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The link between functional behavioral assessment and behavioral intervention plans

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THE LINK BETWEEN FUNCTIONAL BEHAVIORAL ASSESSMENT AND
BEHAVIORAL INTERVENTION PLANS

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Specialist in Education

Megan Kathleen Seamans Anderson

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July 2011

ABSTRACT

The inclusion of functional behavioral assessment (FBA) and behavioral intervention plans (BIP) in the mandates of the Individuals with Disabilities Education Improvement Act (IDEIA) 2004 changed the way an educator can discipline a student with a disability. Limited research has been conducted to evaluate FBAs and BIPs completed in the school setting, more specifically the use of FBA data to inform the BIP, and compliance with IDEIA mandates. The current study examined 72 initial FBAs and BIPs completed by school teams in a Midwest regional education agency. Findings indicate the majority of teams were out of compliance with IDEIA mandates and regional education agency requirements. Teams frequently failed to use a convergence of data to inform the FBA hypothesis statement, wrote incomplete hypothesis statements, and created BIPs inconsistent with FBA data and the hypothesis statement. Overall, the link between FBA data and the BIP was rarely made. One potential reason for this disconnect is lack of training. Specific areas of training need and implications for school based teams will be discussed.

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TABLE OF CONTENTS

LIST OF TABLES	iv
INTRODUCTION	1
METHOD	29
RESULTS	33
DISCUSSION	37
REFERENCES	48
APPENDIX A: FBA AND BIP FORMS	52
APPENDIX B: RESEARCH TEAM RUBRIC	58

LIST OF TABLES

TABLE		PAGE
1	Role of FBA Team Members	30
2	Frequency of Primary Functions Identified	34
3	Components Identified in Hypothesis Statement.....	35
4	Hypothesis Components Modified in the BIP	36

INTRODUCTION

Functional behavioral assessments (FBA) are a set of procedures used to gather information about the environmental events that affect a student's problem behavior. FBAs are important because the data collected are used to create a behavioral intervention plan (BIP). The BIP includes an individualized intervention intended to help the student learn a new positive behavior to replace his or her problem behavior. Not only do FBAs and BIPs help students improve problem behaviors, they are also mandated by the Individuals with Disabilities Education Improvement Act (IDEIA) 2004.

The purpose of this paper is to gain a better understanding of the link between FBA and BIPs and how they are currently being used in schools. This will be done first by reviewing current literature on IDEIA 2004 mandates; the functions of behavior; and the definition, purpose, components, and steps of both FBA and BIP. Second, the link between FBA findings, the hypothesized function of a behavior, and the creation of an individualized intervention will be examined. Examples will be provided to illustrate appropriate connections. Last, research on the use of FBA and BIPs in the field of education, potential causes of failed interventions, and limitations of current research will be discussed.

Two types of procedures currently used to determine the function of a behavior are functional assessment and functional analysis. The terms functional assessment and functional analysis are often used interchangeably. Though the procedures share similarities, such as examining antecedents and consequences to determine the function of a behavior, functional assessment and analysis have one key difference. Functional

analysis is typically used in a controlled or analogue setting, such as a clinic with trained professionals, and uses the direct manipulation of antecedents and consequences to determine the function of a behavior (Steege & Watson, 2008). Functional analysis is rarely used in the general education setting because it takes more time to complete in the school setting and often requires the assistance of an outside trained professional (Lane, Barton-Arwood, Spencer, & Kalberg, 2007). Though attempts are currently being made to train teachers to properly use functional analysis independently in the classroom (Lane et al., 2007), the more commonly used method is functional assessment (Alter, Conroy, Mancil, & Haydon, 2008).

Functional assessment explores the antecedents and consequences of a student's behavior in the natural setting in which it occurs, and does not attempt to manipulate any variables (Steege & Watson, 2008). The information gathered through observation and other functional assessment tools is then used to hypothesize the function of the behavior. The remainder of this paper will focus only on functional assessment.

Individuals with Disabilities Education Improvement Act

School psychologists and special educators have become familiar with the terms “functional behavioral assessment” and “behavioral intervention plan” since their inclusion in the Individuals with Disabilities Education Improvement Act (IDEIA) 2004 (Steege & Watson, 2008). Congress passed IDEIA to ensure that individuals with disabilities receive a free and appropriate public education in the least restrictive environment (IDEIA, U.S.C. 1415, 2004). FBA and BIP first appeared in the 1997 Individuals with Disabilities Education Act (IDEA) amendments signed by President

Clinton (IDEA, U.S.C. 1415, 1997). Congress amended this Act in 2004 and renamed it the IDEIA (IDEIA, U.S.C. 1415, 2004). Congress recognized that individuals with disabilities may require disciplinary rules that are different from those governing their peers. Thus, a key focus of the 2004 provisions of IDEIA, which brought FBA and BIP to the forefront, was how to discipline special education students (IDEIA, U.S.C. 1415, 2004).

One challenge educators face when serving special education students is determining the appropriate intervention for a problem behavior. Guidelines created by IDEIA (2004) state a school may use the same discipline with children who have individual education programs (IEP) as they would with other students, as long as the discipline (a) is not discriminatory against the student with a disability, (b) does not change the student's education placement, through, for example, cumulative suspension of ten days or more, and (c) does not terminate or pause the student's IEP services (IDEIA, U.S.C. 1415, 2004). These guidelines are designed to ensure necessary services are provided to students with an IEP throughout behavior discipline.

Certain situations create a greater risk of educators not following IDEIA (2004) guidelines. In cases when IDEIA discipline guidelines are at risk of not being followed, or a student is removed from his or her current placement due to behavior, including cumulative suspension of 10 cumulative school days, IDEIA 2004 states that the child shall:

- (i) continue to receive educational services, ... so as to enable the child to continue to participate in the general education curriculum, although in another setting, and to progress toward meeting the goals set out in the child's IEP; and (ii) receive, as appropriate, a functional behavioral assessment, behavioral intervention services

and modifications, that are designed to address the behavior violations so that it does not recur (IDEIA, 20 U.S.C. Section 1415 (k)(1)(D)(i)).

This provision is intended to change the way educators handle the discipline of special education students by turning the focus from addressing specific problem behaviors, often through punishment or exclusion, to teaching appropriate behaviors based on functional assessment (Yell & Katsiyannis, 2000). A functional assessment, as mandated by IDEIA (2004), must be conducted by educators when they consider restricting a student's learning environment.

A functional assessment includes identification of the function of a problem behavior and creation of a BIP for a student with disciplinary problems. The first step to determine a school's need to conduct a FBA and create a BIP is to verify whether the child's behavior problem is a manifestation of his or her disability. A manifestation of a disability is a behavior identified as a characteristic of the individual's disability. The child's parents, IEP team members, and the local education agency collaboratively make this decision (IDEIA, U.S.C. 1415, 2004). If this group concludes that the behavior is a manifestation of the child's disability, IDEIA (2004) requires the IEP team to conduct an FBA and BIP for the student unless these assessments were done prior to the student's change in placement due to behavior. If the student already has a BIP, the IEP team must review the plan and make any necessary modifications to address the specific problem behavior that initiated the change in placement. The only times these regulations do not have to be followed are when the student is returned to the placement he or she was removed from or when the student's parents and the education agency agree that the

change in placement would benefit the student and therefore should be included as a modification to their BIP (IDEIA, U.S.C. 1415, 2004).

IDEIA (2004) does not list specific components required of a FBA or BIP (Yell & Katsiyannis, 2000) or suggest specific techniques for assessing behavior (Fitzsimmons, 2000). These details are determined by the state, school district, or IEP team. Thus, once an IEP team has established a need to conduct a FBA, the team needs to look to another source for information on how to proceed. Yell and Katsiyannis state that it is the responsibility of each IEP team to refer to their school district's and state's laws and guidelines to locate the specific requirements by which they must abide. Then the team must conduct a FBA and create a BIP. The following describes each of these and the corresponding processes.

Functional Behavioral Assessment

Following the inclusion of FBA in IDEA 1997 and IDEIA 2004 amendments, researchers and educators explored details such as the definition, purpose, and key components of FBA in greater depth. Since the IDEIA (2004) assigned states, school districts, and IEP teams the responsibility of determining and defining each of these for themselves, there are variations in what different entities believe FBA is and what its components are. Though each definition varies, commonalities exist throughout.

Definition of Functional Behavioral Assessment

FBA definitions consistently focus on the use of a variety of procedures or measurement tools to gather information, to determine the function of a behavior, and to use that information to change the student's behavior. For example, a compilation of

evidence-based guidelines based on what is considered best practice, defines functional behavioral assessment as a “set of procedures that allows for the identification of relationships between the unique characteristics of the individual and the contextual variables that trigger (antecedents) and reinforce (consequences) behavior” (Steege & Watson, 2008, p.338). Similarly, Barnhill (2005) defines FBA as “a collection of methods or procedures used to obtain information about antecedents, behaviors, and consequences to determine the reason or function of the behavior.” Although these definitions are not identical, they reflect a common understanding of the purpose of a FBA. For the purposes of this paper, the definition provided by Barnhill will be used.

Theoretical Foundation of Functional Behavioral Assessment

Operant conditioning is a crucial concept to understand, as it is the foundation of FBA. Described in many introductory psychology texts (e.g., Hockenbury & Hockenbury, 2001; Myers, 2004), operant conditioning was first studied in depth by B.F. Skinner and is a method used for training an individual to associate a consequence with a behavior. Using operant conditioning, a behavior can be increased through the use of reinforcement, or decreased through the use of punishment. Operant conditioning further focuses on extinction and discriminative stimuli. The following defines and describes these key elements and provides examples of each.

Two kinds of reinforcement can be used to increase the occurrence of a behavior; positive and negative. Both kinds of reinforcement are defined by their end product, meaning they must increase a behavior to be considered a reinforcer. Positive reinforcement involves giving the individual something he or she desires (Hockenbury &

Hockenbury, 2001; Myers, 2004). An example of a positive reinforcement would be giving a student a sticker every time she plays nicely on the playground. A positive reinforcer is defined as a consequence that increases the behavior so reinforcing consequences may be different for different people. For example, a student who pushes his classmates may be positively reinforced through scolding from the teacher if teacher attention was his initial goal. Positive does not necessarily mean something “good,” rather, giving the student something they desire.

Negative reinforcement shares the same effect of increasing a desired behavior: however, with this method it is achieved by taking away something that is unpleasant for the individual (Hockenbury & Hockenbury, 2001; Myers, 2004). An example of negative reinforcement would be taking away a student’s detention slip after they demonstrated good behavior. The unpleasant stimulus is the detention, and good behavior is being reinforced. The removal of something unpleasant must increase the desired behavior to be considered a negative reinforcer. The overarching idea of positive and negative reinforcement is that when an individual connects the reinforcement to the behavior, he or she will be more likely to engage in that behavior in an effort to achieve the desired result.

Punishment is the opposite of reinforcement in that its effect is a decrease in behavior (Hockenbury & Hockenbury, 2001; Myers, 2004). This is done by presenting an undesired consequence following the undesired behavior. An example of punishment is putting a student in detention after she swears at a classmate. By presenting the undesired consequence, detention, the behavior of swearing at classmates will be

decreased. Similar to reinforcement, punishment is defined by its end result (Hockenbury & Hockenbury, 2001; Myers, 2004). If the consequence does not decrease the behavior, it is not considered a punishment.

Often, the goal when using reinforcement and punishment is not only to decrease an undesired behavior, but to eliminate it. The elimination of a behavior can be achieved through extinction or punishment. Extinction is attained when an individual's undesired behavior no longer achieves the response they desire and the behavior stops (Hockenbury & Hockenbury, 2001; Myers, 2004). For example, a third grade student might blurt out answers in class and the teacher may acknowledge his answer and asks him to wait his turn next time. If the behavior continues and the teacher thinks the blurting is maintained by teacher attention, the teacher can apply extinction techniques by no longer acknowledging the student or his answer when he blurts. She could also positively reinforce appropriate behavior by calling on him and giving him praise if he raises his hand. The use of an undesired behavior does not always stop suddenly; rather it reaches extinction after a gradual decline. In some cases when extinction is applied, the undesired behavior increases in frequency and intensity before improving (Barnhill, 2005). This is a time when the student is likely frustrated that the behavior they are using no longer achieves the desired response and they have not yet adopted the new desirable behavior.

Another important component of operant conditioning is the discriminative stimulus. A discriminative stimulus is a situation or a setting in which the behavior is typically reinforced or punished (Hockenbury & Hockenbury, 2001; Myers, 2004). For

example, a typical child learns he or she is more likely to be reinforced for singing during music class (discriminative stimulus) than for singing during quiet reading time in the classroom (discriminative stimulus). Through reinforcement and punishment, individuals learn which behavior will achieve the response they desire in the presence of particular discriminative stimulus or environments.

Connection between Operant Conditioning and Functional Behavioral Assessment

FBA and operant conditioning use and explore the same components, however, call these components different names. In the terms of FBA, when an individual is determining the antecedent of a behavior, they are also identifying the discriminative stimulus (Barnhill, 2005). For example, after the teacher claps her hands twice, a student returns to his seat and sits quietly waiting for instructions for the next activity. The teacher's clapping was the immediate antecedent to the student returning to his desk. The student had learned that if he went to his desk when the teacher clapped, he was likely to be reinforced. The discriminative stimulus or environmental cue provides information about the specific conditions under which the antecedent, behavior, and consequence sequence will occur.

Additionally, FBA looks at the consequence of a behavior to determine if serving as reinforcement or punishment. Positive and negative reinforcement, along with punishment and extinction as defined and used in operant conditioning, are then implemented to decrease the occurrence of a student's undesired behavior and replace it with an acceptable behavior that serves the same function. For example, when the teacher claps her hands twice and a student continues to play (undesired behavior) in

order to obtain attention, the behavior is reinforced if the teacher calls him by name and instructs him to stop playing and follow directions (reinforcing consequence). Playing behavior is likely to decrease if the teacher ignores the student's noncompliance (extinction). When he returns to his seat, the teacher could then reinforce replacement behavior by providing attention (positive reinforcement).

Purpose of Functional Behavioral Assessment

The first purpose of functional behavioral assessment is to gain a better understanding of the cause and function of a student's problem behavior (Fitzsimmons, 2000). The function of a behavior is what the child is achieving through his or her behavior; the purpose the behavior serves (Gresham, Watson, & Skinner, 2001). It is often not the purpose of the behavior that is a problem, rather the behavior the student uses to meet that purpose (Fitzsimmons, 2000). An example of this in the classroom is a student who consistently tries to be funny by acting out in class right before it is his turn to read out loud. Clearly, the problem behavior in this situation is the acting out. This behavior could meet different or multiple functions for the student. One function may be to get attention from his peers to further his image as the "class clown," and a second function could be escape from an undesired task, reading out loud in front of the class.

Using the components of FBA, educators can determine the function of a behavior, and identify a replacement behavior (Fitzsimmons, 2000). A replacement behavior is the specific desired behavior a student is taught to use in place of a problem behavior to meet the same purpose (Batsche, Castillo, Dixon, & Forde, 2008). The three functions of behavior are (a) attention or access to tangibles, (b) escape and (c) sensory

stimulation. Identifying and understanding the reason for a problem behavior is one key purpose of a FBA.

The final purpose of FBA is to aid educators in generating individualized interventions and BIPs for students (Steege & Watson, 2008). Educators achieve this by using the information and data gathered through the FBA process to develop hypotheses about antecedents and consequences maintaining the behavior, and create interventions that best fit the student's situation and needs (Batsche et al., 2008; Fitzsimmons, 2000; Steege & Watson, 2008; Sugai, Lewis-Palmer, & Hagan, 1998). It is important for educators to link assessment findings to intervention while creating interventions or positive replacement behaviors. Thus, educators should use FBA assessment data to create a BIP by brainstorming possible interventions throughout the FBA process as hypotheses are developed and keeping the focus on individualizing (Steege & Watson, 2008).

Functions of Behavior

The function of a behavior is what an individual is trying to achieve through his or her behavior, or the reason for his or her actions. Identifying the function(s) of a behavior is the key purpose of FBA as it is used to determine the best path to take to decrease a student's problem behavior. Research has identified various functions of behavior which can be described using three broad categories: obtaining attention or tangibles, escape, and sensory stimulation (Alter et al., 2008; Barnhill, 2005; Iwata, Dorsey, Slifer, Bauman, & Richman, 1994; Repp & Horner, 1999; Webber & Plotts, 2008). Each category will now be described, and an example of each function provided.

An attention function is typically seeking attention from adults and peers. There may be an attention function when a child blurts out answers in class out of turn, kicks a peer, or refuses to follow directions, and the teacher or peers react to his behavior. In the same category as an attention function is access to tangibles. This function may be demonstrated by a child who pushes a peer and grabs the toy the other child was playing with.

The second commonly demonstrated function of behavior is escape. This is often escape from an undesired task (Alter et al., 2008). Escape is possibly the function of a student's behavior if they demonstrate a behavior that is consistently addressed through time out or being sent out of the room and the behavior does not decrease. For example, if a student wants to escape doing math flashcards in small group time, he may kick the teacher because he knows he will be sent to the principal's office and miss the math flash cards.

The last category of behavior functions, sensory stimulation, is less common. A behavior with this function helps a student meet his or her sensory needs in ways such as pleasure and pressure release. Sensory functions can include stimulation through any of the senses, including sight, touch, and auditory. An example of behaviors that may serve a sensory stimulation function is a student who rocks back and forth, clicks his or her tongue, or touches everything in sight.

Components and Steps of Functional Behavioral Assessment

The Individuals with Disabilities Education Improvement Act 2004 requires schools to conduct a FBA on any student with an IEP who may have a change in

placement due to behavior (Ryan, Halsey, & Matthews, 2003). This is the minimum compliance requirement for a school. However, some states have set more specific requirements (Yell & Katsiyannis, 2000).

The steps taken to complete a functional behavioral assessment vary among states, school districts, and IEP teams. However, there is a general process to how a FBA is conducted. The typical process of a FBA can be explained in the following five steps (Jolivette, Scott, & Nelson, 2000; Killu, 2008; Scott, Anderson, & Spaulding, 2008):

Define the problem behavior in concrete terms. The purpose of this step is to identify the student's problem behaviors, both academic and social, that occur within the home, at school, or in the community (Steege & Watson, 2008). According to Steege and Watson, this information is generally gathered through observations of the student; review of the file; and interviews with the student, his or her parents, and educators who work with the student. The definition created needs to describe the behavior in terms that can be easily understood, observed, and measured (Fitzsimmons, 2000). After the problem behavior is defined, the appropriate data collection methods can be determined.

Collect data. Functional behavioral assessment is strongly based on learning the direct antecedents of a problem behavior and how it is reinforced. To do so, the observer uses indirect and direct descriptive methods to explore the factors influencing a behavior. Indirect methods are those used to learn more about a student's behavior from sources other than personal observation of the student. This could include interviews with the parents, teachers, and when appropriate, the student. An interview with a student's parents may provide information about the student's background, family interactions, and

details about the student's behavior at home. Other indirect methods commonly used are behavior rating scales, record reviews, and social skills assessments (Gresham et al., 2001; Steege & Watson, 2008). A record review is a prime source for information about the student's academic history, demographics, past behavioral problems, interventions, attendance, and assessment scores. Overall, indirect methods are helpful for learning the background and foundation of a student's problem behavior. To gain a better understanding of a student's problem behavior and the information obtained through indirect methods, direct descriptive methods are used (Gresham et al., 2001).

Direct descriptive methods typically consist of observing the student in a variety of settings and situations, and recording the observed behavior (Barnhill, 2005). An example of a direct descriptive method is an Antecedent Behavior Consequence (ABC) worksheet on which a direct observer records the time, setting, antecedent, behavior, and consequence every time a problem behavior occurs. This data can help pinpoint a pattern on any of the variables recorded and indicate factors that may be triggering or reinforcing a student's behavior. For example, if an ABC worksheet indicates that a student starts kicking a specific peer whenever he is in the line behind her, an accommodation may be altering the antecedent (line placement) so the student is never directly behind that specific peer in line.

Another example of a commonly used descriptive method is a scatter plot. A scatter plot is a chart used by an observer to tally how many times a behavior occurs at different times in the day and over the course of several days. The chart is then a visual picture of the frequency of the behavior and times of the day when the behavior most

commonly occurs. This data can then be used to correlate the behavior with variables present during that time that may be affecting the behavior, such as time of day, a specific task, and individuals the student is working with during that time (Barnhill, 2005).

Educators use information gathered through direct descriptive methods to confirm or disconfirm the information gathered through indirect methods (Gresham et al., 2001).

Steege and Watson (2008) emphasize the importance of observing the student in his or her natural settings, such as the classroom, playground, and home. Direct descriptive methods need to be continued until a pattern in the behavior has been identified, providing insight into potential functions of the problem behavior (Steege & Watson, 2008).

Using both direct and indirect descriptive methods, an educator gains insight into the factors influencing behavior. The three most commonly investigated categories of factors are setting events, antecedents, and consequences (Gresham et al., 2001; Ryan et al., 2003; Yell & Katsiyannis, 2000). Together, these categories give the educator a “big picture” idea of the factors influencing a student’s problem behavior.

A setting event is anything the student experiences during the day that influences how prevalent the problem behavior will be later in the day (Ryan et al., 2003). Setting events include, but are not limited to, getting in a fight with a peer, missing breakfast, or not getting enough sleep. It is often difficult to identify setting events because they frequently happen outside of the classroom or environment in which the student’s problem behavior is being observed (Ryan et al., 2003). However, when identifiable,

setting events can be a helpful tool in understanding the factors that influence a student's behavior, or the function of the behavior itself.

Antecedents are defined as anything that takes place in the student's environment immediately before the problem behavior happens (Horner, 1994; Ryan et al., 2003). Common antecedents identified by Steege and Watson (2008) include: "environmental variables (seating arrangement, time of day), instructional variables (task difficulty, academic subject), social variables (proximity to peers, number of people present), and transition variables (transitions to/from activity/task, change of teacher/staff)" (p.342). Identifying a pattern in a behavior antecedent is crucial for understanding when, and in what situations, a behavior is most likely to occur.

Consequences are defined as anything that takes place immediately after the problem behavior (Ryan et al., 2003). This includes, but is not limited to, a teacher, parent, or peer's reaction to the behavior, and the punishment or reinforcement the student receives for the behavior. In most situations it is the consequence for a problem behavior that reinforces its use by the student. Some common reinforcing consequences identified through research include: attention from peers or teachers, escaping an undesired activity or task, escaping an undesired interaction with adults or peers, and access to a desired activity (Steege & Watson, 2008).

Analyze data. The purpose of analyzing data is to recognize potential functions of a problem behavior. This is done by identifying setting event, antecedent, consequence themes or patterns, and potential reinforcing consequences (Fitzsimmons, 2000). When a behavior is recurring, and there is a consistent pattern in consequences, the educator

should determine whether the antecedent's consequences are actually maintaining the behavior.

Create a behavior hypothesis. A behavior hypothesis is a statement predicting the function of a problem behavior (Repp & Karsh, 1994), specific situations when the behavior is most and least likely to take place, and consequences that may serve as reinforcement (Fitzsimmons, 2000; Horner, 1994). In some cases, when a setting event has been identified that influences the problem behavior, the setting event will also be included. Overall, the purpose of a behavior hypothesis is to organize the data gathered through FBA in a statement that can be tested to help educators further understand and hone in on the variables influencing a behavior.

In addition to antecedents and consequences, Batsche et al. (2008) identifies six areas that educators should consider when developing a hypothesis. These areas include: characteristics of the student, characteristics of the student's peers, characteristics of the teacher, aspects of the curriculum being used, classroom and school environment, and aspects of the student's family and community. A hypothesis describing a complex problem behavior will likely incorporate variables from more than one of these six categories.

Each element in the hypothesis must be described using variables that are observable, testable, and can be manipulated (Sugai et al., 1998). This prepares educators for the next step of FBA: hypothesis testing. The descriptions and predictions in a behavior hypothesis must be based on the information and data gathered throughout the previous steps of FBA (Batsche et al., 2008).

Test the behavior hypothesis. Testing the behavior hypothesis involves teaching a replacement behavior that serves the hypothesized function of the problem behavior. For example, a student tears his paper whenever given a timed math test, and is typically sent to time out as a consequence for his behavior. Using FBA data one potential function of his behavior may be escape. To test the hypothesis, the student is taught a replacement behavior to meet the escape function. If the problem behavior decreases following the implementation of the intervention, there is evidence that the hypothesized function was correct. Educators should continue data collection until they find a consistent pattern in behavior that they can deem a result of a particular intervention. The goal of this process is to pinpoint which changes reduce the problem behavior and increase the desired replacement behavior.

Behavior Intervention Plan

When describing the process of completing a FBA, Fitzsimmons (2000) stopped after the above described five steps. However, Steege and Watson (2008) indicated that the final step of an FBA is using the information obtained through the first five steps to develop and implement a BIP. The addition of Steege and Watson's sixth step addresses the need for a direct connection between assessment data and the subsequent intervention.

Definition and Purpose of Behavior Intervention Plan

A BIP is a detailed plan describing how educators will use intervention or behavior replacement strategies to help a student meet the goal of reducing or eliminating the problem behavior (Shippen, Simpson, & Crites, 2003). A BIP is sometimes

considered an extension of a FBA, as it has similar steps and uses the data collected and hypotheses created and tested in the FBA process (Jolivette et al., 2000). Additionally, the intervention included in the BIP is a direct product of the FBA data and hypotheses testing (Steege & Watson, 2008). As previously discussed, this allows one of the primary purposes of a FBA to be met: the creation of an effective individualized intervention and BIP (Steege & Watson, 2008).

The main purpose of a BIP is to use data collected through assessments to create an intervention plan that has a high likelihood of increasing a student's appropriate behaviors (Yell & Katsiyannis, 2000). This differs from typical interventions based on problem behavior as the focus is on being proactive and building new skills, rather than punishing a problem behavior after it takes place. Educators achieve this purpose by effectively using assessment data and hypothesis testing to determine appropriate replacement behaviors that will meet the function of the original problem behavior.

Elements of a Behavior Intervention Plan

Being individualized, the specific elements included in a BIP vary from one plan to the next. However, there are common elements that should be considered and included when appropriate. These elements include: positive strategies for implementing the intervention, adjustments that need to be made to the student's current curriculum or program, any additional assistance or support the student needs to successfully change the problem behavior, relevant environmental influences, specific details of the intervention design and implementation, skills that can help the student use appropriate behavior, and strategies for reinforcing the desired replacement behavior (Fitzsimmons,

2000; Killu, 2008). Overall, each of these elements works together in the BIP to describe factors that influence the problem behavior, the intervention, and specifically how it is to be implemented.

While creating a BIP one should also create a progress monitoring plan to track the student's progress (Killu, 2008; Sugai et al., 1998). This plan should include: who will monitor progress, when and where it will be monitored, the measurement tool that will be used for monitoring progress, and the level or rate of progress expected (Sugai et al., 1998). Educators can use the progress monitoring plan to measure the success of the intervention and adjust accordingly.

The Link between Functional Behavioral Assessment and Behavioral Intervention Plans

One of the most critical steps in creating an effective individualized intervention is using the findings of the FBA to create the BIP. Educators make this link by utilizing the hypothesis created and confirmed through FBA data to create the intervention (Batsche et al., 2008; Ryan et al., 2003). A direct connection increases efficiency of the intervention process as it enables the intervention to target the specific hypothesized function of the student's problem behavior (Batsche et al., 2008; Fitzsimmons, 2000; Ryan et al., 2003; Steege & Watson, 2008). Steege and Watson further emphasize the importance of linking the identified function to the intervention rather than basing it on the specific behavior, because two students with the same problem behavior may not be engaging in the same behavior for the same reason.

For example, two 1st grade students consistently run out of the classroom when it is time to do the math lesson each day. The teacher responds by going into the hall to

talk one-on-one with each student about why they need to stay in the classroom, and then brings them back in. Through FBA, it may be determined that the first student runs out because he or she is seeking attention from peers and the teacher which is not provided during large group instruction. The teacher going to the hall to get the student and telling them they have to stay in the classroom is hypothesized to maintain the behavior because it provides the student with the one-on-one attention they desire. For this student, the FBA hypothesis should be used to create an appropriate intervention that teaches the student a new and acceptable way to get attention from the teacher and peers while staying in the classroom. The intervention may focus on altering the antecedent of large group math instruction to have the student work in a more interactive small group.

Though the antecedent, behavior, and consequences are the same for both students, FBA findings may lead to a hypothesis that the second student is not engaging in this behavior for attention, rather for escape. In this case the student does not like math, and the teacher coming to the hall and talking to the student takes time out of math class, thus maintaining that student's behavior. An appropriate way to link the FBA hypothesis and BIP in this situation would be to create an intervention that provides the student with an escape in the classroom. One intervention that could be used is providing the student with a card that can be presented to the teacher once a day to receive a five minute break from math class. In that time they can do something else quietly, then after the five minutes refocus on math class.

Two additional problems result from a failure to link assessment data, such as that from FBA, to an intervention (Batsche et al., 2008). First, an intervention that is not

accurately linked to assessment data is less likely to produce the desired results. This means the intervention team will need to spend additional time analyzing the data and creating a new intervention. Any time unnecessarily wasted in this process hinders the improvement of the child's behavior and achievement. Second, when an intervention is unsuccessful, there is a general perception that the problem behavior must be more severe than originally thought. This may lead to an intervention involving drastic and unnecessary measures that could have been avoided. Both of these problems can be avoided by using assessment data to inform the creation of an appropriate intervention. Thus the intervention team must understand that FBA and BIPs are not exclusive. Rather, intertwining these processes produces more optimal results.

Research on Functional Behavioral Assessment and Behavioral Intervention Plans

A vast amount of articles have been written on FBAs and BIPs, their process and purposes, and the direct connection that is meant to be made between them. These articles show that researchers still question whether educators consistently put these guidelines into practice (Blood & Neel, 2007; Conroy, Clark, Gable, & Fox, 1999; Lane, Umbreit, & Beebe-Frankenberger, 1999; Van Acker, Boreson, Gable, & Potterton, 2005). Although these articles are instructive, there are limitations to the supporting research. The following section discusses these articles, their findings, and their limitations.

Connection of Functional Behavioral Assessment Findings and Behavioral Intervention Plan

Limited studies have been conducted to explore whether educators are making the connection between FBA data and an individualized intervention through a BIP; however, current research indicates that the answer to researchers' question is often "No"

(Blood & Neel, 2007; Van Acker et al., 2005). In one study, researchers looked at the FBAs created for 71 students in Wisconsin (Van Acker et al., 2005). These researchers found that educators are not consistently meeting the state or IDEA (1997) mandates for conducting FBAs and linking them to a BIP. Through examination of FBAs submitted by educators from across the state of Wisconsin, the researchers found that the majority of the FBAs were missing crucial information and steps. Additionally, educators did not use data and the hypothesized function of the behavior produced through the FBA when creating a BIP. Moreover, 46% of BIPs examined suggested using only punishment for the intervention rather than teaching an appropriate behavior. Such plans further violate FBA's purpose of teaching a positive replacement behavior to meet the student's needs rather than reactive punishment. Furthermore, 62% of FBAs in this study failed to meet FBA standards by proposing intervention plans that had already been attempted with the student, even if it had been deemed ineffective or unsuccessful. This study provides evidence that some educators are not making a connection between FBA data and an individualized intervention through a BIP.

Similar failure to link FBA findings to the BIP was demonstrated in a review done by Lane et al. (1999) analyzing 19 studies completed between 1989 and 1999. Of the 19 studies reviewed, only nine used the information and results from the functional assessment to create the intervention. A more recent review of 150 school-based intervention studies produced similar results, concluding that 52% of the interventions failed to use FBA data when creating an intervention (Gresham et al., 2004). This failure appears to be a recurring theme in current research, and it leads one to wonder why

educators are not making the connections between FBA results and a BIP intervention. Studies have not provided an answer to this question.

Potential Reasons for Failure

The variables influencing the success or failure of FBA and BIP are unlimited. However, research has identified two potential determinants: training or experience of educators with FBA and BIPs and differences in interpretation of IDEIA mandates (Conroy et al., 1999). As shown above, school districts and educators have more control over the first variable, which also leads to more consistently effective outcomes.

Training or experience. Prior to Congress adding FBA and BIPs to IDEA 1997, few educators were trained to conduct and implement a FBA and BIP (Conroy et al., 1999; Conroy, Katsiyannis, Clark, Gable, & Fox, 2002). Following its inclusion, schools, education agencies, and states began taking steps to educate and train specific individuals on the requirements and procedures of FBA and BIPs (Hendrickson, Gable, Conroy, Fox, & Smith, 1999). With the emphasis on FBAs and BIPs in IDEIA, and concern about the consistent failure of educators to meet standards, researchers are now considering the need for training. Most of the studies located were done using functional analysis or included analysis as a component of functional behavioral assessment. However, these results are also beneficial when exploring the training needs for assessment due to functional analysis primarily following the same steps as functional assessment with the addition of manipulation of the antecedents and consequences.

Two recent studies (Lane et al., 2007; Lane, Weisenbach, Little, Phillips, & Wehby, 2006) investigated the effectiveness of training teachers and school-site teams on

the procedures of functional assessment including the additional step of functional analysis. In the study done by Lane et al. (2007), around 18 hours of training was provided, along with 10-12 hours of on-site follow-up visits. Following the training, each team or individual completed an FBA and BIP. The researchers then analyzed the plans and found that every plan met IDEIA mandates. In another study analyzing completed FBAs and BIPs, researchers noted that those plans created by individuals with two or more days of FBA and BIP related training produced a better outcome (Van Acker et al., 2005). It has become generally accepted that lack of training may contribute to the general failure to meet FBA and BIP standards; educators may need to receive thorough training to learn the skills necessary to produce an effective FBA and BIP (Batsche et al., 2008; Conroy et al., 1999; Conroy et al., 2002; Yell & Katsiyannis, 2000).

Interpretation differences. Differences in the interpretation of what the IDEA (1997) and IDEIA (2004) mandates consider appropriate have already led to FBA-related lawsuits. For example, leading to a 1998 lawsuit, a school district removed a student from the classroom to a new placement and created a BIP without completing the appropriate assessments and providing necessary tools to change the student's behavior (Penn Manor School District, 1998). A state review officer found the school district guilty of depriving the student of free and appropriate education as determined through IDEA. Alternatively, in the case of *CJN by SKN v. Minneapolis Public Schools* (2003), the school district progressed a student first from his original placement in a special education classroom to a half day treatment, then following further behavior problems, to home instruction. Throughout the changes in placement, a FBA was conducted, and

the student's IEP was revised. A hearing review officer determined that the Minneapolis School District was not in violation of IDEA (1997) and was providing appropriate services (2003). Though there were different outcomes, both cases were instigated due to differences in interpretation of IDEA (1997) and what a free and appropriate public education means for a specific student.

Limitations of Current Research

Although a wealth of research exploring the effectiveness of FBA and its connection to a BIP exist, the current research limitations hinder one's ability to understand how FBA and BIPs are being used in the field of education. Two common limitations seen throughout studies are the setting of current research and the number of participants.

Setting of current research. One key limitation of the current research is the location where most studies were done. Many of the current studies on FBAs and BIPs were conducted in clinical settings, such as state residential facilities, schools for individuals with special needs, and in/out-patient clinics (Peck-Peterson, 2002). In a 2002 study, Peck-Peterson revealed that of the 46 experimental studies using FBA in the *Journal of Applied Behavioral Analysis* published during a two year span, 33 (71.7%) were conducted in a controlled clinical setting. Results of clinical studies have shown success using FBAs and BIPs and have also enabled a better understanding of specific behavior problems. However, with FBA and BIP research done primarily in clinical settings, little evidence exists supporting the idea that similar results would be achieved if

the information from the studies were applied to a natural setting, such as the classroom (Kern, Hilt, & Gresham, 2004; Peck-Peterson, 2002).

An additional component that differs from research to actual practice is the training of the individual or team completing the FBA and BIP. Research typically uses extensively trained professionals to complete the FBAs and BIPs in both the clinical and school research settings. Trained professionals successfully completing FBAs and BIPs does not indicate teachers and other school staff with little training are capable of producing similar results or success rates (Kern et al., 2004).

Number of participants. Much of the current research on FBA and BIPs has been gathered through case studies and studies using small populations. Though current research has expanded the types of students and behaviors addressed, the ability to generalize study results past the individual, population, or setting studied remains limited (Hoff, Ervin, & Friman, 2005; Kern et al., 2004; Umbreit, 1995). Case studies also tend to focus on whether a FBA and BIP can effectively be used to reduce a problem behavior. While this is good information to have, it does not provide insight into whether the important components of FBA and BIPs are efficient in common practice and feasible in a classroom that serves multiple children with behavior intervention needs.

Conclusion

Through the IDEIA, Congress requires educators to complete a FBA and prepare a BIP before changing the placement of a student with an IEP due to behavior.

However, Congress provided no guidance on how to complete either of these. Although educators and scholars do not apply a uniform definition of “functional behavioral

assessment,” they agree that it is an individualized process that involves gathering information, determining the function of a behavior, and using that information to change the student’s problem behavior. Educators should use the information gathered in the FBA to create a behavioral intervention plan aimed at replacing the student’s problem behavior. However, studies show that some educators do not connect the FBA and BIP (Blood & Neel, 2007; Van Acker et al., 2005). While the reasons for this failure are not clear, researchers suggest that the failure is due to a lack of training and experience or a simple difference in the interpretation of the IDEIA mandates. Empirical studies addressing the link between assessment findings and behavior interventions are limited. In a thorough search of literature only three articles addressing this link were located.

METHOD

In this study, data were collected using all 72 initial FBAs and BIPs completed within a 1-year span beginning June 30, 2008 and ending June 30, 2009. This population excluded students in preschool or early childhood programs, as well as students whose files were unavailable after moving. The FBA and BIP files were provided by a regional education agency that serves over 66,800 students in 60 public and 25 private school districts located in the Midwest. Files containing a FBA and BIP were typically created for students in kindergarten thru 12th grade by a regional education agency representative or a team that could include the regional agency representative, educators from the student's school, school or regional agency administrators, parents, and the student. (See Table 1 for roles of team participants.) The FBA in each file described the methods and tools the individual(s) creating the FBA used to learn about the behavior of concern as well as the hypothesized function of that behavior. Each BIP detailed the intervention plan determined most appropriate for the student and how it would be implemented. The intent of each FBA was to learn about the behavior of concern and inform educators when creating the BIP. See Appendix A for a copy of the FBA and BIP forms used by the agency.

Materials

The FBA and BIP case files were scored using two rubrics. Per the request of the regional education agency, the first rubric, created by a team of agency FBA/BIP trainers, was used to score all FBAs and BIPs. Data from this rubric are not reported in this study. The second rubric was created by the researchers to examine specific components of

Table 1

Role of FBA Team Members

Role	Frequency	Percentage
General Education Teacher(s)	31	43.1
School Psychologist	31	43.1
Special Education Teacher(s)	23	31.9
Principal	21	29.2
Counselor	19	26.4
Education Consultant	18	25.0
Team Representative Not Specified	18	25.0
Teacher Not Specified	17	23.6
Parent	13	18.1
Social Worker	11	15.3
Student	4	5.6
Other ^a	17	23.8

^a Other roles include Coach, Speech/Language Consultant, Assistant Principal, At-Risk Coordinator, Occupational Therapist, Title 1 Reading Teacher, Additional Personnel Not Specified, School Nurse, and Social Work Intern.

FBA and BIPs in depth. The primary focus of the second rubric was to explore the tools currently used during the FBA process and to assess the connection made between FBA findings, the hypothesis statement, and BIP interventions. Important components within these areas were determined through a thorough review of current research literature on

best practices when creating an FBA and BIP. Scoring was based on the presence or absence of components considered important for a quality FBA and BIP including: the five components of a behavior hypothesis; consistency of FBA data, the hypothesis, and subsequent interventions described in the BIP; and the determination of a behavior's antecedent, consequence, function, and replacement behavior. Writing additional information on the rubric was also allowed if a component or tool in the FBA was not on the rubric checklist. The researchers tested the rubric on sample cases to identify missing components or areas needing clarification. The final rubric reflects these improvements. (See Appendix B.)

Procedure

The 72 case files were gathered and coded by (a) student case number (b) role (e.g. school psychologist, general education teacher) of the individual or team members who completed the FBA and BIP (c) grade of the student and (d) sector of the regional education agency where the file had been completed. No identifying information was attached to the coded data. A key linking the code and identifying information was kept in the records office at the regional education agency. Each FBA and BIP was scored by one of the four researchers using both rubrics. Prior to scoring the 72 case files, the team achieved inter-rater reliability through trainings, during which each member's ratings on each item of practice FBAs and BIPs were compared and discussed. Fifteen randomly selected case files were rated by two raters. Raters' responses were compared and Kappa coefficients were used to determine the level of inter rater reliability achieved. A Kappa level of .41 to .60 is considered good, .61 to .80 is considered substantial, and .81 to 1.00

is considered almost perfect (Landis & Koch, 1977). The majority of the Kappa levels were good or substantial ranging from .22 to 1.00. Kappas were lower than expected for “plan to reinforce replacement behavior (.32),” “consequence identified in hypothesis statement (.29),” and “antecedent modified in BIP (.22).”

RESULTS

Link between FBA Data and Hypothesized Function of Behavior

The goal of this study was to explore the connection between FBAs and BIPs. The first issue explored by the research team was the connection between data collected throughout the FBA process and the subsequent hypothesized function. A convergence of data collected from multiple sources should be used to determine the hypothesized function so an appropriate intervention may be created.

Review of the FBAs and BIPs revealed that only 9 (12.5%) of the 72 FBAs identified a function in the hypothesis statement consistent with a convergence of data. In this study, convergence is defined as data from multiple sources supporting the same conclusion. An additional 31 (43.1%) identified a function consistent with some of the FBA data. The remaining 32 (44.6% of the total number of FBAs) identified a function not supported by any data. The function most frequently identified by teams was “obtain attention” followed by “escape/avoid a task.” (See Table 2.) Functions less frequently identified include “control,” “escape/avoid a nonpreferred activity,” “escape/avoid attention,” “escape/avoid not specified,” “internal stimulation,” “power,” and “misperceptions.” One FBA did not identify a function. The functions “obtain not otherwise specified” and “obtain activities/objects” were not identified by any teams.

Completeness of FBA Hypothesis Statement

The second area examined was the completeness of each FBA hypothesis statement. A hypothesis statement predicts the function of a problem behavior (Repp & Karsh, 1994) and specific conditions that make the behavior more likely to occur.

Table 2

Frequency of Primary Functions Identified

Primary Function Identified	Frequency	Percentage
Obtain Attention	33	45.8
Escape/Avoid a Task	20	27.8
Control	7	9.7
Escape/Avoid a Nonpreferred Activity	3	4.2
Escape/Avoid Attention	2	2.8
Escape/Avoid Not Otherwise Specified	2	2.8
Internal Stimulation	2	2.8
Power	1	1.4
Misperceptions	1	1.4
Not Identified	1	1.4
Total	72	100.0

Components that should be included are the behavior of concern, hypothesized function, antecedents, consequences, and when appropriate, setting events. All information in the hypothesis statement should be supported by data.

The majority of hypothesis statements reviewed were missing substantial pieces of information. The most frequently identified component was the function of behavior. Although over half identified an antecedent and the behavior of concern, less than half

Table 3

Components Identified in Hypothesis Statement

Component	Frequency	Percentage
Function	70	97.2
Antecedent	45	62.5
Behavior	42	58.3
Setting event	30	41.7
Consequence	27	37.5

identified a setting event or consequence. (See Table 3.) Furthermore, not all components identified by teams were consistent with data in the FBA. Antecedents and setting events were both based on data in 27 (37.5%) cases, followed by consequences, which were supported by data in 22 (30.6%) cases. Overall, regardless of whether components were supported by data, 6 (8.3%) hypothesis statements included all five hypothesis components, and 12 (16.7%) included all components except setting event.

Link between Hypothesis Statement and Intervention

Once a convergence of data is used to determine the function of a behavior and create a hypothesis statement, the next step is using the hypothesis statement to create an appropriate intervention through the BIP (Steege & Watson, 2008). To achieve a direct connection, the intervention replacement behavior needs to meet the hypothesized function. The intervention also needs to alter antecedents, consequences, or setting events that are triggers or serve as reinforcement for the behavior of concern. Results

Table 4

Hypothesis Components Modified in the BIP

Component	Frequency	Percentage
Setting event	27	37.5
Antecedent	23	31.9
Consequence	21	29.2

indicate the minority of interventions detailed in BIPs were directly linked to the hypothesis in the corresponding FBA. Although over 80% of the BIPs identified a replacement behavior that would be taught to the student, only 26% of all BIPs identified a replacement behavior that served the function identified in the hypothesis statement. Furthermore, only 43% of all BIPs had a plan to reinforce the replacement behavior. Few teams modified triggers or reinforcing components identified in the hypothesis statement with the most frequently modified being setting event, followed by antecedent and consequence. (See Table 4.)

Direct Link between FBA and BIP

To achieve a direct link between FBA data and the BIP, teams first need to identify a function in the hypothesis statement supported by a convergence of data. Next, a replacement behavior serving the same hypothesized function needs to be identified. Though teams successfully completed some steps of this link, few made the complete connection. Overall, 5 (7%) of the 72 teams made a direct link between FBA data and the subsequent BIP.

DISCUSSION

The lack of research on the quality of FBAs and BIPs created in the school setting (Peck-Peterson, 2002) demonstrates the need to explore current practices further. One specific area lacking data, and of utmost importance, is the connection of FBA data and the subsequent BIP. Furthermore, the use of convergent data to determine the function of a behavior needs to be explored.

This study aimed to address two additional limitations of past research: setting where the FBA/BIP is completed (Kern et al., 2004; Peck-Peterson, 2002) and the number of participants. Previous research primarily consists of individual case studies, each examining FBAs and BIPs completed by a professional from a specific discipline for an individual with a specific behavioral concern. Minimal research exists examining multiple FBAs and BIPs completed in the school setting by teams from various disciplines. In addition, few studies address a wide range of behavioral concerns.

The purpose of this study was to investigate whether FBA/BIP teams in the school setting collect enough data to achieve convergence throughout a FBA, use FBA data to create a complete hypothesis statement, and use the data further to create an appropriate BIP. The major findings from this study are that (a) teams frequently failed to use a convergence of data to inform the hypothesis statement, (b) hypothesis statements were often missing critical components, and (c) FBA data and hypothesis statements were not consistently used to inform interventions developed in the BIP. There are several possible reasons for this disconnect between FBA data and the BIP, and the disconnect has implications for educators and students.

FBA Data Collection

The purpose of an FBA is to identify the function, triggers, and reinforcing components of a student's problem behavior (Fitzsimmons, 2000). This is done by gathering and analyzing data to create a hypothesis statement. Few teams in this study used a convergence of data to hypothesize the function of behavior. Other teams provided some data to support the hypothesized function, but did not achieve convergence. Perhaps most problematic is that 44.6% of the teams provided no data supporting the hypothesized function. Support through data was also missing when identifying antecedents, consequences, and setting events. These findings are concerning as they indicate clearly that most teams did not use a convergence of data, and in many cases *any* data, to inform the hypothesis statement.

Hypothesis Statement

An FBA hypothesis states the conclusions of FBA data analysis and lays out the specific function and components that need to be addressed in the development of a BIP. Though it is a crucial component of an FBA, no prior research has studied the completeness of hypothesis statements. Examination of hypothesis statements in this study revealed that essential components were often missing. Although identification of antecedents, consequences, and setting events is critical in the process of creating a quality intervention, less than two thirds of the teams identified antecedents, and less than half identified consequences or setting events. Incomplete hypothesis statements suggest teams may not have considered or understood the "whole picture" of a student's problem behavior.

The frequency of incomplete hypothesis statements, and identification of hypothesis components not supported by data, raises concern. A BIP should be based on the FBA data conclusions in the hypothesis statement. Therefore, if the hypothesis statement is not supported by data, neither is the intervention.

Link between Hypothesis Statement and BIP

The second link explored was the connection between the FBA hypothesis statement and the BIP. A BIP uses the data gathered through the FBA and hypothesis statement to develop an intervention that will best fit the student's needs (Batsche et al., 2008; Fitzsimmons, 2000; Sugai et al., 1998; Steege & Watson, 2008). An intervention that meets the student's needs includes teaching a replacement behavior that meets the hypothesized function (Batsche et al., 2008) and modifying hypothesized reinforcing and trigger components, such as antecedents, consequences, and setting events. The BIP should also explain the team's plan to reinforce desired behavior when it occurs (Killu, 2008).

Missing Connection

Similar to the conclusions of previous studies (Gresham et al., 2004; Lane et al., 1999; Van Acker et al., 2005), findings from this study indicate that FBA data, as summarized in the hypothesis statement, were not consistently used to create the intervention. The majority of teams provided a replacement behavior in the intervention plan, but few met the same function identified in the hypothesis statement. The majority of teams also failed to provide a plan to reinforce the student when the replacement behavior was exhibited. Unfortunately, this may lead to a failed intervention even if the

function, triggers, and reinforcing components are correctly identified. Without adequate reinforcement, the behavior of concern may still achieve the function more efficiently than the replacement behavior.

Modification of Reinforcing and Trigger Components

The lack of reinforcing and trigger components modified is another unexpected finding. IDEIA (2004) states that along with a FBA and intervention services, modifications need to be made to address the student's behavior and decrease the likelihood of the behavior recurring (IDEIA, 20 U.S.C. Section 1415 (k)(1)(D)(i)). Though it is the consequence that reinforces or punishes a behavior, consequences were the least modified component in BIPs. Additionally, only half of the teams who identified an antecedent in the hypothesis statement modified it in the intervention. Setting events were the most frequently modified component, although they were only modified in about one third of the BIPs. This finding is interesting considering setting events are often difficult to identify because they can occur outside the classroom or school setting (Ryan et al., 2003), and thus may be more difficult to modify.

Results of Disconnect

The disconnects between FBA data and the hypothesis, and the hypothesis and BIP, raise concern about intervention quality and the subsequent services provided to students. As discussed by Batsche et al. (2008), failure to use assessment data when creating the intervention decreases the likelihood of successful intervention outcomes. Additionally, failed interventions increase the time a student's problem behavior persists and he or she is not provided adequate services. This is problematic and may lead to the

impression that the student's problem behavior is more intractable than it truly is. It is also an inefficient use of teacher and FBA team time as they will need to spend additional time trying to identify an appropriate intervention.

Potential Reasons for Failure

Training

The results of the current study and previous research (Blood & Neel, 2007; Van Acker et al., 2005) indicate there is a need to explore why teams do not make the connection between FBA data and the BIP. The first potential reason for this disconnect is lack of training. Training only recently became more frequent following the inclusion of FBA and BIPs in IDEA (1997) mandates (Conroy et al., 1999; Conroy et al., 2002). Following these mandates, schools, educational agencies, and states started providing more training to support educators and explain requirements and procedures (Hendrickson et al., 1999). Lane et al. (2007) suggests teachers and teams who receive intensive training can successfully complete FBAs and BIPs, and Van Acker et al. (2005) reports individuals with at least 2 days of training create FBAs and BIPs with better outcomes. However, it is unknown how many individuals and teams in schools are currently trained. The training level of participants in this study is also unknown. Further research is needed to determine how many educators and support staff are trained on FBA/BIP procedures and to explore the content, quality, and availability of training for teams. Identification of challenging FBA and BIP components may also help pinpoint areas where quality is compromised and additional training is needed.

Data collection. Findings from the current study suggest the quality of many FBAs was compromised as early as the data collection stage. Teams often failed to demonstrate a convergence of data, which may have been due to factors such as too little data or misinterpretation of what the data means. Data collection can include both indirect and direct descriptive methods, including sources such as behavior rating scales, record reviews, social skills assessments, observations of the student in multiple natural settings, ABC worksheets, scatterplots, and interviews with the student, his or her parents, and teachers. Direct descriptive methods are used to gain a better understanding of the student's behavior and confirm or disconfirm information obtained through indirect methods (Gresham et al., 2001). Further research is needed to determine if teams are collecting enough data from both direct and indirect sources, and continuing direct descriptive methods until a pattern in behavior has been identified providing insight into the potential function of behavior. Training may be needed to help teams understand how to use both kinds of data and recognize what the data mean.

Functions of behavior. This study also revealed a general misunderstanding of the functions of behavior. This was demonstrated by the lack of data supported functions identified in hypothesis statements, functions identified that aren't functions of behavior, and lack of appropriate replacement behaviors meeting the hypothesized function. Hypothesized functions that aren't functions of behavior include "control," "power," and "misperceptions." The concept of determining the function of behavior rather than providing the same consequence for any student who exhibits a certain behavior may be new to educators who are not familiar with FBA. Determining the

function of behavior may also be difficult for some teams if they don't have an understanding of operant conditioning and recognize that consequences, such as a time out, may serve as reinforcement for the student's behavior rather than its intended purpose of punishment. Additional training on the functions of behavior, how to identify the function, and how to create an appropriate intervention meeting the same function are identified areas of need for many teams in this study and may be beneficial for future FBA/BIP teams.

Awareness of responsibilities. One potential reason teams may complete FBA/BIP procedures poorly is lack of awareness of required procedures. IDEIA (2004) does not specify the process teams should follow when completing an FBA or BIP, thus leaving specific procedures and requirements to be determined by each state, school district, and IEP team. Yell and Katsiyannis (2000) state that following the determination that an FBA/BIP are needed, it is the responsibility of each team to refer to their school district's or state's laws and guidelines about procedures and specific requirements. It is unknown if teams in this study who failed to comply with mandates and specific criteria from the regional education agency were aware of their responsibility to locate this information. Training is needed to teach teams the mandates and requirements that apply to them, as well as how to locate requirements independently in the future.

School Setting

The second potential reason for the disconnect between FBAs and BIPs is the setting in which they are completed. Consistent with the findings of previous research (Van Acker et al., 2005), the results of this study indicate the connection is not

consistently made when FBAs and BIPs are completed in schools. This trend leads one to wonder if expecting educators to complete the FBA/BIP process and implement a BIP within the school setting without extensive training is realistic. With past FBA and BIP research conducted primarily in clinically settings by professionals trained in FBA/BIP procedures, little evidence exists suggesting similar success would be seen if applied in a typical setting, such as a classroom (Kern et al., 2004; Peck-Peterson, 2002). Though little success has been seen in teams' efforts to complete the FBA/BIP process, it is mandated by IDEIA (2004), so steps to improve quality must be taken.

Potential Solution to Training and School Setting Challenges

One potential way to improve FBA/BIP quality, which would need verification through future research, is to have an FBA/BIP "expert" on every team. Findings shared by Lane et al. (2007) suggest educators and teams who receive extensive training (18 hours of training with 10-12 hours of on-site follow up visits) can successfully complete FBAs and BIPs that meet IDEIA mandates. In the current study, 72 initial FBA/BIPs were completed in a regional education agency serving 60 public and 25 private school districts. The low ratio of initial FBAs/BIPs completed per district within a one year time span suggests providing extensive training for all educators and support staff who may potentially participate on a FBA/BIP team is not economical. Additionally, information provided through training may be difficult for team members to retain and apply if the procedures and skills are not practiced frequently. This supports the idea that it may be beneficial to designate one member of the team to be the expert, receive the extensive training, and participate on all FBA/BIP teams in a specific area. Depending on the

frequency of initial FBAs and BIPs, the expert could be an individual participating on all teams within a school, district, or regional education agency. An expert's role would be to help other team members understand procedures and make sure all practices meet IDEIA (2004) mandates, as well as specific state, educational agency, and district requirements.

Compliance

As stated in IDEIA (2004), a student is to receive a FBA, BIP, and modifications designed to help the student change problem behavior so it does not continue (IDEIA, 20 U.S.C. Section 1415 (k)(1)(D)(i)). The FBA and BIP need to be designed to specifically address the behavior of concern so it doesn't recur. When the FBA and BIP process are done poorly leading to an intervention that does not adequately meet the function of the problem behavior, the purpose of the FBA/BIP and its mandate in IDEIA (2004) are not met. This suggests teams who complete the FBA/BIP process poorly and subsequently don't provide the student with an intervention designed to decrease problem behaviors are not in compliance with IDEIA (2004) mandates. The results of this study indicate the majority of FBAs and BIPs reviewed were not in compliance. This is consistent with the findings of Van Acker et al. (2005) who determined the majority of the FBAs and BIPs reviewed in their Wisconsin study were not in compliance with state or IDEA (1997) mandates for conducting FBAs and linking them to BIPs.

Implications

Results of this study clearly indicate the FBA/BIP process is not completed well by educators in this regional agency, yet it remains educators' responsibility to comply

with mandates and provide quality services. This leaves multiple implications for educators. First, educators need to take the initiative to learn about IDEIA (2004) mandates and local requirements for completing a FBA and BIP. Training is also needed to learn the skills necessary to complete procedures, understand data, and understand functions of behavior. Training or supervision opportunities should be sought out to provide constructive feedback and continuous growth. With this new knowledge and skill set, educators and support staff should consider taking a leadership role on FBA/BIP teams in their school to help insure the quality of FBAs and BIPs, and educate others on their teams about the process, skills, and requirements.

Limitations

One limitation of this study that influences the ability to generalize results is that all FBAs and BIPs were completed in one regional education agency and may not be representative of the quality of FBAs and BIPs in other regions or states. Additionally, the team reviewing each FBA and BIP only considered data present in the FBA and BIP documents. Further data may have been present elsewhere in the student file, but was not considered by the team since its exclusion from the FBA/BIP documents suggested it was not used when making decisions about the student's behavior and intervention. Had data from the whole file been considered in this review, the result may have shown that more teams' decisions were supported by data.

Future Research

The results of this study have helped identify some areas of success and challenge for FBA and BIP teams in the educational setting; however, the need for future research

remains great. Few studies suggest it is feasible for educators to complete quality FBAs and BIPs without extensive training. Further research is needed to verify the feasibility of these requirements. The content of trainings available should also be explored to confirm that teams who are trained receive all information and practice necessary to complete FBAs/BIPs compliant with mandates and local requirements. Research on the use of an expert could also potentially identify a more feasible and economical system for improving the quality of FBA and BIPs completed by educators in the school setting. Last, a nationwide study on the current FBA/BIP practices of school based teams is needed to identify if the process is being completed well anywhere, and if so, what factors contribute to the success.

REFERENCES

- Alter, P. J., Conroy, M. A., Mancil, G. R., & Haydon, T. (2008). A comparison of functional behavior assessment methodologies with young children: Descriptive methods and functional analysis. *Journal of Behavioral Education, 17*, 200-219.
- Barnhill, G. P. (2005). Functional behavioral assessment in schools. *Intervention in School and Clinic, 40*, 131-143.
- Batsche, G. M., Castillo, J. M., Dixon, D. N., & Forde, S. (2008). Best practices in linking assessment to intervention. In A. Thomas, & J. Grimes (Eds.), *Best practices in school psychology V*. (pp.177-193). Washington D.C.: National Association of School Psychologists.
- Blood, E., & Neel, R. S. (2007). From FBA to implementation: A look at what is actually being delivered. *Education and Treatment of Children, 30*, 67-80.
- CJN by SKN v. Minneapolis Public Schools, 38 IDELR 208 (8th Cir. 2003)
- Conroy, M. A., Clark, D., Gable, R. A., & Fox, J. J. (1999). A look at IDEA 1997 discipline provisions: Implications for change in the roles and responsibilities of school personnel. *Preventing School Failure, 43*(2), 64-70.
- Conroy, M., Katsiyannis, A., Clark, D., Gable, R. A., & Fox, J. M. (2002). State Office of Education practices: Implementing the IDEA disciplinary provisions. *Behavior Disorders, 27*(2), 98-108.
- Fitzsimmons, M. K. (2000). Functional behavior assessment and behavior intervention plans. *ERIC Clearinghouse on Disabilities and Gifted Education, 1-5*.
- Gresham, F. M., McIntyre, L. L., Olson-Tinker, H., Dolstra, L., McLaughlin, V., & Van, M. (2004). Relevance of functional behavioral assessment research for school-based interventions and positive behavioral support. *Research in Developmental Disabilities, 25*(1), 19-37.
- Gresham, F. M., Watson, T. S., & Skinner, C. H. (2001). Functional behavioral assessment: Principles, procedures, and future directions. *School Psychology Review, 30*(2), 156-172.

- Hendrickson, J. M., Gable, R. A., Conroy, M. A., Fox, J., & Smith, C. (1999). Behavior problems in schools: Ways to encourage functional behavior assessment (FBA) of discipline-evoking behavior of students with emotional and/or behavioral disorders (EBD). *Education and Treatment of Children, 22*, 280-290.
- Hockenbury, D. H., & Hockenbury, S. E. (2001). *Discovering Psychology*. New York, NY: Worth Publishers.
- Hoff, K. E., Ervin, R. A., & Friman, P. C. (2005). Refining functional behavioral assessment: Analyzing the separate and combined effects of hypothesized controlling variables during ongoing classroom routines. *School Psychology Review, 34*(1), 45-57.
- Horner, R. H. (1994). Functional assessment: Contributions and future directions. *Journal of Applied Behavior Analysis, 27*(2), 401-404.
- Individuals with Disabilities Education Act Amendments of 1997, 20 U.S.C. Section 1415 (1997).
- Individuals with Disabilities Education Improvement Act of 2004. 20 U.S.C. Section 1415 (2004).
- Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis, 27*(2), 197-209.
- Jolivet, K., Scott, T. M., & Nelson, C. M. (2000). The link between functional behavioral assessments (FBAs) and behavioral intervention plans (BIPs). *ERIC Clearinghouse on Disabilities and Gifted Education, ERIC Digest E592*.
- Kern, L., Hilt, A. M., & Gresham, F. (2004). An evaluation of the functional behavioral assessment process used with student with or at risk for emotional and behavioral disorders. *Education and Treatment of Children, 27*(4), 440-452.
- Killu, K. (2008). Developing effective behavior intervention plans: Suggestions for school personnel. *Interventions in School and Clinic, 43*, 140-149.
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), 159-174.

- Lane, K. A., Barton-Arwood, S. M., Spencer, J. L., & Kalberg, J. R. (2007). Teaching elementary school educators to design, implement, and evaluate functional assessment-based interventions: Success and challenges. *Preventing School Failure, 51*, 35-46.
- Lane, K. L., Umbreit, J., & Beebe-Frankenberger, M. E. (1999). Functional assessment research on students with or at risk for EBD: 1990 to the present. *Journal of Positive Behavior Interventions, 1*, 101-111.
- Lane, K. L., Weisenbach, J. L., Little, M. A., Phillips, A., & Wehby, J. (2006). Illustrations of function-based interventions implemented by general education teachers: Building capacity at the school site. *Education and Treatment of Children, 29*, 549-571.
- Myers, D. G. (2004). *Psychology*. New York, NY: Worth Publishers.
- Peck-Peterson, S. M. (2002). Introduction to special issue: Functional behavior assessment in natural settings. *Education and Treatment of Children, 25*(1), 1-4.
- Penn Manor School District (SEA PA 1998).
- Repp, A. C., & Horner, R. H. (1999). *Functional analysis of problem behavior: From effective assessment to effective support*. Belmont, CA: Wadsworth Publishing Company.
- Repp, A. C., & Karsh, K. G. (1994). Hypothesis-based interventions for tantrum behaviors of persons with developmental disabilities in school settings. *Journal of Applied Behavior Analysis, 27*(1), 21-31.
- Ryan, A. L., Halsey, H. N., & Matthews, W. J. (2003). Using functional assessment to promote desirable student behavior in schools. *Teaching Exceptional Children, 35*, 8-15.
- Scott, T. M., Anderson, C. M., & Spaulding, S. A. (2008). Strategies for developing and carrying out functional assessment and behavior intervention planning. *Preventing School Failure, 52*, 39-49.
- Shippen, M. E., Simpson, R. G., & Crites, S. A. (2003). A practical guide to functional behavioral assessment. *Teaching Exceptional Children, 35*, 36-44.

- Steege, M. W., & Watson, T. S. (2008). Best practices in functional behavioral assessment. In A. Thomas, & J. Grimes (Eds.), *Best practices in school psychology V*. (pp. 337-347). Washington D.C.: National Association of School Psychologists.
- Sugai, G., Lewis-Palmer, T., & Hagan, S. (1998). Using functional assessments to develop behavior support plans. *Preventing School Failure, 43*(1), 6-13.
- Umbreit, J. (1995). Functional assessment and intervention in a regular classroom setting for the disruptive behavior of a student with attention deficit hyperactivity disorder. *Behavior Disorders, 20*(4), 267-278.
- Van Acker, R., Boreson, L., Gable, R. A., & Potterton, T. (2005). Are we on the right course? Lessons learned about current FBA/BIP practices in schools. *Journal of Behavioral Education, 14*, 35-56.
- Webber, J., & Plotts, C. A. (2008). *Emotional and behavioral disorders: Theory and practice*. Boston, MA: Pearson Education Inc.
- Yell, M. L., & Katsiyannis, A. (2000). Functional behavioral assessment and IDEA '97: Legal and practice considerations. *Preventing School Failure, 44*(4), 158-162.

How different is this student's behavior from the behavior of others in intensity or frequency?

Is there a pattern of behavior over time and/or across settings? Have changes in student behavior occurred over time?

What student strengths may provide a foundation for addressing the behaviors of concern?

What conditions make the behavior more or less likely to occur? What consequences maintain the behavior? Include:

- Setting events (the conditions that make the behavior more likely to occur, but do not directly or immediately trigger the behavior – e.g., time of day, certain classes, particular adults or peers present, poor sleep, receiving medication, missing medication, missed breakfast, thoughts, feelings, or beliefs of the child, etc.).
- Antecedents (the events that directly and immediately trigger the behavior – e.g., teasing, specific classroom demands, etc.).
- Consequences, both positive and negative that are related to the occurrence and maintenance of the behavior.

Hypothesis statement. State the current, best understanding of what triggers and maintains the behavior. Include:

Presumed function (purpose) of the behavior. Why is the behavior occurring? What is the child gaining or avoiding?

Conditions that make the behavior more or less likely. What are the conditions and events that trigger the behavior and the consequences that follow the behavior? What are the conditions and events that make the behavior less likely to occur?

Implications for interventions. Describe potential strategies, potential alternative skills or replacement behaviors, and needed supports for team members that will be considered in developing a Behavior Intervention Plan.

Note: The hypothesis may need to be tested through the development, implementation and frequent review of a behavior intervention plan.



Behavior Intervention Plan

Student: _____ **Date:** _____

Behavior(s) of Concern. State a clear, measurable, and observable description of the behavior or behaviors of concern.

Student Strengths. Identify student strengths that may provide a foundation for addressing the behavior(s) of concern.

Functional Behavioral Assessment (FBA). Summarize or attach a current FBA.

Hypothesis on which this Behavior Intervention Plan is based:

Function of the behavior:

Setting events, antecedents & consequences that trigger and maintain the behavior:

Potential alternative skills or replacement behaviors:

Goal. State the behavioral goal for this student in measurable and observable terms that include the **conditions** (when and how the individual will perform); **behavior** (what the individual will do); and **criterion** (acceptable level of performance).

Implementation Plan

Environmental changes that make undesirable behavior(s) less likely to occur

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Building and reinforcing alternative skills and replacement behaviors

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Teacher/parent/caregiver responses

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Safety plan

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Other actions that are needed to meet the needs of this individual

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Additional Supports for Team Members

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

How will progress towards the goal be monitored? Include the method and frequency of monitoring the individual's behavior.

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

How will implementation of the plan be monitored? Include the method and frequency of monitoring plan implementation.

Action:

Who will be responsible for this action?

When this action will be implemented: already in place immediately / /

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Decision - / / : continue modify discontinue

Review. Specify the dates of scheduled review by the team.

1st Review: / /

2nd Review: / /

3rd Review: / /

APPENDIX B
RESEARCH TEAM RUBRIC

Assessment Tool	Check if Present
Record Review	
Office Referrals	
Behavior Data (NOS)	
Forced Choice Reinforcement Menu	
Interview	
Teacher Interview	
General Education Teacher	
Special Education Teacher	
Parent Interview	
Student Interview	
Other	
Observation Data	
ABC	
Scatterplot	
Peer Comparison	
Structured/Systematic	
Time on Task	
Duration	
Latency	
Frequency	
Other	

Personnel Completing FBA	Check if Present
Team Representative (NOS)	
Social Worker	
School Psychologist	
General Education Teacher	
Special Education Teacher	
Teacher (NOS)	
Paraprofessional	
Education Consultant	
Speech/Language Pathologist	
Occupational Therapist	
Parent	
Student	
Other	
Grade of student	
Sector	
The Link	
Primary function of behavior identified	
Obtain	
Attention	
Activities/Object	
Escape/Avoid	
Attention	
Tasks	
Nonpreferred Activity	
Internal Stimulation	
Other	
Not Identified	
Identified function consistent with data	
Function consistent with convergence of data	
Clear connection between hypothesis and intervention	

Conditions specified in the hypothesis statement	Check if Present
Antecedent Identified in hypothesis statement	
Consequence Identified in hypothesis statement	
Setting event Identified in hypothesis statement	
Behavior is identified in the hypothesis statement	
Function is identified in the hypothesis statement	
Conditions specified in the FBA and/or BIP	
Antecedent Identified	
Identified antecedent consistent with data	
Consequence Identified	
Identified consequence consistent with data	
Setting event Identified	
Identified setting event consistent with data	
Replacement behavior identified	
Replacement behavior serves function identified in hypothesis	
Plan to reinforce replacement behavior	
Antecedent modified	
Consequence modified	
Setting event modified	