



Functional Behavioral Assessment: The Link between Problem Behavior and Effective Intervention in Schools

Jeffrey A. Miller
Duquesne University

Michael Tansy
Gilbert School District, Gilbert, AZ

Tammy L. Hughes
Arizona State University

An important current issue in education is the mandate in the 1997 reauthorization of the Individuals with Disabilities Education Act (Individuals with Disabilities Education Act Amendments of 1997) that schools must conduct a functional behavioral assessment when a student's behavior disrupts the educational environment. This article reviews the literature on functional analysis and how it relates to the legal mandate for functional behavioral assessment in schools. Functional behavioral assessment is considered an important and frequently missing link between topographical descriptions of behavior and treatment planning. Problems with existing functional behavioral assessment methodologies include the complexity of data synthesis and treatment selection. Also, existing efforts to define functional behavioral assessment have not included sufficiently diverse theoretical models for the causes of behavior or for treatment. In contrast, we provide a definition of functional behavioral assessment that includes proximal, distal, physiological, and intrapsychic causes of problem behavior. Based on this definition, a multimodal, team problem-solving approach to conducting functional behavioral assessments and developing behavior intervention plans in schools is proposed. The proposed approach distributes complex decision making across team members, includes multiple theoretical perspectives, can be readily adopted by existing child study teams, and is in compliance with the 1997 reauthorization of the Individuals with Disabilities Education Act.

Important advances in the assumptions about the management of children with behavioral problems in schools have arisen following the reauthorization of the Individuals with Disabilities Education Act (P.L. 105-17; Individuals with

Disabilities Education Act Amendments of 1997). Specifically, P.L. 105-17 requires that a functional behavioral assessment (FBA) be conducted for children exhibiting behavior that interferes with the educational process. This means that school

personnel must conduct preintervention assessments of the functional relationships between a child's behavior and the suspected causes of that behavior. Subsequently, school personnel must develop intervention plans based on the information provided through this assessment (Individuals with Disabilities Education Act Amendments of 1997). The actual process of FBA, however, was not defined by P.L. 105-17. As a result, practitioners and researchers concerned with child misbehavior need to define the process of functional behavioral assessment.

Since the passage of P.L. 105-17 in 1997 researchers and practitioners have proposed several methods for functional behavioral assessment (Quinn, Gable, Rutherford, Nelson, & Howell, 1998; Skiba, Waldron, Bahamonde, & Michalek, 1998; Thomas, 1997) that are to varying degrees conflicting with or complementary to each other. The effort to define a process for FBA is complicated because the literature prior to P.L. 105-17 includes a variety of methods that may comprise the foundation for a functional behavioral assessment process. Methods that may provide direction for developing a process of functional behavioral assessment include functional analysis (Carr, 1977; Daly, Witt, Martens, & Dool, 1997; Haynes & O'Brien, 1990; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982; Repp, 1994; Schill, Kratochwill, & Gardner, 1996; Sturmey, 1996), functional assessment (Flannery, O'Neill, & Horner, 1995; Hendrickson, Gable, Novak, & Peck, 1996; Horner, 1994; Repp, 1994; Sasso, Harrell, & Doelling, 1997), behavioral assessment (Martin & Pear, 1992), and functional communication (Carr & Durand, 1985). With each approach comes a minor or major variation in process and/or outcome.

This article provides a rationale and procedure for a specific method of functional behavioral assessment. First, we will provide a definition for functional behavioral assessment and examine its relationship to functional analysis. Second, we will discuss some of the legal and interpretive issues raised by the current reauthorization of the Individuals with Disabilities Education Act (Individuals with Disabilities Education Act Amendments of 1997) with respect to discipline of children in special education. Third, we describe the theoretical and empirical basis for a multimodal, team problem-solving approach to functional behavioral assessment. Next, the actual procedure of functional behavioral assessment will be described with a case example. Associated with functional behavioral assessment is the process of developing interventions, called behavior intervention plans (BIPs) in P.L. 105-17. School-based behavior intervention plans are the direct result

of functional behavioral assessments (Individuals with Disabilities Education Act Amendments of 1997). We will describe a procedure for developing specific behavior intervention plans from functional behavioral assessments. Finally, follow-up procedures mandated by the law are discussed.

Defining Functional Behavioral Assessment

Consideration of function is not new to education or psychology. Indeed, it was functional psychology that was espoused by early psychologists John Dewey and G. Stanley Hall (Boring, 1957). As opposed to structuralism, which is concerned with description, functionalism is at its core concerned with cause and prediction. Boring (1957) wrote that to be a functionalist was to be "more interested in the future than the past, to prefer to ride facing forward on the train" (p. 551).

In applied psychology the debate regarding the relative importance of the function of behavior and the structure of behavior continues. When interventions are selected based on an assessment of the causes of behavior for an individual the intervention is based on functional assessment. Alternatively, structuralists choose interventions demonstrated effective with some percentage of people with a similar pattern of behavior. For example, a child disrupting a classroom with verbal outbursts could be treated with the customary intervention of differential reinforcement for no outbursts for a period of time. On the other hand, a functional assessment of the causes of the child's verbal outbursts should result in an intervention tailored to the child's individual experiences. By most accurately identifying the causes, selected interventions will be more effective and more appropriate, that is, less aversive (Iwata et al., 1982).

Currently, there is no legislated definition of functional behavioral assessment. Consensus, however, is emerging in the views of some researchers in school-based assessment. Quinn and her colleagues (1998) define functional behavioral assessment as a variety of techniques and strategies to diagnose the causes and to identify likely interventions intended to address problem behaviors (p. 3). They go on to say FBA includes consideration of biological, social, affective, and environmental factors as potential functions of problem behavior (Quinn et al., 1998). Skiba and his colleagues (1998) do not directly define functional behavioral assessment, but argue that "functional assessment moves...toward gathering information that increases our understanding of student behavior in the classroom, and identifying and teaching needed replacement behaviors" (p. 24). Skiba cites seminal research by Carr (1977) and Iwata and colleagues

(1982) on functional analysis as providing the foundation for functional behavioral assessment.

Researchers have looked to the literature on functional analysis (e.g., Iwata et al., 1982) for guidance in defining functional behavioral assessment (Daly et al., 1997; Quinn et al., 1998; Skiba et al., 1998). However, the term "functional behavioral assessment" has become entwined with functional analysis. This is further complicated by writers' use of these words interchangeably. For example, Skiba and colleagues (1998) cite Daly's (1997) article on functional analysis of academic performance as an example of functional assessment. Further, they made the connection between functional assessment and functional behavioral assessment (Skiba et al., 1998). Haynes and O'Brien (1990) also described this link when they asserted functional analysis had been used interchangeably with "functional behavioral analysis" and "behavioral assessment." These terms are further confused in the applied behavior analysis literature. For example, Repp (1994) wrote an article titled "Comments on Functional Analysis Procedures for School-Based Behavior Problems," but the running head was "Functional Assessment" and functional assessment was used interchangeably with functional analysis. It may be the case that functional analysis and functional assessment mean the same thing, but these words have now been linked with the meaning of functional behavioral assessment as indicated in P. L. 105-17. This discussion is relevant because it is our position that functional analysis is only one, relatively well defined, technique to be used in the not so well defined process of functional behavioral assessment.

Functional analysis is generally described as a two step analysis of the proximal causes of a problem behavior. First, hypotheses are generated about potential antecedents and consequences of behavior for an individual. Second, experimental manipulation of conditions is conducted to test the hypotheses (Iwata et al., 1982). Functional analysis does not, however, define what qualifies as a function or cause of behavior. Because functional analysis developed in the field of applied behavior analysis, functions have typically been limited to operant aspects of behavior, specifically antecedents and consequences. For each type of problem described in the literature, researchers using functional analytic techniques generate a group of potential causes that are proximal to the problem behavior and operantly defined. For example, Iwata and colleagues (1982) hypothesized that the antecedent conditions (social disapproval, academic demand, unstructured play, being alone) leading to increased self-injury would vary across children with developmental delays. They

exemplified the functional aspects of problem behavior across different children, but only focused on functions related to the child's immediate situation or environment. In a more recent school-based example of functional analysis, Daly and his colleagues (1997) hypothesized the following five "reasonable hypotheses" of academic failure: did not want to do the work, did not spend enough time on the work, have not had enough help, have not had to do it that way before, and it is too hard. Again, these hypotheses do not begin to describe the full range of potential causes for academic failure.

Typically, there are multiple causes for problem behaviors that require diverse methods of identification (Cone, 1997; Flannery et al., 1995; Haynes and O'Brien, 1990). The need for multiple assessment methods is complicated by the fact that problem behaviors are not consistent and can change over time. One way this manifests is in conflicting reports about a particular student's behavior from day to day. For example, when attention-deficit/hyperactivity disorder is the cause of behavior problems children often experience periods of good behavioral control and work completion (Barkley, 1990; Nathan, 1992). When this variability in performance is observed by some treatment teams, it is inappropriately used as evidence indicating that the child could maintain control if he or she just tried, and a consequence-based intervention is initiated. Implementing an intervention in the classroom for this child without consideration of the physiological cause and indicated pharmacotherapy would result in the child's behavior persisting despite the classroom-based intervention. Thus, the accurate identification of the complicated and sometimes transient causes of behavior require data from a variety of explanatory models.

Functional analysis represents an important tool for functional behavioral assessment. However, the functional analysis methodology does not include methods to assess important distal, physiological, and intrapsychic variables that cause children to misbehave. In the school-based formulations of functional behavioral assessment reviewed here (Quinn et al., 1998; Skiba et al., 1998), the authors initially make claims that biological, social, affective and environmental variables should be considered, but in the end they offer operant forms of functional behavioral assessment considering only proximal antecedents and consequences. School implementations of functional behavioral assessment should not be restricted to antecedents and consequences as the limitations of such an approach have been recognized even in the recent functional analysis literature. Carr (1994) identified social factors and biological factors such as physical illness,

exercise, and drug use as potential causes of problem behavior. Mace (1994) provided the following example to show that multiple factors may control problem behavior:

To discourage allocation of behavior to aggression, a treatment could be designed that arranged high-rate (continuous reinforcement) and high-quality parental attention (affectionate praise) for appropriate social interaction, while discontinuing the contingency between aggression and attention (i.e., extinction). The intervention could be further strengthened by teaching appropriate social interaction following periods of low adult attention in order to increase the reinforcing value of parental attention. (p. 387).

This example represents inclusion of variables that comprise more causes of problem behavior than previous functional analytic models or recent efforts to describe functional behavioral assessment. Specifically, Mace's (1994) example refers to direct instruction as an intervention rather than just manipulation of contingencies; further, parent-child emotional issues are considered as potential causes. Mace (1994) does not consider whether or not the parent is capable of giving high-quality attention and, if so, how to get the parent to do it. These points exemplify some of the complex, distal causes of problem behavior. Functional behavioral assessment, thus, should include the consideration of variables that are proximal (e.g., task avoidance), distal (e.g., family conflict), physiological (e.g., depression), and intrapsychic (e.g., thoughts and feelings) causes of problem behaviors that interfere with education. Functional analysis is uniquely qualified for identifying proximal, operant causes, but is insufficient to address the full complexity of children's problems.

The functional behavioral assessment definition used to develop the present model was adopted from Haynes and O'Brien's (1990) definition of functional analysis. This is not to further confuse these terms; rather, their definition is sufficiently general to include the functions typically considered in functional analysis as well as the broader range of functions we propose. Further, Haynes and O'Brien's (1990) work represents a different strand of functional analysis research than that of Carr (1977) or Iwata (1982) used to define extant models of functional behavioral assessment. Haynes and O'Brien (1990) describe in detail the evidence for their definition. Among other things, they took an idiographic perspective and advocated the examination of multiple causes and the use of multiple assessment methods. Thus, borrowing from

Haynes and O'Brien's (1990) definition of functional analysis, functional behavioral assessment is, "The identification of important, controllable, causal functional relationships applicable to a specific set of target behaviors for an individual client" (p. 654).

P.L. 105-17 and

Functional Behavioral Assessment

For the first time, the 1997 amendments to the Individuals with Disabilities Education Act (Individuals with Disabilities Education Act Amendments of 1997) included the requirement that school personnel conduct an FBA for children experiencing behavior problems that interfere with their education. Because P.L. 105-17 is somewhat ambiguous regarding when to conduct an FBA, local education agencies (LEAs) are left to determine to some extent when an FBA is legally mandated and to a greater extent for what types of behavior. As previously noted, the 1997 Individuals with Disabilities Education Act offers little guidance regarding how to conduct a functional behavioral assessment. With reference to FBA, P.L. 105-17 (Individuals with Disabilities Education Act Amendments of 1997) states:

In the case of a child whose behavior impedes his or her learning or that of others, consider, when appropriate, strategies, including positive behavioral interventions, strategies, and supports to address that behavior. (§ 614(d)(3)(B)(i)).

If the LEA did not conduct a functional behavioral assessment and implement a behavioral intervention plan for the child before the behavior that resulted in the suspension ... the agency shall convene an IEP meeting to develop an assessment plan and appropriate behavioral interventions to address that behavior; or if the child already has a behavioral intervention plan, the IEP team shall review the plan and modify it, as necessary, to address the behavior. (§ 615(k)(1)(A)(i)(ii))

It should be noted that P.L. 105-17 makes reference to suspension and consideration of the right of a student to a free and appropriate public education (FAPE) for a "change in placement of more than 10 days" (Individuals with Disabilities Education Act Amendments of 1997 § 614(k)(4)(A)).

Therefore, educators are encouraged to develop positive behavioral interventions when a behavior impedes a student's learning or that of his or her peers. However, the local education agency is mandated to conduct an FBA and develop a BIP when the behavior results in a suspension of more than ten days, as this is considered a violation of a student's right to a free and appropriate public

education. This may include out-of-school suspensions in which the student is asked to stay at home during the school day, in-school suspensions in which the student is not allowed to attend his or her regular schedule of classes but still attends school, or a combination of in-school and out-of-school suspensions. This also includes interim placements for students found with weapons or drugs on a school campus and considerations of expulsion from a school district. The pivotal issue with regard to suspension is that the student has been or is being considered for removal from the current educational placement for more than ten days. It is clear that an FBA and a BIP is mandated at this point.

However, school districts offer different opinions on what "change in placement of more than 10 days" means. Some school districts accumulate a student's days of suspension and when ten are reached, the procedures for FBA are initiated. Others do not accumulate days and only invoke these procedures when a transgression sufficient to warrant more than ten consecutive days of suspension or expulsion has occurred. As this aspect of educational law has yet to be fully clarified by case law, a conservative approach would be to consider FBA when more than 10 days of removal from the current educational placement have accumulated. Thus, the behaviors legally considered for FBA do not have to be as severe as those resulting in greater than ten consecutive days of suspension, interim placements for weapons or drugs on a school campus, or expulsion.

Although P.L. 105-17 specifies that functional behavioral assessments must be conducted for children exhibiting behaviors that will result in suspension, there are other times when FBAs are warranted and useful. Schools must determine when conducting an FBA would be best practice even if not mandated for a specific case. For example, behavioral deficits such as poor work completion may not result in a legal mandate to conduct an FBA, but may be successfully remedied through FBA and behavior intervention planning. Indeed, there are many cases well suited for preintervention assessment of functional relationships (Thomas, 1997). Functional behavioral assessment is appropriate for any behavior that interferes with a student's education or that of his or her peers as recommended by law. It may also be appropriate as part of the reevaluation process for students with problem behaviors (Skiba, 1998), as part of prereferral intervention for children not covered under P.L. 105-17, or as part of Section 504 (Americans with Disabilities Act of 1990) accommodation plans. It also has been argued that FBA is a better way of intervention planning than the syndromal or topographical approach used in the

Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV; American Psychiatric Association, 1994) (Cone, 1997; Haynes & O'Brien, 1990). The wide range of potential uses suggests that a procedure for FBA should be theoretically inclusive enough to address everything from bringing a weapon on campus to self-injurious behaviors in children with severe disabilities to social skills deficits in nonreferred students.

Implementation Issues with Functional Behavioral Assessment

Synthesis of functional behavioral assessment data for students with multiple problems and multiple causes "exceeds the bounds of deductive abilities for most professionals" (Haynes, 1998, p. 13). Therefore, it is imperative that a procedure or method be identified for assimilating this information. Existing efforts to simplify data synthesis include functional analytic causal models (Haynes, Leisen, & Blaine, 1997; Haynes & O'Brien, 1990; Nezu, Nezu, Friedman, & Haynes, 1997), decision-making rules (Hagopian, Fisher, Thompson, Owen-DeSchryver, Iwata, & Wacker, 1997), and expert systems based on conditional probabilities (Hayes & Follette, 1993). Also, to assist in collecting and organizing functional assessment information, researchers have constructed rating scales such as the Motivation Assessment Scale (Durand, 1990).

Despite these efforts to simplify data synthesis and the increased interest in preintervention assessment of function, there has not been a significant increase in its use in the research. Haynes and O'Brien (1990) showed that only 20% of 156 intervention studies for the years 1985 to 1988 in major behavior analysis journals assessed functional relationships prior to conducting interventions. They further indicated that intervention decisions were based primarily on a topographical model of psychopathology. Blakeslee, Sugai, and Gruba (1994) reviewed single-subject treatment research in several journals from 1986 to 1992 and found only 27% of the 130 studies included some form of functional assessment. They showed an upward trend in the number of articles published with functional assessment from 1986 to 1990 and a downward trend from 1991 to 1992. Presumably, with the inclusion of functional behavioral assessment in P.L. 105-17 interest will increase.

One can speculate about the reasons for the lack of application of this potentially powerful tool. Despite the above efforts, the available methods of data synthesis and interpretation (e.g., Haynes & O'Brien, 1990) are still complicated and time consuming. Also, the methods of data collection (e.g., experimental manipulation) recommended in the literature consume substantial resources. Haynes

(1998) listed three limitations that contribute to the lack of proliferation of functional analytic practices. First, there are no clear procedures for selecting the best assessment method for an individual client. Second, better methods of integrating data have yet to be developed. Finally, the contribution of the variance in decision making and cost effectiveness of functional assessment procedures have yet to be demonstrated.

What may work better for school-based functional behavioral assessment is a multimodal, problem-solving approach in a child study team or multidisciplinary team format. Using the provided documentation, which is designed to guide a team through the process of FBA and intervention planning as well as keep the team on track, school teams should experience successful intervention planning in a cost-efficient manner.

Assumptions of a Multimodal Team Problem-Solving Approach

To understand childhood behavior problems one must consider multiple causes (Bandura & Goldman, 1995; Cone, 1997; Haynes & O'Brien, 1990). A thorough consideration of the multiple causes of behavior requires the investigator to understand the child's behavior from multiple theoretical perspectives. To date, most of the research on functional aspects of behavior has been from a relatively strict operant perspective (Dunlop et al., 1993; Durand, 1990; Iwata, Vollmer, Zarcone, & Rogers, 1993). We have argued that this method is inadequate to identify the full range of causes or functions of behavior, which in turn leads to the prescription of insufficient or inappropriate interventions. For example, an operant analysis of a child's disruptive classroom behavior will lead to interventions targeting antecedents and consequences in the immediate classroom. However, if a family systems perspective also is considered, interventions may include utilizing the school social worker to make contact with the family and recommend family services in addition to classroom interventions. It is not always the case that the antecedents and consequences that are bound temporally to behaviors also are bound functionally to those behaviors. We refer to the consideration of multiple causes from multiple theoretical perspectives as multimodal. Consideration should not only be given to multiple theories for the functions of behavior, but also to multiple theories for intervening or treating the problem. That is, the functions of behavior can be linked to multiple, simultaneous interventions designed to treat the "whole" person.

The proposed method of functional behavioral assessment is expected to be conducted in school-based, problem-solving or multidisciplinary

teams. There are several strengths to a team problem-solving approach to FBA. First, in schools, the collective efforts of teachers, administrators, psychologists, social workers, counselors, and parents represent a cadre of problem-solvers, brought together to meet the challenge of synthesizing information and choosing interventions (Phillips, McCullough, Nelson, & Walker, 1992). Second, many schools already use some form of child study teaming. Third, team problem-solving is considered best practice by the National Association of School Psychologists (Ross, 1995; Shaw & Swerdik, 1995) because of its strength in solving complex problems. Finally, P.L. 105-17 requires that the individualized education program (IEP) team be convened to conduct a mandated functional behavioral assessment.

Although child study teams are already in place in most school districts, many school teams have difficulty staying focused, talking only about the child at hand, and reaching productive solutions (Shaw & Swerdik, 1995). The multimodal method of FBA, while designed to simplify the integration and interpretation of data, has the secondary effect of guiding the child study team and keeping members focused on the task. Our experience indicates that child study meetings in which this approach is used tend to be briefer, more goal-directed, and more productive. Further, functional behavioral assessment as conducted within schools will be an iterative process for each child (the mandated review process for subsequent transgressions) as well as become an iterative process for child study teams. With time and effort teams will adopt an increasing range of interventions with which they are comfortable. To encourage this evolution, there must be a commitment by the team to identify interventions that have been shown valid for a specific cause, implement treatments with integrity, and critically evaluate outcomes.

It is interesting to consider the impact of a multimodal approach to FBA on school service delivery. Currently there is an emphasis in the literature on including various health, social welfare, and law enforcement services, known as wraparound services, on school campuses (Clarke, Schaefer, Burchard, & Welkowitz, 1992; Eber & Nelson, 1997; Eber, Osuch & Redditt, 1996). Multimodal FBA logically leads team members to consider referrals and interventions that utilize such wraparound services. As urban schools proceed to develop wraparound models of service delivery, our proposed method of FBA may become a useful step in selecting and referring students to the proper service.

Anticipating the inclusion of wraparound services in schools and given the complexity of data

synthesis, the composition of child study teams conducting FBA should be broadened. P.L. 105-17 indicates a teacher, a special education teacher, parents, a person qualified to interpret test data, an administrator capable of allocating funds, and, whenever appropriate, the child constitute a multidisciplinary team (Individuals with Disabilities Education Act of 1997). In addition to those required, it may be appropriate to include community members, law enforcement personnel, health care professionals, clergy, and state agency representatives. By targeting more aspects of a child's life, interventions will be more effective and will generalize beyond the classroom.

A major challenge to educational teams embarking on the enterprise of FBA is synthesizing assessment information and selecting among treatment alternatives. Assimilation and integration of the multiple causes of childhood behavior require a high level of expertise and insight into the full range of potential functions of children's behavior. A straightforward solution to this problem is to provide a roadmap for guiding the school child study team. To organize this potentially complex experience, we developed a stepwise procedure to guide school teams through the process of FBA. Although more linear than procedures recommended by others (e.g., Haynes & O'Brien, 1990; Nezu et al., 1997), this method assumes parallel rather than serial relationships between functions and interventions. That is, a single function may require more than one intervention, yet a single intervention may address more than one function simultaneously. For example, a group counseling intervention may address familial and emotional causes of behavior; similarly, a self-monitoring behavioral intervention may address the cognitive aspects of the emotional cause and antecedent conditions related to the topography of the behavior in the classroom. Thus, each counseling and behavioral intervention addresses multiple causes and the single cause of emotional discomfort is treated with multiple interventions.

An Approach to Functional Behavioral Assessment

The steps in conducting an FBA and developing subsequent interventions are similar to team problem-solving approaches described by others (Cosden & Semmel, 1992; Zins & Erchul, 1995). First, the team determines what data to collect. This determination is based on the team's consensus regarding those behaviors that are most disruptive to the learning environment. Next, the team describes the behavior based on assessment information. This description is free of judgment regarding the purpose or motive of the child. Rather, the disruptive behavior is described with a minimum of inference, noting the

setting, frequency, intensity, and duration of the behavior. After describing the behavior, the team determines the functions of the behavior, systematically generating hypotheses about the multiple causes of the behavior. Then the team develops an intervention plan, selecting interventions with demonstrated treatment validity. After this, the plan is implemented correctly; that is, with treatment integrity. Finally, the entire intervention plan is critically evaluated and modified as needed. This process is facilitated using the forms included with this article. [Links to downloads of Adobe Acrobat Reader deleted. Figures can be found in a separate document using this link: <http://cie.asu.edu/ojs/index.php/cieatasu/article/view/1614/656>]

Determining what assessment data to collect is the first step. Figure 1 shows some of the types of data that can be collected including observation, student interview, teacher interview, parent interview, rating scales, and normative testing. Each type of data considered should be noted on the form. Not all assessment methods are necessary for all students. A case manager should be assigned to each child in which FBA is being conducted and that person should be responsible for determining what data to collect and who should collect it. This list of potential sources of data is somewhat different from those recommended in a strictly behavioral approach to data collection, which typically includes gathering information from people who know the child, collecting direct observation data, and conducting controlled manipulations of antecedents and consequences (Flannery et al., 1995). The present approach includes indirect assessment of proximal and distal causes through student interviewing and formal testing and de-emphasizes the role of experimental manipulation. Simplifying assessment has been addressed by Iwata (1994), indicating that "nonexperimental methodologies have sufficient reliability and validity to be valuable most of the time" (p. 415). With respect to formal observation, the people with first hand experience with the child may already have valuable direct observation information (Sarfan & Sarfan, 1996). In most cases it is indicated to augment teacher observation with more structured approaches. This, however, is not always absolutely necessary. As Iwata (1994) stated, "many of us have found that parents, teachers, and other caregivers sometimes can describe the functional characteristics of a client's behavior problem with uncanny accuracy" (p. 414).

Figure 1 shows the first page of the FBA, entitled "Description." The data reported in this section are similar to most behavioral models of describing problem behavior. In addition to the

typical topographical description of behavior, the team describes previous interventions and the educational impact of the problem behavior. Identifying previous interventions is important for several reasons. First, in most cases the team should not rush to conduct an FBA and develop intervention plans before less formal attempts to modify the behavior have been attempted unless, of course, an FBA is mandated by law. Second, one should not repeat failed interventions. At the least, one should significantly modify and correct whatever made previous interventions fail. Finally, if there is an intervention already implemented that is having some success it should be continued. Typically, interventions that are implemented prior to the FBA meeting are implemented by teachers on their own in the classroom (Sarfan & Sarfan, 1996). Educational impact is included on the form because P.L. 105-17 states that educators must consider FBA when a problem behavior impedes a child's learning or that of others; therefore, the educational impact must be determined. Typically, it is easy to link the disruptive behavior to decreased time on academic assignments simply by documenting the amount of administrator time spent managing the behavior and examination of the student's grades.

In cases where there are multiple problem behaviors that appear functionally distinct from each other the team should conduct an FBA for each behavior. Team members should keep in mind that behaviors often cluster, and avoid the temptation to separate behaviors that serve the same function. It can be seen in this simple example that repeatedly walking to the pencil sharpener and asking to use the restroom are elements of off-task behavior, with a common function such as math avoidance. In cases of multiple distinct behaviors there still should only be one behavior intervention plan (BIP), because even though the behaviors are distinct there may be some interventions that affect the functions of more than one problem behavior. Figures 4, 5, and 6 present an example of the current approach to FBA and behavior intervention planning. Figure 4 exemplifies the outcome of the behavioral description phase for an FBA.

At this point, the team must consider the functions of the behavior described. The team should refer to Haynes and O'Brien's (1990) definition of functional analysis provided above to activate the group process and focus on the salient aspects of potential causes. Figure 2 shows the second page of the FBA, entitled "Function." There are at least eight different categories of functions that the team should consider. This list obviously is not exhaustive, but represents a manageable set of potential functions from a variety of theoretical positions. With each

function there are descriptors to help guide the team's thinking. The areas to consider are affective regulation/emotional reactivity, cognitive distortion, reinforcement, modeling, family issues, physiological/constitutional, communicate need, and curriculum/instruction. Fully understanding these areas will require team members to have different areas of expertise. It is expected that the school psychologist and counselor will have expertise in the more clinical functions; social workers and state agency representatives will have expertise regarding systemic functions; and teachers and administrators will have expertise in educational functions (Cosden & Semmel, 1992). As school teams become more cohesive and experienced, each team member will contribute more to all areas of potential function. Figure 5 exemplifies a completed examination of potential functions of the problem behavior described in Figure 4. It should be noted that hypotheses about function are probabilistic and may require modification after interventions have been tried (Cone, 1997; Haynes & O'Brien, 1990).

Next, the team must determine a plan of action based on the FBA. Public Law 105-17 refers to this plan of action as a behavior intervention plan. Figure 3 depicts the behavior intervention plan form used in the current approach. The notable difference of this form from other treatment planning forms is the lack of horizontal lines keeping the intervention for a specific goal separate from all other goals and interventions. This is because the goals and interventions are related to each other in a parallel manner as described above. This concept continues in the outcome evaluation section of the form and will be described later. Based on the description of behavior and the description of functions (Figures 1 and 2) the expected outcomes and goals of the plan are itemized. Next, based on the description of the functions of behavior (Figure 2) the specific interventions are delineated. Finally, the person responsible for each intervention and the intervention review date are identified. Figure 6 shows an example of a BIP based on the problem described in Figure 4.

Treatment validity is imperative for successful intervention. This means that a selected treatment is logically related to the functions of the behavior and results in achievement of expected outcomes (Reshley & Ysseldyke, 1995). The professional literature can be consulted to determine if treatments have demonstrated efficacy for the specific function. Dunlop and Childs (1996) conducted a comprehensive review of the literature on treatments selected for students with emotional disabilities based on functional analysis. It was concluded that skills training and consequence-based

interventions were most frequently employed. Self-management and antecedent-based interventions were the second most commonly applied with peer mediation being the least frequently used. Results also indicated a downward trend in antecedent- and consequence-based interventions and an upward trend in skills training and self-management interventions from the periods 1980-1986 to 1987-1993. This is consistent with our recommendation that educators should transcend the purely behavioral model that has become synonymous with FBA. It should be pointed out that although Dunlop and Child's (1996) results are promising, frequency of intervention use does not necessarily provide evidence for treatment validity. Rather, research must show the actual efficacy of a treatment for a specific cause.

Next, each team member responsible for a specific treatment must initiate his or her respective portion of the plan. Treatment integrity is a highly important consideration during this phase of the process (Watson, Sterling, & McDade, 1997). Treatment integrity is the degree to which an intervention is conducted correctly and consistently. To prevent treatment integrity problems team members should ask themselves if the prescribed intervention is reasonable to implement given the setting and situation. Treatment integrity also should be considered when examining the outcomes of interventions. That is, if an intervention failed, one should ask if it was implemented correctly and consistently. Treatment integrity can be increased in a number of ways. More experienced members of the team should offer support and training the first time a less experienced teacher attempts to implement a recommendation. Working side-by-side with the teacher can be helpful (Watson et al., 1997). It is important to treatment integrity to collect data other than teacher report while the intervention is being implemented. Independent data may reduce unintentional bias on the part of a teacher and it provides an excellent opportunity to conduct a brief structured behavioral observation *in situ*.

The final phase is outcome evaluation and maintenance, discontinuance, or modification of the intervention plan. These decisions are based on data. There are several considerations about data collection in the current approach in an effort to strike a balance between reliability, validity, and practicality. First, child study teams should review only necessary and sufficient information to address the effectiveness of interventions. Experimental data collection methods with graphing in reversal designs are typically not reasonable in applied school settings. This is not to say time-series studies and reversal designs should not be applied in research to validate treatments.

Rather, we assume that laborious data collection designs with time consuming record keeping tax the resources of the educators, decreasing their availability for what they see as their primary role--teaching. Second, child study teams should spend time on interventions rather than gather more assessment data than necessary. That is, if a treatment is working, it should continue. Third, review existing data such as permanent products, grade books, standardized testing, amount of work turned in, discipline reports, and teacher and parent reports before resorting to more time consuming data collection methods. Finally, conduct structured behavioral observations and student interviews as the first type of data collection when more convenient methods have proven fruitless.

In the current model, when the child study team reconvenes and addresses outcomes, they do so in a holistic, rather than linear, fashion. Figure 3 depicts the place where outcome notes are taken and Figure 6 shows an example of outcomes based on the problem described in Figure 4. The plan can be considered as a whole or different goals can be examined individually. This method is necessary because of the parallel process used to link goals and interventions. For example, an intervention may be working for Goal 1 and not for Goal 2. If the intervention was linearly linked to Goal 2 and the intervention was discontinued because it did not work for that goal, the benefits to Goal 1 would be lost. Also, it is assumed that the team will take narrative notes in the outcome evaluation section to make the BIP more useful to readers who are not part of the team. Often the informal comments about an intervention clarify how and why the intervention is or is not working.

Conclusion

We have reviewed the literature on functional analysis and how it relates to the legal mandate for functional behavioral assessment in schools. It was determined that FBA is a more general process than functional analysis and should include the examination of proximal, distal, physiological, and intrapsychic causes of problem behavior. After reviewing the empirical research on extant methods of FBA and addressing some of their drawbacks we have presented a multimodal, team problem-solving approach for conducting FBA and developing behavior intervention plans in schools. The strengths of this approach are that it provides a procedure to identify the potential functions of a student's behavior and to prescribe interventions from a variety of theoretical orientations. This approach adopts a relatively integrated view of the relationships among behavior, functions, goals and interventions while remaining mindful of the team

process used in schools. Finally, data collection and outcome evaluation are defined in ways that can readily be adopted in school settings.

The primary criticism of this approach that we have heard from educators is that it is more "clinical" than "educational." If "educational" means behavioral and limited to classroom variables then we would have to agree. The reality is, however, that the types of behavior problems children are bringing to school will not be solved solely with antecedent- or consequence-based interventions carried out in the classroom. It is imperative that the multiple causes of children's behavior problems be considered and that schools make a concerted effort to provide a variety of services and interventions (e.g., wraparound services) that will afford child study teams with a sufficient range of options to truly help these children.

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1998 Article Citation

Miller, J. A., Tansy, M., & Hughes, T. L. (1998, November 18). Functional behavioral assessment: The link between problem behavior and effective intervention in schools. *Current Issues in Education* [On-line], 1(5). Available: <http://cie.ed.asu.edu/volume1/number5/>.

Author Notes

Jeffrey A. Miller
Duquesne University
millerjeff@duq.edu

Jeffrey A. Miller, Ph.D., is an assistant professor of school psychology with Duquesne University. His research interests include functional behavioral assessment and interactional factors that contribute to the development of internalizing emotional disorders in children.

Michael Tansy
Gilbert School District
mtansy@aol.com

Michael Tansy, Ph.D., is a practicing school psychologist and district consultant with the Gilbert School District, Gilbert, AZ. His research interests include functional behavioral assessment and the treatment of emotional problems in school-aged children.

Tammy L. Hughes
Arizona State University
tammy.hughes@asu.edu

Tammy L. Hughes, M.A., is a doctoral candidate in school psychology with Arizona State University. Her research interests include prediction of violence in school-aged children and diagnosis of learning difficulties in preschool children.

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2015 Article Citation

Miller, J. A., Tansy, M., & Hughes, T. L. (1998). Functional behavioral assessment: The link between problem behavior and effective intervention in schools. *Current Issues in Education*, 1(5). Retrieved from <http://cie.asu.edu/ojs/index.php/cieatasu/article/view/1614>



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