more than a dozen high quality research studies to examine the impact of the Schools Attuned program across a variety of states and regions. In addition, many individual schools and districts have collected their own internal data on the impact of the program in their locales.

Considered as a whole, these studies provide a substantial and compelling body of evidence that Schools Attuned is an effective program to help students succeed and has positive impacts on teachers and schools.

Results for Students – Predictors of Academic Success

- ***More positive attitudes about school*** – 91% of teachers in UMASS (University of Massachusetts) study and 100% of teachers in the New York City Project reported improved student attitudes. WestEd study SA (Schools Attuned) educators reported improvements in students' attitudes toward school that would enhance long-term positive outcomes for students.
- ***Increased confidence in abilities and self-understanding*** - 84% of SA students in Oklahoma study reported increases in their confidence and self-understanding. 91% of teachers in UMASS study attributed improved student self-confidence to SA.
- ***Increased engagement in learning*** – Students of SA-trained teachers in Westat study had significantly higher engagement scores than those of their peers, and showed significant growth in participation during class.
- ***Improved behavior in class*** - 74% of teachers in NYC Dept. of Ed study reported increased time on-task among students. Schools in Texas and New Jersey elementary studies reported 30-45% decreases in disciplinary referrals due to SA.

Results for Students – Academic Skills, Test Scores, and Grades

- SA teachers in the Westat study reported statistically significant gains for students in Reading/Language Arts, Mathematics, and Critical Thinking.
- 3rd – 6th grade SA students in the Fort Worth District study showed statistically significant higher gains than non-SA students on Reading and Math standardized test scores.
- 79% of teachers surveyed in the UMASS study reported small positive effects on student course grades and standardized test scores due to SA.
- Course grade improvements were documented for students in the North Carolina study in reading (59% improvement), Language Arts (57% improvement), and mathematics (47% improvement).

Results for Teachers – Finding Pathways to Student Success

- ***Better understanding of students as learners*** – 80 –100% teachers across NYC Dept of Ed, Montecito School District, and Park Tudor School studies reported increased understanding of their students due to SA.
- ***Greater efficacy to work with diverse learners*** – SA trained teachers in the Westat study scored above comparison teachers on self-efficacy for instructional strategies (+.18) and classroom management (+.10). In classroom observations, WestEd study researchers rated SA teachers as using significantly more instructional tools for working with diverse learners than non-SA teachers.
- ***Improved use of strategies to overcome barriers to student learning*** – 80 - 91% of teachers in NYC Dept of Ed and New York Jewish Day School studies reported increases in their ability to create educational plans and select strategies to improve academic achievement of their students. SA-trained teachers in WestEd study were statistically significantly more likely more than non-SA teachers to initiate assistance or help to students, provide clear expectations to students, encourage active participation from all, and better manage disruptions in the classroom.

Results for Schools – In-School Practices, Teacher Collaboration, and Alliances with Families

- ***Improved school-wide collaboration*** – 75% of teachers in Westat study reported using SA to collaborate with colleagues on student learning. SA training provided schools in the WestEd study with a common language and a way to describe children that all staff members understood, and improved teachers' communication and collaboration around student learning.
- ***Improved use of special education resources*** – 98% of teachers in Sulphur Springs District study reported that SA has made them more willing to teach students with learning disabilities and learning needs. Results in this same study showed a 78% decrease in pull-out services – when students leave their classrooms to get assistance from a special education teacher, and special education placement accuracy increase from 63% to 97%, meaning that special education assessments were being directed more accurately to the students who need special services most. 50 – 72% decreases in special education referrals were seen across other schools in Texas, California, New Jersey and Ohio.
- ***Stronger alliances between schools and families*** – 87% of teachers in UMASS study reported improved parent-teacher relationships through the use of SA. SA teachers in WestEd study had statistically significantly higher ratings for parent and community involvement than non-SA teachers, including collaboration with parents around strategies to use at home.

What does this mean?

Results of studies highlighted in this document reveal that the Schools Attuned Program is positively impacting students, teachers, schools and families within the specific areas detailed above. *See study references.* >

To learn more about the individual studies and/or entire body of research

All Kinds of Minds is preparing comprehensive materials about these research studies with an expected completion date of late September 2007. At that time, please check our Web site at **www.allkindsofminds.org** or contact your representative to receive a packet of research materials detailing the research base behind Schools Attuned.

For more information on Schools Attuned:

Phone: 1.888.829.5995 **E-mail:** sa@allkindsofminds.org

To register for a course, visit:

www.allkindsofminds.org/sa/Registration_pre3.aspx

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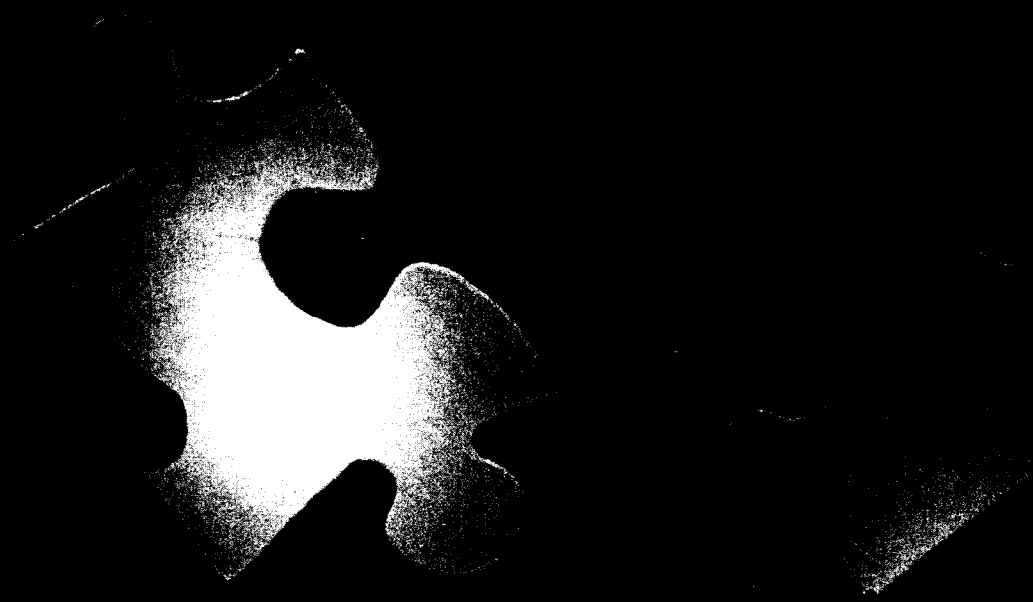
INTERVENTION
IN SCHOOL AND CLINIC

Collaborative Teaching



Successes, Failures, and Challenges

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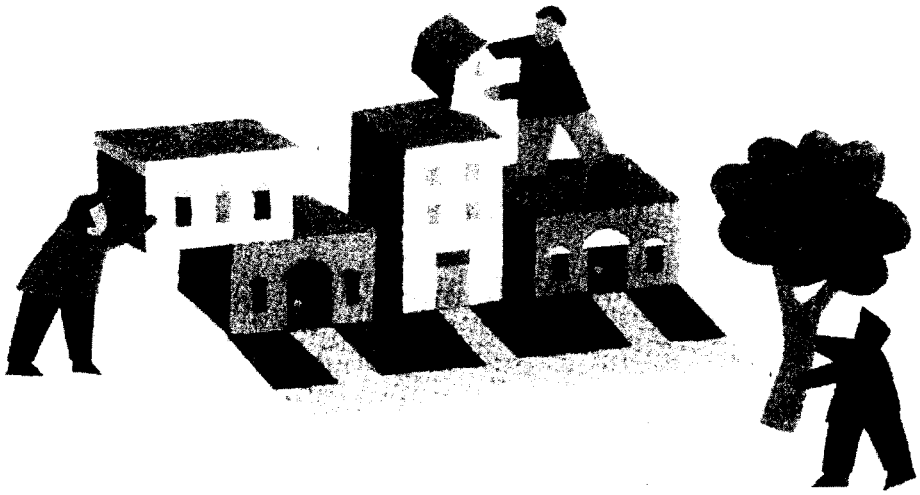
MAY 2005

Schools Attuned:
A Model for Collaborative Intervention

IVOR WEINER AND WENDY W. MURAWSKI



General education faculty involved in inclusive education efforts often lack the common vocabulary and basic skills needed to comfortably collaborate with their special education colleagues. This frequently leads to a "mine" versus "yours" mentality regarding students with special needs. Schools Attuned, a professional development and service delivery program, is described here as a potential model for collaborative intervention. Using Schools Attuned to perpetuate a three-tier model for support and intervention allows educators to come together with a shared vision, common principles and language, and additional skills. This article describes Schools Attuned, identifies its potential role in creating a collaborative atmosphere for inclusive education, and reviews its limitations and benefits.

In October of 1984, Stainback and Stainback published an article entitled "A Rationale for the Merger of Special and Regular Education." At the time, their proposal to merge special and general education sparked a fiery debate in academia. Because the field of special education was still emerging, the Stainbacks were not able to propose the specific details that would make such a merger possible (e.g., a shared language and vision, a set of guiding principles, detailed interventions). Based on today's educational climate of inclusive practices, due both to public sentiment as well as to the Individuals with Disabilities Education Act (IDEA) amendments of 1997 and the No Child Left Behind Act (NCLB, 2001), their proposal is no longer viewed as radical. Despite numerous alternatives to segregated special education placement using a variety of service delivery models, educators have not been successful in unifying general and special education as one efficient and effective system. Certainly, there are many innovative inclusive techniques and models that have been well developed (e.g., co-teaching and inclusion facilitation), especially for working with individuals with mild to moderate disabilities such as learning and behavioral disabilities. Regardless of our best efforts, however, the mine versus yours mentality is still prevalent in our educational system. As more students with disabilities are included in

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the least restrictive environment (LRE) and as high-stakes testing continues to gain momentum, we propose two possible scenarios.

First, the divide between special and general education might become more divisive as general and special educators are mandated to unite so that remediation of academic and social challenges of students with disabilities in inclusive settings can be implemented. Second, general and special educators will unite willingly and a new collaborative system of serving students with disabilities will result. While certainly preferable, the latter is unlikely as it will require a major change in the cultures of schools. Without a common language, a shared vision, a set of guiding principles, and powerful intervention strategies a unified system of education is, at best, difficult. With two separate educational systems, general educators will continue to feel marginalized as they attempt to include students with disabilities in their classrooms. Special educators will continue to feel excluded and frustrated as they try to provide the LRE for students with disabilities.

There is hope, however. Dr. Mel Levine has proposed a new philosophy of working with students with learning difficulties that provides opportunities for exactly what is needed in today's educational environment. This vision includes what was lacking previously, namely a common language, shared vision, set of guiding principles, and powerful intervention strategies. More important, his model, called Schools Attuned, provides educators with a delivery system that is highly feasible and provides both general and special educators with the tools needed to collaboratively serve students with learning difficulties. We contend that the Schools Attuned program is exactly the type of impetus needed to engage general and special educators in truly collaborative and inclusive forward action for working with all students. In addition, we propose that Schools Attuned provides a framework that can be used to implement a three-tiered model of intervention. This three-tiered model can enhance special and general education collaboration and has the potential to result in more effective methods of providing services for students with and without disabilities in general education classes.

Schools Attuned

Definition and Philosophy

Schools Attuned is a professional development program designed around the work of Dr. Mel Levine and implemented through the All Kinds of Minds Institute (www.allkindsofminds.org). As a pediatrician, Dr. Levine has focused his academic inquiry on observing how students learn and on significant discoveries in neuroscience. His neurodevelopmental approach is based on more than 25 years of research on brain-based learning (Rubin, 2002). These years of research with students led Dr. Levine to develop the philosophy that *all* students learn differently based on how their brains are "wired."

Embedded into the Schools Attuned service delivery program are nine principles that have resulted from his years of study:

1. view the learner's neurodevelopmental diversity in a positive way;
2. value and stress the developmental nature of the learner's profiles;
3. be specific in understanding the learner's strengths and weaknesses;
4. avoid labeling and emphasizing the phenomena that the learner exhibits;
5. collaborate among all the stakeholders in the learner's life, including the professional, the parents, and the learner;
6. reinforce the learner's strengths and affinities and remediate the learner's weaknesses;
7. make the learner aware of his or her learning challenges, as well as strengths and affinities;
8. instruct the learner about how he or she learns while engaged in academic subjects;
9. help the learner see his or her potential for a productive and gratifying life (Levine, 2002).

Most educators would certainly agree that these principles are foundational for both special and general educators. Certainly, schools today are facing increasing numbers of diverse students who exhibit an array of learning needs, not merely those individuals with identified disabilities. Engaging in dialogue around these principles is a first step to ensuring that all persons involved in collaboration and inclusion are sharing a common vision for their school in terms of the way students are viewed, treated, and taught.

Training

The All Kinds of Minds Institute has provided professional development training in the Schools Attuned model since 1987 (Rubin, 2002). To date, more than 19,000 educators have been trained nationally; in fact, North Carolina and Oklahoma have both adopted Schools Attuned as statewide initiatives. Currently, in order to be trained in the Schools Attuned model, in-service faculty (i.e., teachers who are already in the field) can volunteer to attend the weeklong training. Training programs are commonly dictated by administrators and those in district offices but not with Schools Attuned. Participants are asked to volunteer to attend the 35-hour training and to commit to being involved with ongoing support in this area. Once training is completed, ongoing consultation is provided via an assigned mentor who is able to come directly to schools to work with the trained teachers. Participants

also have access to online support (www.schoolsattuned. org) and are asked to complete a case study assignment (through an online practicum) to be certified. Reunion or refresher meetings are also scheduled throughout the year following the training.

During the training, participants (predominantly general and special education faculty, but increasingly involving administrators, school psychologists, and other school-based personnel) learn about the principles of Schools Attuned and are then introduced to the eight neurodevelopmental constructs and their impact on student learning. Levine (2002) asserted that students should not be viewed as having disabilities in learning. Instead, by looking at the various neurodevelopmental constructs, he claims that all students are simply "wired differently," thus each individual child learns in a unique way. This philosophy is what led to Schools Attuned and is the underpinning of Dr. Levine's best-selling books, entitled *A Mind at a Time* (2002) and *The Myth of Laziness* (2003).

Once participants are introduced to the neurodevelopmental constructs and the way in which they manifest themselves in individual learners, the facilitators teach participants how to use specially designed protocols to involve parents, teachers, and students in an assessment and diagnostic process. These protocols allow faculty to *attune* a student—basically, a process designed to ascertain how that student learns and what strengths and areas of need the student has—based on input from the student, a family member, and the teachers. Although this is an elaborate and somewhat time-consuming process, facilitators have emphasized that teachers are not encouraged to "attune" every one of their students, merely those for whom additional information is needed.

Following instruction on the attuning process, participants are then provided with extensive handbook resources (which they can take back to their schools) that provide numerous strategies for working with students with different learning needs. The resource notebook and the facilitators have emphasized focusing on students' strengths rather than focusing primarily on students' areas of weakness. In addition, a primary focus of the training and the strategies provided are to reassure teachers that all children learn in different ways and powered by that knowledge, the training, and the additional strategies, faculty can work with all students to enhance their learning, rather than rely on the method of referring and placing students in special education for remediation or retention.

Another key aspect of the training is the notion of *demystification*, a process by which faculty work to help students understand their own learning process. By teaching students what their personal areas of strengths and needs are and what compensatory strategies they can use to help maximize their own learning, faculty are empowering students to be self-advocates. For many students, demystification removes the shame felt due to a lack of success in school. It also helps students understand that all minds are unique and that their affinities, strengths, and challenges are best suited to certain pathways in life. As Levine pointed out in the beginning of the book *A Mind at a Time* (2002),

> *Planet earth is inhabited by all kinds of people who have all kinds of minds. The brain of each human is quite unique. Some minds are wired to create symphonies and sonnets, while others are fitted out to build bridges, highways, and computers; design airplanes and road systems; drive trucks and taxicabs; seek cures for breast cancer and hypertension. (p. 13)*

Implications for Collaboration

Participants who attend the training emerge with a shared vision and common language based on the neurodevelopmental constructs, a set of nine guiding principles, and a number of practical and useful strategies that can be used with all students. These strategies are valuable tools that can be easily and unobtrusively used in an inclusive class. Being able to discuss learners in terms of their strengths and neurodevelopmental constructs provides faculty with common vocabulary so that colleagues do not feel marginalized by their lack of knowledge regarding jargon or specific expertise. No longer would general education faculty feel compelled to refer a student for special education services due to a "visual-motor integration deficit" simply because the teacher did not know what that means. Being able to describe a student's learning process empowers faculty to demystify that student so that the teacher can then work collaboratively with the student to identify tactics for helping the student to improve his or her own success in the classroom, without first resorting to stigmatizing pullout services. General and special education faculty can also engage in collaborative dialogue regarding all students, both with and without disabilities, increasing the consultative aspects of the special educator's role and allowing him or her to assist more students

through this type of indirect collaborative support. General education faculty can be more open to this type of consultative interaction because they will be informed participants in the shared conversation, rather than recipients of the special education teacher's advice and dictates.

Schools Attuned as a Collaborative Intervention Model

Levels of Intervention

We propose that Schools Attuned be viewed as a three-tier model with teachers responding at various levels of intervention based on individual students' needs. This is similar to the levels of intervention in the schoolwide discipline model originally proposed by Walker and colleagues (Sprague & Walker, 1996; Walker et al., 1996), who have demonstrated efficacy in decreasing rates of office referrals and suspensions; most important, research clearly demonstrates that positive school climates result from schoolwide efforts (Rosen & Jackman, 2000). The schoolwide discipline model also provides for a shared vision, a common language, and a set of guiding principles that unite all stakeholders (i.e., general and special education teachers, school psychologists, counselors, administrative leadership, support staff, families).

Walker and colleagues (1996) described a three-tier level of intervention for improving the general climate of the school as well as addressing students with more intense behavior challenges. The first tier of primary intervention provides schoolwide expectations and general guidance to all students so a positive school climate can be reached. The primary intervention is also a first line of defense against inappropriate behavior and is a proactive approach to encouraging appropriate behavior. According to a large body of research (e.g., Horner, Sugai, & Horner, 2000; Lewis & Sugai, 1999; Sugai, Sprague, Horner, & Walker, 2000; Todd, Horner, Sugai, & Colvin, 1999), these primary guidelines and rules encourage a majority of students to adhere to the set behavioral criteria. A second tier of support is provided in the guise of additional, more stringent support for those individuals who were not able to follow the most basic rules. This secondary level of support is able to work for students who need more intensive intervention than the primary tier. For a small number of students who have more critical behavioral needs, a tertiary tier offers highly specialized and tailored interventions. This occasionally takes place in a special education classroom or other specially designed environment.

Because Schools Attuned interventions can be aligned with levels of intervention (all students, a few students, and the individual student), we propose it be used in a fashion similar to the Walker et al. (1996) levels of behavior intervention (see Figure 1). If it is implemented in a schoolwide systematic manner, general and special education faculty can adopt the shared principles, language, vision, and basic strategies in the first tier of intervention. By focusing on instruction that addresses how students learn (i.e., the neurodevelopmental constructs), general educators will be able to adjust their lessons so the unique minds of their students have the opportunity for greater academic success. For the students, this can result in an increase of self-esteem, prosocial behaviors, and learning. We hypothesize that this collaboration will address the needs of the majority of students, both with and without disabilities. If a majority of students were supported through this shared model, fewer students would need the additional time and resources required by the secondary and tertiary levels.

For those students who are still experiencing difficulties with learning tasks despite the primary level of intervention, the secondary tier of support would be implemented. This tier consists of the general education teacher meeting with a team of individuals (e.g., Schools Attuned specialist; special education teacher; student, when appropriate; family members; school psychologist) to discuss the concerns of the teachers. This meeting would be a prime opportunity for general education teachers to work collaboratively and proactively with a colleague trained as a Schools Attuned specialist. The specialist can share additional information on the application of the neurodevelopmental constructs and interventions. For example, teachers and parents could complete the requisite interview protocols and then engage in developing a specialized plan that focuses on the student's strengths and academic or behavioral challenges. Together, various team members could identify strategies that could be used in the general education classroom to bolster the student in needed areas. Special educators could provide additional assistance in the form of consultation, strategies, resources, materials, or presence through co-teaching, in-class support, or paraprofessional assistance. At this level, the student would not go through the whole attuning process. Educators might collaborate with parents to discuss the neurodevelopmental constructs and to identify some areas of strength and need without actually fully attuning the student. The main point is for the team to share its common vision, terminology, principles, and interventions. A team approach is highlighted, and the student continues to be served in the general education setting.

For those students whose needs are not being met through the primary and secondary levels of support, the tertiary tier is necessary. This tier consists of a comprehensive Schools Attuned assessment, which can be conducted by one or more of the trained team members. The results would then be shared with the rest of the team. Based on the results of the attuning process, the team adjusts the current plan of intervention (developed at the secondary support meeting). Because attuning a student

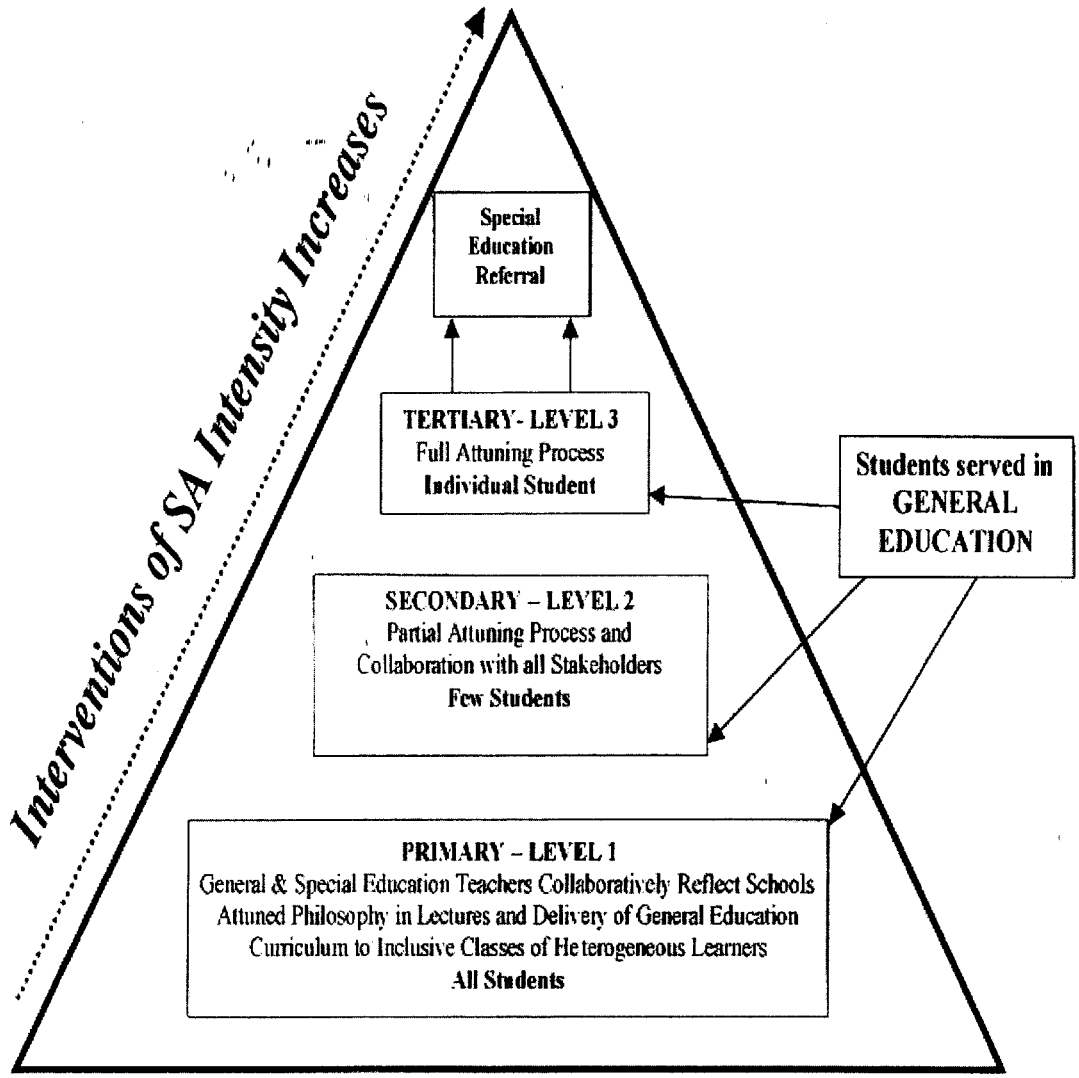

Figure 1. Proposed Schools Attuned primary, secondary, tertiary tiers. SA = Schools Attuned. Adapted from "Integrated approaches to preventing antisocial behavior patterns among school-age children and youth," by H. M. Walker, R. H. Horner, G. Sugai, M. Bullis, J. R. Sprague, D. Bricker, et al., 1996, *Journal of Emotional and Behavioral Disorders, 4*(4), pp. 194–209. Copyright 1996 by PRO-ED. Adapted with permission.

can be time-intensive, not every student with mild learning or behavioral concerns will make it to this tertiary tier. In addition, the collaboration of educators and stakeholders would be greatly beneficial in ensuring that students' needs are met once the attuning process has been completed.

Once a student has been through the primary, secondary, and tertiary levels of the schoolwide Schools Attuned process with little to no success, we recommend moving to a formal referral to the student study team (or prereferral team) so additional strategies can be suggested in yet another collaborative venue. That team could also decide if additional assessments are necessary to determine if special education services are warranted. If so, the student would participate in additional psychoeducational assessments and, if justified, would be referred for special education services. Because of the collaborative aspects of the secondary and tertiary levels of support, it can be assumed that special education faculty would be more aware of these students' specific needs and, thus, more able to work with them in specific areas. In these few cases, a continuum of services offered in a variety of placements—to include some smaller class settings—may be appropriate for a minor number of students. With the design of this collaborative model, however, it is presumed that this type of segregated setting would be limited and reserved for few in number. It is also important to note that this particular intervention strategy is not in

line with Levine's philosophy, which does not endorse labeling students or identifying disabilities.

However, we suggest that although the three tiers are preferable and optimal, there are a significant number of educators and family members who would argue that eliminating special education services altogether might undo much of the work that has been done since IDEA was first enacted in 1975 (then, Education for All Handicapped Children Act) to meet the specific needs of individuals with disabilities. This would be a radical step in the wrong direction. Thus, although we are advocating a more active collaboration and integration of the two systems (general and special education), we are not promoting an absolute elimination of the special education system in favor of a complete and total merger of the two systems.

Benefits of a Collaborative Intervention Model

Clearly, using a three-tier model based on the Schools Attuned training and principles enables faculty to engage in the type of collaborative discourse often missing in schools. General and special educators are valued for their particular areas of expertise, but having these individuals collaborate without providing a framework from which to begin is optimistic at best. The framework is a way by which faculty can then use their specific areas of expertise and experience to start the collaborative process. Schools Attuned in no way usurps the special educator/specialist's role; the level of information provided regarding neurodevelopmental constructs is preliminary and can only be enhanced by the additional knowledge and skills that the special educator/specialist brings to the interaction. In fact, in the long run, specialists may find themselves acting in the role of facilitator, mentor, trainer, professional developer, or even taking university coursework on applied neuroscience to increase their levels of knowledge in the Schools Attuned model.

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Designing a three-tier model of intervention will also encourage faculty to address academic and behavioral concerns as a puzzle—a challenge to decipher regarding how the student is learning—as opposed to merely a sign that the student needs to be removed from the general education classroom. With NCLB (2001) and the IDEA amendments (1997), the laws have made it clear that the general education classroom is considered the least restrictive environment for the majority of students and that standards-based education and high expectations are essential for all students, with and without identified disabilities. This three-tier model for collaborative intervention, using Schools Attuned as its base, enables faculty to see how a school is making systemic change in its thinking about how students will be supported; in addition, it allows faculty to see how they are personally being supported in their professional development for meeting these students' needs.

Limitations

Currently, Schools Attuned is a model that lacks the weight of sufficient scientific and empirical data, an issue that is of concern to even the most open-minded of educators. However, three major studies of experimental and multiple-subject designs are currently under way. These data will most probably raise more questions than answers as we believe that true human disposition and attitudes are very difficult to quantify. A paradigm shift in thinking and teacher attitude takes persistence, steady progress, and a culture or system change in schools.

As trained Schools Attuned participants and teacher educators, we are personally convinced that the true value in this model lies not in the interventions, which look very similar to techniques frequently taught in special education coursework, but in the message that we must value our students' strengths, encourage their affinities, and be tolerant of the diversity and differences of each student's mind. We are not calling for a radicalization of special and general education by advocating that Schools Attuned replace our current way of educating students. A reasonable individual could not argue against a unifying philosophy that gives educators the means to:

- add valuable information to their already existing repertoire of tools,
- increase their understanding of their students' learning,
- enhance their appreciation of their students' unique talents, and
- use interventions that respect both the students' strengths and challenges.

We believe educators would agree that if this is truly the end result, we may not need voluminous amounts of data produced by experimental research designs to validate our beliefs prior to implementing the process.

The ultimate question is whether or not we have time to engage in debate and wait until the results are in before we act. Our schools currently act as collision courses for many students who don't seem to find their place in these high-stakes testing environments and who suffer poor self-concept on a daily basis. Dr. Levine's philosophy

and the Schools Attuned model encourage all stakeholders to participate in the process of supporting students with their academic, social, and emotional needs. Levine is not proposing expensive and highly prescriptive reading or math curricula nor is he advocating the complete overhaul of schools. The three-tier approach using Levine's model as its base further enhances a school system's effort to deliver efficient and effective instruction for all students.

The merger of special and general education as proposed by Stainback and Stainback (1984) was once a radical notion that did not provide any real options or details. Those authors should be commended for writing an article that warned about the dangers of the growth of special education as its own empire. Dr. Levine's model proposes that educators serve all students before they reach special education, and he provides a real opportunity for general and special education to unite in a way that has never been possible before. Current educational environments are ripe for true collaboration and long-lasting change based on a common language, a shared vision, a set of guiding principles, and best practice interventions. K–12 students and their teachers can be so much more successful with this collaborative philosophy, the clear levels of intervention, and the increased capacity of understanding and tolerance of students' minds. Our proposal does not promote eliminating special education but rather enhancing general education for a majority of students and making placement in special education the last resort for a few. Using Schools Attuned to make this happen is just good common sense.

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Using Schools Attuned---

A toolbox of concepts and strategies to enhance and support Standards'Based instruction through…

Personalization in Small Learning Communities
- Teachers know students
- Curriculum and teaching are individualized to student needs

Differentiation of Curriculum and Teaching . . . driven by student profiles and toolbox of effective strategies

Closing the Achievement Gap
- Teachers know students
- Teachers use effective and culturally relevant methodologies

Lesson Study
- Teachers attune to and focus on how students learn
- Teachers select effective strategies to increase access to content

Parent Involvement
Partner with teachers, using common concepts and language to focus on and support student learning needs

Thinking Maps
Teachers, administrators, and students use Thinking Maps to support instructional program

Intervention/Prevention
Teachers and counselors use student profiles to assess student strengths and needs and select appropriate intervention with laser precision.

Academic Rigor
- Students increase ability to bring prior knowledge to lessons
- Students increase ability to reflect on their own learning processes and strategies

LRE
- Meeting the needs of all students
- Providing the optimal learning environment for all students

Socializing Intelligence
Students acquire and use strategies for . . .
- learning and problem solving
- getting and giving help in learning

Accountable Talk
Promoting students' ability to talk about their work with others, using accurate and relevant knowledge.

Self-Management of Learning
- Students monitor and manage their quality of learning

Clear Expectations
Students are able to
- describe the substance of their learning
- judge their own and other's work