Function-Based Thinking: A Systematic Way of Thinking About Function and Its Role in Changing Student Behavior Problems

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The responsibility of managing student behavior has become a heightened concern for general education teachers as a result of increased accountability for student gains. Although functional behavioral assessments (FBAs) are widely recommended for use in such situations, there are clear indications that this evidence-based practice is not occurring regularly or reliably (e.g., McIntosh, Horner, Chard, Dickey, & Braun, 2008; Scott et al., 2004). Nevertheless, there are core elements of FBAs that promote function-based thinking (FBT) that may help bridge this gap and serve as an efficient strategy to address behavior problems and inappropriate referrals.

This article outlines the FBT model, which aims to empower general education teachers and school-based personnel to apply a more systematic approach to problem-solving possible functions of student behavior. Special education teachers are often tapped to provide support to general education teachers when students with special needs are included in the general education setting. FBT is an approach to behavior intervention planning that can be more easily embraced by general education teachers than FBA. Drawing on the FBA literature (Carr et al., 1999; Sugai et al., 2000; Sugai, Horner, & Sprague, 1999), the FBT model provides a framework for systematically exploring possible conditions that might be contributing to the student's misbehavior. After describing the core elements and merits of FBAs, as well as the factors (e.g., setting demands) that impede consistent use in schools, we offer a rationale for FBT and a case study illustrating how it can be implemented by general education teachers. We conclude with a discussion of the professional development and coaching that is necessary to support high-quality implementation of FBT.

FBA: The Traditional Approach

Although only 1% of students are identified as having a severe emotional disturbance (U.S. Department of Education, 2006), it is estimated that between 3% and 6% of the student population in public schools exhibits behaviors significant enough to warrant some type of special education services for challenging behavior. Additionally at least 5% of children have serious mental health needs, for which only a small fraction receives services (U.S. Department of Health and Human Services, 2001). These statistics demonstrate the need for general education teachers to be familiar with the principles of FBA and behavior intervention plan (BIP) development. However, FBA has been historically used in clinical settings to determine the antecedents and reinforcers of severe behaviors demonstrated by individuals with significant cognitive and developmental delays (Payne, Scott, & Conroy, 2007). Moreover, FBA was performed by professionals skilled in applied behavior analysis (ABA) and under controlled clinical conditions. To date, there has been relatively little research documenting its effectiveness when conducted by school staff outside of research projects (Payne et al., 2007). Additionally, there are a limited number of school-based professionals trained in the complexities of FBA. The resource and time constraints placed on school systems limit the opportunity for the development of a complex FBA for students outside of the special education domain (Asmus et al., 2004).

In an effort to increase the use of FBAs, the reauthorizations of Individuals with Disabilities Education Act (IDEA) in 1997 and 2004 mandated the use of FBAs and positive behavioral supports for students with disabilities whose behaviors could potentially result in a change in educational placement. Recommendations to employ FBAs and BIPs included use with students who are not identified as needing special education services. Although the legislation prompted the use of FBAs and BIPs, it provided no technical assistance to guide school personnel in appropriate development and implementation. An additional concern is the presumptive nature of this recommendation, as the research is mixed regarding the importance of determining function in behavior management strategies for general education students (McIntosh et al., 2008). Furthermore, there is limited research examining potential similarities in the functions of behavior for students exhibiting mild or moderate behavior problems and students with disabilities exhibiting more intense behavior problems. There are also growing concerns about the quality and effectiveness of FBAs and BIPs developed by often

overwhelmed and budget-challenged school-based personnel, who are typically not provided opportunities to acquire ABA or functional analysis skills (Quinn et al., 2001; Scott et al., 2004). Thus, schools are mandated to execute FBAs in the absence of research-based processes and guidance specific to the school setting and with limited evidence of the effectiveness of FBAs developed by teachers (Payne et al., 2007).

Along with increased pressure to conduct FBAs, there is greater emphasis on the prevention of student behavior problems through effective management of behavior problems in the classroom. Educators are forced to focus a majority of their contact time with students strictly on academics, which leaves little time to manage problematic behaviors and teach prosocial replacement behaviors (Greenberg et al., 2003). Although students exhibiting problematic behaviors need explicit instruction in replacement behaviors (Kauffman, Lloyd, Baker, & Reidel, 1995), behavioral instruction and management are not heavily emphasized in preservice or in-service general education teacher training (Kauffman, 2005; Reid & Eddy, 1997). In fact, general education teachers typically receive little or no training in behavior management principles and classroom management during their preservice training experience (Cook, 2002; Cook, Landrum, Tankersley, & Kauffman, 2003). A related challenge is the limited time available to provide training, support, and technical assistance to teachers, as well as limited class time for teachers to implement interventions (Domitrovich et al., 2008). Demands on teacher time increase as new initiatives are proposed, often in the absence of additional time and resources to support implementation (Sugai et al., 2000).

Rationale for FBT

FBT is intended to address the call for function-based behavior planning by providing a framework for helping teachers think about problematic behaviors. FBT is intended to be efficient and minimally invasive in terms of teacher time, cost, and management efforts. When executed well, the use of FBT will likely result in a time savings for teachers and administrators. The initial investment in training reaps rewards as a teacher's ability to consider function is enhanced. Responding at the classroom level minimizes the need to spend time outside of the classroom attending numerous behavior support meetings. Furthermore, using FBT as a precursor to FBA permits preventive interventions to be implemented prior to making a referral to the often back-logged school-level student support teams. FBT is an attractive prevention approach, given the time constraints, limited training in FBA, and uncertainty about the match between functional analysis and use with general education students.

Research suggests that the earlier intervention is provided for new-onset behaviors, the more effective the behavioral change efforts. When intervention is not provided, student behavior problems escalate and require more intensive intervention (Scott et al., 2005). Therefore, if teachers are able to apply FBT to behavioral concerns in the classroom as behaviors develop, they will be better prepared to prevent the development of more serious behaviors. Such an approach is proactive and contrasts typical school procedures, which require teachers refer students with problem behaviors and then wait for district-level support from a behavior specialist. When a teacher is trained to apply FBT to a problem within his or her class, he or she is able to explore what could be changed in the student's school environment more immediately and ensure there are not stimuli within that setting that are contributing to student problem behaviors. Thus, using FBT as a preventative strategy allows teachers to implement programs prior to referral for special education and possibly avoid the development of more serious problems.

Overview of FBT

FBT is a model for thinking and a systematic process for defining problem behaviors and selecting interventions that match the function of the behavior. It addresses both the importance of identifying the function of behaviors and the significant role general education teachers can play in that identification process. At the same time, FBT takes into consideration the setting demands placed on general educators. The model incorporates the function of a student's behavior problem when planning behavioral interventions and considers the role "function" plays in the selection of those interventions. FBT adheres to the basic principles of FBA: a hypothesis statement that depends on the development of an operational definition of the behavior, information gathering that includes direct observation (primarily by the classroom teacher), and the creation of a behavior support plan that aligns with the determined function (Sugai et al., 2000). Because FBT does not require the level of expertise and depth of assessment that FBA does, it is more accessible and user-friendly for teachers.

FBT is designed to serve the needs of students who have behavior problems that have not yet evolved to the point of requiring multiple layers of intervention to support success. Training in FBT helps teachers consider the function of students' behavior problems and plan interventions accordingly. This, in turn, has the potential to decrease referrals to the student support team, typically the group of professionals who work collectively to solve persistent academic and behavioral issues. When teacher interventions reduce student referrals to the

Figure 1 Comparison of FBA and FBT

Differences between FBA and FBT	
Functional Behavioral Assessment (FBA)	***Function-Based Thinking (FBT)***
• A process and a product • Requires formal assessment and analysis of comprehensive data • Involves multiple team members • Requires individual trained in behavior analysis or functional assessment • Typically a lengthy and intensive assessment and intervention process • Not often used as a preventative measure, but rather instituted when more problematic behaviors arise	• A quick systematic way of thinking that informs the selection of effective function-based supports • A preliminary step, prior to an extensive FBA • Only requires the teacher and an individual knowledgeable of behavior management to facilitate the learning process for teachers • Draws from the research-based components of FBA • Designed to be used as an early intervention strategy with mild to moderate behavior problems • Designed to be used prior to involving the student support team or outside supports

student support team, the team can dedicate more time to support students with more intense behavioral needs. FBT is not designed as a replacement for FBA. Rather, it is intended to be a preliminary, proactive, and user-friendly examination of how student behavior problems relate to their environments (see *Figure 1*). The ultimate goal of FBT is for a teacher to independently think functionally about problematic student behavior and select an intervention that serves the same function without the support of multiple team meetings. Learning to think functionally follows a three-step process, which includes gathering information, developing a plan, and measuring the success of the plan. These steps are described in greater detail in the following section.

As stated previously, FBT is not intended to replace more comprehensive FBA. FBA should still be carried out when student behaviors are more complex or have been exhibited for an extended amount of time. FBA could also be used when the behavior plan created from FBT does not prove to be effective at changing newly acquired problem behaviors.

The Three Steps of FBT

Gathering Information

The first step of FBT requires the gathering of information or data about the presenting behavior. Any information that helps school personnel explore the nature of the presenting problem behavior is collected. Collecting antecedent, behavior, consequence (A-B-C) data may bring to light the cause of the behavior. Keep in mind that the antecedents of behavior might occur outside of the school day, with a delayed behavioral response. Collecting A-B-C information can help reveal these and other specific patterns of behavior, triggers, and responses that may be reinforcing the behavior. A-B-C data also serve to clarify teacher and student responses that may be consciously or unconsciously rewarding the behavior.

There are many kinds of data that are collected naturally in the course of the school day. Examples of these include student grades, homework and work completion, tardies, absences, and even visits to the nurse or guidance office. All of these can help provide insight into student behavior. These data typically are collected independently, and thus they are rarely looked at collectively or comprehensively. The cause of the behavior is much clearer as a result of gathering numerous sources of data and reviewing them collectively. Teachers are becoming more astute at using data to make academic decisions. The same rationale applies to behavior and helping a teacher

learn to review data for behavioral intervention planning is just as critical. Thus, FBT promotes the systematic examination of existing data and is not always dependent upon the collection of new sources of information. Through this process, teachers begin to think functionally about the causes of students' misbehavior and the most appropriate interventions.

Developing a Plan

The second step of FBT is the development of a plan that supports behavior change. The plan should take into consideration the function of the behavior. Development includes creating a plan to replace the targeted behavior with a goal behavior that is more suitable for the given setting. The plan should also identify personnel that could help the student learn the new behavior as well as reinforce the student for demonstrating the new behavior. This may require that personnel be trained or guided so that all of the adults understand the expectations of the plan and respond consistently to the student. Although often overlooked, it is critical to share the student behavior plan with other school staff who are not directly involved with implementing the plan but who have regular interactions with the student. Key personnel would naturally include all of the student's teachers but may also include front office personnel, the school nurse, the lunchroom staff, and bus drivers. Because the success of the plan is dependent upon adult behavior change, it is critical to include all adults who regularly interact with the student in the development of a consistent system of support.

Measuring the Success of the Plan

The third step in FBT is to determine how the plan will be evaluated for success. Building on the first step of gathering data prior to implementation of the plan, the data collection should be ongoing and periodically compared with the baseline data to determine student progress. The data collection strategy needs to be simple and efficient for the teacher to implement while still teaching a class. A sample worksheet and flowchart that further explain the FBT process are included at the end of this article (see *Figure 2* and *Figure 3*).

Applying FBT in the Classroom Context

Examination of student behavior should start with the consideration of ecological factors that include instructional match, classroom environment, and cultural sensitivity. Ecological models highlight the connection between the learning environment (and context) and student behavior and development (Bronfenbrenner & Morris, 1998; Hobbs, 1982; Sheridan & Gutkin, 2000). One such context is the classroom, which has considerable influence on both the students' and teachers' behavior (Koth, Bradshaw, & Leaf, 2008). When student behaviors become problematic it is imperative that cultural context and teacher behaviors are considered, as both are dimensions of the student's environment.

Given the influence that teacher behavior and cultural factors have on student performance, when faced with problematic student behavior it is critical to determine the degree to which these factors may be contributing to the problem. Because classroom management and cultural competence are sensitive issues to a teacher, we recommend the opportunity for teachers to self-reflect on these topics (Hershfeldt et al., 2009). Some self-assessment instruments have been designed to actively engage teachers in the self-reflection process. The Classroom-Check Up (Reinke, Lewis-Palmer, & Merrell, 2008), for example, highlights critical variables in effective classroom management and provides teachers an opportunity to reflect on the ecology in their classroom. Likewise, the Double-Check Self Assessment (Hershfeldt et al., 2009) provides teachers the opportunity to reflect on indicators of culturally responsive classroom practices. Both instruments serve the purpose of opening a teacher's thinking to the possibility that something about his or her own behavior could be contributing to problematic student behavior.

It is also critical to determine the match between academic expectations and the student's ability to meet the expectations. The call for academic progress monitoring has helped to reduce assumptions about student ability. More often teachers are required to chart academic progress of student in comparison to grade-level expectations. However, despite best efforts to consider academic deficits, there are still instances where a student is faced with tasks that are too difficult and frustration turns into problem behavior. For example, McIntosh et al. (2008) showed that students with lower reading levels often displayed escape motivated behaviors. Teachers must carefully consider this as a possible predictor when students are demonstrating challenging behaviors. Once it has been determined that the classroom climate is supportive and promotes positive learning opportunities and that the student is able to perform the expected task, then FBT should be applied.

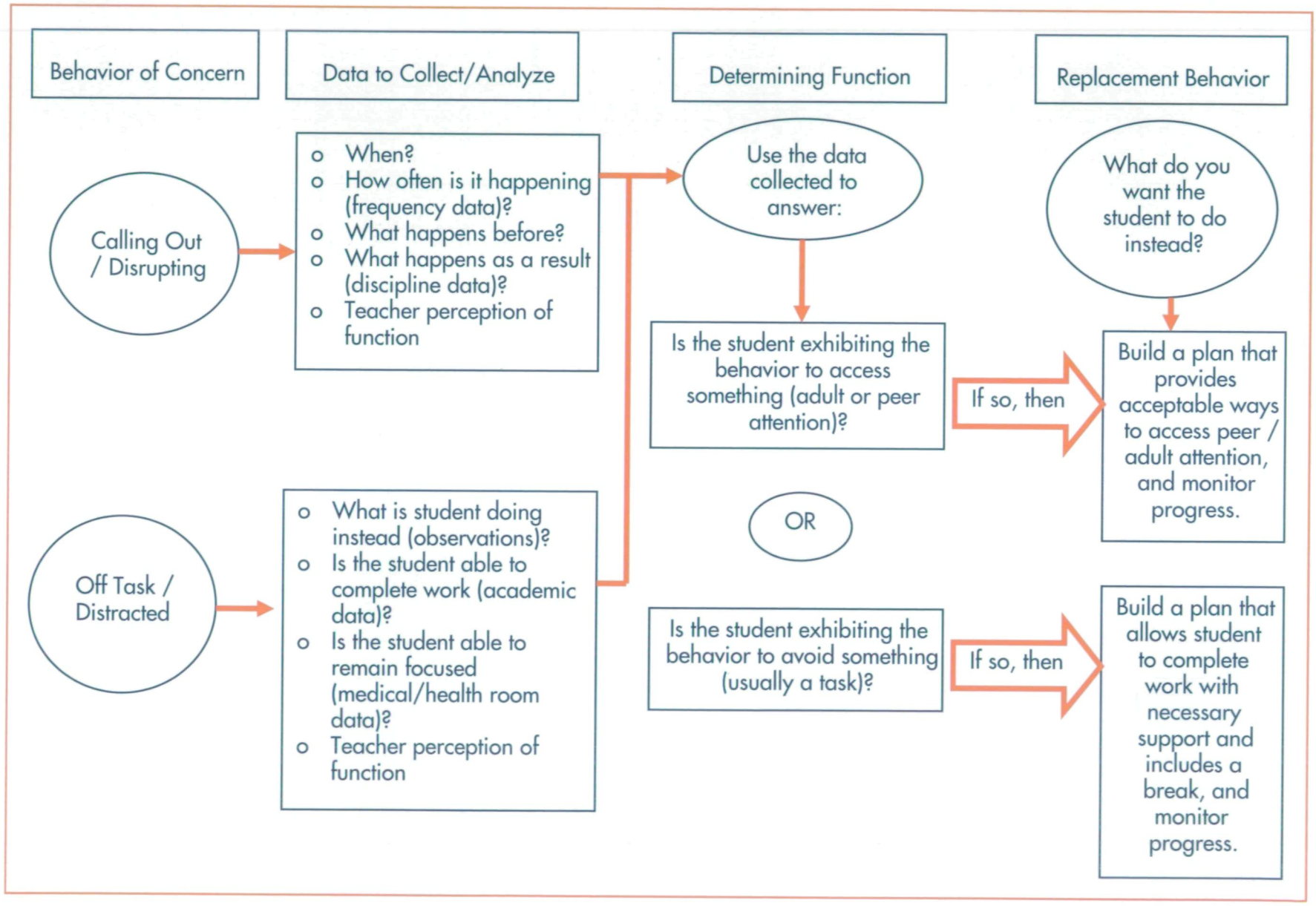
Helping Teachers Implement FBT

We recommend that teachers are coached through the three-step FBT protocol with the intent of fostering independent implementation of FBT in the classroom. Some teachers may need support implementing FBT with several different students in order to learn the process, whereas other teachers may learn the process after being guided through it just one time. FBT can be viewed as a skill that a teacher can acquire and use at the onset of behaviors—when interventions are most successful and

Figure 2 The Three Steps of FBT

Gather Information
Describe the problem behavior.
Form an operational definition of the problem behavior (i.e., targeted behavior).
What information have you gathered about the behavior? When does it occur? What happens directly before the behavior (i.e., the trigger)? What happens directly after the behavior occurs (i.e., the consequence)? Do you detect any patterns?
Hypothesize why the student may be exhibiting the problem behavior. Behaviors typically occur for a limited number of reasons; what do you hypothesize is the reason this student is demonstrating the behavior (e.g., attention seeking or avoidance)?
Develop a plan
If the student is trying to access attention then how can he/she get attention in a way that is acceptable in the setting? If the student is trying to avoid a task or interaction, how can the student avoid the task (at least temporarily) that is a in the setting?
Operationally define the goal behavior you would *'ideally'* like the student to demonstrate?
Knowing that learning new behaviors takes time (just like with academics), what behavior would you *'settle for'* while the student develops mastery of the new behavior?
Is there anyone else (aside from you and the student) who could help the student learn or could reinforce the student when s/he demonstrates the new behavior?
How will you reward the student for demonstrating the new behavior (i.e., reinforcement to increase the likelihood that the behavior will happen again)?
Is there anything that will prevent the student from being successful with this plan (substitute teacher, no breakfast, peers)? How will we 'pre-correct' for this ahead of time?
Measuring the success of the plan
How will you know if the new *replacement* behavior is happening more often? If the old problematic behavior is happening less often?

Figure 3 Model for Implementing FBT



before behaviors intensify (Scott et al., 2005). Specifically, a teacher along with a coach or facilitator (e.g., school psychologist, colleague, or other school personnel) would begin working through the three-step FBT process. This team approach is used as a support to the teacher who is learning FBT. Once the teacher is confident in the application of FBT then there is no longer a need for a team approach unless the group chooses to maintain that format.

The second step of the FBT process aims to help teachers ask the question, *Why* is the student engaging in the problematic behavior? Oftentimes when students are misbehaving, teachers become overwhelmed and rely on whatever intervention might have worked with a previous student. However, the research suggests that selecting an intervention that addresses the function of the behavior yields higher success in changing the targeted behavior positively (Scott et al., 2005). Therefore, in showing teachers how to think about the function of the behavior they become more adept at addressing problematic behaviors. The function of the behavior would be determined by reviewing the information gathered and hypothesizing about why the student is demonstrating the behavior.

The function of the behavior should be the primary consideration when developing the plan. The purpose of the plan is to support change of the targeted behavior. When developing the plan, school personnel should consider the student's strengths and interests in addition to the student's needs. Creating a plan that supports the goal behavior with reinforcers that match a student's interests and build upon strengths will be more effective than simply focusing on the development of student deficits (Scott & Kamps, 2007). In addition to reinforcers, the plan should include instructional design, a plan for success, and a plan to prevent failure (Scott & Kamps, 2007). Instructional strategies that will be implemented to teach the student the goal behavior should be clearly outlined. Variables that can prevent the plan from being successful should be included. These might include substitute teachers, peer conflicts, a disruptive bus ride, or even a child missing breakfast. School personnel who are considered integral in the implementation of the plan need to be notified and trained if necessary; otherwise, lack of personnel training may contribute to student failure.

Lastly, strategies for evaluating the success of the plan need to be developed. By collecting data prior to the intervention and comparing it with the data collected once the intervention begins, the effectiveness of the plan can be more clearly evaluated. Teachers are provided multiple tools for charting reading and other academic progress. Learning to think functionally involves carrying that skill into the behavioral domain. At this point, teachers may need assistance in determining what form of data to collect, how often to take data, and how to display the data so that trends and progress can be monitored. As noted previously, we recommend a simple measure so that continued collection is reasonable and can easily be carried out by the teacher. Prepared forms are ideal for the efficient collection of data. Examples of prepared reproducible data collection forms have been developed by Jenson, Rhode, and Reavis (1995) in the *Tough Kid Tool Box*.

Case Study Illustrating FBT

We consider a case example of the implementation of FBT with a student, Jay, who is a third grader in a suburban school. The teacher, Ms. L, explained that Jay was persistently calling out during instruction to the point where other students were complaining about the disruptions. The teacher decided to address the behavior because of the level of disruption. In this situation, the teacher expressed her concern to the school counselor and asked for support. The school counselor scheduled a meeting with the teacher and one of the authors who would serve as a trainer in FBT. Thirty minutes were allowed for the meeting, and although parents were not included in this particular case they certainly could be.

Consistent with the steps outlined previously, we first interviewed the teacher, which allowed her to explain the behavior and helped her to narrow it to an operational definition (this step also typically includes an opportunity for teachers to "vent," or express frustration and get emotional support from colleagues). For example, when Ms. L. began explaining Jay's behaviors she was using words such as outbursts, blurts, and bellows. The target behavior was written in terms that could be easily understood by all school professionals who might need to access the function-based plan. At this point, the interviewer asked the teacher to explain what she observes directly before and directly after the behavior occurs. The group felt like the teacher's observation clearly represented the antecedents and consequences and the interview continued. If this had not been the case, then the team would need to explicitly collect A-B-C data. At this point, the team also reviewed other data sources that were relevant to the student behavior (e.g., office discipline referrals, class work completion grades, the nurse's log).

Next, the group created a hypothesis statement that included the perceived reason for the behavior. Simply put, the hypothesis addresses the question, "Why is the behavior occurring?" In this case, the teacher realized by reviewing her antecedent data that the behavior occurs primarily during math class on days that new content was presented. More specifically, the behavior started when Ms. L. gave the direction to begin independent practice of the new content. Ms. L.'s

response (consequence) to Jay's disruption was to deduct minutes from recess, during which time he would be required to finish the assigned task. Ms. L. also provided support on the assignment during this time.

After reviewing the data, Ms. L. realized Jay might be avoiding the assignment because he did not understand the new material well enough to complete the work independently. Therefore, by holding him for recess, she was actually reinforcing his behavior because he could access her support. Thus, it was determined that Jay was causing disruptions to avoid the independent seatwork that was too difficult for him to complete without assistance. By misbehaving, he received the teacher's help. Through determining why the behavior occurred, Ms. L. was able to identify the function of the behavior.

Once the function of the behavior was determined, a replacement behavior was defined. Identifying a replacement behavior answers the question, "What do you want the student to do instead?" It is also important that the replacement behavior serve the same function as the targeted behavior. Choosing an appropriate replacement behavior that matches the same function is a difficult skill that is not always part of a teacher's repertoire but requires training and support. Ms. L. decided that rather than disrupting class when he felt unsure of the materials, she helped Jay learn to take his paper to the back table where she met him and provided him the support he needed. Upon defining the replacement behavior, the teacher developed a plan that outlined instruction and reinforcement of the new behavior. In this case, the teacher wanted to spend additional time on the guided practice part of her lesson and developed a method for checking for Jay's understanding. She wanted to ensure that Jay felt comfortable moving ahead with the independent practice and provided him the opportunity to move to the back table for additional help.

Finally, the team determined how to evaluate the effectiveness of the intervention. Again, the evaluation process required specific data about the problem behavior be gathered prior to intervention and again once the intervention is implemented. In this example, the teacher wanted to document the number of times Jay failed to attempt his individual seatwork prior to allowing him to visit the back table and after he was allowed to visit the back table (before and after the intervention was implemented). If the number decreased, then it would be appropriate to assume the intervention was successful (see *Figure* 2). The ultimate goal is for teachers to become independent at using FBT to select and implement behavioral interventions. The team model described previously characterizes a training situation.

The goal is for teachers to apply FBT when a behavior problem first arises with a student. Although employing a team of professionals is perhaps optimal, it is not always easy to pull together. While the team is trying to match schedules and consider a possible time to meet, the student's behavior can often go unaddressed. Instead, teachers trained to apply FBT possess the ability to consider function when selecting a response to student behavior problems, thereby increasing the likelihood of extinguishing the behavior.

Professional Development

An important part of the FBT process is receiving sufficient training and technical assistance in implementing the strategy. In fact, there is increased interest in the elements that are critical to the successful implementation of new practices like FBT (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). Those elements include practitioner selection, preservice and in-service training, ongoing consultation, coaching, and staff evaluation. First, basic assumptions must be met in terms of practitioner selection; a teacher must be willing and able to perform the skills associated with FBT in order for implementation to be successful. Second, preservice and in-service training provide the necessary background knowledge and process knowledge so that teachers can grasp the relevance of the intended strategy. Ongoing consultation, technical assistance, and coaching should be provided to ensure continued progress in the implementation process. Finally, staff evaluation facilitates ongoing assessment of the implementation process. Assessing the use and outcomes of FBT provides the practitioner with self-reflection opportunities specific to the implementation of the new skill and facilitates sustainability of the intervention (Fixsen et al., 2005)

The most critical of the core implementation components is ongoing consultation and coaching. A meta-analysis on the effects of training and coaching on classroom implementation of new material revealed that 95% of participants, who received in-class coaching to support a new strategy, demonstrated mastery of knowledge and accurate skill demonstration and implemented the new strategy with fidelity. In contrast when participants received only practice opportunities and feedback as a training component, 60% demonstrated mastery of knowledge and accurate skill demonstration but only 5% actually used the new skill in the classroom (Joyce & Showers, 2002). Related research by Ager and O'May (2001) suggests that providing training without coaching has little effect on performance. Given these findings, it is clear that while training teachers to implement FBT, the coach should provide support that is collaborative rather than consultative. Coaching alongside the teacher in the classroom will yield greater outcomes than other training formats.

It is for this reason that we recommend that a coach be available to provide the necessary supports as teachers develop their functional thinking skills. As discussed previously, members of the student support team who are highly trained in behavioral modification techniques can serve as coaches at a collaborative level to ensure the teacher is demonstrating the necessary understanding and applying the correct logic when linking functional hypotheses to interventions. Coaches can facilitate the inclusion of teacher values and beliefs (Smart et al., 1979) and provide emotional support during the implementation process (Spouse, 2001).

Conclusions

Operationalizing the inventory of research-based interventions and theories in school settings requires an empathic consideration of school-based contextual factors, a common language, and one-to-one support for teachers willing to learn new technology in support of student success (Domitrovich et al., 2008). FBT is an example of how to apply the logic and theory of FBA to a wider population of students who are displaying behaviors of concern. FBT is a framework for thinking that considers the contextual needs of general education teachers and provides opportunity for these teachers to actively participate and plan behavioral interventions that will be more effective because they are selected based on function. By building the capacity of the classroom teacher to such a level, the goal then becomes application of FBT to aid in the prevention of unnecessary office referrals, student support team referrals, and ultimately unnecessary referrals for special education evaluation.

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