

An Examination of the Relation Between Functional Behavior Assessment and Selected Intervention Strategies With School-Based Teams



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Abstract: Although functional behavior assessment (FBA) is widely advocated as best practice in developing effective behavior intervention plans for students with challenging behaviors, there is no compelling evidence supporting the ability of school-based personnel to use the outcomes of FBA to develop effective interventions. In this study, selected staff members from four elementary schools were trained in how to use the outcomes of an FBA to develop function-based intervention plans. They then formed school-based intervention teams and served as facilitators for a total of 31 cases. The same cases also were distributed to three national FBA experts who selected interventions based on the identified function for each case. The number and type of selected intervention strategies were recorded and analyzed across cases. Comparisons between team and expert intervention strategy selection revealed that school-based personnel in this study were more likely to select punitive and exclusionary strategies, regardless of function. Thus, in real-world school settings, the link between FBA and intervention is far more complex than has been recognized or discussed in the literature. Discussion focuses on possible explanations for the finding that school-based teams tend to gravitate toward more negative and exclusionary strategies, even when mediated by a trained FBA facilitator.

Functional behavior assessment (FBA) is a method of assessing the relationship between the environment and behavior (O'Neill et al., 1997). In clinical settings, and more recently in public schools (e.g., Dunlap, Kern, Dunlap, Clarke, & Robbins, 1991; Lane, Umbreit, & Beebe-Frankenberger, 2000), researchers have demonstrated the usefulness of FBA in determining the function or purpose that problem behavior serves for individuals (Conroy, Fox, Crain, & Belcher, 1996). However, questions remain regarding whether such demonstrations are possible when highly trained experts and researchers are not participants in the process (Gresham, Quinn, & Restori, 1999). In public schools, the purpose of FBA is to use information about the function of behavior in the school environment to develop individually tailored interventions based on the needs of the student (Conroy, Clark, & Gable, 1999; Hendrickson, Gable, Conroy, Fox, & Smith, 1999; Kennedy et al., 2001; O'Neill et al., 1997). Knowledge of function al-

lows interventionists to target and teach more acceptable replacement behaviors that can help the student to meet his or her needs without resorting to problem behavior (Kamps et al., 1995).

Effective behavior intervention plans are based on the function of behavior and must include instructional and environmental strategies that facilitate successful student responding (Sugai, Horner, & Sprague, 1999). That is, effective interventions focus on encouraging prevention of problem behavior, as well as reaction to it. Although traditionally practiced with persons exhibiting the most chronic and challenging problems, a more efficient approach provides assessment and intervention as a manner of prevention when problems are first noted (Scott et al., 2004). To be effective at this level, typical school-based personnel must be able to develop and implement logical and practical intervention strategies that are clearly tied to function.

Logical and practical intervention strategies involve skills and practices that should be familiar to the average teacher. Instruction is the heart of a successful plan, as appropriate behaviors are identified to replace problems (Kerr & Nelson, 2002). Replacement behaviors may be either academic or social in nature and, once defined, are taught to the student by designing instructional sequences involving effective examples, modeling, prompting, and consistent feedback (see Kamps et al., 1995; Lee, Sugai, & Horner, 1999). Effective interventionists also consider times, locations, events, and contexts that are particularly predictive of both desired and undesired behavior in the classroom and then use this information to develop routines, physical arrangements, and contexts that are more predictive of desired student behavior (see Dadson & Horner, 1993; Dunlap et al., 1993). In addition, all school-based personnel typically provide positive and negative consequences to support the student's use of the desired replacement behavior and discourage misbehavior. Providing functional, immediate, and contingent positive reinforcement for desired behavior sets the occasion for continued student success (see Blair, Umbreit, & Bos, 1999; Mayer, 1995; Shores et al., 1994) and provides students with confidence and incentive to continue (Cameron, Banko, & Pierce, 2001; Cameron & Pierce, 2002). Similarly, knowledge of the function of behavior identifies a class of consequences that are undesirable to the student and that must be applied consistently when misbehavior occurs. However, research has been clear that negative incentives and consequences are effective only when (a) the consequence is functional, (b) the least intrusive and most natural functional consequences are used, and (c) plans are based on antecedent and instructional manipulations that facilitate student success (Kerr & Nelson, 2002; Sulzer-Azaroff & Mayer, 1991). Behavior intervention plans that are over-reliant on negative consequences are ineffective and serve to set the occasion for further problems and increasingly coercive interaction (Shores, Gunter, & Jack, 1993).

Historically, the legal mandate to provide function-based support has effectively maintained its practice in schools (Drasgow, Yell, & Bradley, 1999; Yell & Katsiyannis, 2000), and intervention has been a process implemented by specialists who often have been unfamiliar with the students with whom they have worked (Scott et al., 2004). Because intervention planning is a dynamic process that involves consideration of the environment in which a student's problems occur, team-based assessment and intervention planning has been advocated as a means of involving a wider environmental perspective (Hendrickson et al., 1999; Kennedy et al., 2001). Hendrickson and colleagues have argued persuasively for an "organizational framework" within schools to facilitate team organization and process. Such a framework requires critical evaluation of several key issues, the first of which is whether school-

based personnel can apply proactive FBA to the behavior intervention planning process in a valid manner for students who have not (yet) been identified as having an emotional or behavioral disability but who have begun a pattern of problem behaviors (Sasso, Conroy, Peck-Stichter, & Fox, 2001).

To date, it is not clear that school-based personnel will be able to complete a valid FBA in the absence of expert direction and assistance (Gresham et al., 1999; Nelson, Roberts, Mathur, & Rutherford, 1999). Sugai, Lewis-Palmer, and Hagan (1998) found that even after being presented with FBA information, school-based personnel were likely to ignore function when developing interventions and return to previously unsuccessful but familiar strategies. Questions remain as to whether such examples will be demonstrated with more loosely controlled school-based teams as there currently is no compelling evidence that school-based teams can organize and use information of function to develop proactive behavior intervention plans in public school settings and with students who are not identified as having disabilities (Scott et al., 2004). One national study of 17 school districts reported that, even when school-wide training in FBA had been conducted, interviewers found that teachers were generally not familiar with the term "functional behavior assessment" (Schiller et al., 2003). One suggested solution to this problem has been to train key staff members to facilitate the FBA and behavior intervention planning process through school intervention teams (e.g., Conroy et al., 1999; Hendrickson et al., 1999). Identifying and training specific personnel (e.g., general education teachers, counselors, school psychologists, specialists) within a school to assist intervention teams may offer advantages over the training of entire teams, as teachers may be slow to accept changes that affect their role within a school (Scott, Nelson, & Zabala, 2003).

This study investigated the degree to which school-based teams that included key trained personnel were consistently able to use the outcomes of FBA to develop effective intervention strategies as described above. Comparisons were made between the number and types of intervention plan strategies selected by both experts and school-based teams led by a trained facilitator. Specifically, the following questions were addressed: (a) Are there differences between experts and teams in the selection of intervention strategies? and (b) Are there differences in how experts and teams select exclusionary strategies during intervention planning?

Method

PARTICIPANTS

School-Based Intervention Team Facilitators

Five certified staff from four midwestern elementary schools were provided with 6 hours of training to act as facilitators

for school-based intervention teams. The first author delivered training to all team facilitators. Training consisted of a 6-hour session that provided all participants with (a) a 30-min overview of function-based assessment and intervention; (b) descriptions and models of procedures for conducting FBA and developing function-based interventions; (c) guided practice on two video-based case study examples with continual feedback from the trainer; (d) independent small-group practice with a third video scenario wherein the trainer played the role of the referring teacher, participants asked specific questions, and teacher and participants collaboratively developed intervention plans based on information gathered; and (e) trainer evaluation of understanding, based on criteria suggested in Scott, Liaupsin, and Nelson's (2001) FBA training module. Each participant was able to identify functional and non-functional proactive (i.e., antecedent and instructional strategies) and reactive (i.e., positive and negative consequences) intervention strategies for a variety of functions. The facilitator's role was to guide the team's process by working as a team member to assist in determining function and developing function-based intervention plans.

Students

From a sample of 39 student referrals, teams were able to meet and develop behavior intervention plans for 31 students within the time frame of this examination. Students were referred by their homeroom teachers, via a standard district referral process, for recurrent problems. No student had previously been identified as eligible for special education nor were any being evaluated for special education services. Across the four schools, 14% of the referrals were from the second grade, 39% from the third grade, 23% from fourth grade, and 32% from fifth grade. Eighty-one percent of the referred students were boys and 19% were girls. In each case, the referral form was checked indicating that the student "demonstrates a pattern of behavior that interferes with his/her learning." Common descriptions of behavior noted on the district referral forms across the referred students listed "disruptive," "non-compliant," "disrespectful to teachers," "aggressive," "argumentative," and "off task."

Behavior Specialist

A behavior specialist assisted in this study by sitting in on the intervention planning sessions, recording the teams' selected strategies, and forwarding information back to the first author. She was employed by the district, was completing a master's degree in special education, and had experience with the development of function-based behavior intervention plans.

Experts

The third, fourth, and fifth authors served as experts in this study. They were actively engaged in research on issues re-

lated to FBA and intervention planning and had published on these topics within the year prior to this study (see reference list). The role of the experts was to read the team's overview of the student's problems and then, based on the team's hypothesis of behavioral function for each student, to identify intervention strategies they would recommend from among the menu of options that was provided to the teams. Experts were familiar with the general focus and intent of the examination but were kept blind to all results until the end of the study.

IMPLEMENTATION

During the study, 31 team-based behavior plans were developed. Although at least one trained facilitator sat on each of these teams, no two teams were made up of exactly the same combination of persons, as each team was tailored to involve the persons most familiar with the student and to involve those who could provide information to guide the intervention planning process.

Team Intervention Planning

Each student case in this study was reviewed by a team, and a hypothesis of function was developed. The facilitator's role in this process was to lead the team's discussion through the following questions:

1. What is the problem behavior of concern?
2. When is the problem behavior likely to occur, and what tends to happen afterward?
3. What is the desired behavior?
4. Does the desired behavior ever occur now, and, if so, what events are associated with its occurrence?
5. Given this information, why do we think the student would want to engage in this behavior?

After leading the team through a discussion and an analysis of this information, the facilitator posed the question leading to the hypothesis of function. Teams then developed testable explanations and voted to reach consensus as to what they believed to be the most logical hypothesis, based on the information presented. Hypothesized functions involved both a determination of access to reinforcement or escape from aversives and a description of how the environment was related (e.g., escape from math work, access to peer attention).

The district used a standard Behavior Intervention Plan Strategies Form (see Figure 1) that broke intervention strategies into four categories: restructuring antecedent conditions, instructional techniques, consequences for positive behavior, and consequences to reduce misbehavior. The district used this form simply as a list of ideas from which teams could select and was not meant to be exhaustive of all possibilities. Further, the form did not obligate users to select any particular number of strategies from any

category nor did it necessitate selection from within each category. Facilitators led each team through a discussion to determine the most appropriate intervention strategies, based on the hypothesized function of behavior. Team members made suggestions, facilitators promoted discussion of the appropriateness of the intervention in relation to function, and teams voted their consensus. The number of interventions selected was dependent on the number of interventions suggested and voted to consensus. Selected strategies were then recorded on the district form. When the intervention plan was complete, the behavior specialist collected the completed form and mailed it back to the first author.

Expert Intervention Planning

In each case, experts were provided with a written description of the student's case, the hypothesized function used by the team, and the intervention strategies form. Experts were asked to assume that the functional hypotheses were accurate and to select the strategies that were functional and appropriate for each case.

MEASUREMENT

Across all 31 cases, the first author made counts of individual strategy selections under each of the four categories for the team and experts. These sums were then entered into an Excel spreadsheet to be analyzed by respondent and function. In addition, a tally of exclusionary strategies under the heading of "Consequences to Reduce Misbehavior" was made by counting selection of the following strategies, which involved removing the student from the instructional setting: "use detention," "use isolation/recovery room," "implement in-school suspension," "contact parent and send student home for the day," and "out of school suspension." Finally, each case was categorized by hypothesized function as either "access" or "escape" motivated. Totals for each of the four categories of intervention strategies were then analyzed by function to assess any relationship between function and the types of interventions selected. All counts were double checked by a special education doctoral student, who then provided reliability checks by comparing her counts with what had been entered into the spreadsheet. This procedure yielded only two discrepancies across all entries, and the original data was consulted to identify the correct figure.

Results

FREQUENCY OF SELECTED STRATEGIES BY CATEGORY

Across all cases, all strategies were selected from the district list, and no other strategies were written in. The frequency of selected strategies was analyzed by counting the number of responses checked in each category (restructuring an-

tecedent conditions, instructional techniques, consequences for positive behavior, consequences to reduce negative behavior) and comparing across respondents (teams, experts). A one-way analysis of variance (ANOVA) was performed to identify significant differences among total selected responses between teams and the mean expert score within each of the four response categories. These results are summarized in Table 1. ANOVA procedures were also run to analyze differences among the three experts. When a post-hoc comparison was indicated from the ANOVA results (p value $< .05$), the Bonferroni test was used to identify the nature and extent of those significant differences. These results are summarized in Table 2.

Restructuring Antecedent Conditions

Teams suggested a mean of 3.03 antecedent manipulations per case, with a range of 0 to 8, and experts suggested a mean of 3.32 antecedent manipulations per case, with a range of 1 to 10. The ANOVA for restructuring antecedent conditions yielded no significant differences between teams and experts, $F(1, 60) = .450, p = .505$. Among experts, significant differences were found in terms of the number of antecedent conditions suggested, $F(2, 90) = 14.357$. The Bonferroni test showed one expert selecting significantly fewer antecedent manipulations than the other two ($p = .001, p < .001$).

Instructional Techniques

Teams suggested a mean of 2.14 instructional manipulations per case, with a range of 0 to 7, and experts suggested a mean of 4.76 instructional manipulations per case, with a range of 1 to 11. The ANOVA for instructional techniques yielded a significant difference, $F(1, 60) = 14.189, p < .001$. Although all experts selected more strategies than teams, significant differences were found among experts, $F(2, 90) = 5.674, p = .005$. The Bonferroni test showed significant differences among the highest and lowest experts ($p = .03$).

Consequences for Positive Behavior

Teams suggested a mean of 2.41 strategies focused on consequences for positive behavior per case, with a range of 0 to 6, and experts suggested a mean of 2.73 per case, with a range of 1 to 5. The ANOVA for consequences for positive behavior yielded no significant differences $F(1, 60) = 1.112, p = .296$. Among experts, one expert was found to have selected significantly more positive consequences than the other two, $F(2, 90) = 7.451, p = .01$ and $p = .002$. The Bonferroni test showed significant differences between one expert and the other two ($p = .010, p = .002$).

Consequences to Reduce Negative Behavior

Teams suggested a mean of 6.53 strategies focused on consequences to reduce negative behavior per case, with a range of 2 to 13, and experts suggested a mean of 2.58 per

Behavior Intervention Plan Strategies Form

The hypothesized function of behavior for this student is *access escape/avoid*

Respondent: *Team* Expert: *1 2 3*

Student # _____

Which of the following would make the most logical sense to facilitate student success?

Restructuring Antecedent Conditions

- Remove distracting materials
- Provide quiet, separate seating area
- Modify academic requirements
- Use visual cues/signals/advance organizers
- Use verbal prompts
- Provide limited choices

- Use gestures, physical cues
- Minimize/structure transition time
- Allow student to escape task/situation
- Use strengths/interests often
- Reprimand/correct privately
- Other -

Instructional Techniques

- Teach class rules/establish expectations
- Model desirable behavior
- Use strategic placement
- Role play
- Coach through use of corrective feedback
- Provide literature-based lessons
- Monitor and provide written feedback (journal)
- Develop student-teacher contract

- Develop student-parent contract
- Teach self-monitoring
- Use team-building activities/peer involvement
- Provide social skills games
- Organize group discussions
- Teach alternative behaviors
- Use differential reinforcement
- Other -

Consequences for Positive Behavior

- Frequent, consistent, specific verbal praise
- Provide positive social reinforcement
- Establish point system
- Establish in-class or in-school reward system
- Establish home-school reward system
- Establish token economy

- Provide consumable reinforcement (i.e., food)
- Provide tangible reinforcement
- Refer to other adults for praise
- Use privileges/responsibilities
- Use private praise
- Use frequent rewards
- Other -

Consequences to Reduce Misbehavior

- Use nonverbal signals
- Provide verbal reminder/reprimand
- Set up system of planned ignoring
- Use a structured warning system
- Use response cost procedures
- Provide time to cool off at designated area
- Implement loss of privileges
- Arrange student-teacher conference
- Implement behavior contract
- Use contingent exercise
- Refer to social worker/counselor

- Contact parent
- Exclusion from extracurricular activities
- Use detention
- Use food delay
- Use forced physical guidance
- Use CPI manual restraint
- Use isolation/recovery room
- Implement in-school suspension
- Contact parent and send student home for day
- Out of school suspension
- Other -

Figure 1. Behavior intervention plan strategies form. *Note.* CPI = Crisis Prevention Institute.

case, with a range of 1 to 7. The ANOVA for consequences to reduce negative behavior yielded a significant difference $F(1, 60) = 60.946, p < .001$. Although all experts selected fewer negative consequence strategies than teams, the ANOVA yielded significant differences among experts, $F(2, 90) = 23.292$. The Bonferroni test showed significant differences between one expert and the other two ($p < .001, p < .001$).

FREQUENCY OF EXCLUSIONARY STRATEGIES

The frequency of selected exclusionary strategies was analyzed by counting the number of exclusionary strategies selected in the category of consequences to reduce negative behavior. Teams suggested exclusionary strategies in 70% of cases, averaging 1.95 per case where exclusion was selected. Experts did not suggest an exclusionary strategy in any of the 31 cases. Because no experts selected any ex-

clusionary responses, no differences were found among experts.

FREQUENCY OF SELECTED STRATEGIES BY FUNCTION

The frequency of selected strategies was analyzed by function for all respondents. Teams selected exclusionary strategies in 70% of access cases, at a mean of 1.76 strategies per case when selected, and in 70% of escape cases, at a mean of 2.2 strategies per case when selected. None of the experts selected an exclusionary strategy, regardless of whether they identified the function of the target behavior as access or avoid/escape. These results are summarized in Table 3.

Discussion

In terms of the quantity of responses by category, experts selected more instructional strategies and less negative consequences than did teams. Across all 31 cases, experts selected no exclusionary strategies, whereas teams selected exclusionary strategies in 70% of cases, averaging nearly two per case. We have no way of determining whether an intervention is specific to an “access” function or an “escape” function; however, we can look to see if function predicts specific strategies or categories, and we can compare team and expert selections. From the results, the identified function of behavior appears to have had little effect on the teams’ selection of exclusionary strategies, as they actually selected such more frequently when escape functions were

Table 1. ANOVA Results for Team and Experts’ Number of Selected Strategies Across Categories

Source	df	F	p
Antecedent conditions	1, 60	.450	.505
Instructional strategies	1, 60	14.189	< .001
Positive consequences	1, 60	1.112	.296
Negative consequences	1, 60	60.946	< .001

Table 2. ANOVA and Bonferroni Results for Differences Among Three Experts

Source	df	F	p	Bonferroni p
Antecedent conditions	2, 90	14.357	< .001	.001, < .001
Instructional strategies	2, 90	5.674	.005	.003
Positive consequences	2, 90	7.451	.001	.010, .002
Negative consequences	2, 90	23.292	< .001	< .001, < .001

Table 3. Proportion of Cases With and Frequency of Exclusionary Strategies by Function

Participant	Hypothesized function			
	Access		Escape/Avoid	
	%	Mean strategies when used	%	Mean strategies when used
Team	70	1.76	70	2.2
Behavior specialist	19	1.3	20	1.0
Experts (M)	0	0	0	0

identified. The discussion focuses on the limitations of the study, a description of important findings and possible explanations, and suggestions for future research.

LIMITATIONS

Several limitations are apparent in this study. First, the finding that significant differences in numbers of selected strategies were found among experts in each of the four categories presents a concern, despite the fact that further comparisons between teams and identified expert outliers did not affect whether a significant result was realized between teams and experts. In general, differences among experts were more related to the specific strategies selected and not the categories, which were generally selected very similarly across all experts. These differences in specific strategies could be interpreted as confusion or a lack of reliability among experts. On the other hand, because selection of strategies from each category was consistent across experts, these differences are more likely to be the result of individual learning histories among experts, each preferring a specific strategy or set of strategies that are comfortable and with which they have experienced past success. Still, from the evidence in this examination, there is no definitive way of determining the reasons for differences among experts.

The structure of the response form also presents an issue of concern. Although teams and experts were provided with the opportunity to generate responses outside those stipulated on the intervention form provided, none did. This might suggest that respondents were swayed by the response list, possibly causing teams to check strategies they otherwise would not have considered or that they may fail to consider interventions independent of the list. Thus, the process that teams undertook to develop behavior intervention plans may be less authentic than that used when teams do not have access to a menu of options. Still, this form represents the typical procedure in these schools. In addition, no data are available on skills or actions of the trained team members whose job it was to facilitate the FBA meeting. It is possible that team responses either were overly reliant on these persons or, more likely, that teams either received very little direction and leadership from these persons or simply ignored them. All that can be concluded from this examination is that the participation of these trained individuals typically was not sufficient to facilitate teams to respond with intervention strategies that were functionally consistent with what experts would suggest for the same cases.

Another issue concerns whether the observed results represented a change from what school personnel might do in the absence of team-based decision making and a trained FBA facilitator. That is, this examination looked at the formation of facilitated teams as a new format for behavior assessment and intervention planning in schools.

We do not have archival data from these particular schools that would allow any definitive statements as to whether the process described changed teams for the better, for the worse, or not at all. However, we do know from the literature that school personnel do tend to provide more negative interventions and less positive or proactive interventions for students who are perceived as problematic (e.g., Wehby, Symons, & Shores, 1995). Thus, it seems unlikely that what was observed in this examination represents a harmful change or a move away from positive behavior interventions.

Finally, social validity is another issue of concern in this study. Data indicate that respondents selected an average of more than three antecedent strategies per case, greater than two instructional strategies per case, and positive consequences in numbers similar to experts. However, no evidence was collected or presented to indicate that the plans that were developed by the teams ever were or, in fact, could be implemented. Thus, just because the teams developed a collaborative intervention with antecedent and instructional components and put it in writing does not necessarily mean that the plan would be carried out with any integrity or consistency. The possibility exists that selection of positive and proactive strategies were simply part of the planning process and were abandoned in favor of more negative and punitive procedures during implementation.

RELEVANT FINDINGS

Results of this study suggest that in the real world (e.g., schools), the link between FBA and intervention is more complex than is generally apparent from the research literature published to date. In general, school-based intervention teams in this examination tended toward more reactive and negative interventions than did experts, regardless of the identified function of behavior. Of course, it is reasonable to assume that experts simply were not privy to the richness of the team's discussion, thereby creating a difference in their perceptions. The fact that antecedent manipulation and positive consequence responses were similar among all respondents is positive but does not outweigh the probability of failure inherent in an over reliance on negative, reactionary, and exclusionary responses (Gable & Van Acker, 2000; Sulzer-Azaroff & Mayer, 1991). Although previous research has reported that individual school-based personnel can be trained to create valid function-based interventions (e.g., Iwata et al., 2000; Moore, Edwards, Sterling-Turner, Riley, DuBard, & McGeorge, 2002), results from this study cannot support this finding for FBA teams in public school settings. The teams' tendency toward the selection of more negative strategies may be explained by one or more of several possibilities, each of which is related to the adequacy, fidelity, or content of training.

Training was developed to fit the facilitator's limited schedules. Thus, it is possible that these circumstances caused training to be delivered in a manner and depth that was insufficient for both teams and team facilitators. The 6-hour training provided to facilitators represents what might be described as a "crash course" in FBA and behavior intervention planning. After this training, we asked facilitators to act as leaders of a team of their peers in discussing difficult issues related to challenging student behavior. In addition, they were asked to facilitate a team of persons who had not previously been exposed to this process and who likely would have no background knowledge of FBA or behavior analysis. Thus, there is reason to suspect that the training delivered to the facilitators was insufficient. Under these circumstances, the most logical course of action would be to look at the literature on effective training and to enhance training by providing increased support and coaching (as opposed to the single training session) that requires facilitators to complete a practicum in FBA facilitation under the supervision of an expert, or train an entire school staff to help facilitate FBA practice as a normal routine for all. However, we believe that the logic of training in established best practice in applied behavior analysis must be balanced with the reality of the school environment. Longer, more intensive, and more widespread training, although logical when attempting to gain reliable and valid implementation of the FBA and behavior intervention planning processes, are not necessarily realistic options in the average school setting. Thus, we must continue to search for the best balance of logic and reality.

The role of the trained team facilitator was to lead the team toward functional intervention plans designed to promote student success. However, in this study little indicates that the individuals trained in FBA were able to provide the leadership or facilitation of a team process to adequately use function to determine the appropriateness of an intervention strategy or to generate positive intervention responses in line with what experts have suggested. For all teams, function appears to have had little or no effect on the number of exclusionary strategies selected, as teams were slightly more likely to use exclusion in cases with identified escape functions. These results lead to serious questioning as to whether information of function made any difference at all in terms of the strategies that were selected. It might be argued that teams actually consider these strategies as functionally effective; however, this seems unlikely because function has no predictable effect on the selection of such strategies among teams. Thus, it seems quite possible that learning history and preconceived notions of what a behavior plan should constitute effectively trump introductory training in the use of function-based intervention. Recent research has indicated that although school-based teams can develop collaborative plans, those plans tend toward a reapplication of fa-

miliar strategies that were in place prior to referral (Scott, Liaupsin, Nelson, & McIntyre, 2005; Sugai et al., 1998). Scott, Liaupsin, and Nelson reported notes summarizing a school-based team's decision to continue using exclusion in a case where escape from instruction was the identified function: "The teacher has always used punishment and feels it is the only effective intervention." In many cases, such attitudes may effectively override the function-based mission of the intervention team. Because we have no good examples of typical school personnel completing this process without assistance from experts, it is possible that when FBA teams vary membership based on the individual student, there will inevitably be members with varying understanding of, and ability and willingness to cooperate with, the process. Overt or covert pressure from loud, impassioned, or intimidating individual members may effectively sway the team toward selecting more punitive strategies, an easy path to take given that school personnel have historically been negatively reinforced by excluding students and have become conditioned to naturally gravitate toward such strategies (Wehby et al., 1995).

This points back to the facilitator and raises questions as to what skills are necessary to facilitate successful team-based intervention and what amount or type of training must be delivered to that individual. Certainly, knowledge of FBA and intervention strategies seems necessary, but the necessary level of knowledge or skill is not clear. It also seems clear that facilitation requires not just knowledge of function-based support but also of effective leadership and strategies that move teams forward in the face of subversive individuals and potentially unpleasant contingencies for team members. That is, facilitators must not only lead the team to consider positive functional intervention strategies but must also lead them to actually implement such strategies when there is little incentive to make the effort. Effective leadership in the face of contingencies that drive teams toward negative, reactionary, and punitive interventions is a skill area not traditionally thought of as part of applied behavior analysis and represents a critical difference for school-based FBA.

A related question then is, are the characteristics of an effective FBA team leader the same as the skills for leadership of any other collaborative venture, or do the contextually peculiar relationships shared between the student and each adult create the need for a unique leadership style? From another perspective, if we consider the traditional actions of the behavior specialist or other school-based FBA "expert" to be a controlling stimulus for a set of specific desired behaviors by the group (i.e., function-based intervention strategies), then we might question what is necessary to transfer this stimulus control to the group itself—perhaps a leader within the group or some type of structured protocol. Further, from a logistical perspective, what is the cost and time required to train such persons? Taking the lead from a well-developed literature

on the transfer of stimulus control (stimulus generalization; e.g., Horner, Bellamy, & Colvin, 1984), it seems logical to suggest that standardized procedures, generic paper forms, and other structured protocol may be effective as antecedent prompts to facilitate effective team-based FBA. Still, at this point in time, even these basic structures have not been validated for use in public school settings and with teams comprised entirely of school-based personnel.

Related to the transfer of stimulus control, another possible explanation related to the content of training involves the degree to which the connection between FBA and behavior intervention plans was made explicit during training. Facilitators were trained to understand the concept of function, to use information to hypothesize function, and to select intervention strategies that were related to function. The concept of tying intervention strategies to function rather than the topography of behavior was seen as critically important (e.g., Ingram, Lewis-Palmer, & Sugai, in press; Newcomer & Lewis, 2004) and was stressed as individuals were provided with opportunities to practice with case studies. However, as the FBA process was clearly structured with questions to lead the team to answer questions that were logical to the analysis of function, intervention decision making consisted of simply asking team members to select strategies that would be appropriate based on the function of the problem behavior. It is possible that this focus, without specific attention to the development and instruction of replacement behavior is too large a leap. That is, the tendency for teams to select fewer antecedent manipulations and instructional strategies than experts and to tend toward negative consequences and exclusion may be due to inadequate facilitation of the determination of replacement behaviors upon which to base the interventions. Training might be more effective in facilitating effective interventions if the process were to be structured in the same manner as FBA. In this case, intervention would be further task-analyzed to become an addition to the set of questions begun in the FBA:

6. What appropriate behavior will help to serve the same function for the student? (replacement)
7. How can we develop teaching sequences so that the student will understand the replacement? (instructional strategies)
8. What can we do to the environment to make it more likely that the student will be successful? (antecedent arrangements)
9. How can we be sure that the student has access to the desired function when engaging in the replacement behavior? (positive consequences)
10. How can we be sure that the student does not have access to the desired function when engaging in the problem behavior? (negative consequences)

Thus, a more structured intervention training process might ask team members to determine the replacement behavior, consider how the behavior would be taught to the student, consider how the environment might be arranged to facilitate that behavior, and then consider consequences. Existing district process dictated that people simply select a set of strategies. Such a structure would require additional training for facilitators and likely necessitate even more leadership when facilitating the team.

The focus of this study was whether the facilitation of a facilitated team-based FBA would be sufficient to create more positive and functional strategies. However, it is possible that focusing only on FBA and the connection between function and intervention was not sufficient and that specific steps or a structured protocol to lead the intervention process may be necessary to provide an adequate link between function and intervention. Again, although we have evidence of this process in more controlled settings, we do not yet know how or whether such training might be effective for FBA teams in school settings.

FUTURE RESEARCH

It is discouraging to report that intervention teams in this study did not appear to use information regarding the function of undesired student behavior in developing intervention plans. In effect, it appears that teams in this study may still be at the acquisition stage of applying function-based interventions and supports—requiring more structure and support to gain fluency. Future research must focus on both delivery of training and effective structures for prompting and maintaining effective practice outside of training and in the absence of expert support. In addition, questions remain in regard to the qualities of a successful facilitator and the ideal structure for school-based FBA teams. These issues also must be fleshed out with research and demonstrations to find the ideal process for typical public school settings.

The research that established the superiority of function-based intervention plans for individuals with severe developmental disabilities and challenging behavior (Carr & Durand, 1985; Dunlap et al., 1991) now has been extended to individuals with mild or no disabilities in public school settings (Conroy et al., 1996; Dunlap et al., 1993; Kennedy et al., 2001). Hopefully, the demand for “scientifically based practices” specified in the No Child Left Behind Act will encourage professionals to insist that this process be an integral part of behavioral intervention planning and spur the continued study of effective training and implementation practices.

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Outcomes for Children and Youth with Emotional and Behavioral Disorders and Their Families—Second Edition

Programs and Evaluation Best Practices

Michael H. Epstein, Krista Kutash, and Albert Duchnowski

Since the publication of the first edition, many significant changes have occurred in the multiple arenas that affect children who have emotional disturbances and their families. One of these, the mental health needs of children, has attracted the attention of policymakers and planners at the local, state, and federal levels. The increased interest in this area is evident in policy, advocacy, research, and practice. The second edition of *Outcomes for Children and Youth with Emotional and Behavioral Disorders and Their Families* reflects these changes in growing governmental roles. Several chapters contain reports on projects supported by various government agencies, such as the Department of Education and Health and Human Services.

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