

## Strategic Solutions to Promoting Incremental Change

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Ellis, E.S. & Rock, M.L. (2002). Strategic Solutions to promoting incremental change. *Exceptionality*, 10 (4), 223-247.

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### **Abstract:**

Being strategic at facilitating change in the quality of accommodations employed on behalf of students with learning disabilities means focusing on aspects that can be changed (teacher-specific variables) rather than those that cannot or are more difficult to change (social reality variables). This article provides a critical analysis of these variables and focuses on principles, theory, and supporting research for a triadic, synergistic model focusing on strategic approaches for making professional knowledge accessible, development of quality accommodations, benchmarks and related assessment systems, and strategies for implementing incremental change, and how these serve as the basis for the development of Makes Sense Accommodations software, the Quality Accommodations Inventory software, and the Step–Wise Incremental Change Strategy.

### **Article:**

*“In the middle of difficulty lies opportunity!”*

—Albert Einstein

Nearly three fourths of students with disabilities receive all or part of their education in general education settings (U.S. Department of Education, 1999), much of which can be characterized by substandard accommodations and poorly constructed inclusion practices (Baker & Zigmond, 1990; McIntosh, Vaughn, Schumm, Haager, & Lee, 1993; Vaughn & Schumm, 1994). As a result, achievement outcomes are bleak for many students with learning disabilities in general education classrooms (Zigmond et al., 1995). Even though the special education literature is replete with interventions that are empirically validated (Algozzine & Maheady, 1986; Forness, Kavale, Blum, & Lloyd, 1997; Rosenshine & Stevens, 1986; Swanson, 1999), they are infrequently applied in general education classrooms. In accord with many of our colleagues, we ponder why teachers in the field have not adopted these interventions.

The discrepancy between research and practice has been a long-standing abyss between academicians and practitioners. Traditional approaches to reducing the discrepancy and eliminating the void have relied predominately on the dissemination of knowledge vis-à-vis collaborative consultation, in-service education, and professional journal articles or conference presentations. The knowledge dissemination model operates from the basic assumption that if teachers are armed with state-of-the-art pedagogical practices, then the quality of their instruction will improve and students’ academic achievement will follow suit. When research fails to transfer to practice, we blame one another. Teachers accuse researchers of being disconnected from reality, whereas researchers blame teachers for harboring negative attitudes, being resistant to change, and lacking in skills and abilities (Cuban, 1986; Fleming, 1988; Malouf & Schiller, 1995; Richardson, 1990). We refer to this as the bail and blame phenomenon. That is, when at-tempting to implement an instructional accommodation that requires a degree of new learning, sustained effort, and reflection, many educators bail out or abandon the effort and then blame others for the lack of success (e.g., blame the student for having a disability, blame the special educator for imposing on personal space, blame the school district for inclusion policies, blame the researcher for living in the “ivory tower,” etc.).

We believe that the traditional knowledge dissemination model for facilitating change fails to account for a number of critical variables. For example, one flaw inherent in the knowledge-base assumption is that it disregards the complexities associated with human cognitions, attitudes, beliefs, and behaviors that mediate teachers' decision-making processes. Consequently, there is a need to focus research efforts on constructing and validating instructional models that consider the numerous and varied factors that influence professional decision making to facilitate the implementation of effective strategic instruction to meet the needs of vast numbers of students receiving services in general education settings.

Successful change is a function of variables associated with the individuals involved in its implementation and those of the school climate in which the change takes place. Being strategic means focusing energy on aspects that can be changed (teacher-specific variables), rather than those that cannot or are more difficult to change (social reality variables). In this article, we focus primarily on variables associated with the individual as we review how implications of theory and research have led to the development of a triadic model for strategically promoting what Cuban (1996) referred to as "incremental change" in the use of accommodations to enhance the quality of service provision for students with mild disabilities in general education classrooms.

### **KEY VARIABLES IN THE IMPLEMENTATION OF QUALITY ACCOMMODATIONS**

Three critical factors affecting the quality of accommodations are the teacher's knowledge (ability to implement specific accommodation strategies), will (desire to implement the accommodations), and opportunity (whether the school environment is conducive to implementing accommodations). Teachers need to possess a professional knowledge base regarding what the critical features of the research-validated accommodation techniques are, why they should be used (and why some should not), when they should be applied (and when not to), how to apply them (and how not to), and with whom the strategies should be used (and not used with). Much of this information, however, is unbeknownst to many general education teachers (Reiff, Evans, & Cass, 1991), and therefore they lack confidence in knowledge and skills to plan and implement quality accommodations (Schumm & Vaughn, 1992). Teachers are frustrated and left wanting and needing to know how to implement quality accommodations in inclusive class-room settings to help students achieve academic success (Schumm & Vaughn, 1995). They do not want superficial descriptions of accommodations. Rather, they seek de-tailed procedures and clear examples of how strategies work for individual students, as well as how to orchestrate them for the larger group (Schumm & Vaughn, 1995).

Some of the factors that affect knowledge of accommodations include teacher knowledge of to-be-taught content-subjects and skills (the less sophisticated the teacher's knowledge about the topic she or he is attempting to teach, the more difficult it is to employ innovative teaching techniques; Ellis & Sabornie, 1990), the quality of previous teacher-preparation and staff development, and teachers' willingness to learn. Factors that affect will are based predominately on teachers' beliefs and attitudes. For example, teachers who harbor more positive attitudes toward inclusion report using instructional accommodations more frequently than their colleagues who harbor negative beliefs or attitudes (Bender & Vail, 1995). A wide array of specific factors influence teachers' will, including deeply rooted beliefs, attitudes, and habits concerning:

- Protecting the integrity of academic content.
- Protecting the perceived integrity of the grading system.
- What constitutes fairness.
- His or her own level of energy reserves (teacher fatigue).
- Value/commitment to teaching all students.
- His or her risk-taking tendency (attitude toward trying new techniques).
- Perceptions about specific students and students in general.
- Investment teaching.
- Reinforcement/punishment feedback loop (from students/parents/other teachers/ supervisors).
- Competing priorities (it's more important to do this . . . than this. . .).
- Opportunity (or lack of).

Factors that affect the teacher's opportunity to implement accommodations are based on both the reality of the situation in which they find themselves (i.e., whether there is sufficient time for planning or designing accommodations; amount of instructional time required to implement an accommodation; number of students and range and magnitude of diversity in a classroom) and their perceptions of this reality (i.e., perceived pressure to cover the curriculum).

Regardless of what is real (e.g., whether the perceived impediments to implementing accommodations actually exist in a given teacher's situation), teachers' perceptions of the reality greatly impact behavior. Ajzen and Fishbein (1980) theorized that the attitude-behavior relationship is a function of the behavioral intention. That is, it is a consequence of the individual's weighing his or her attitude toward the behavior and subjective norms. The subjective norms regarding quality accommodations emerge from the school environment and whether it is conducive to implementing instructional and behavioral strategies in the general education classroom. Schumm and Vaughn (1995) offered research findings to support this theoretical assertion. Their research findings indicate that insufficient levels of school support impede the implementation of quality accommodations.

We posit that a pivotal challenge to facilitating change is enabling teachers to separate those factors that they can control (e.g., teacher-specific variables, such as acquisition of knowledge about accommodations, attitudes, beliefs, and the role of past behavior) from those factors that they cannot control, at least by the power of one (e.g., environmental variables, such as school climate, litigation/federal mandates, public/political pressure [high-stakes testing, increased privatization of education, etc.], diversity in the classroom), and then to focus their energies on the factors that they can control. Incremental change strategies can be used effectively for influencing teacher-specific variables, whereas fundamental change strategies are necessary for confronting the structural framework of the system, or the social realities that confront teachers or types of power that influence their behavior (Cuban, 1996).

### *The Role of the Professional and Intuitive Knowledge*

The development of knowledge in mediating educational practice has been the primary focus of demonstration projects and dissemination efforts for more than 30 years. These attempts to bridge the gap between research and practice have been established predominately on the professional knowledge base (PKB). PKB reflects the portion of the brain that embraces the expert dimension of research-based pedagogy (Iran-Nejad, 1994; Malouf & Schiller, 1995). The second major dimension of knowledge is the intuitive knowledge base (IKB). The IKB is the portion of the brain that possesses practical wisdom or commonsense knowledge (Iran-Nejad, 1994; Malouf & Schiller, 1995). If teachers lack knowledge of research-validated interventions, then they will rely on intuition that may or may not be well aligned with the provision of strategic instruction and quality accommodations. This dimension of knowledge influences educational practice, yet it has been overlooked and underestimated in terms of its impact on teachers' decision-making processes. We posit that the relationship between these two major dimensions of knowledge, and how they interact with teachers' attitudes and past behaviors to mediate the educational decisions teachers make, is an important one that warrants further scrutiny if we are to traverse the research to practice abyss.

The PKB is deeply rooted in educational research. The PKB has been constructed with the brick and mortar of scientific inquiry. Regrettably, in an effort to understand the complexities of practice in education, simplification by isolation has become the dominant research paradigm responsible for maintaining the structure of the PKB (Iran-Nejad et al., 1995). When operating under the umbrella of the PKB, teachers are encouraged to make educational decisions based on the available research data (Iran-Nejad et al., 1995).

The IKB is deeply rooted in individuals' experiences. It generally arises from practice and can best be described as making educational decisions based on what feels right (Iran-Nejad et al., 1995). In contrast to the PKB, whereby data and the process of scientific inquiry impose the parameters for practice, the functionality and validity of instructional and behavioral strategies and accommodations are derived from contextualized practice (Malouf & Schiller, 1995).

Traditional approaches to disseminating knowledge in an effort to transition teachers from the use of their IKB to the research-based PKB have been linear in nature (i.e., researchers informing teachers about best educational practices). Unfortunately, these techniques have overlooked the multifaceted components of teachers' decision-making behavior. Knowledge is an important aspect of teacher decision making, however, there are a number of other influencing factors that scholars and administrators have disregarded. For example, teachers tend to implement instructional and behavioral accommodations and interventions that parallel their own philosophies and intuitive knowledge about what to do for students who are experiencing academic and behavioral difficulties (Bender & Vail, 1995). This is important for researchers to recognize because a teacher's IKB is influenced by his or her perceptions and beliefs about teaching and learning (Allinder, 1994).

### *The Role of Attitudes and Beliefs*

In addition to the professional and intuitive knowledge bases teachers possess, their social experiences within the context of the school have a profound effect on their thoughts, attitudes and beliefs, and professional behaviors (Bourne & Ekstrand, 1979; Myers, 1990). Because teachers' beliefs and attitudes regarding the strategic implementation of quality accommodations are influenced by their experiences with others, it is important to examine their impact on the decision-making process.

Teachers' attitudes and beliefs are characterized by structure or organization. For example, social psychological theorists posit that beliefs are based on multiple structures, one of which is "episodic storage." Stated differently, "beliefs often gain their subjective power, authority, and legitimacy from particular episodes or events" (Nespor, 1987, p. 320). Therefore, if a teacher has had a negative past experience with implementing accommodations, she or he might believe that the process is an inefficient and ineffective approach for solving students' learning and behavioral difficulties. Consider a teacher who has been directed to reduce the number of multiple-choice items on a student's test to provide an appropriate accommodation. On the basis of this experience, the teacher might believe that important academic content is being compromised. More-over, the teacher might believe that this accommodation does not help to solve the student's learning problem.

Similar to the complex nature of belief structures, some authorities maintain that the construct of attitude is segmented into three components: (a) the cognitive aspect—beliefs of knowledge; (b) the affective aspect—feelings, emotions, and motivations; and (c) the behavioral aspect—tendencies to act in certain ways based on beliefs and emotion (Bourne & Ekstrand, 1979; Rosenberg & Hovland, 1960). For example, teachers may possess an adequate professional knowledge base concerning instructional or behavioral accommodations for students with mild disabilities in general education class-rooms (i.e., the cognitive or knowledge aspect). However, if he or she harbors negative feelings toward students with disabilities in general (i.e., the affective/attitudinal aspect), then in accordance with these negative emotions he or she may have a tendency not to implement quality accommodations in his or her classroom (i.e., the behavioral aspect).

In contrast, others argue that the three entities (knowledge/beliefs, affect, and behavior) typically associated with attitudes are mutually exclusive (Fishbein & Ajzen, 1975). Fishbein and Ajzen (1975) postulated that the affective component is the attitude, the cognitive dimension (i.e., knowledge) is the belief, and the behavioral aspect is the intention. However, they asserted that these three components are not necessarily related. For example, if a teacher states the following, "I like having students with mild disabilities in my classroom" (affect/attitude), it does not necessarily imply that the teacher will believe that the use of quality instructional and behavioral accommodations will benefit the entire class; nor does it imply that the teacher is going to implement quality accommodations in his or her classroom (behavioral intention).

### **THE ROLE OF BEHAVIOR**

"Is there a relationship among teachers' knowledge base, attitudes and beliefs, behaviors and the decisions that they make?" Fazio (1990) postulated "sometimes" (p. 76). That is, knowledge and attitudes appear to be related to behavior under certain conditions. The type of person, the level of knowledge, the type of knowledge, the type of attitude, and the type of attitudinal-measurement system all appear to affect the knowledge-attitude-behavior relationship (Fazio, 1990). For example, individuals who are strongly influenced by their peer groups

might demonstrate less consistent knowledge–attitude–behavior relationships. So, hypothetically, if a teacher does not possess an adequate PKB regarding the efficacy of strategic instruction and works in a school building where most of his or her peers harbor positive beliefs toward implementing quality accommodations for students who are experiencing academic or behavioral difficulty, yet harbors predominately negative beliefs, then he or she might implement one or two poorly constructed accommodations.

On the other hand, Bentler and Speckart (1981) postulated the importance of past behavior in predicting future behavior. Behaviorists contend that behavior is learned. For example, behavior is often influenced by habit. Numerous researchers have utilized multiple regression analyses to confirm that the prediction of behavior was improved by the addition of past behavior (Bentler & Speckart, 1981; Charng, Piliavin, & Callero, 1988; Fredricks & Dossett, 1983; Rock, 1997). On the basis of these past inquiries, we feel confident concluding that teachers who have implemented strategy instruction and other forms of quality instructional and behavioral accommodations do so in greater numbers and are more likely to continue to do so in the future than their colleagues who have not. It is important for researchers to consider the assertion by Triandis (1977, 1980) that if behaviors are motivated by habit, they are less influenced by beliefs or personal intentions.

Theory and research literature specific to knowledge, attitudes and beliefs, and behavior relationships have been discussed in the preceding as they relate to the practice of implementing strategic instruction and quality accommodations for students with mild disabilities in general education classrooms. What is clearly discerned from this discussion is that the bases for knowledge, attitude, belief, and behavior formation are not mutually exclusive, rather they are synergistic in nature. On the basis of that premise, we argue that in addressing only the knowledge-based dimension, educational researchers have overlooked the complex variables that influence the pedagogical practices that teachers decide to implement in their classrooms. One caution is in order: The majority of the research concerning knowledge, attitude, belief, and behavior relationships has been conducted in the laboratory under carefully controlled situations focusing on relatively insignificant beliefs and attitudes. Therefore, much work needs to be undertaken in situ to provide a clearer understanding of knowledge, attitudes, beliefs, and past behavior and their relationship to the decisions teachers make about implementing strategic instruction and quality accommodations.

### **THE ROLE OF DISSONANCE**

Serving two masters, the IKB and the PKB can be a source of decision-making dissonance, which is confounded by conflicting variables such as teachers' attitudes, beliefs, and past behaviors. Some theorists believe that knowledge is applied and beliefs and attitudes are acquired and changed in an effort to create a state of mental and behavioral consistency. Festinger's (1957) dissonance theory is predicated on the notion that when an individual holds a cognition that reinforces or is compatible with another cognition in some psychological sense, the individual experiences consonance. If the individual holds cognitions that are inconsistent with another cognition, then he or she experiences dissonance. If the latter occurs, the individual attempts to reduce the dissonance in one of two ways. He or she will try to increase the ratio of consonant to dissonant elements. For example, a teacher who holds predominately negative beliefs about his or her roles and responsibilities for educating students who are experiencing academic or behavioral difficulty and ultimately believes that implementing quality accommodations is the wrong thing to do for kids may be experiencing dissonance because his or her building colleagues harbor predominately positive beliefs. Therefore, the teacher might add the belief that quality accommodations are not only the wrong thing for kids who need educational support, but also they waste a lot of valuable teacher time and resources. Or, he or she might reduce the importance of the problem by saying that he or she will not implement any quality instructional or behavioral accommodations because the principal doesn't really want him or her to, and besides, next year they will be someone else's problem.

### **PAST PRACTICES TO MEDIATING THE DISSONANCE: COLLABORATIVE CONSULTATION**

Over the past 20 years, collaborative consultation has been the mediating thread between the PKB and the IKB. This service provision option represents a partnership between general and special education that is aimed at removing existing barriers that separate the two disciplines (Haight, 1984). Collaborative consultation is

conceptualized as a joint problem-solving process in which the consultant (i.e., typically the special educator) works with the consultee (i.e., typically the general educator) to specify the academic or behavioral problem, design and implement an intervention plan (i.e., strategies and accommodations in the general education classroom), and evaluate the overall success of the process (Anderson, Kratochwill, & Bergan, 1986). Equality, mutual respect, shared commitment, collective responsibility, and joint decision making are the hallmarks of collaborative consultation (Dettmer, Dyck, & Thurston, 1999).

Like in-service approaches and conference presentations, collaborative consultation relies heavily on the dissemination of professional knowledge or cognitive beliefs; the manner in which collaborative consultation is sometimes implemented reflects a disregard for the complex nature of human cognitions, attitudes, and behaviors as they relate to the decisions teachers make regarding the implementation of strategic instruction and quality accommodations. Moreover, there are logistical problems that impair the efficacy of collaborative consultation. For example, deBettencourt (1999) discerned that 80% of the general education teachers in her study spent 1 hr or less per week collaborating with their special education counterparts. One explanation for this is that they simply lacked access to one another due to rigorous time demands and conflicting school schedules. This is further intensified by the lack of support teachers receive from their school administrators in the form of release time or preferred scheduling opportunities (Dettmer et al., 1999). Inconsistent belief systems also contribute to the difficulties within this model. However, perhaps the most salient feature that prohibits collaborative consultation from functioning as effectively and efficiently as possible is the inherent resentment or judgment. Asking teachers to change their existing pedagogical practices implies that what they are currently doing is somehow wrong (Duffy, 1994; Gersten, Morvant, & Brengelman, 1995). Inevitably this inequitable relationship between the consultant and the consultee leads to feelings of incompetence, frustration, and failure. A quote from a teacher in the Gersten et al. (1995) study regarding the use of coaching within the “expert-based” collaborative consultation model provides a poignant illustration of the problem:

I was sure all my warts and scars would be exposed. . . . Initially they wanted knowledge of classroom atmosphere and style, but I knew that there were judgments made which I would not have liked hearing. . . . Carrying these insecurities around . . . allowing . . . grownups into my inner sanctum, created one of the more negative experiences in memory (Claire, language arts/social studies teacher, September, 1993). (p. 11)

### Triadic Model for Implementing Change

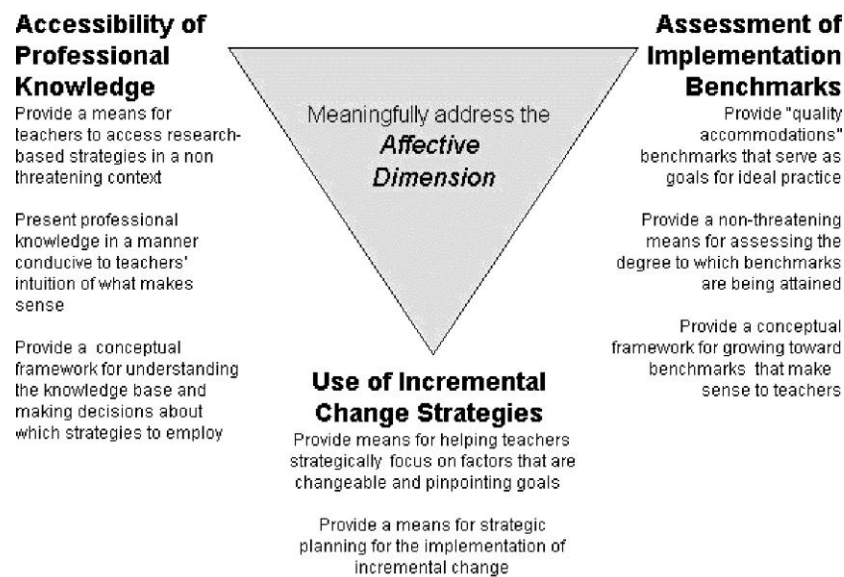


FIGURE 1 Implementing incremental change involves making the professional knowledge base accessible to educators, establishing indicators of quality (benchmarks), and providing systematic and recursive application of change strategies; likewise, the affective dimension must be addressed vigorously.

In light of the discrepancies between the PKB and the IKB, the differences in attitudes, past behavioral patterns, and the complexities associated with human decision making, it seems reasonable to conclude that collaborative consultation represents only a limited solution to the complex problem of enhancing the translation between research and practice. For the aforementioned reasons, collaborative consultation presents a number of shortcomings and the need for alternative approaches becomes clearly established.

## **SYNERGISTIC SOLUTIONS TO DIMINISH DISSONANCE AND CREATE CONSONANCE: AN EMERGING TRIADIC APPROACH**

Theory and research about the roles of knowledge, attitudes and beliefs, behavior, and dissonance point to three areas of need to enable individuals to implement sustained change in the use of strategic instruction. First, there is a need for a means for enabling teachers to access PKB. Second, teachers need benchmarks and a mechanism for determining how one's practice measures up to the ideal. Third, teachers need a plan of attack, or strategy, for making change happen within their own classroom or building (see Figure 1).

### ***Progress Toward Making PKB Accessible***

PKB information about instructional accommodations needs to be accessible in two fundamental ways. First, there must be opportunity for teachers to get to the information. Traditional means of getting PKB to the masses of teachers (i.e., reading journal articles, attending workshops or conference presentations) are neither effective nor efficient. New technologies (i.e., Internet, CD-ROM) provide some promising alternatives, but these likely will also prove limited unless they address the accessibility dimensions discussed later as well.

Second, the manner in which the PKB is communicated must be accessible from a comprehensibility or conceptual perspective. A plethora of information about accommodation strategies exists, but not a means for understanding it. Educators must rely on their own resources for constructing an understanding of how they all hang together, but this constructivist's perspective begins to collapse under the weight of massive amounts of complex information. The result can be fuzzy understandings reflecting loose or erroneous conceptualizations of interventions. We believe there is a need for a conceptual model for organizing the information. Ultimately, each individual will reorganize the PKB information relative to her or his own IKB, thus any conceptual model communicated to educators will be reconceptualized by each individual. However, providing an initial means for understanding the PKB (i.e., providing a conceptual framework for understanding accommodations) can greatly enhance understanding of and subsequent use of the accommodations themselves. A critical characteristic of such a framework is that it appeals to IKB rather than PKB—that is, the framework appeals to one's intuitive sense and initiates a positive emotional response. Ideally, an initial reaction of a teacher to the framework is, "Oh, that makes sense . . . that makes a lot of sense!"

Our iteration of a framework for understanding accommodations was developed following a set of guiding principles. First, the strategies reflected by the framework must be organized in a manner that not only is consistent with PKB but also makes intuitive sense to teachers (i.e., consistent with IKB). Thus, in addition to interventions being research-validated and developmentally appropriate, the organizational structures we adopted reflect a series of parallel, interdependent continua (see Figure 2). Naturally, the ultimate choice of one intervention over another is based, in part, on the degree to which a given intervention meets the maximum number of criterion. For example, teaching learning strategies may be high on one continuum (leads to independence) but lower on another (lower efficiency rating because effective strategy instruction requires both extensive and intensive instruction). Likewise, all continua are probably not equal in value, and thus should not be weighted the same. For example, it may be more important to consider the degree to which an intervention leads to independence than to consider how quickly it works. Thus, our research currently focuses on identifying a set of research-validated interventions to be included within the framework, validating the ranking of each within each continuum, and weighting each continuum. The principles are themes that establish the foundation of quality from which the management and instructional strategies for accommodating students with mild disabilities are constructed.

Our emerging understanding of factors associated with making PKB accessible has led to the development of a

series of interactive prototype software programs (Ellis & Rock, 2001a) collectively called Makes Sense Strategies (MSS). To address accessibility issues, MSS is aimed at empowering teachers by providing them with ongoing training experiences, whereby they can progress at their own rate to enhance their competencies for serving students with special needs in their classrooms. In creating the MSS software, we recognize that professional knowledge plays an important role in teacher decision making. The software offers teachers a framework for decision making that is based on the principles described earlier. For example, the MSS software addresses multiple levels of proactive and reactive management and instructional accommodations for teaching content-area subjects and teaching skills and strategies. Each tactic is addressed via a discussion of the challenge the tactic is designed to target (i.e., learner characteristics and implications when these are not considered and common ineffective pedagogy and its affect on learners). Teachers can access specific information about each instructional strategy or tactic via a series of hypertext links (similar to how a Web page operates). The software provides a resource enabling teachers to plan and provide differentiated instruction that helps students make sense of complex subjects and skills.

### Strategic Decision-making Guide for Selecting Accommodations

<b>Simple</b>	<b>Complexity</b>	<b>Complex</b>
<i>Try simple solutions before trying solutions that require a lot of knowledge, time, and effort</i>		
Providing concrete metaphors to enhance understanding of new vocabulary	<i>Example</i>	Using concept maps to enhance understanding of new vocabulary
<b>Least</b>	<b>Intrusiveness</b>	<b>Most</b>
<i>Use interventions that require the least amount of change in daily routine and environment before trying interventions that more significantly alter these factors.</i>		
Employing proximity to control disruptive behavior	<i>Example</i>	Employing behavior contracts to control disruptive behavior
<b>Proactive</b>	<b>Orientation</b>	<b>Reactive</b>
<i>Initially, use instructional strategies that when employed tend to prevent learning and behavior problems from developing and then use more intensive interventions only if the proactive ones proved insufficient</i>		
Using advance and postorganizers when teaching to enhance learning	<i>Example</i>	Using peer tutoring to enhance learning
<b>Efficient</b>	<b>Efficiency &amp; Efficacy</b>	<b>Inefficient</b>
<i>Use interventions that research indicates will likely produce the greatest amount of positive results in the least amount of time before using interventions that take awhile to impact the situation</i>		
Using graphic organizer frames to help students organize ideas for writing	<i>Example</i>	Employing Writer's Workshop to help students organize for writing
<b>Fosters independence</b>	<b>Independence</b>	<b>Fosters dependence</b>
<i>Use interventions that tend to foster independence in students before employing those that encourage dependency</i>		
Employing self-monitoring techniques	<i>Example</i>	Employing token economy
<b>Whole class</b>	<b>Holistic</b>	<b>Individual</b>
<i>Use interventions that are sufficiently robust to positively impact students with learning and/or behavior problems, but also work well with all students when used with the whole class before trying interventions targeted at just individual students</i>		
Providing the whole class with mnemonic devices to help them learn new terms	<i>Example</i>	Reducing the number of terms a student with learning problems is required to learn
<b>Included</b>	<b>Engagement &amp; Participation</b>	<b>Excluded</b>
<i>Initially use inclusive techniques that produce frequent academic responses before using techniques that remove the students from peers and/or instruction</i>		
Using Think-Pair-Share cooperative learning tactics to increase positive, engaged behavior	<i>Example</i>	Exclusion time-out

FIGURE 2 From *STEP-WISE: Makes Sense Strategies for Implementing Change*, by E. S. Ellis, 2001, Tuscaloosa, AL: Masterminds Publishing. Copyright Edwin S. Ellis. Reprinted with permission.



All of the instructional and management strategies and interventions included in the MSS software are research-based in terms of validated effectiveness. There are two tiers of strategies and interventions provided, and pending additional research regarding placement in Tier One or Tier Two, the interventions have been subjectively placed in these respective tiers based on our collective expertise. Tier One strategies and interventions are analogous to typical and routine approaches to adapting instruction (Baker & Zigmond, 1990; Fuchs, Fuchs, & Bishop, 1992; Munson, 1986–1987; Schumm & Vaughn, 1991, as cited in Scott & Vitale, 1998). These types of strategies are aimed at the entire class and they are relatively easy for teachers to implement and are proactive, thus would be considered the first line of attack for applying accommodations. We refer to Tier One strategies as Skillfully Practical Solutions for All. Examples of Tier One management strategies include clearly communicating expectations for learning and behavior, providing structured transitions, and employing proximity. Examples of Tier One instructional strategies include use of advance and postorganizers, graphic organizers, the PLAN writing strategy (Ellis, 2001a, 2001b), and providing students with mnemonic devices. The systematic and synchronized implementation of these basic management and instructional strategies are designed to help teachers to engage all students (not just those with disabilities) academically to enhance their classroom achievement.

Tier Two strategies are similar to substantial or specialized approaches to adapting instruction (Baker & Zigmond, 1990; Fuchs et al., 1992; Munson, 1986–1987; Schumm & Vaughn, 1991, as cited in Scott & Vitale, 1998). Tier Two strategies are designed to address the needs of individual students and they are somewhat more time and labor intensive for teachers to implement. We refer to Tier Two strategies as Structured Operating Systems for Individuals. Examples of Tier Two management strategies include teaching students to use impulse control strategies, self-talk, and self-monitoring. Examples of Tier Two instructional strategies include providing intensive instruction in learning strategies, using peer tutoring, and employing alternative textbooks. Tier Two strategies are primarily reactive in nature and are designed for use when Tier One strategies have been earnestly employed and found insufficient due to the intense needs of students with more severe behavior and learning difficulties within the context of the general education classroom.

Many teachers randomly select Tier One or Tier Two interventions on the basis of momentary intuition (IKB). Consequently, a second goal related to the MSS software is to help teachers conceptualize intervention variables from a strategic perspective. For example, if Tier One strategies have been effectively implemented and tried sufficiently and the problem persists, then the teacher needs to shift to implementing Tier Two accommodations. This framework encourages teachers to try basic interventions first. The MSS software offers a logical and coherent plan of attack and provides teachers with a strategy to address students' learning and behavioral problems based on their PKB. This strategic organization helps teachers to differentiate instruction not with an individual learning style orientation, but rather with the use of highly robust teaching tactics that reflect strategic decision making relative to simple-to-complex, least-to-most intrusive, proactive-to-reactive, efficiently-to-inefficiently robust, independent-to-dependent, whole-to-part, maximum-to-minimum student participation, and academic engagement variables.

Although collaborative consultation is, in theory, a model based on mutual respect and equality, the manner in which it is sometimes implemented reflects an expert model resulting in a perception of implied judgment and subsequent resentment general education teachers experience when their colleagues enter their inner sanctum. The tiered structure within the MSS software also allows teachers to make decisions about strategic instruction and quality accommodations based on a neutral conceptual model rather than an intrusive expert version. The software is nonthreatening and becomes a vehicle for shifting the focus away from the general education teacher and what he or she may be doing wrong to a conceptual model or target to enhance the behavioral and academic classroom performance of students within the inclusive environment.

### ***Progress Toward Developing Quality Accommodations Benchmarks***

The effectiveness of using benchmarks for determining students' progress through the curriculum has been well known for some time (Brownell, Colletti, Erner-Hershfeld, Hershfeld, & Wilson, 1977). Clearly, when both teachers and students are knowledgeable about the goals of instruction and progress toward these goals is

systematically assessed, learning occurs more quickly. Likewise, when teachers have benchmarks for their own performance and these are systematically measured, they tend to progress toward attaining the benchmarks as well (Fueyo, Brown, & Hansen, 1998; Larter & Donnelly, 1993; Moss & Schutz, 1999; Otis-Wilborn, Winn, Ford, & Keyes, 2000; Prybylo, 1998). Although educators have invested considerably in developing teacher performance rating scales (Fueyo et al., 1998; Larter & Donnelly, 1993; Moss & Schutz, 1999; Otis-Wilborn et al., 2000; Prybylo, 1998), little attention has been placed on the development of benchmarks and rating scales for determining the degree to which teachers are employing quality accommodations. Likewise, teacher performance rating scales almost exclusively focus on discrete teaching behaviors (e.g., use of advance organizers, providing guided practice) and fail to address other critical dimensions related to the quality of instruction. These are discussed later.

Kazdin (1980) identified several variables that influence the acceptable nature of classroom interventions including: effectiveness, reasonableness, fairness, ease of use, consistency with pedagogical orientation, and appropriateness for the setting. Likewise, we posit that there are six key interacting variables that bring quality to instructional and behavioral accommodations and influence teachers' acceptability. These six key interacting variables include validity, integrity, match, selectivity, persistency, and corpulence (see Figure 3). We contend that benchmarks reflecting the quality of accommodations employed by teachers should account for these variables.

There are two primary concerns that influence the validity variable. First is the issue of construct validity. To bring quality to a specific instructional or behavioral tactic, there needs to be extensive (indisputable) research demonstrating that it is likely to have a positive impact on students when it is implemented. The second consideration is social validity. The tactic or strategy must possess feasibility, which means teachers must view the accommodation as doable. There also needs to be a teacher-value match indicating that teachers view the technique as valuable, as well as a student-value match. The latter implies that students need to value the teacher's use of the technique to avoid punishing the teacher for using it. Also essential is a style match—the tactic or strategy needs to fit within an existing teaching style so use of the technique does not interfere with the teacher's personal style or philosophy of teaching.

The integrity variable that brings quality to accommodations involves the fidelity dimension of classroom implementation. Specifically, the notion of integrity addresses the degree to which implementation of an accommodation is consistent with the accommodation's validated critical features and application procedures.

Selectivity is used to refer to two perspectives that influence the quality of accommodations. The "bull's eye" perspective reflects the degree to which an accommodation is appropriate for a set of given student characteristics and appropriate for use with a specific kind of curriculum. On the other hand, the "strategic priority" perspective concerns the use of strategic decision rules that guide the selection process (e.g., the least-to-most intrusive nature of a tactic or strategy; most-to-least effective) aspect associated with the interventions.

The persistency characteristic associated with quality is analogous to endurance. It denotes the degree to which a technique is used on an ongoing basis for an extended period of time. In contrast, corpulence involves the range, or number, of different accommodations implemented in the classroom setting.

We posit that these six key variables interact with one another, in a synergistic manner, to bring quality to proactive and reactive accommodations. If one of the variables is compromised, then the quality of the accommodation will suffer, as will its effectiveness.

Establishing a set of quality accommodation benchmarks and a means for assessing progress toward them may be beneficial in a number of ways. First, to supplement their intuitive sense of their effectiveness, teachers can use the instrument to self-assess the degree to which their classroom environment is conducive to meeting the students with diverse needs. The instrument should help teachers pinpoint areas that reflect strategic use of accommodations, as well as identify those practices that might reflect less-than-ideal practice. For example, as a

first line of attack, the teacher may have been employing content reduction (reducing the amount of information the student is expected to learn) as an accommodation strategy, whereas the instrument might help the teacher realize that providing students with mnemonic devices is likely to have a much greater impact on students' success. This information, in the absence of knowledge about what mnemonic devices are or how to construct them, is of little use to teachers, so the instrument should also provide the means for enabling teachers to access this information. It is with this process in mind that we have been developing a prototype assessment tool (Ellis & Rock, 2001b) referred to as the Quality Accommodations Inventory (QAI).

Dimensions of Implementation		
Teacher: <u>L. Smith</u> Accommodation <u>Key-word mnemonics</u>		
Intuitive—constructed by teacher because it seemed to make sense, but little or no research to support its use	<b>Validity</b> <i>Degree to which accommodation being employed has been validated with research</i>	Extensive Research Support <b>X</b>
Intuitive—implemented by teacher in a manner that seems to make sense, but little resemblance to validated procedures	<b>Integrity</b> <i>Degree to which the manner in which accommodation is employed is consistent with the validated procedures for using it</i>	Precisely follows implementation procedures consistent with those used to validate accommodation <b>X</b>
Mismatch between accommodation used and the nature of students for which it was designed and validated <b>X</b>	<b>Match</b> <i>Accommodation is appropriate for the students and curriculum for which it is being applied</i>	Close match between accommodation used and the nature of students for which it was designed and validated <b>X</b>
Accommodations employed do not reflect strategic decision making regarding selection <b>X</b>	<b>Selectivity</b> <i>Selection of accommodation reflects application of Strategic Decision-Making Rules (e.g., least-to-most intrusive)</i>	Accommodations employed reflect strategic decision making regarding selection <b>X</b>
Implements accommodation briefly, sporadically, or inconsistently <b>X</b>	<b>Persistency</b> <i>The degree to which accommodation is used on an ongoing basis over an extended period of time</i>	Implements accommodation consistently and extensively <b>X</b>
Classroom environment reflects no evidence of accommodations	<b>Corpulence</b> <i>Range of different accommodations used within a classroom setting at any point in time</i>	Classroom environment reflects a wide array of accommodations <b>X</b>

FIGURE 3 This evaluation suggests that L. Smith's use of key-word mnemonics as an accommodation for students with learning disabilities is well supported by research. She is generally following the validated procedures for using key-word mnemonics with students with learning disabilities, and the accommodation is being used with the appropriate students and curriculum material. The evaluation also suggests that L. Smith might have employed accommodations more strategically (e.g., using something less work intensive such as providing concrete metaphors when teaching vocabulary) and that the accommodation was being used infrequently (thus its overall impact is likely to be minimal). The evaluation also indicates that this teacher is not evidencing use of many other accommodations strategies. From *STEP-WISE: Makes Sense Strategies for Implementing Change*, by E. S. Ellis, 2001, Tuscaloosa, AL: Masterminds Publishing. Copyright Edwin S. Ellis. Reprinted with permission.

The QAI portion of the triadic approach recognizes the roles of knowledge, beliefs, and attitudes in relation to the decisions teachers make regarding the implementation of strategic instruction and quality accommodations. Teachers' attitudes and beliefs about quality accommodations influence their acceptability.

Like the MSS software, the QAI evaluation instrument is also presented in a software format. The computer-generated model is designed to provide a mechanism for the careful and strategic monitoring of quality accommodations on the basis of the aforementioned six key interacting variables. A primary purpose of the QAI

is that it enables teachers to evaluate the quality of accommodations used for a specific student and the success potential of a given inclusive classroom for a student with a mild disability relative to research-based pedagogy.

The prototype instrument contains three forms of systematic assessment: Form M evaluates Tier One and Tier Two management strategies, Form C assesses Tier One and Tier Two content instruction strategies, and Form S measures Tier One and Tier Two skill instruction strategies. Each management-, content-, and skill-related tactic or strategy the teacher selects for use is entered into the computer and evaluated by the conceptual model, and the evaluative framework describes high versus low performance in the provision of quality accommodations on the basis of the six key interacting variables. Via hyperlinks to the MSS software, the QAI also allows for teacher-initiated follow-up training in specific techniques. For example, if as a result of the self-assessment using the QAI the computer recommended the teacher use mnemonic devices in lieu of content reduction accommodations, the teacher can then select “tell me more about this” on the computer screen. What immediately follows is a computer-guided tutorial on how to create mnemonic devices, multiple examples, and instructional resources for using them.

The rationale for the design of the QAI is based on the premises of social-psychological research and theory. Reactance theory provides some evidence to suggest that a high-pressure social influence technique, like collaborative consultation, may be counterproductive (Brehm, 1966; Eagly & Chaiken, 1993). For example, when general education teachers receive persuasive messages (e.g., regarding the need for implementing strategic instruction and quality accommodations) that they construe to be threats to their attitudinal freedom (e.g., “students with disabilities should enter my classroom prepared to learn the content the same way all the other students do—I am a general education teacher NOT a special education teacher”), they attempt to reassert their freedom by maintaining their original attitudes or by changing their attitudes to reflect the position opposite of the persuasive message. The latter is referred to as the boomerang effect (Brehm & Brehm, 1981, as cited in Eagly & Chaiken, 1993). Consequently, a soft sell approach like the QAI may be more effective (Eagly & Chaiken, 1993).

To minimize the likelihood of the boomerang effect, the QAI is designed to provide a framework for careful and strategic monitoring in a neutral or nonthreatening manner. In turn, this process may impact teachers’ attitudes and beliefs about the value of strategic instruction and quality accommodations because it provides them with immediate feedback. The type of feedback that they receive is, in theory, less threatening because it comes from a conceptual model. This potentially allows teachers’ attitudes about quality accommodations and their decisions to implement them to be made on the basis of a computer-generated model rather than an expert colleague model. Consequently, the focus strategically shifts away from judging or blaming the teacher to restructuring the general education environment to promote successful outcomes for students with disabilities. At this point in our research, a prototype instrument has been developed, but it has not been validated. Thus, the ideas discussed here represent intended goals for what we hope will happen when the instrument is used and are not research-based conclusions about the instrument.

The QAI has been strategically designed to promote several advantageous outcomes. First, the QAI is intended to establish a target by systematically guiding teachers through the decision-making process regarding what interventions to select and provides immediate feedback regarding its effectiveness. This is important because in reality the quality and quantity of the feedback teachers receive regarding the implementation of strategic instruction and quality accommodations is minimal. Second, the QAI is designed to eliminate the judgment and resentment that interferes with the translation of research to practice knowledge during collaborative consultation because it offers teachers a vehicle for careful and strategic monitoring in a nonthreatening manner. Third, the QAI also is intended to address the discrepancy between the need for accommodations and the availability of support teachers need to implement them.

The information obtained from the QAI can be used in three ways. As previously mentioned, teachers can use the QAI to evaluate the quality of accommodations used for a specific student. Principals may use the QAI to evaluate the quality of special education programs and services within a school building. On a broader

dimension, special education coordinators may use the instrument to evaluate special education services within a school district.

### *Progress Toward Developing Strategies for Making Change Happen Within a Classroom or Building*

The first two components of the triadic model concern empowering teachers with robust integrated PKB and IKB knowledge. The MSS software provides information about accommodation strategies, whereas the QAI helps teachers know what they need to know more about. Knowledge, in the absence of strategies for how to use the knowledge, tends to remain inert, so teachers need strategies for facilitating incremental change (Cuban, 1996). As previously discussed, being strategic at facilitating change means carefully selecting for change those variables that one can control and not expending great amounts of energy being concerned about those variables one cannot control. Being strategic also entails the development of specific plans of action, expending effort to change, and creating action identity (Eagly & Chaiken, 1993). To enable teachers to craft plans for effective change within their own classroom or building, we have developed the STEP-WISE goal-setting strategy as the third dimension to the triadic model. The STEP-WISE process provides teachers with an organized structure to mediate the dissonance resulting from their IKB, PKB, attitudes, beliefs, affect, and past behavior.

Theoretically, when the dissonance is reduced, momentum is generated in facilitating the use of strategic classroom instruction.

Conceptualizing and executing a plan are often the first steps in creating change. The procedural act of planning is considered to be a reflection of the intention to achieve a goal. The theory of goal pursuit (Bagozzi & Warshaw, 1990; Warshaw, Sheppard, & Hartwick, 1982) posits that trying is a primary factor in determining whether a goal will be attained (i.e., the mental and physical aspects of trying must occur in between intention and attainment for the goal to be achieved successfully). Control is also an important aspect to consider in goal attainment. Ajzen's (1985) theory of planned behavior regarding perceived behavioral control (i.e., how easy or difficult it is to perform the behavior) and Bandura's (1977) concept of self-efficacy (i.e., convictions regarding one's ability to perform the behavior) posit that individuals are more likely to engage in a behavior when they possess perceived control and confidence over it. Important to consider is the assertion that goals are often hierarchical. Higher level goals are generally more abstract, whereas lower level ones are quite specific. The goals within the spectrum are characterized by varying degrees of difficulty, nonetheless they are related to one another (Eagly & Chaiken, 1993). Within this spectrum, the type of goal that is salient to an individual's action identity is the one most likely to come to fruition. Action identity refers to how one perceives one's self or the visual representation of one's identity (Vallacher & Wegner, 1985, 1987).

Phase 1, use of the STEP Prioritizing Strategy (Ellis, 2001b), involves basic procedures for making decisions about what to change. Educators employ a decision-making matrix to structure this process as they analyze their situation, identify factors that should be considered when selecting factors to change, identify those variables within their environment that can be changed, and then prioritize them according to the identified factors (see Figure 4).

Phase 2, use of the WISE Planning Strategy (Ellis, 2001b), focuses on procedures for planning, trying, and controlling by analyzing each factor targeted for incremental change and then developing plans for making the change happen. In essence, the second phase focuses on goal analysis, goal setting, planning, and implementing. Once they have identified and established a priority for the desired outcomes using the STEP strategy, educators apply the planning strategy by developing a description of the ideal practice (relative to the factor they are targeting) without regard for other factors that may impede the attainment of the ideal. In essence, teachers are asked to: "Imagine that you have a magic wand and could create the ideal situation. You can use your magic wand to just make it happen—your magic wand erases all of the things that would keep it from happening. What would the ideal look like?" After specifying the ideal, educators then provide a description of the critical features of current practice. Because the reality of the actual situation and the ideal (goal) tend to be so far removed from each other, educators often give up at this point because of the dissonance between the two. Thus, educators are asked to view the ideal as a long-term goal (something to be attained within 5 years) and to identify specific short-term outcomes that they perceive to be reasonably attainable within a specified period of

time (e.g., a semester or two) and to view these as “one step toward the ideal” as well as another set of short-term outcomes (“the second step toward the ideal”) to implement during the second period of time, assuming the first set of short-term goals is attained. They are then asked to generate a set of specific plans for attaining the first set of short-term goals (see Figure 5).

### STEP Prioritizing Strategy

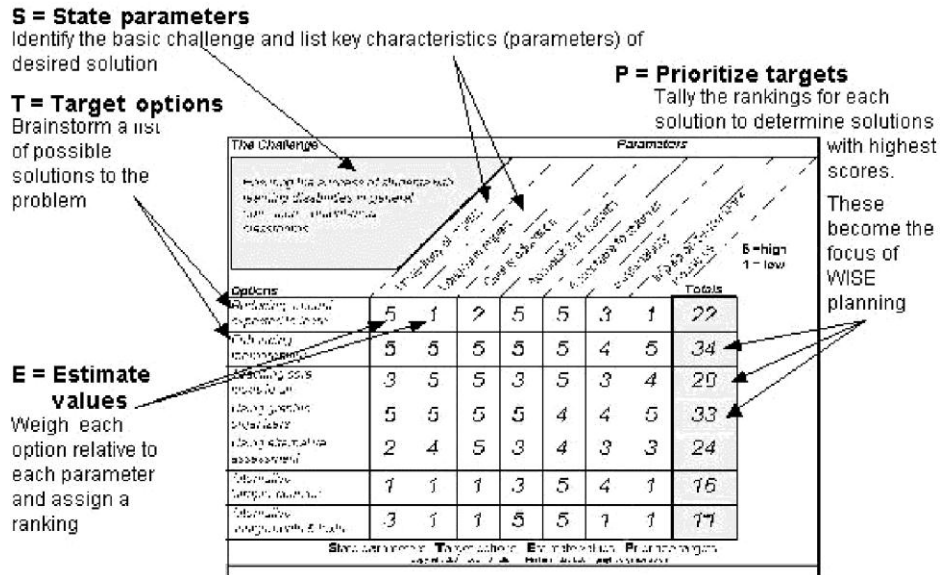


FIGURE 4 Sample application of the STEP Prioritizing Strategy and the decision-making matrix. From *STEP-WISE: Makes Sense Strategies for Implementing Change*, by E. S. Ellis, 2001, Tuscaloosa, AL: Masterminds Publishing. Copyright Edwin S. Ellis. Reprinted with permission.

During the initial implementation period when the first set of goals is being addressed, the process of attempting to attain these goals often results in a deeper understanding of the problem and the ideal and how to address the problem. Thus, at the end of the initial implementation period (or when the first set of goals is attained), the entire goal analysis and setting process is repeated. Perceptions of the ideal are reviewed and often revised due to what has been learned in the interim. Likewise, what was originally established as the second set of short-term goals is revised and these now become the new initial set, and a whole new set of second step short-term goals is established.

### WISE Planning Strategy

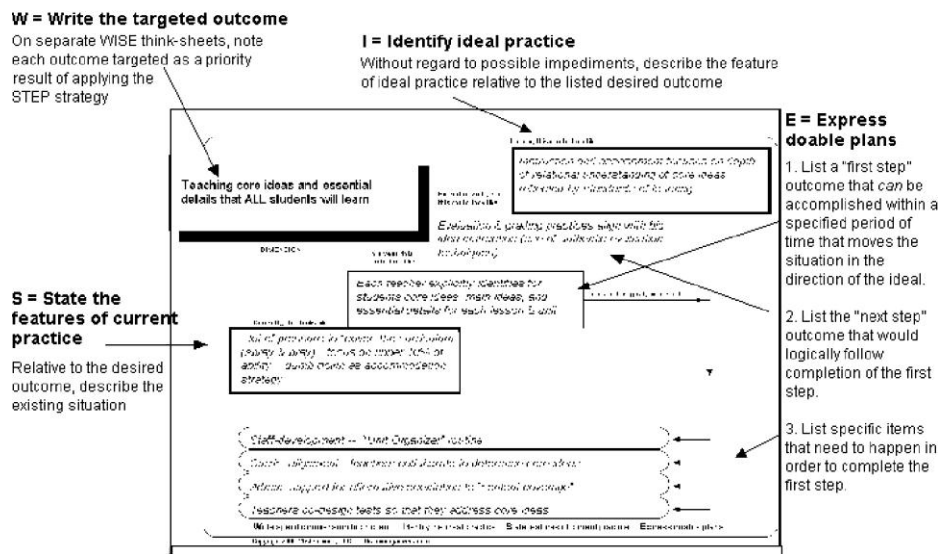


FIGURE 5 Sample application of the WISE Planning Strategy and associated think sheet. From *STEP-WISE: Makes Sense Strategies for Implementing Change*, by E. S. Ellis, 2001, Tuscaloosa, AL: Masterminds Publishing. Copyright Edwin S. Ellis. Reprinted with permission.

The process just described is recursive. The ideal is never actually attained because it is constantly being revised based on the unfolding experiences associated with implementing strategies to attain the ideal, but what happens is continual incremental change in a positive direction. The significance of the STEP-WISE goal-setting process is that the framework incorporates a multifaceted approach to promoting systemic change. To launch the process, it is necessary to distinguish between change and improvement. Knowing what type of change is desired (incremental vs. fundamental change) is paramount and crafting a strategy to achieve it is essential to initiating productive momentum in the goal-setting process and disrupting the nonproductive past behavior–future behavior cycle. STEP-WISE goal setting provides a structured framework to address the aforementioned critical factors as well as knowledge bases, attitudes, beliefs, and past behaviors to facilitate teachers’ use of strategic instruction and quality accommodations. Both STEP and WISE are based on research-validated principles and techniques for facilitating change. Currently, our efforts are focused on developing prototype software for facilitating use of these strategies by teachers, and then field testing the software for validation.

### *The Affective Dimension*

Thus far we have described the exterior points of the triadic model; however, the interior portion reflects an essential element that cannot be overlooked in efforts to create systemic change. The interior portion of the triadic model is the fabric that intertwines the three exterior dimensions and creates the synergy among them. The center represents the affective dimension of teachers’ decision-making processes. Refer to Figure 1 for a conceptual illustration of the model.

Recognizing and valuing the affective elements of teachers’ decision-making processes are an important part of developing a strategic approach to facilitating systemic change. The exterior components of the model are aimed at improving teachers’ knowledge, skills, and abilities, in contrast to the core of the triad that is designed to enhance teachers’ motivation to implement strategic instruction. The affective dimension of the model is firmly rooted in motivational theory, which is concerned with understanding why people behave as they do (Bourne & Ekstrand, 1979). Learning, heredity, habits, beliefs, attitudes, incentives, instincts, and basic needs offer some explanations for why people behave in certain ways (Bourne & Ekstrand, 1979). However, one of the most underestimated aspects of teachers’ motivation to implement professional knowledge is the role of emotion or affect and its relationship to incentive. The stronger or more intense teachers’ emotions are, the greater their motivation will be to approach or avoid (Bourne & Ekstrand, 1979). In other words, the intensity of their emotional response to new information will determine the amount of incentive, and whether the emotion is pleasant or unpleasant will determine whether their incentive is positive (i.e., to approach or implement strategic instruction) or negative (i.e., avoid or not implement strategic instruction; Bourne & Ekstrand, 1979).

For example, the MSS, QAI, and STEP-WISE goal-setting facets of the triadic model offer messages to teachers that are predominately informational in nature. The purpose of the information is to change teachers’ nonstrategic approach to classroom instruction to a strategic one. Important to consider is that the researchers’ message and the teachers’ response contain both affective and informational elements (Benjamin, 1981). When teachers’ affect (e.g., feeling) is ignored, the information presented in the researchers’ message is not helpful (Benjamin, 1981). Consequently, teachers are more likely to respond with intense negative emotion; therefore, their incentive is to avoid (e.g., ignore and disregard the information). As was previously addressed, when researchers attempt to change teachers’ current classroom approaches to instruction and management, the conclusion teachers make is that what they are presently doing is somehow wrong (Duffy, 1994; Gersten et al., 1995). This creates intense feelings of anxiety, frustration, and tension within teachers. Ignoring these feelings and bombarding teachers with increased levels of information (professional knowledge) only exacerbates the problem by further alienating teachers from academicians and leaving the abyss between research and practice well intact.

Teachers need to enhance their PKB to improve on current classroom practices, yet they negotiate the change process with high affect. Thus, the goal of the affective dimension is to facilitate meaningful experiences (Benjamin, 1981) that address both affective and informational needs. Responding to the affective role of teachers’ decision-making processes involves the use of empathy and humor. The empathic nature involves

recognizing and restating the pressures confronting teachers in a nonpatronizing manner. For example, in the introductory videotape teacher's preview prior to interacting with the MSS software, a series of graphics illustrating a pressure cooker are used as a metaphor to depict the feelings many teachers currently experience. The graphics and the metaphor are tools to meet the affective needs of teachers first, and then information, namely approaches to strategic instruction and management, is presented to meet their informational needs and increase their professional knowledge base. The affective element also appeals to teachers' IKB, therefore making them more receptive to the information pertaining to the PKB. The format of interspersing affective elements with informational elements needs to occur continuously and intermittently throughout a professional message that is aimed at improving pedagogical practice. Academicians tend to discount the role of humor (i.e., zero articles concerning the topic of humor have appeared in special education research journals in the past 30 years), but humor is also helpful in alleviating feelings of frustration, anxiety, and tension. Educational cartoons, quotations, and experiential storytelling are also effective vehicles for meeting the affective needs of teachers. Addressing the role of affect in teachers' decision-making processes enhances the helpful nature of a professional message because it communicates trust and erodes barriers between teachers and researchers. When teachers perceive change messages as being helpful, rather than being a hindrance, they are more likely to shift the information into classroom practice.

## CONCLUSION

To effect systemic change, educational researchers need to broaden their understanding of the multifaceted aspects of human decision making and explore the roles of knowledge, beliefs, past behaviors, and affect to construct practical and benevolent frame-works for promoting systemic change that respect these complexities. To do so, we must employ strategic and synergistic approaches. Past practices aimed at reducing the dissonance in teacher decision making have been reductionistic (i.e., knowledge based) and nonstrategic (i.e., linear). The result has been a lack of transfer from theory to practice. This is evidenced by the provision of largely undifferentiated instruction for students with disabilities in general education classroom settings (Baker & Zigmond, 1990; McIntosh et al., 1993; Vaughn & Schumm, 1994). Like students who lack efficient and effective strategies to approach learning, professionals have employed approaches to facilitating systemic change that are symbolic, piecemeal, and unsuccessful. To produce substantive, organized, and sustained changes in educational practice, we believe a triadic, synergistic approach that offers strategic solutions is needed (see Figure 6).

	<b>Makes Sense Strategies Software</b>	<b>Quality Accommodations Inventory</b>	<b>STEP-WISE Strategy for Incremental Change</b>
<b>The Gist</b>	Research-based instructional and management strategies provided in a multi-tiered format	Strategic monitoring of teacher practice via quality benchmarks & related assessment systems	Strategic approach to effect incremental change in teachers' use of research-based accommodations
<b>Affective Element</b>	The intuitive knowledge base (what feels right) is paired with presentation of professional knowledge to enhance best educational practice	The intrusive-expert model is replaced by a neutral conceptual model to provide teachers with immediate feedback	The process focuses on the role of and alignment with teachers' <i>action identity</i> so that goals are more likely to come to fruition
<b>Recursive Element</b>	Continuous access to professional knowledge presented in a simple-to-complex format that is user-friendly	Continuous self-evaluation in a non-judgmental format	Ongoing goal setting, implementation, and enhancement
<b>Decision Making</b>	Logical and coherent plan of attack that provides a triadic strategy for systemic decision-making based on motivational factors to traverse the research-to-practice abyss		

FIGURE 6 Summary of critical features of the triadic model.

One dimension concerns making the PKB accessible in a manner that is conducive to accommodating teachers' intuitive knowledge and promotes strategic decision making. Another dimension needs to establish benchmarks



relative to an ideal and a means for determining the degree to which one is attaining these benchmarks. The third dimension needs to provide a means for implementing incremental change in a strategic manner to enable teachers to attain the benchmarks. None of these dimensions, however, are efficacious unless they occur within a positive affective context, so this too needs to be strategically and recursively targeted to subvert bail and blame reactions and make best educational practices a reality.

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