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## Best Practices in Linking Assessment to Intervention

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### OVERVIEW

Students who possess and demonstrate the academic and interpersonal skills to meet the task demands of the school setting are successful. Those who lack those skills (or do not demonstrate the skills that they have) are at risk to develop a behavioral trajectory that leads to adaptational failure. The purpose of the problem-solving model is to identify the competencies that students need to meet curricular and behavioral expectations successfully. The primary outcome of problem solving should be the development, implementation, and evaluation of interventions that significantly improve the adaptational success of students to the process of schooling (Batsche, Kavale, & Kovalski, 2006).

High quality services often are not provided efficiently. Problem solving delivered in a three-tiered delivery system, however, is an example of both effectiveness and efficiency.

The three-tiered system emphasizes delivery within general education first, where large numbers of students receive the benefit of the interventions. The model provides an increase in the intensity of both problem solving and intervention delivery *only* when such intensity is necessary.

Linking assessment to intervention through the process of hypothesis development and confirmation contributes to the efficiency of the process by ensuring the interventions developed are linked to improving the competencies of students. The failure to link assessment data to intervention development accurately results in

two major problems. First, the intervention is less likely to work, requiring additional problem solving, and time is wasted. Second, and perhaps more important, when interventions do not work the perception that the problem is severe is enhanced.

When problems are viewed as severe, students are more likely to be referred for entitlement programs (e.g., special education). In a response-to-intervention (RTI) model, accurate interpretation of a student response to intervention is predicated on the fact that the intervention is both appropriate *and* implemented with integrity. If the intervention is not appropriate because the link between assessment and intervention is weak, then time is wasted in solving problems.

In the average school system, there are 330 minutes in the instructional day, 1,650 minutes in the instructional week, and 56,700 minutes in the instructional year. Except in unusual circumstances, these are the only minutes we have to provide effective services for students. The number of years we have to apply these minutes is fixed. Therefore, each minute counts, and schools cannot afford to support inefficient models of service delivery.

The focus of the problem-solving model is assessment. Data collected during the assessment process serve three functions. First, data must assess accurately the behaviors identified as critical to successful adaptation to the task demands of the classroom or school environment. Second, the data must inform the development of interventions. Finally, the data must be sensitive enough to evaluate the effectiveness of those interventions.

The process of linking assessment to intervention requires the development of hypotheses that bridge the gap between the identified problem and factors that contribute to the problem. Traditional assessment practices have relied on the aptitudes measured by norm-referenced, standardized tests to define the hypotheses that seek to link problems to causes. The lack of empirical support for the aptitude by treatment interaction (ATI) approach has been well articulated in the research literature (Reschly, 2003; Vaughn & Linan-Thompson, 2003). The requirements for linking assessment to intervention have changed dramatically since the 1990s. Historically, the link was between assessment and eligibility determination (i.e., diagnosis). Instructional staff were responsible for developing interventions and educating the student or group of students. One impact of the No Child Left Behind (NCLB) Act was to change the link between assessment and intervention from evaluation for program eligibility to the evaluation of student academic and behavioral progress. This fundamental change required that the problem-solving model resulted in closing gaps between student performance and state-approved grade-level benchmarks for academic and social behavior.

How then does a problem-solving team link assessment to intervention in such a way as to develop, implement, and evaluate strategies that significantly increase the skills of a student or group of students? A key is the development of hypotheses that articulate the relationship between the desired behavior and empirically supported factors that affect the acquisition of those behaviors.

## **BASIC CONSIDERATIONS**

Schools are held accountable to implement practices that improve the academic and social behavior of students in an environment of diminishing resources (personnel and training) and higher expectations (Fairbanks, Sugai, Guardino, & Lathrop, 2007; Griffiths, VanDerHeyden, Parson, & Matthew, 2006). The development and implementation of effective interventions is informed by the problem-solving model, in particular the problem analysis step. However, a major concern about the widespread use of the problem-solving model is that consistent implementation (integrity) of the model cannot be accomplished across schools and districts (Batsche et al., 2006). It is important, therefore, to understand clearly the essential components of the model and

the skills that are required to implement each component. State departments of education and school districts must develop a standard set of policies and procedures to facilitate consistent implementation across settings.

## **Problem Solving in a Multitiered Service Delivery Model**

Bergan and Kratochwill (1990) identified the essential components of a comprehensive problem-solving model: problem identification, problem analysis, intervention development, and implementation and intervention evaluation. The process of linking assessment to intervention occurs in the problem analysis step and will be described in detail. The essential components must be present regardless of whether the problem is conceptualized to lie at the school, classroom, small group, or individual student level. The need for efficiency in service delivery has resulted in the application of standard protocol models of assessment and intervention services to Tiers 1 and 2 of the multitiered model (Fuchs, 2003). The application of problem solving across different levels of analysis (e.g., individual, classroom) combined with the use of standard protocol models (high need, group-delivered skill-based supplemental interventions at Tier 2) has influenced the application of both the problem-solving model and, inherently, the link between assessment and intervention. The steps of the problem-solving model remain the same, regardless of the level of analysis.

## **Linking Assessment to Intervention**

The implementation of successful interventions begins with accurate *problem identification*. Traditionally, the student problem was stated as a broad, general concern (e.g., impulsive, aggressive, reading below grade level) that a teacher identified. In a competency-based approach, however, problem identification is stated in terms of the *desired replacement behaviors* that will increase the student's probability of successful adaptation to the task demands of the academic setting. Replacement behaviors are stated in terms of what we want the student to be able to do (e.g., walk away from provocation, comply with verbal directions, read fluently at 70 words correct per minute) rather than the "problem" that the student evidences (e.g., aggression, disrespect, cannot read). The problem identification step is completed with integrity if five pieces

of information are used to *define* the replacement behaviors:

- Behavioral description of the replacement behavior
- Current level of student performance
- Desired level of performance (benchmark)
- Peer level of performance
- Difference between current and desired levels of performance

The conclusions that are drawn from the data collected in this step will determine whether a decision is made to intervene at Tier 1 (core/universal instruction) or at Tier 2 (supplemental instruction). If a significant gap exists between the current and desired levels for *both* the target student *and* the peer group, then a Tier 1 intervention is indicated. If a gap between the current and desired levels exists only for the target (and not the peer group) student, then Tier 2 interventions are considered. This approach is important if the link between assessment and intervention established as part of the *problem analysis* step is expected to result in *effective* interventions. Once the target behavior has been identified and defined, establishing the link between assessment and intervention requires two steps: development of hypotheses and data collection to verify the hypotheses.

### Hypothesis Development

Linking assessment to intervention begins by asking the following question: Why is the student unable to walk away, follow directions, or read fluently (demonstrate the desired replacement behavior)? The answer to this question establishes the link between the outcomes of assessment and the development of targeted interventions.

This is the format for hypothesis development: “(Student) is unable to (replacement behavior) *because* (hypothesis).” To answer this question, *hypotheses* about the relationship between the lack of the replacement behavior and possible factors that influence that relationship are developed in six areas: student factors, teacher factors, peer factors, curriculum factors, classroom/school factors, and/or family/community factors. When applied appropriately, this method results in an ecologically sound, culturally competent approach. Each of the six hypothesis areas is considered and used based on empirically supported evidence of the link between the desired behavior and the hypothesis area. Complex problems will incorporate more hypothesis areas than less complex scenarios.

In a multitiered model of service delivery, the order of problem solving usually progresses from Tiers 1 through 3 (if necessary). In practice, this would mean that all individual student referrals are considered within the context of the core (or universal) intervention system first, the supplemental intervention program second, and then on factors related to the student himself or herself (student characteristics). However, the model accommodates exceptions when it is clear that a student requires supplemental and/or intensive interventions based on existing information (e.g., traumatic brain injury) or history. Clearly, Tier 1 hypotheses would include curriculum factors (how effective is the curriculum for all students to begin with), peer factors (is the target student’s behavior significantly different from that of the peers), and family factors (is the academic or social behavior of the target student different from the behaviors of other students of similar race, culture, and socioeconomic or language characteristics). Here are a few examples of hypotheses:

- Carla is unable to remain on task during independent seat work for at least 10 minutes because she lacks the academic skills to complete the task successfully (student characteristic; Tier 2 or 3 hypothesis).
- The students in Mrs. Smith’s classroom are unable to demonstrate high levels of compliance because no systematic behavior program exists in the general education classroom (Tier 1 hypothesis).
- Shaneka does not comply with the teacher’s verbal directions because the peer group reinforces her noncompliance at a higher rate than the teacher reinforces compliance (peer and teacher).

Once the hypotheses are developed, the assessment protocol is developed using multiple methods of data collection. These methods include *review, interview, observation, testing, and self-report* (RIOTS) strategies. The organization of the assessment protocol is developed through the use of *prediction statements*. Prediction statements are statements that, when true, verify the hypothesis. The development of the prediction statement informs the data collection strategy and links to the potential intervention. Prediction statements are developed using the following format: *When* (the student demonstrates (the target behavior), *then* (the hypothesis will be evidenced). What follows are examples of prediction statements for the sample hypotheses stated above:

When Carla is given work at her instructional level, then she is able to complete seatwork and remain on task for 10 or more minutes.

*and*

When Carla is given work that is at her frustration level, then she will be unable to remain on task for 10 or more minutes (converse statement).

The converse prediction statement is an important part of this process. Unless the converse hypothesis is considered and assessed, then the potential for false positive conclusions is strong. Since the development and implementation of interventions is time consuming and resource dependent, the implementation of interventions based on a false hypothesis is inefficient. In addition, the most likely interpretation (or misinterpretation) of a poor RTI is usually that the problem lies within the student (and assumes a level of severity that may not be there). Therefore, the implementation of interventions linked appropriately to the desired replacement behavior is a high priority.

Once the prediction statement is developed, the method of data collection is clear. In this case, the methods of data collection would be observation (for level of on-task behavior) and review (accuracy of work and difficulty level of work). In this particular case, if the hypothesis is verified and the teacher wants to increase on-task time, then the difficulty level of the work must be controlled until the student has the skills to do the more difficult work.

In the case of Mrs. Smith's class, data from the problem-identification step indicated that the average performance of all of the students was below expectations, even though some students had even lower levels of performance. What follows is a possible prediction statement:

When a systematic behavior program (rules, incentives, prompts applied consistently) is present, then the level of appropriate behavior of the peer group will improve significantly.

*and*

When a systematic behavior program is not in place, then appropriate behavior of the students will be inconsistent and performed at low levels.

The method of data collection will include behavior observation and frequency counts of desired appropriate behavior (e.g., compliance, hand raising, on-task behavior). It is likely that data collection will occur across settings (different teachers, same students) to

compare behavior program implementation (levels of teacher reinforcement, prompting, student feedback) with student behavior. If the data confirm that the presence of empirically supported behavior strategies are related to student performance, then those strategies can be implemented in the settings where student behavior is a problem. It is important to note that any individual student behavior plans would develop *after* the whole-group intervention.

### **Linking Assessment Results to Intervention Development**

When hypotheses are developed using empirically supported principles of behavior (academic and/or social) and verified through data collection, then the link between assessment and intervention is well defined. For instance, in the case of Carla it is apparent that when the teacher-assigned task requires independent seatwork, Carla must be given work that she has the skills to do. The intervention would be different if Carla's off-task behavior was not related to work difficulty. In the case of Mrs. Smith's class, the intervention would require the implementation of the behavior strategies that the assessment confirmed were related to appropriate levels of behavior. The method used to develop hypotheses ensures that the relationship between the desired behavior and factors contributing to those behaviors are identified in the problem-analysis process. Therefore, intervention development should be informed by the problem-analysis process. However, the integrity of this process is based on the selection of hypotheses that have sufficient empirical support to establish the *potential* relationship between the desired behavior and the factors that facilitate its development. The science of this method requires identifying hypotheses that have empirical support, the development of prediction statements (and converse statements), and the selection of data appropriate to verify or nullify the hypotheses.

The determination of intervention effectiveness requires evidence that the intervention was implemented with integrity and evidence of the impact of the intervention on student behavior. Intervention integrity, both in selection and implementation, is a critical factor in the use of an RTI model (Noell & Gansle, 2006). The assessment data used to measure the impact of the intervention on student behavior must be the same type of data that was used in the problem identification and problem analysis steps. Although diagnostic instruments might be used to inform intervention development,

progress monitoring measures must be used to assess intervention impact. The optimal link between assessment and intervention occurs when the data used for problem identification (tied to district benchmarks or expectations) are the same data used in the problem analysis step and intervention effectiveness (RTI) step.

## BEST PRACTICES

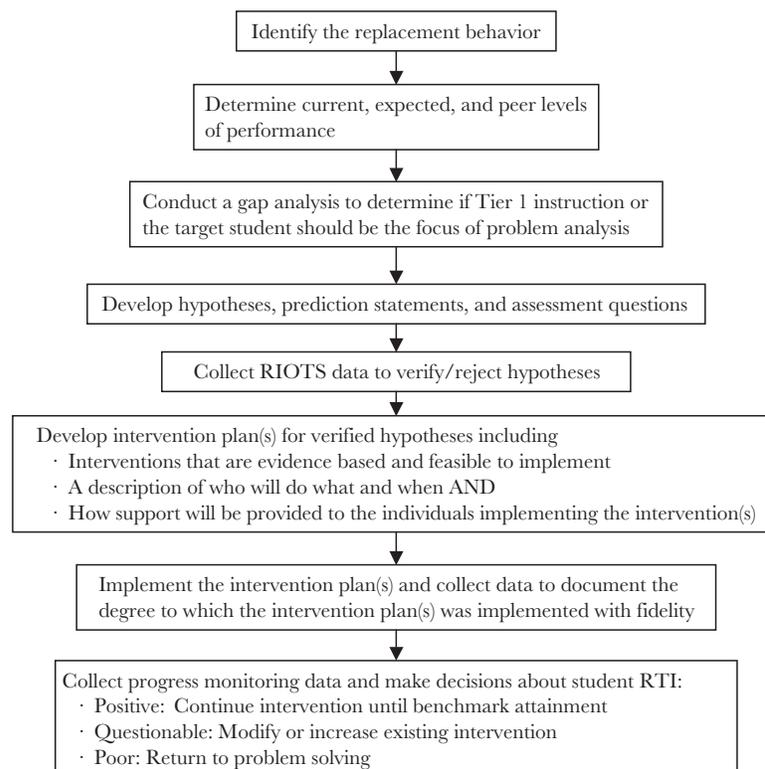
Best practices in linking assessment to intervention require that school psychologists facilitate the use of data to drive decisions about service delivery in their buildings. The four-step problem-solving model discussed above provides educators and psychologists with a framework for making decisions about students across tiers of service delivery. The following explanation describes the skills required to successfully complete each step of the problem-solving model. Although a few of the skills needed for each step vary according to the unit of analysis (i.e., Tier 1, 2, or 3), the majority of the skills are applicable across the three tiers. To facilitate communication of the skills required, the discussion will focus on an individual student referred to a Problem-Solving Team. Figure 1 provides a

flowchart depicting the steps in the problem-solving model.

## Problem Identification

The problem identification step described above is composed of five components used to define the skills that need to be targeted and to determine whether problem solving should focus on the individual student or the instruction provided in the target student's classroom. The first component is defining the replacement behavior (i.e., target skill) that needs improvement. The replacement behavior describes what the student needs to be able to do in concrete, measurable terms (e.g., Johnny will comply with teacher requests 90% of the time). When defined clearly and accurately, the replacement behavior sets the stage for completing the remaining parts of problem identification as well as the other three steps of the problem-solving model. The rationale for the use of replacement behaviors rather than referral problems is that interventions that target an improvement or increase in competencies that improve adaptational success are more successful for a student than simply eliminating problems. Eliminating problem behavior does not ensure that appropriate

**Figure 1. Problem-solving flowchart.**



behavior will automatically occur. In addition, educators implementing those interventions are reinforced by an improvement in student behavior. When problems are lessened, the continuing incentive (a reinforcement) for interventions may be reduced. This model is based on the use of positive reinforcement for intervention implementation rather than negative reinforcement.

The remaining four components of problem identification involve the collection and analysis of data directly related to the identified replacement behavior. To determine at what level (i.e., student or classroom) to focus problem-solving efforts, data must be collected on the benchmark (i.e., the expected level of performance for the student), peer performance (typically the students in the target student's classroom), and the target student's level of performance. Because expectations for student behavior are socially defined, determining the benchmark for student behavior should involve a discussion among the teacher, the Problem-Solving Team, the student's parent(s)/guardian(s), and the student if he or she is old enough to participate. Although the expected level of performance for replacement behaviors will vary according to variables such as the type of behavior, the student, and the school, research has demonstrated that the benchmark for the identified replacement behavior should result in the student's being academically engaged approximately 75% or more of the time. Typical benchmark levels are 75–80%. Obviously, it is unrealistic to expect students to maintain on-task behavior to comply or to respond to perfect (100%) expectations. Proficient levels on high-stakes testing are defined as 70–80% accuracy.

Data on peer and student performance must be collected once the expected level of performance is determined. In the problem-solving model, behavioral observations are the primary method for collecting performance data. Behavioral observation data can be collected by the student's teacher, the school psychologist, or other personnel at the school who have been trained to collect the data relevant to the referral concern.

When collecting observation data on the target student and his or her peers, a few guidelines should be observed. Student and peer performance should be collected using an alternating interval format (i.e., target student, a peer, target student, a peer). Because of time constraints and sociocultural factors that influence behavior, a representative sample of the target student's peers should be selected. To control for sociocultural factors, the selected peers should be of the same gender, ethnicity, and socioeconomic status (SES) of the target

student whenever possible. In addition, the peers selected should represent a continuum of performance of the replacement behavior. In other words, the students selected should not represent all high performing, low performing, or middle performing students, but rather should adequately represent class performance as a whole. One way in which this has been operationalized is by asking the student's teacher to nominate three students in the student's class who are of the same gender, ethnicity, and SES of the target student. One of the three students should be a low-performing student, but not the lowest, another student should be an average-performing student, and the third student should be a high-performing student, but not the highest. Once these students are selected, they should be used in all subsequent baseline and progress-monitoring data collection to determine how the target student's performance relates to peers (for a more detailed explanation of observation procedures, interpretations, and the reliability and validity of observation data see Hintze, 2005; Leff & Lakin, 2005; McConaughy, 2005; Volpe, Diperna, Hintze, & Shapiro, 2005; Volpe & McConaughy, 2005).

Data collected on student and peer performance relative to the benchmark are used to conduct a gap analysis. The gap analysis involves calculating the discrepancy in performance between (a) the student and the benchmark (calculated by dividing the expected level of performance by student performance), (b) the peers and the benchmark (calculated by dividing the expected level of performance by peer performance), (c) and the student and the peers (calculated by dividing peer performance by student performance). The results of this analysis determine whether the target student or his or her classroom should be the target of problem solving. If a significant gap (often defined as the student's or peers' level of performance being approximately two times or more below the benchmark) exists between the target student and the benchmark, but the peers are not significantly discrepant from the benchmark, then student-level issues are the focus of problem analysis. However, if the gap analysis reveals significant discrepancies between the student and the benchmark and the peers and the benchmark, then instruction at the classroom level (i.e., Tier 1) is the target for problem analysis.

### **Problem Analysis**

Problem analysis involves two steps. First, a performance or skill deficit should be considered when explaining the absence of a replacement behavior.

Decisions regarding whether students are exhibiting performance or skill deficits are typically made by providing the opportunity for additional reinforcement contingent upon the performance of the replacement behavior. If student performance of the replacement behavior is dependent upon the presence or absence of additional reinforcement, then the problem is likely due to a performance deficit. If student performance of the replacement behavior changes little when additional reinforcement is offered, then the problem is likely due to a skill deficit.

The second step is the development and confirmation/rejection of hypotheses explaining the reasons for the absence of the replacement behavior. The subsequent hypotheses developed vary according to whether a performance or skill deficit is identified. Hypotheses for performance deficits typically involve classroom management issues, regardless of the tier targeted. When the problem is identified as a Tier 1 problem, the hypotheses generated often involve the class-wide classroom management system. Ratios of reinforcement to punishment and the types of management strategies attempted are typically examined in Tier 1. Hypotheses developed for individual students (i.e., Tier 2 and 3 hypotheses) for performance deficits would often include examining whether additional and/or alternative reinforcement is required to sustain increased levels of performance of the replacement behavior.

Hypotheses for skill deficits vary as a function of the tier examined. When the problem being targeted is identified as a class-wide or Tier 1 problem, hypotheses generated typically focus on the amount of time dedicated to instruction and the focus of the instruction. Like academic skill deficits, behavioral skill deficits may require instruction to remediate.

Often, educators and parents assume that behavior problems are the result of inadequate reinforcement or punishment when, in reality, many students who do not meet the behavioral expectations in a setting fail because they do not possess the necessary skills (e.g., social skills, anger management skills). Thus, when examining class-wide skill deficits, two hypotheses to examine include whether students are exposed to enough minutes of social skills instruction and whether the instruction provided matches student needs (e.g., is developmentally appropriate, follows an appropriate scope and sequence).

Common hypotheses for students who require Tier 2 services also involve the amount of time and focus of instruction. Students who respond to Tier 2 interventions often need a little more time to reach mastery on the skills required to achieve expectations.

Tier 3 hypotheses are developed once a student is referred to the Problem-Solving Team because the student did not respond to evidence-based Tier 1 and 2 interventions. Hypotheses for Tier 3 are developed across six domains: child, peer, family/neighborhood, teacher, classroom, and curriculum variables. Hypotheses should be developed within each domain to ensure that as many of the factors contributing to the problem as possible are identified and targeted through intervention. See Table 1 for the format for writing hypotheses and examples of common hypotheses for Tiers 1, 2, and 3.

The confirmation or rejection of hypothesis is dependent upon data. To help educators and psychologists determine whether a given hypothesis is valid, prediction statements and assessment questions should be developed. Prediction statements tell individuals what would be expected to happen if the hypotheses generated are valid and interventions are successful. Prediction statements are written in *if/then* or *when/then* form. The *if* or *when* clause of the prediction statement includes the hypothesis while the *then* clause includes the result expected if a successful intervention linked to the hypothesis is implemented. See Table 1 for examples of prediction statements for Tier 1, 2, and 3 hypotheses.

Assessment questions, the final component of problem analysis, are developed to help educators determine which hypotheses are likely to be valid. Assessment questions are typically derived from the prediction statements and drive decisions about the data to be collected to confirm or reject hypotheses. Data used to determine the validity of hypotheses are collected using RIOTS procedures. Record reviews, interviews, observations, tests (the term *test* is synonymous with assessment and can include a variety of curriculum-based, criterion-referenced, and norm-referenced assessments), and self-monitoring procedures are all valid ways for educators to confirm hypotheses. The use of multiple methods and informants increases the likelihood of making an accurate decision regarding the validity of a hypothesis. Assessment questions are framed so that they can be answered yes or no to facilitate decisions regarding developing and implementing interventions. See Table 1 for examples of assessment questions.

### **Intervention Development and Implementation**

Interventions developed and implemented in the problem-solving model link directly to hypotheses

**Table 1. Tier 1, 2, and 3 Examples of Hypotheses, Prediction Statements, Assessment Questions, and RIOTS Data Collection Procedures**

*Replacement behavior: Johnny does not comply with teacher directions 90% of the time because...*

Hypotheses	Prediction statements	Assessment questions	RIOTS procedures
Tier 1: The social skills curriculum does not include instruction on the skills needed to follow directions.	<p>P: When class-wide instruction on the skills needed to follow directions is provided in the curriculum, then Johnny will comply with the teacher's directions 90% of the time.</p> <p>C: When class-wide instruction on the skills needed to follow directions is not provided in the curriculum, then Johnny will comply with the teacher's directions less than 90% of the time.</p>	Is class-wide instruction on the skills needed to follow directions provided in the curriculum?	<ul style="list-style-type: none"> <li>• Review social skills curriculum</li> <li>• Review teacher's lesson plans</li> <li>• Interview teacher</li> <li>• Observe social skills lessons</li> </ul>
Tier 2: Additional time exposed to instruction on the skills needed to follow directions is required.	<p>P: When Johnny receives additional instruction on the skills needed to follow directions, then Johnny will comply with the teacher's directions 90% of the time.</p> <p>C: When Johnny does not receive additional instruction on the skills needed to follow directions, then Johnny will comply with the teacher's directions less than 90% of the time.</p>	Is Johnny being exposed to additional skill instruction targeting following directions?	<ul style="list-style-type: none"> <li>• Review intervention plan</li> <li>• Review intervention integrity log</li> <li>• Interview teacher</li> <li>• Interview behavior specialist</li> <li>• Observe social skill instruction</li> </ul>
Tier 3: Johnny does not have the skills to lower his frustration level when prompted to comply with directions.	<p>P: When Johnny possesses the anger management skills to lower his frustration level, then he will comply with the teacher's requests 90% of the time.</p> <p>C: When Johnny does not possess the anger management skills to lower his frustration level, then he will comply with the teacher's requests less than 90% of the time.</p>	Does Johnny possess the anger management skills to lower his frustration level?	<ul style="list-style-type: none"> <li>• Review cumulative records</li> <li>• Interview Johnny's teacher</li> <li>• Interview Johnny's parents</li> <li>• Observe Johnny in the classroom</li> <li>• Self-report from Johnny</li> </ul>

*Note.* C = converse; P = prediction; RIOTS = review, interview, observe, test, self-report.

confirmed by data during problem analysis. The prediction statements developed from confirmed hypotheses, when well written, point educators and psychologists to the types of interventions that are likely to remove barriers to learning. Intervention plans should be developed and implemented for as many of the confirmed hypotheses as possible given the resources at a building. Students often struggle academically or behaviorally for multiple reasons, thereby requiring that multiple barriers to learning be targeted by intervention plans.

Interventions fall into two categories: short term and long term. Short-term interventions are strategies used to help students meet the task demands required for them to benefit from the long-term intervention

strategies that are expected to help the students achieve benchmark. Many students, particularly students with behavior problems, do not benefit from well-developed intervention plans because their behaviors result in actions that do not allow them to be exposed to the long-term strategies. For example, social skills and anger control trainings are often effective interventions for students exhibiting aggressive behaviors; however, many of these students do not access the interventions consistently because of in- and out-of-school suspensions resulting from altercations with students and faculty.

To prevent such recurring barriers to learning, two types of short-term interventions can be used: decreasing the task demands and increasing supervision.

Temporarily decreasing task demands is an effective short-term intervention for students whose skill deficits do not allow them to access the curriculum, which typically results in frustration.

Increasing the level of supervision is effective for those students who require intensive support to complete tasks successfully (e.g., reading a passage from a book or using appropriate social skills when made fun of in the lunch line). When students are able to consistently access the curriculum, they are more likely to benefit from the long-term interventions that are meant to help students close the gap between peers and/or the benchmark.

Short-term and long-term interventions derived during problem analysis must be evidence-based. Since the authorization of NCLB, controversy over what constitutes evidence-based interventions (EBIs) has dominated discussions among educators. According to NCLB, EBIs are strategies evaluated by experimental or quasiexperimental research that employs rigorous data analysis and peer review procedures to determine the efficacy of the interventions (see NCLB for the full list of criteria for EBIs). An increasing number of core and supplemental curricula exist that meet the requirements set forth by NCLB for content areas such as reading, math, and behavior. A number of resources exist for finding validated interventions for individual and groups of students across tiers (e.g., Florida Center for Reading Research, What Works Clearinghouse, Positive Behavior Supports).

However, some students do not respond to scientifically validated interventions while receiving Tier 1, 2, and 3 services. For these students, we contend that *n* of 1 studies should be conducted in which intervention plans that are developed and implemented are systematically evaluated to determine the degree to which the student is responding. In this context, interventions are determined to be evidence based when they improve student performance for a number of students with similar profiles.

Once EBIs are identified and incorporated into an intervention plan, a plan for providing intervention support must be developed prior to implementation. Teachers have little discretionary time to learn new, complicated instructional strategies or provide additional interventions to students during an already overloaded school day. Therefore, it is imperative that Problem-Solving Teams identify the personnel responsible for providing support to teachers implementing interventions, what actions the personnel are responsible for carrying out, and when and where these actions will occur. When combined with the action plan developed

for the teacher, a plan for providing support increases the likelihood that interventions will be implemented with integrity.

Intervention integrity is the final critical component of the intervention development and implementation step of the problem-solving model. Educators often fail to implement assessment and intervention procedures as they were intended (Noell & Gansle, 2006). Critics of the problem-solving model/RTI model contend that failure to implement intervention plans will lead to a significant proportion of students who appear to have not responded to intervention, when in reality the interventions may not have been implemented with sufficient integrity (Noell & Gansle, 2006). To prevent such situations, educators and psychologists must find ways to monitor and analyze the degree to which intervention plans are carried out by the personnel responsible (see Noell & Gansle, 2006, for a discussion of ways in which intervention integrity can be monitored in school settings).

### **Program Evaluation/RTI**

Evaluation of student RTI begins as soon as interventions are implemented. Progress-monitoring data are collected continuously using assessments that reliably and validly assess the target skill(s) to facilitate decisions about student RTI. The frequency with which progress-monitoring data should be collected increases as students require more intensive services. Although progress-monitoring frequency will vary somewhat as a function of the student and the school, general guidelines for how often data should be collected on students in Tiers 1, 2, and 3 are three to four times per year, biweekly to monthly, and weekly to multiple times per week, respectively. Regardless of how often progress is monitored, once enough data points are collected to establish a trend, decisions regarding student RTI should be made.

Decisions about student RTI are made based on two criteria: level and rate (Fuchs, 2003). The level of performance is indexed by examining the discrepancy between the student and the benchmark at a given point and time. Comparisons of the discrepancy in levels of performance between the student and the benchmark before and after implementation of the intervention plan provide valuable information regarding the effectiveness of the services provided. The rate at which the student is acquiring the target skill and the rate at which students are expected to acquire the skills also are important to calculate to allow for extrapolations of skill development

over time. Because closing the gap between students and the benchmark may take an extended period of time, it is important to be able to determine if and when students will intercept the benchmark. Comparisons of the rate of skill acquisition prior to and after implementing interventions should also be included during this step to provide an index of how much impact the intervention had on student performance.

Once indices of level and rate change are calculated, decisions regarding whether interventions should be continued, modified, or terminated can be made. Potential guidelines for making these decisions involve determining if students exhibited positive, questionable, or poor RTI.

Positive RTI occurs when a student's level of performance improves, and the gap between the student and the benchmark is closing at an acceptable rate. Criteria for acceptable rates of progress will depend on a number of factors such as the students, schools, parents, and policies and procedures involved. Regardless of the criteria chosen, when a decision is made that a student exhibited positive RTI, the intervention plan should either be continued without changes or modified to begin withdrawing intervention support. Decisions to continue the intervention plan typically are made when a student is making adequate progress, but has not yet met the benchmark. Withdrawing intervention support is suggested when students meet the benchmark and should be done systematically by moving students back to previous levels of intervention in a sequential manner. For example, a student who demonstrates positive RTI and reaches the benchmark while receiving Tier 3 services should receive Tier 2 interventions before being moved back to Tier 1. Slowly withdrawing support allows educators and psychologists to determine the level of support necessary for students to maintain adequate rates of progress.

Questionable RTI occurs when a student's level of performance improves, but the gap between the student and the benchmark is maintained or is closing at an unacceptable rate. Once again, the criteria for what constitutes questionable RTI will need to be a group decision based on the factors mentioned above. The decision for students who exhibit questionable RTI typically involves modifying the intervention plan. Modifications for these students are typically made by increasing the time the student is exposed to the intervention and narrowing the focus to a couple of important skills students need to master. Research on the relationship between academic engaged time and

student performance suggests that increasing the number of minutes that a student is exposed to important skills will result in positive RTI for some students who initially demonstrate questionable RTI.

Poor RTI occurs when little or no improvement in the level of performance is evident and the gap between the student's performance and the benchmark continues to widen. Students who exhibit poor RTI should be moved to the subsequent tier or the problem-solving model should be reinitiated so that a new intervention plan can be developed or the existing one can be revised significantly.

Although a detailed discussion of special education eligibility criteria is beyond the scope of this chapter, it is important to note that those students who consistently demonstrate poor RTI are not necessarily eligible for special education services in a problem-solving model/RTI model. Special education services in this model are a vehicle for acquiring funding to support assessment and intervention practices that improve student performance. Therefore, students receiving intervention in this model are eligible for special education services as long as funding is needed to support practices that are improving a student's level and rate of performance relative to changing benchmarks.

### **Case Study**

This case study describes the problem-solving process applied to Victor Donald, a behavioral referral.

#### **Problem Identification**

Victor is an African American 5-year-old male who was referred to the Problem-Solving Team by his kindergarten teacher. The reason for the referral as quoted by his teacher was "concerns about compliance."

**Replacement behavior.** Based on a teacher interview the following replacement behavior was agreed upon: *Compliance*: "Victor will follow directions within 10 seconds of a given instruction or command 75% of opportunities."

**Barriers to learning.** The teacher interview revealed that Victor's inability to follow directions was interfering with his ability to remain on task and receive the amount of instruction necessary to profit from his education (i.e., learn his letters and write his name).

**Baseline data.** The following process was used to collect baseline data:

- The teacher, Mrs. Thomas, was asked to identify how often she expected Victor and other students in her classroom to comply. She reported that she expected students to follow directions within 10 seconds of a given instruction or command 75% of the time. This level of expectation served as the benchmark for the baseline data.
- Three comparison peers were nominated in Victor’s classroom. The peers were matched to Victor by gender, race/ethnicity, and SES. The three peers were identified by the teacher as her “average performing” peers relative to meeting behavioral expectations. These same three peers would be used in subsequent progress-monitoring data collection.
- Victor and his peers were observed on three separate occasions across different times throughout the day and on different days. This was done to establish consistent levels of the replacement behavior. The median rates of compliance which were found were Victor, 27%, and peers, 42%.
- A gap analysis was calculated to determine the difference between the benchmark expectation and Victor’s and the peers’ performance: Victor,  $75/27 = 2 +$  (significant gap); peers,  $75/42 = 1.8$  (significant gap).
- The data revealed that a significant gap existed between the classroom benchmark of compliance and Victor’s current rate of compliance. In addition, a gap existed between the peer’s rate and Victor’s rate of compliance. Moreover, data showed that a significant gap existed between the classroom benchmark and the performance of the peers in the classroom. Thus, the data indicated that compliance was a classroom-wide (Tier 1) problem and that further problem solving should focus on Tier 1 factors before considering individual student factors.

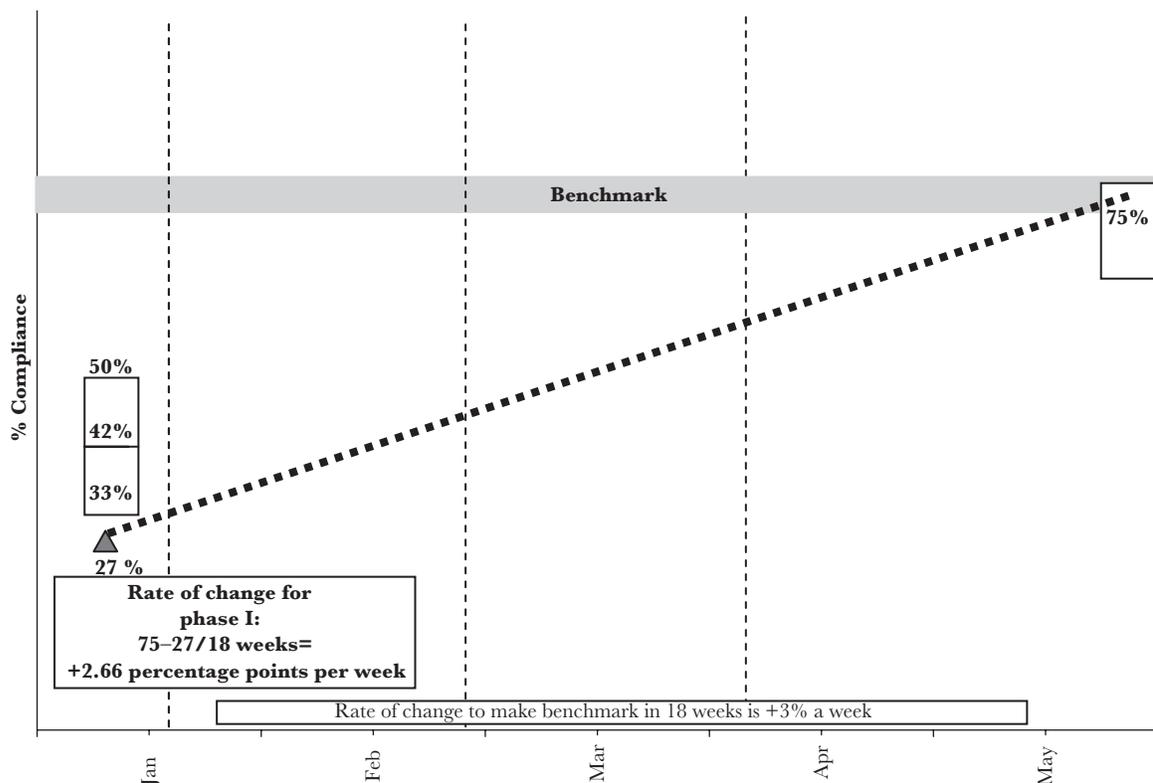
See Figure 2 for a graphic representation of the completed problem identification step.

**Problem Analysis: Tier 1 Hypotheses**

A number of Tier 1 hypotheses were developed to examine factors such as curriculum, effective instruction, school, and classroom factors. For each hypothesis, data were collected to confirm or disconfirm whether the hypothesis was supported (see below).

**Hypothesis 1.** Is the core instructional curriculum scientifically validated for all students? *Answer:* Yes. A teacher interview revealed that the core instructional

**Figure 2. Problem identification graph.**



curriculum in the classroom was an evidence-based reading curriculum reviewed by the Florida Center for Reading Research and found to be effective for all students.

**Hypothesis 2.** Are classroom rules stated positively and posted clearly for students to see? *Answer:* No. A classroom observation confirmed that there were no rules posted in the classroom. Also, Mrs. Thomas said that she had not developed any classroom-wide rules.

**Hypothesis 3.** Does a classroom-wide behavior management plan exist? *Answer:* No. A teacher interview revealed that there was no a classroom-wide behavior management plan to consistently address behavioral problems, such as noncompliance.

**Hypothesis 4.** Does Mrs. Thomas consistently provide consequences for failing to comply with teacher requests? *Answer:* No. Anecdotal observations confirmed that she did not consistently provide consequences for noncompliance. Mrs. Thomas could not identify consistent consequences that she delivered to students. Finally, a student interview suggested that there was a lack of awareness of the consequences in the classroom.

**Hypothesis 5.** Is the ratio of positive to negative reinforcement 3:1 in Mrs. Thomas's classroom? *Answer:* No. Using a direct observation method, the ratio of positive to negative was approximately 1:1 in Mrs. Thomas's class.

**Hypothesis 6.** Does Mrs. Thomas positively reinforce inadvertently noncompliant behaviors with attention? *Answer:* Yes. Direct observation confirmed that the teacher provides positive attention on average 72% of time for noncompliance. Additionally, the teacher interview revealed that Mrs. Thomas was aware that she provided Victor and other students with "a lot" of attention for their noncompliant behavior.

### **Tier 1 Intervention Development and Implementation**

Based upon the data collected during Tier 1 problem analysis, it was determined that Mrs. Thomas's class would benefit from several universal interventions. The universal interventions implemented to help increase Victor and his peers' compliant behaviors follow:

- Assisting Mrs. Thomas with developing positively stated classroom rules and posting these rules in a

place in the classroom where they could be clearly seen

- Modeling for Mrs. Thomas how to teach social skills lessons using the new classroom rules; the social skills lessons were integrated into an evidence-based standard protocol using the Skillstreaming (McGinnis & Goldstein, 1999) curriculum
- Assisting Mrs. Thomas in developing a classroom-wide behavior management plan to proactively address misbehaviors in the classroom
- Modeling for Mrs. Thomas how to ignore inappropriate behaviors and praise appropriate behaviors of all students
- Modeling for Mrs. Thomas how to redirect inappropriate behaviors and provide all students with a menu of choices to reduce noncompliance

### **Tier 1 Intervention Outcomes**

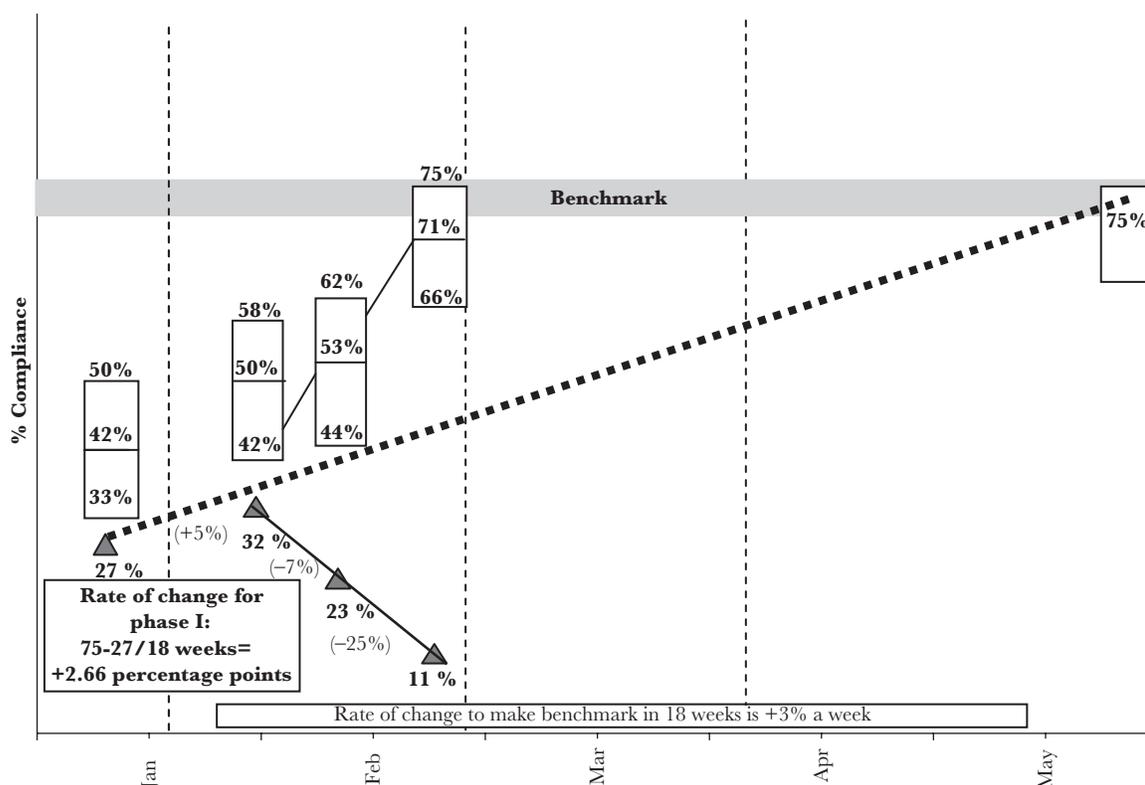
Progress-monitoring data were collected throughout the implementation of the Tier 1 intervention (4 weeks), on a weekly basis, and two times a week. The data revealed that the universal intervention procedures resulted in an increase in the comparison peers' compliance behaviors. The comparison peers increased their behavior in excess of the 75% compliance benchmark. However, Victor's compliance behaviors decreased to 11%. Thus, it was now determined that the universal intervention, in addition to effective curricular instruction, improved the behaviors of the classroom peers but did not result in Victor's making satisfactory progress in meeting the classroom benchmark.

Therefore, further individualized interventions were needed at Tier 2 for Victor to make satisfactory progress toward meeting the classroom benchmark. Given the success of the universal intervention in improving the compliance behaviors of Victor's peers, the universal intervention was maintained while the Tier 2 group intervention was provided. See Figure 3 for a graphic representation of the impact of the Tier 1 modifications on Victor and the peer group.

### **Problem Analysis: Tier 2 Hypothesis**

Additional hypotheses were developed to identify potential reasons why Victor displayed a poor response to the group universal procedures and to assist in the development of Tier 2 interventions. The Tier 2 intervention (social skills) was the same as the Tier 1 intervention (social skills) but it was delivered at a higher level of intensity (small group) and delivered more frequently (twice per week). Similar to the Tier 1

Figure 3. Problem analysis Tier 1 intervention graph.



hypotheses, data were collected to confirm or disconfirm whether the Tier 2 hypothesis was supported (see below).

**Hypothesis 1.** Is Victor unable to comply because he has not learned the classroom social skills needed to get reinforcement for appropriate behaviors in the classroom? *Answer:* Yes. Classroom observations revealed that whole group classroom social skills instruction was not as effective for Victor as it was for his peers (his rate of compliance decreased from 32% to 11%). His teacher also revealed that Victor was having a difficult time remembering to generalize the social skills that were taught in the classroom. Data showed that on average Mrs. Thomas had to prompt Victor 7–10 times to remember his social skills for appropriate class behaviors (i.e., listening, following directions).

**Tier 2 Intervention Development and Implementation**

The supplemental intervention that was recommended for Victor was small group social skills training. In addition to the classroom-based social skills that were delivered to all of his peers, Victor and two other class

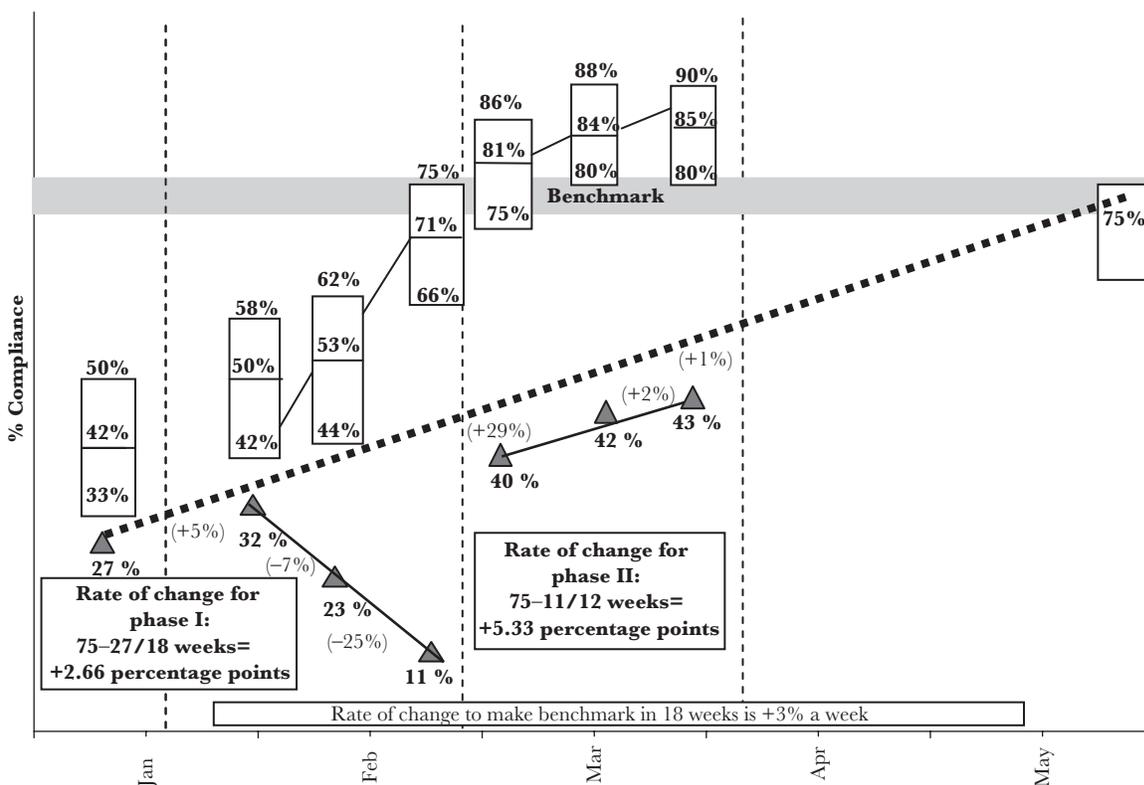
peers received 1 hour, weekly social skills training to reinforce the classroom based lessons.

**Tier 2 Outcomes**

The social skills training appeared to increase Victor’s levels of compliance (listening, following directions, asking for helping) in the classroom (i.e., from 11% to 43%). In addition, the small group social skills training provided Victor with multiple opportunities to role-play appropriate behaviors that assisted Victor in not only knowing the social skills steps but *understanding* these steps and knowing how and when to apply them. Although Victor’s level of RTI increased, it was determined through consultation with his teacher that his rate of improvement was not enough to meet the classroom benchmark of 75% compliance by the end of the school year. Therefore, problem solving progressed to Tier 3 of intervention service delivery.

The intervention designed to increase Victor’s rate of progress for compliance at Tier 3 was a self-monitoring intervention. In addition to the self-monitoring intervention it was recommended that Victor continue to receive the classroom-wide and small group social skills training. See Figure 4 for the graphic representation of the impact of the Tier 2 interventions on Victor’s behavior.

Figure 4. Problem analysis Tier 2 intervention graph.



**Problem Analysis: Tier 3 Hypotheses**

A number of Tier 3 hypotheses were developed to identify potential reasons why Victor had not responded at a rate sufficient enough to meet classroom expectations during the established time frame (18 weeks). Tier 3 interventions are highly individualized and are delivered at a higher level of intensity and frequency. Similar to the Tier 1 and 2 hypotheses, data were collected to confirm or disconfirm whether the Tier 3 hypothesis was supported.

**Hypothesis 1.** Do Victor’s peers consistently provide him with positive attention for noncompliance? *Answer:* No. Using a tally system to calculate the number of times peers provided Victor with positive attention for noncompliance, the data indicated that peers provide him with positive attention only 1–4% of the time. His teacher also indicated that she has instructed the students to practice their social skill of ignoring when Victor is noncompliant.

**Hypothesis 2.** Is Victor unable to comply because he has not been taught the classroom social skills needed to get reinforcement for appropriate behaviors in the classroom? *Answer:* Yes. A student interview was

conducted with Victor, and he reported that he did not know what to do to get reinforcement in the classroom. Victor demonstrated that although he knew the social skills language, he did not understand how to use the steps.

**Hypothesis 3.** Does Victor have self-control/self-regulation skills? *Answer:* Yes. Upon the implementation of an incentive self-monitoring plan, it was observed that Victor was able to self-regulate his behaviors. During the student interview, Victor explained that he needed to “fill up all these purple boxes” to know that he had been good and listened to what his teacher said. His teacher also noted that he paid very close attention to his self-monitoring plan and adapted/regulated his behavior accordingly.

**Hypothesis 4.** Does Victor use private speech strategies to guide his behavior? *Answer:* No. Victor does not demonstrate private speech strategies. During a student interview Victor was asked what he says to himself right before he makes a bad choice. Victor replied that he did not know. Victor was also observed in his classroom and when he was noncompliant. He was asked him what thoughts were in his

head right at that moment. Victor still stated that he did not know.

### ***Tier 3 Intervention Development and Implementation***

A self-monitoring intervention was developed and implemented in the classroom to help Victor understand that his behavior had consequences and that making good choices led to positive consequences. The intervention was also implemented to teach Victor how to self-monitor and self-regulate his behavior. Finally, the intervention helped structure the number of positive interactions that Victor received in the classroom.

The importance of delivering positive reinforcement when Victor displayed the replacement behaviors (e.g., complying with teacher requests within 10 seconds, and listening), and delivering consequences when Victor failed to comply with requests or follow directions, was reviewed with the teacher. The procedures of the self-monitoring intervention are presented below:

- Victor was given a simple chart with three pictures on the bottom to depict the behavior that he was to follow (e.g., listening, sitting in his seat or on the carpet when asked, and keeping his eyes on the speaker).
- It was explained to Victor that he was to draw a smiley face each time Mrs. Thomas asked, “Victor were you following the rule of (listening, sitting in your seat or on the carpet when asked, or keeping your eyes on the speaker)?”
- If Victor was following the rule Mrs. Thomas was looking for, then he put a smiley face in a box. If he was not, then he put an X in the box and he was given an immediate consequence.
- Every hour Mrs. Thomas would see if he had smiley faces in 75% of his boxes (six out of eight). If Victor had smiley faces in 75% of his boxes, he received a poker chip in his treasure box. Two times during the day (midday and the late afternoon), Victor could turn in his poker chips for a preselected reward.
- Mrs. Thomas made a chart of his rewards and how many poker chips he had to have for each reward.
- The menu had glued poker chips on the board, so that in the event Victor could not read the number of poker chips needed for a prize, he could compare his number of poker chips to the ones glued on the poster.

### ***Tier 3 Outcomes***

The combination of the interventions (e.g., classroom behavior management techniques, classroom and small group social skills training, and self-monitoring) resulted

in a significant improvement in Victor’s compliant behavior to teacher requests. Victor improved from 27% compliance to 69% compliance in 12 weeks. The peer group also improved from a median 42% compliance to 85% compliance in 12 weeks. Mrs. Thomas reported that she had seen Victor’s behavior improve over the last few weeks, particularly with the implementation of the self-monitoring intervention. Victor reported that he really liked his new intervention and he was “getting lots of smiley faces” and that made him feel special. See Figure 5 for a graphic representation of the impact of the Tier 3 interventions on Victor’s behavior.

### ***Plan Evaluation***

In order for Victor to continue to be successful that year and the following year, it was recommended that Victor continue to self-monitor his compliant behavior and receive positive reinforcement for exhibiting the appropriate behaviors. In addition, it was recommended that Victor continue to receive classroom and small group social skills training throughout the rest of the school year. It was also recommended that the current guidance counselor place Victor in her new small group social skills training, which she was scheduled to begin that next fall.

Once Victor’s behavior had reached or exceeded the benchmark for three to five data points, it was suggested that the self-monitoring intervention for compliance be discontinued to determine if the behavior was strong enough to be maintained with the small group intervention (small group social skills) and then the classroom management strategies and classroom social skills training for all students.

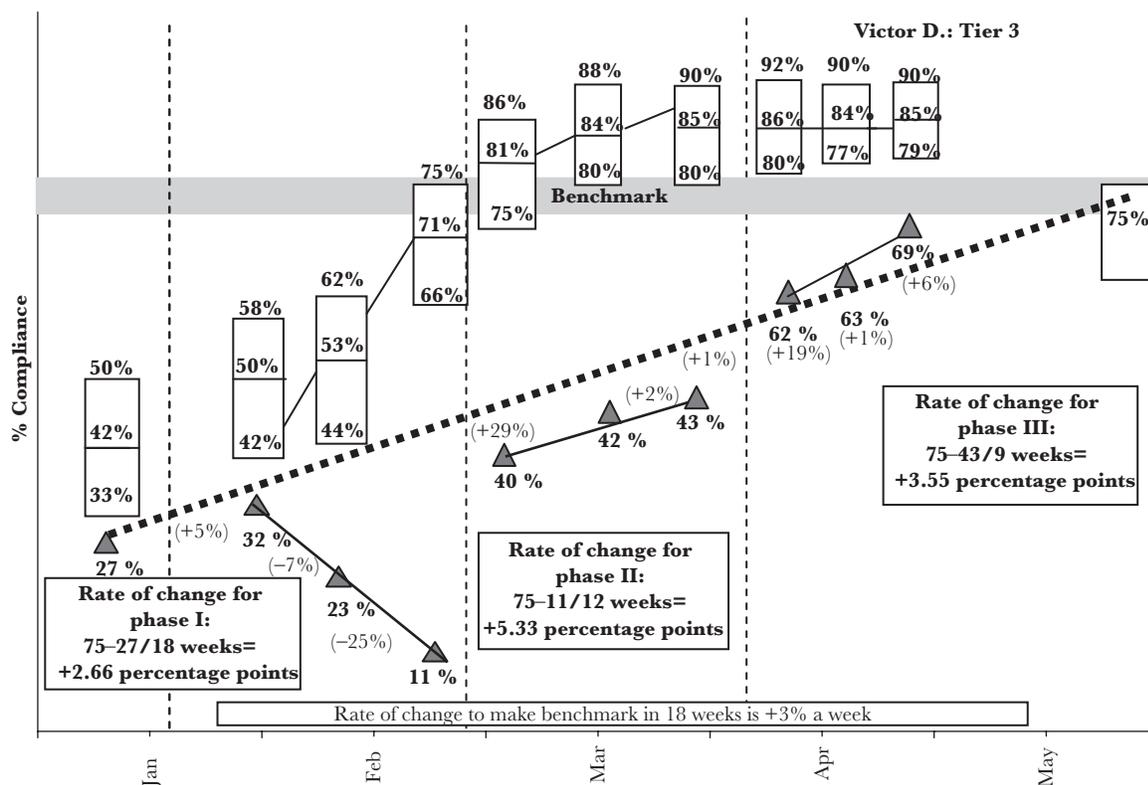
If the discontinuation of the interventions resulted in Victor’s compliance falling below the benchmark, then the interventions must be reintroduced to stabilize his behavior.

## **SUMMARY**

The implementation of effective interventions requires a significant amount of training, skill development, and supervised practice. We cannot improvise the problem-solving model and the development, implementation, and evaluation of interventions. This is, perhaps, the best example of where science meets practice in the profession of school psychology. It is hard but rewarding work, particularly for the teachers, students, and families to whom we provide this valuable service.

The link between assessment and intervention is the critical step to the provision of effective interventions.

Figure 5. Problem analysis Tier 3 intervention graph.



The development of hypotheses (informed by our knowledge of human development and the acquisition of academic and behavioral competencies) and the confirmation of those hypotheses through assessment are necessary if school psychologists are to make a significant contribution to the schooling of children and youth. Problem analysis is an activity that can occur accurately and consistently across settings.

The reality is, however, that the lack of implementation integrity because of poor intervention support will result in poor student outcomes. Often, the reality of time, personnel, and other resources take their toll on the delivery of effective services. School psychologists have supported the shift from the test-staff-place model to intervention-based service delivery using a problem-solving model. School psychologists have the skills to provide the leadership necessary to make the problem-solving model work and they are the professionals who can make the link between assessment and intervention. School psychologists are also the professionals who must advocate for intervention support to make that link between assessment and intervention a viable reality to improve the bottom line for all children and youth: equity in education.

School psychologists and school psychology trainers use *School Psychology: A Blueprint for Training and*

*Practice III* (Ysseldyke et al., 2006; also see Ysseldyke et al., chapter 3, vol. 1) to guide their teaching, service, and/or research. *Blueprint III* is built around the central construct that problem solving and data-based decision making are core skills that all school psychologists must possess. *Blueprint III* focuses on these skills because the profession of school psychology came to a consensus that its ability to provide effective and efficient services to students could not exist without them.

## REFERENCES

- Batsche, G. M., Kavale, K. A., & Kovalski, J. F. (2006). Competing views: A dialogue on response to intervention. *Assessment for Effective Intervention, 32*, 6-19.
- Bergen, J. R., & Kratchowill, T. R. (1990). *Behavioral consultation*. Columbus, OH: Merrill.
- Fairbanks, S., Sugai, G., Guardino, D., & Lathrop, M. (2007). Response to intervention: Examining classroom behavior support in second grade. *Exceptional Children, 73*, 288-310.
- Fuchs, L. S. (2003). Assessing intervention responsiveness: Conceptual and technical issues. *Learning Disabilities Research & Practice, 18*, 172-186.
- Garber, J. (1984). Classification of childhood psychopathology: A developmental perspective. *Child Development, 55*, 30-48.

- Griffiths, A., VanDerHeyden, A., Parson, L. B., & Matthew, K. (2006). Practical applications of response to intervention research. *Assessment for Effective Intervention, 32*, 50–57.
- Hintze, J. M. (2005). Psychometrics of direct observation. *School Psychology Review, 34*, 507–519.
- Leff, S. S., & Lakin, R. (2005). Playground-based observational systems: A review and implications for practitioners and researchers. *School Psychology Review, 34*, 474–489.
- Mash, E. J. (1998). Treatment of child and family disturbance: A behavioral-systems perspective. In E. J. Mash & R. A. Barkley (Eds.), *Treatment of childhood disorders* (2nd ed., pp. 3–38). New York: Guilford Press.
- McConaughy, S. H. (2005). Direct observational assessment during test sessions and child clinical interviews. *School Psychology Review, 34*, 490–506.
- McGinnis, E., & Goldstein, A. P. (1997). *Skillstreaming the elementary schoolchild: New strategies and perspectives for teaching prosocial skills* (rev. ed.). Champaign, IL: Research Press.
- Noell, G. H., & Gansle, K. A. (2006). Assuring the form has substance: Treatment plan implementation as the foundation of assessing response to intervention. *Assessment for Effective Intervention, 32*, 32–39.
- Reschly, R. J. (2003, June). *What if LD identification changed to reflect research findings?* Paper presented at the National Research Center on Learning Disabilities Responsiveness-to-Intervention Symposium, Kansas City, MO.
- Vaughn, S., & Linan-Thompson, S. (2003). What is special about special education for students with learning disabilities? *Journal of Special Education, 37*, 140–147.
- Volpe, R. J., DiPerna, J. C., Hintze, J. M., & Shapiro, E. S. (2005). Observing students in classroom settings: A review of seven coding schemes. *School Psychology Review, 34*, 454–473.
- Volpe, R. J., & McConaughy, S. H. (2005). Systematic direct observational assessment of student behavior: Its use and interpretation in multiple settings: An introduction to the miniseries. *School Psychology Review, 34*, 451–453.
- Ysseldyke, J., Burns, M., Dawson, P., Kelley, B., Morrison, D., Ortiz, S., et al. (2006). *School psychology: A blueprint for training and practice III*. Bethesda, MD: National Association of School Psychologists.
- Batsche, G., Kavale, K. A., & Kovalesski, J. F. (2006). Competing views: A dialogue on response to intervention. *Assessment for Effective Intervention, 32*, 6–19.
- Provides a clear understanding of the different perspectives of the use of RTI in general education and special education.
- McGinnis, E., & Goldstein, A. P. (1997). *Skillstreaming the elementary schoolchild: New strategies and perspectives for teaching prosocial skills* (Rev. ed.). Champaign, IL: Research Press.
- Outlines a useful and easy-to-understand curriculum for teaching social skills for elementary-age children. Specific information on how to develop and facilitate social skills groups is discussed. Skills include classroom survival skills (e.g., listening, ignoring distractions), friendship-making skills (e.g., beginning a conversation, sharing), and alternatives to aggression (e.g., using self-control, responding to teasing).
- Noell, G. H., Witt, J. C., Slider, N. J., Connell, J. E., Gatti, S. L., Williams, K. L., et al. (2005). Treatment implementation following behavioral consultation in schools: A comparison of three follow-up strategies. *School Psychology Review, 34*, 87–106.
- Offers readers timely information on the issue of treatment integrity. Examines treatment integrity following consultation. Discusses a study where three types of consultation follow-up methods (brief weekly interviews, weekly interviews combined with an emphasis on the commitment to implement the treatment, and performance feedback) were compared. Reports which method was most effective in ensuring treatment integrity and improved child outcomes.
- Volpe, R. J., DiPerna, J. C., Hintze, J. M., & Shapiro, E. S. (2005). Observing students in classroom settings: A review of seven coding schemes. *School Psychology Review, 34*, 454–473.
- Offers an extremely useful overview of seven coding schemes that are used to assess the academic behavior of children, particularly academic engagement. For each code, reviews training required to learn the code, behaviors measured, psychometric data, and overall strengths and limitations of each code.

## WEB RESOURCES

- Florida Center for Reading Research: [www.fcrr.org](http://www.fcrr.org)  
Contains valuable information about the use of the three-tiered model to conduct assessment, intervention, and program evaluation in the area of reading.
- National Association of State Directors of Special Education: [www.nasdse.org](http://www.nasdse.org)  
Contains a policy manual on RTI; annotated bibliographies on current research in problem solving and RTI; and blueprints for state, district, and school implementation of problem solving and RTI.
- Positive Behavioral Interventions and Supports project: [www.pbis.org](http://www.pbis.org)  
Contains implementation models and materials for school-wide positive behavior support.
- What Works Clearinghouse: [www.whatworksclearinghouse.org](http://www.whatworksclearinghouse.org)  
Source for interventions in a wide range of areas.

## ANNOTATED BIBLIOGRAPHY

- Batsche, G., Elliott, J., Graden, J. L., Grimes, J., Kovalesski, J. F., Prasse, D., et al. (2005). *Response to intervention: Policy considerations and implementation*. Alexandria, VA: National Association of State Directors of Special Education.
- Provides information for local- and state-level educational authorities on the implementation of RTI. Gives a succinct overview of the main components of RTI, discusses support for RTI from research and policy, and discusses special education eligibility using RTI.



As practiced in forensic psychology and neuropsychology, the forensic model of disability is neither social nor purely medical. They emphasize the importance of using measures of constructs mapped by the ICF and recommend linking the ICF-postulated assessment model to individual and social interventions (Chan et al, 2009). The client with a disability must provide consent in the manner prescribed for all clients by Standards 3.10, 9.03, and 10.01 of the APA Ethics Code (2002) with the exception of specified activities such as routine educational testing or the evaluation of decisional capacity (e.g. severe dementia). The best way to facilitate clinical work is to ask the client about communication preferences and to consult experts for additional information, if needed.