

Understanding the Effectiveness of Functional Behavioral  
Assessments and Functional Behavioral Analysis  
in the School Setting

by

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**ABSTRACT**

Challenging behavior is a growing concern, and educators are desperately searching for interventions that will effectively support behavior change. Ethical guidelines and legal mandates propose that a functional behavioral assessment (FBA) is the best approach to find possible functions of problems behavior, and assist in the development of a behavioral intervention plan (BIP). In addition to an FBA, research suggests that conducting a functional behavioral analysis can identify the cause of challenging behavior, which will help educators become more confident when developing a BIP to reduce the occurrence of behavioral problems exhibited in school.

This study provides a literature review, which outlines how behavioral experts suggest educators conduct functional assessments and develop BIPs in the school environment. This review will also provide research to determine whether a functional

behavioral analysis, in addition to an FBA, will increase the effectiveness of a BIP. A single-subject design will be proposed. This proposed methodology could be used to test the effectiveness of an FBA and functional behavioral analysis when developing a BIP for a student with an emotional and behavioral disability (EBD).

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## Chapter I: Introduction

### *Background*

Many children in school exhibit behavioral problems. According to educators, the most prevalent challenging behaviors include the following: primary attention problems, off task behaviors, disruption in the classroom, lack of organization skills, verbal or physical outbursts, impulsive behavior, and poor social skills (McConnell, 2001). Before the 1980's, non-behavioral theorists proposed that interventions should be shaped around the child's topography. In other words, non-behavioral theorists were only interested in the behavior itself and did not look at the environment as a source of the behavior issue (Bellack & Hersen, 1997). Eventually, researchers began to develop better ways to assess the multidimensional components of behavior. The expression of challenging behaviors is now understood as serving specific functions. Since this new understanding, the way educators develop effective strategies to manage challenging behaviors have shifted to a focus on the function behaviors serve in the environment.

Currently, educators are strongly encouraged to use a functional behavioral assessment (FBA) when a child expresses behavioral challenges within the school environment (Gresham, Watson, & Skinner, 2001). When an FBA is conducted, educators involved in this process will use interviews, observations, and reviews of records to understand the relationship between the environment and the target behavior (Gresham et al., 2001). The information provided from an FBA is also used to understand the function of the target behavior as it occurs in the environment (O'Neill, Horner, Albin, Sprague, Storey, & Newton, 1997). This understanding can assist in the development of a behavioral

intervention plan (BIP), which is used to reduce the occurrence of the challenging behavior within the school setting (Gresham et al., 2001).

Best practice guidelines and legal mandates have also conceptualized behavior as serving a specific function within the school environment. The National Association of School Psychologists (NASP) is the world's largest association in charge of credentialing and formulating ethical codes for practicing school psychologists ("National," 2005). This organization has created best practice guidelines that should be utilized by school psychologists to uphold the highest standards of ethical conduct within the school environment ("National," 2005). Conducting an FBA is considered best practice when children express behavioral challenges that impede on their ability to succeed in school (Knoster & McCurdy, 2002). The NASP recognizes that school psychologists have a critical role in developing and collecting information for FBAs. In addition, school psychologists also have the authority to provide policy guidance within the educational environment (Knoster & McCurdy, 2002). As such, the NASP holds school psychologists responsible for advocating for the use of FBAs when students perform challenging behaviors in school (Knoster & McCurdy, 2002). The NASP's ethical codes specifically states, "school psychologists use decision-making models (e.g., functional behavioral assessments) that consider the antecedent, consequence, function, and potential causes of behavior problems expressed by students with disabilities, which may impair learning or socialization ("National," 2005, p. 44)." The NASP affirms that conducting an FBA will develop effective behavioral interventions and supports (Knoster & McCurdy, 2002).

In addition to the NASP's ethical codes and best practice guidelines, the reauthorization of Individual Disability Education Improvement Act (IDEIA) in 2004 has



also created standards to promote the use of FBAs within the school setting (“Individual,” 2005). IDEIA provides incentives to educators who conduct FBAs when developing early intervention programs and individual education plans (IEPs). The first section that stresses the use of FBAs is early intervention services (Koltz & Nealis, 2005). To prevent unnecessary referrals, educators should conduct effective strategies to prevent children with emotional and behavior problems from developing emotional disturbances that require special education (“Individuals,” 2005). IDEIA has allocated 15% of their federal funds to special education administrators who use behavioral interventions and other academic supports for students who have not been identified for special education (Koltz & Nealis, 2005). Educators need to provide scientific-based behavioral interventions, evaluations, and supports to deliver services to students in the general education environment without identifying them for special education. IDEIA views behavior modification as a source of intervention to reduce the amount of students who over qualify for special education (Koltz & Nealis, 2005). If a child’s behavior still impedes on their learning after early intervention services have been provided, an evaluation for special education would be conducted. After the evaluation process to qualify a student for special education is complete, an Individual Education Plan would be developed (“Individuals,” 2005). When a child’s disability causes behavioral problems that impact learning, IDEIA strongly encourages educators to use behavioral interventions and supports (“Individuals,” 2005).

IDEIA also mandates schools to conduct FBAs when a child’s behavior violates the student code of conduct (“Individuals,” 2005). IDEIA states that a school would need to determine whether to order a change in placement due to the severity of the

challenging behavior (Koltz & Nealis, 2005). When a change in placement exceeds 10 days, a manifestation determination must be conducted (Koltz & Nealis, 2005). If the student's behavior is a direct result of their disability, the student still has the right to receive a free and appropriate public education, an FBA, and BIP to address the severe behavior ("Individuals," 2005). A manifestation determination must also be conducted in special circumstances when a student is removed from their original school environment for more than 45 days as a result of bringing a weapon to school, illegal drugs, or inflicting serious harm ("Individuals," 2005). If an FBA and BIP have not already been conducted, it is mandated for schools to use these procedures to determine whether the disability caused the behavior ("Individuals," 2005). If these measures show that the challenging behavior was caused by a disability, the student could be requested to stay at an alternative placement for more than 45 days ("Individuals," 2005). In other words, the findings produced by an FBA will allow educators to make inferences regarding the function that the behavior serves.

The NASP and reauthorization of IDEIA in 2004 emphasize the need for FBAs in the school setting because it offers a problem solving and research-based approach to finding effective interventions (Knoster & McCurdy, 2002). It is essential to address the components of an FBA and how to conduct these procedures in the school environment. An FBA is a process of gathering data about how the behavior looks, and to also analyze environmental factors that surround the target behavior (O'Neill et al., 1997). This analysis will allow educators to inspect the interactions between the behavior and environment. This process will permit professionals to make educated guesses about possible causes of the challenging behavior (O'Neill et al., 1997).

When completing an FBA, educators need to identify the antecedent, target behavior, and consequence (Watson & Steege, 2003). Antecedents are events in the environment that occur right before the challenging behavior is expressed (Barnhill, 2005). The antecedents of the target behavior are usually tied to specific settings in the environment (O'Neill et al., 1997). Learning the connections between the particular settings and the antecedents can help educators predict when the behavior will occur. Specific examples of settings include the following: time of day, physical settings, people, and different activities that are presented within the school environment (O'Neill et al., 1997).

After one is able to predict when the behavior will occur, it is essential to map the specific targeted behavior. In this section, the topography of the behavior, frequency, duration, and intensity should be documented (O'Neill et al., 1997). The purpose of defining the behavior is to create an objective picture of the behavior under investigation (O'Neill et al., 1997).

Next, the maintaining consequence should to be identified. The consequence of the behavior is defined as the particular function that the child receives after expressing the challenging behavior (O'Neill et al., 1997). The three main functions of behavior include positive reinforcement, negative reinforcement, and sensory stimulation (Barnhill, 2005). Behavior, however, can be multidimensional and serve different functions (O'Neill et al., 1997). It is important to document the behavior as it occurs in multiple settings to determine what functions the target behavior could provide (O'Neill et al., 1997). Overall, the results of an FBA create confident predictions of the conditions in which the problem behavior is likely to occur (Crone & Horner, 2003). This

information can be crucial when trying to provide successful intervention strategies for children who express behavioral challenges in school.

Functional behavioral analysis is another approach to analyze the function of challenging behavior. Functional behavioral analysis allows educational professionals to find causal factors instead of just simply finding a correlation between the target behavior, antecedent, and consequence (Watson & Steege, 2003). The goal of functional behavioral analysis is to use the information collected from an FBA to develop controlled settings that will recreate the challenging behavior (Shapiro & Kratochwill, 2000). This will help the experimenter determine the specific variables that influence the occurrence of the target behavior under observation. The occurrence of the problem behavior should be observed across numerous sessions (Shapiro & Kratochwill, 2000). These sessions need to be divided into a test condition and control condition (Shapiro & Kratochwill, 2000). The test condition should directly manipulate the events in the environment that are fulfilling the specific function (Iwata, Dorsey, Slifer, Bauman, & Richman, 1994).

For example, suppose an FBA suggested that a child displays tantrums only when a teacher requests the child to complete an assignment that incorporates fine motor skills. In the controlled setting, the experimenter would manipulate the request of fine motor skills during the test condition. The test condition will be compared to the control. In the control condition, the environment is arranged to minimize the occurrence of problem behavior (Iwata, Dorsey, et al., 1994) by giving access to preferred activities, attention, and not requesting undesired activities (Shapiro & Kratochwill, 2000).

After the experimental conditions are conducted, it is crucial to document and graph the expression of the targeted behavior in both conditions. The visual inspection of

the graphed data will provide enough information to identify the function behavior serves in the environment (Crowl, 1993). Overall, conducting functional behavioral analysis can pinpoint causal variables that maintain the target behavior, and this data will help create more effective interventions.

Even though functional behavioral analysis provides a more accurate picture of the relationship between the target behavior and function, it is typically not utilized in the school setting. The school setting is an uncontrolled environment and cannot systematically manipulate the antecedent and consequence (Watson & Steege, 2003). The different variables in the naturalistic environment, in contrast to a controlled environment, have created many gaps between the education and research fields. Currently, many educators are not properly trained in FBAs or functional behavioral analysis. Some educators do not even understand the purpose of conducting FBA and functional behavioral analysis for children (Watson & Steege, 2003). Educators have also found it extremely difficult to understand the specific circumstances that are needed to develop these approaches (Watson & Steege, 2003). Overall, there are many flaws when looking at the process and execution of FBAs and functional behavioral analysis in the schools today. It is imperative to understand the usefulness of FBAs and functional behavioral analysis to determine if these are the best approaches to help youth that express the need for behavior modification.

### *Rationale*

Ethical principles, best practice guidelines, and legal mandates suggest that educators consider the usage of FBAs before determining an intervention plan for children who need behavioral modification. Many professionals within the school setting,

however, have been reluctant to use this approach even though research has proved its effectiveness. Current studies suggest that many educators do not feel confident in identifying the target behavior or the function it provides within the school setting (Acker, Boreson, Gable, & Potterton, 2005). Showing educators the usefulness of FBAs within their environments could be a successful approach to ensure teachers continue to use these interventions within the schools. It is also important to show educational professionals that the use of functional behavior analysis, in addition to an FBA, can increase the success rate of behavioral interventions that are used within the educational environment.

#### *Statement of the Problem*

Researchers are beginning to realize how understanding the function of problem behavior can assist in creating effective interventions. However, there are still gaps between research and the actual usage of FBAs and functional behavioral analysis in the schools today (Watson & Steege, 2003). The most common problems when conducting an FBA in the schools result from not clearly defining the target behavior and not verifying the hypothesized function of the behavior (Acker et al., 2005). In addition, studies have shown that many IEP teams fail to use the information provided in an FBA to develop successful interventions (Acker et al., 2005). It appears that many educators within the school setting have a difficult time understanding the process of conducting an FBA and connecting this method to develop a successful BIP. It is imperative to fill in the missing pieces to determine the effectiveness of FBAs and functional behavioral analysis in the educational environment.

### *Purpose Statement*

The purpose of this study is to investigate the effectiveness of FBAs and functional behavioral analysis when developing successful BIPs within the school setting.

### *Research Questions*

Are FBAs a beneficial tool to help children in need of intervention plans in school? In addition, can functional behavioral analysis be successfully implemented in school to increase the effectiveness of intervention plans?

### *Assumptions of the Study*

This research assumes that looking at the function of behavior will help educators understand why students display behavioral challenges in school. This assumption is based on current research findings.

### *Definition of Terms*

*Functional Behavioral Assessment (FBA)*: The process of collecting data from multiple sources to understand the antecedent, target behavior, and consequence. This assessment provides descriptive correlations between the environment and the behavior (O'Neill et al., 1997).

*Antecedent*: A specific signal in the environment that a particular behavior will be reinforced (Kerr & Nelson, 2002).

*Maintaining Consequence*: Reinforcement that is received after expressing a particular behavior in the environment (Kerr & Nelson, 2002).

*Functional Behavioral Analysis*: This is an experimental procedure, which tests the function of behavior under a controlled environment. This process

manipulates the type of reinforcement received by the environment to understand the cause of challenging behaviors (Shapiro & Kratochwill, 2000).

*Behavior Intervention Plan (BIP):* Using the results from indirect and direct measures to identify strategies that will support appropriate behaviors to replace the problem behavior within the school setting (Kerr & Nelson, 2002).

#### *Methodology and Limitations of the Study*

This study will be a single subject design. It is not the intent of this study to generalize the exact findings to other children who display similar behaviors. However, this research is directed to help educators understand the functions of behavior and the effectiveness of interventions, which are designed around the FBA and functional behavior analysis. Hopefully this information will also help educational professionals understand the need for more effective strategies when trying to reduce the occurrence of inappropriate behaviors in the school setting.



## Chapter II: Literature Review

Ethical codes, best practice guidelines, and legal mandates recommend that school psychologists use FBAs to reduce problem behavior within the school setting. It is important to understand what is involved in the process of conducting an FBA and to also determine if functional behavioral analysis could help assist in the intervention process.

### *Current Practice of Functional Behavioral Assessments in School Settings*

An FBA is usually initiated after receiving a request for assistance in regards to a student's challenging behavior (Kerr & Nelson, 2002). This request can be made by teachers, administrators, specialists, parents, students, or any other individual who has witnessed these behaviors as they occur in the environment (Crone & Horner, 2002). Typically, special education program administrators or general education teachers are the individuals who refer children for their behavioral problems (Kerr & Nelson, 2002). After the referral is made, there are many procedures that are conducted to assess the severity of the challenging behavior and determine if the child is at risk for school failure based on the occurrence of this behavior (Kerr & Nelson, 2002). Before determining the assessment tools to detect the function of the challenging behavior, the team of educators who are responsible for conducting the FBA will typically look at the child's cumulative school record (Crone & Horner, 2002). These school records provide rich resources about the student's previous behavior, health history, and documentation of possible events that could have influenced the occurrence of the challenging behavior (Crone & Horner, 2002).

After the file review is completed, the team of educational professionals will determine if a full FBA is needed and what assessment tools would fit the child's

particular behavioral patterns. Indirect assessments are the first procedures used when conducting an FBA (Watson & Steege, 2003). The educators who are involved in the FBA process usually begin by interviewing the student's teacher. Because the student's teacher spends everyday with the student, they are usually the best source of information (Crone & Horner, 2002). There are many goals of this initial interview process. The first goal is to create an operational definition of the challenging behavior. This definition should describe the frequency, duration, intensity, and topography of the target behavior (O'Neill et al., 1997). Identifying the antecedents, which predict the occurrence or nonoccurrence of the behavior is then determined (O'Neill et al., 1997). Next, the consequences of the target behavior are identified. The consequences detect what functions are being served as a result of the challenging behavior. The final goal of the interview is developing summary statements describing the situation that predicts the occurrence of the target behavior, the behavior as it occurs, and the function that the behavior serves (O'Neill et al., 1997).

Although this initial interview provides a wealth of information about the specific student under investigation, research also suggests that the educators involved in the FBA process should strive to interview at least two or more individuals (O'Neill et al., 1997). If possible, it is encouraged to try and conduct one of the interviews with the student who is performing the challenging behavior. The student's self-report can help describe their own behaviors in response to the questions that are asked by the interview (O'Neill et al., 1997).

In addition to the interview process, there are other types of indirect assessments that can be utilized when developing an FBA. Conducting checklists can provide more

information about the occurrence of the target behavior. Checklists ask whether the responder has observed the target behavior in the environment (O'Neill et al., 1997). Educators can receive more precise information about the challenging behavior by giving rating scales (O'Neill et al., 1997). Rating scales provide a list of items and ask the responder to evaluate these items in relation to the student with the behavior problems (O'Neill et al., 1997).

Overall, it is best to perform a variety of indirect assessments to develop a comprehensive picture of the actual target behavior (O'Neill et al., 1997). It is also imperative for the educators who are conducting an FBA to be aware that the data collected from these indirect measures are primarily assessing the evaluator's opinion in regards to the student's behavior (Kerr & Nelson, 2002). Therefore, direct assessments should also be conducted.

Direct assessments are a second type of procedure used to collect information about a child being assessed for behavioral problems (Crone & Horner, 2002). The advantage of using direct assessments is to observe the antecedent, target behavior, and consequence as they occur in the environment (Barnhill, 2005). As a result, these assessments document more objective data than indirect measures because the observer is not relying on someone's memory and perception of the challenging behavior (Barnhill, 2005). However, this process can be more time consuming.

Direct assessments can be conducted by a variety of educational personnel, such as teachers, school psychologists, and other support staff (O'Neill et al., 1997). Conducting direct assessments with different evaluators in multiple setting can help determine the variables that affect the student's challenging behavior (Kerr & Nelson,

2002). Before conducting the direct assessments, the observer needs to choose a recording system that will capture the student's targeted behavior (O'Neill et al., 1997).

There are many different recording systems that are available to educators. Scatter plots, frequency recording, duration recording, and interval recording are observation systems, which measure the target behavior (O'Neill et al., 1997). However, functional assessments also need to focus on the environmental events that influence the occurrence or nonoccurrence of the target behavior (O'Neill et al., 1997). The most common system that are used within the school setting to capture the target behavior as it occurs in the educational environment are narrative recording systems and functional assessment observation forms (FAO).

Most direct assessments begin with a narrative recording system (O'Neill et al., 1997). During the observation period, the observer writes narrative notes regarding the student's actions and behaviors. Specifically, the observer is focusing on times the target behavior is present in order to identify the antecedents and maintaining consequences. The antecedent-behavior-consequence (ABC) analysis is an example of a narrative recording system (Barnhill, 2005). The observer records his or her observations on a piece of paper separated into three columns (Barnhill, 2005). The columns are devoted to notes regarding the immediate antecedents, the behavior, and maintaining consequences of the behavior (Barnhill, 2005).

After narrative recording systems are completed, some educators utilize a FAO recording system (see Appendix C) developed by O'Neill et al. (1997). The FAO records the target behavior and any other challenging behavior that occurs at the same time. A single incident is recorded from the time a problem behavior begins and ends after three

minutes of no behavioral problems (O'Neill et al., 1997). The FAO recoding system notes the occurrence of all settings and behaviors that are related to the problem behaviors. The FAO recoding system can adequately define when the problem events are more likely to occur, what problem behaviors occur together, predictors, and maintaining consequences (O'Neill et al., 1997). An FAO is also the only recording system that is designed to test the summary statements that were developed from informal assessments (O'Neill et al., 1997). The main purpose of direct assessments is to validate indirect assessments, and the author believes the FAO is the only assessment tool that is formatted to specifically link these assessment procedures (O'Neill et al., 1997).

After direct and indirect assessments are completed, educators will pool all of the data together to discuss the results of the FBA (Kerr & Nelson, 2002). The collaboration of these assessment tools can provide information about possible events that trigger the occurrence or nonoccurrence of the problem behavior within the environment (Kerr & Nelson, 2002). The assessment tools can also identify the maintaining consequences, or those events, which happen after the target behavior that reinforce the student for inappropriate behavior. The educators then write summary statements, which describe the link between the antecedents, behaviors, consequences, and functions of the student's behavior.

Unfortunately, finding the relationship between the challenging behaviors and the environment is extremely difficult because behavior is highly variable (Kerr & Nelson, 2002). Teams who develop an FBA cannot prove what predicts or causes the target behavior (Kerr & Nelson, 2002). The summary statements are only educated guesses based on the correlations witnessed between the antecedents, behavior, and consequences

(O'Neill et al., 1997). If interventions based on the FBA are not effective, it could be concluded that the summary statements are faulty, and further assessment would need to be conducted. Further assessment would also need to be completed if the educators feel that FBA did not provide enough information to develop a better understand of the function the challenging behavior serves (Crone & Horner, 2003).

### *Functional Behavioral Analysis in the School Setting*

Functional behavioral analysis can be utilized after completing an FBA (Crone & Horner, 2003). The purpose of conducting a functional behavior analysis is to understand the environmental events that cause the target behavior by testing the summary statements developed from the FBA (Shapiro & Kratochwill, 2000). As discussed previously, these summary statements provide a list of hypotheses about antecedents and consequences that likely influence the prevalence of the target behavior (O'Neill et al., 1997). Information from the summary statements is used to decide who should participate in the behavioral analysis study and what conditions will be best suited for the child's target behavior (Shapiro & Kratochwill, 2000).

Most functional behavioral analysis procedures are developed with a team of researchers and educators. Some experts recommend that at least one person within this team must be specialized in behavioral interventions (Iwata, Dorsey, et al., 1994). Individuals proficient in behavioral interventions should be responsible for performing the actual experimental condition for the functional behavioral analysis (Iwata, Dorsey, et al., 1994). Those trained in behavioral analysis have an obligation to educate other professionals about these procedures (Iwata, Dorsey, et al., 1994). The educators or specialists, who will observe the experimental setting, will also be trained before the

actual experiment in conducted (Iwata, Dorsey, et al., 1994). This training will teach the observers how to accurately record challenging behavior as it occurs in a controlled environment (Iwata, Dorsey, et al., 1994).

After educators and specialists are selected to participate in the functional behavioral analysis, it is important to develop the experimental conditions (Shapiro & Kratochwill, 2000). These controlled settings will be used to empirically measure the environmental variables that seem to affect the occurrence of the target behavior (Shapiro & Kratochwill, 2000). There are four conditions that are used by most researchers and educators who are proficient in functional behavioral analysis (Iwata, Dorsey, et al., 1994).

The first setting is called the social disapproval condition. This setting would make sure that toys and activities would be available in the room where the experiment was taking place (Iwata, Dorsey, et al., 1994). The therapist would sit in a corner in the therapy room and direct the student to play with the toys. The only time the therapist would respond is when the target behavior was performed (e.g., stop that). Educators who predict that the child's behavior is influenced by attention frequently use this condition to confirm their hypothesis (Iwata, Duncan, Zarcone, Lerman, & Shore, 1994).

The second setting is academic demand. In this setting, the therapist would request the child to complete an academic task. If the child does not respond, the therapist would offer prompts to try and encourage the child to complete the task (Iwata, Duncan, et al., 1994). This condition is used when students frequently perform their challenging behavior to escape from task demands within their environment (Iwata, Duncan, et al., 1994).

The third condition is called unstructured play. The child would have access to preferred resources and no demands would be placed in this condition. This setting is used as a control and a basis for comparison (Iwata, Dorsey, et al., 1994).

The last setting is called the alone condition. The child would be placed in a room alone without access to the therapist, toys, or other tangible materials (Iwata, Dorsey, et al., 1994). Educators who predict that self-stimulation causes the target behavior would use this condition (Iwata, Dorsey, et al., 1994).

These four conditions have been highly researched by experts in functional behavioral analysis (Iwata, Dorsey, et al., 1994). However, this information does not mean that these conditions fit for every child. The goal of functional behavioral analysis is to create a controlled environment that will recreate the target behavior in a simulated environment (Shapiro & Kratochwill, 2003). The functional behavioral analysis must try to develop a setting that is individualized and represents the student's environment (O'Neill et al., 1997).

After the conditions for the functional behavioral analysis are established, the design for the study must be selected. The design of the study will affect how the data is collected and recorded (Shapiro & Kratochwill, 2003). There are three designs that are best suited for functional behavioral analysis procedures (O'Neill et al., 1997).

A reversal (ABAB) design can be used to document the effects of one or more experimental conditions (O'Neill et al., 1997). This design begins with a baseline phase. The child's target behavior will be documented before the manipulations are added to the controlled environment (O'Neill et al., 1997). After baseline is completed, the manipulation will be added to the environment, and the child's target behavior will be



recorded (O'Neill et al., 1997). The baseline and treatment conditions will be repeated in alternating order until the educators are convinced they have determined the causal relationship (O'Neill et al., 1997).

Another highly researched design for functional behavioral analysis is called a multi-element assessment (Iwata, Duncan, et al., 1994). This design will alternate each condition in a semi-random order. Typically, an experimenter will roll a dice to determine what condition will be used. This process will be repeated until a trend in the behavior is identified. Sometimes multi-element designs are unable to identify patterns of behavior (Iwata, Duncan, et al., 1994).

A sequential test-control assessment is another design, which is used when other methods are unable to differentiate behavioral patterns (O'Neill et al., 1997). This design creates a pair of conditions that are conducted in alternating order. One of the conditions is always a control (O'Neill et al., 1997). The second condition, which is paired to the control, would manipulate an environmental event thought to control the target behavior (O'Neill et al., 1997). Using the sequential test-control assessment makes it easier to see the trends in behavior. This process is more time consuming than the other two designs; however, it might be the only methods that can show what conditions cause the target behavior (Iwata, Dorsey, et al., 1994).

After the conditions for the functional behavior analysis are completed, the data will be collected and graphed (Shapiro & Kratochwill, 2003). The visual inspection of the graph will either confirm the previous hypothesis statements or show that revisions must be added to accurately describe the causes of the target behavior (Shapiro & Kratochwill, 2003). Identifying the environmental events that maintain the challenging behavior will

be used to create effective behavioral interventions that will serve the needs of the student (O'Neill et al., 1997).

### *Behavioral Interventions in the Schools*

Once an FBA and behavioral analysis has been conducted, the information obtained can be used to develop a behavioral intervention plan (BIP). The goal of a BIP is to create a logical sequence between gathering data and developing a support plan to reduce the occurrence of the target behavior (O'Neill et al., 1997). When educators are using data from an FBA to develop a successful BIP, they need to devote most of their attention to the hypothesis statements (Janney & Snell, 2000). These summary statements will help the team of educators who are supervising the BIP understand the functions that the behavior serves within the school environment (Acker et al., 2005).

After educators analyze the hypothesis statements, they will need to identify competing behaviors that will eventually replace the challenging behavior (Crone & Horner, 2003). Competing behaviors are mutually exclusive, and will be used to extinguish the challenging behavior. For example, an individual cannot run and walk at the same time. Both behaviors, in other words, cannot be expressed within the environment (Janney & Snell, 2000).

The next step in the BIP is developing strategies to make the challenging behavior irrelevant, ineffective, and inefficient (O'Neill et al., 1997). In order to make the challenging behavior irrelevant, preventative strategies must be created to change the antecedents that support the challenging behavior in the school environment (Janney & Snell, 2000). For example, the BIP might request changes in the physical setting, schedule, staff, or peers who are thought to influence the occurrence of the challenging

behavior (Janney & Snell, 2000). After the factors that are thought to increase the prevalence of the challenging behavior are removed from the student's environment, it is also beneficial to create new environmental factors that could help nurture the more appropriate replacement behaviors (Crone & Horner, 2003). Common environmental events that are incorporated in the school setting include: providing curriculum that is appropriate for the student, create opportunities to develop relationships, and change other activities that will engage the particular student under investigation (Janney & Snell, 2000).

The next step in the BIP process is identifying teaching strategies that will make the target behavior inefficient (O'Neill et al., 1997). Educators need to teach the student the socially appropriate replacement behaviors, which will meet the student's needs in a more efficient manner. The goal of this strategy is to help the student realize that replacement behaviors will take less time and effort to obtain the same function within the school environment (Crone & Horner, 2003). Educators also need to make sure that the replacement behaviors are taught beyond the state of learning acquisition (Janney & Snell, 2000). Students need to be taught when, where, and how to use these alternative behaviors fluently. In order for the teaching strategies to be effective, the child must receive support and assistance from educators (Janney & Snell, 2000).

The final strategy in the BIP is to change the consequences that usually follow the target behavior within the school environment (Crone & Horner, 2003). These changes are used to make the target behavior ineffective (O'Neill et al., 1997). Adults and peers who witness the challenging behavior are usually taught how to change the consequences that are typically created after the child performs these behaviors (Janney

& Snell, 2000). A common technique used to change the consequence of the behavior is called non-reinforcement (Janney & Snell, 2000). Teachers and peers who are in the student's environment respond to the target behavior in a way that will prevent the function from being served (Janney & Snell, 2000). These individuals will not react to the challenging behavior, but they will show the student what behavior they should choose instead to obtain their desired function (Janney & Snell, 2000). The inappropriate behavior will extinguish if it is ineffective in getting the student's needs met (Janney & Snell, 2000).

After these strategies are chosen and documented, the educators will implement their plan with the particular student who expresses behavioral challenges (Crone & Horner, 2003). It is also important to collect data throughout the implementation to evaluate the effectiveness of the intervention (O'Neil et al., 1997). Evaluations should be an ongoing process to make sure the BIP is meeting the child's needs. Also, this evaluation process will make educators accountable for their contributions to the BIP process (Janney & Snell, 2000).

### *Summary*

Conducting an FBA involves a variety of assessment tools and recording systems (O'Neill et al., 1997). This information can clearly define the target behavior and assist in the development of hypothesis statements to address the function of the behavior as it occurs in the environment. The wealth of information provided by an FBA can help develop successful BIPs (O'Neill et al., 1997). However, even though an FBA is used to help find more successful intervention for students who express behavioral challenges, sometimes this assessment process is unable to accurately define the function of the

target behavior (Kerr & Nelson, 2002). The interventions could be built around a faulty hypothesis and therefore would be ineffective. If this scenario occurs, educators would need to re-evaluate the problem behaviors, functions, and interventions (Janney & Snell, 2000).

Conducting a functional behavioral analysis is a way to directly assess the function the target behavior serves in the environment (Shapiro & Kratochwill, 2000). Conducting a functional behavioral analysis provides the most direct assessment of the behavioral function (Shapiro & Kratochwill, 2000). Although functional behavioral analysis can help educators develop a BIP, it is not frequently used within the educational environment. It is important to understand if functional behavioral analysis is a successful approach when an FBA is not able to serve the child's personal needs within their environment. It is essential to gain a better understand of how functional behavioral analysis can be applied within the school environment to help develop more efficient and effective BIPs within the school setting.

## Chapter III: Methodology

### *Introduction*

The study of behavior change is typically examined with single-subject designs. The effectiveness of a given intervention is gauged by measuring behavior change in the individual who is exposed to the intervention. The following methodology is a single-subject study, which will measure the effectiveness of interventions developed from an FBA and functional behavioral analysis. Therefore, this particular study will test the usefulness of an FBA and functional analysis when creating a BIP. This chapter will specifically describe the participant who will be chosen for this study, instrumentation, data collection, data analysis, and the limitation of this research design.

### *Subject Selection and Description*

The researcher will ask a special education teacher to identify a school-aged child or youth who has been referred to special education, qualified under the category of emotional and behavioral disabilities (EBD), and continues to exhibit behavioral challenges in school. This student will be evaluated with an FBA and functional behavioral analysis for the purpose of program planning, in order to develop a successful BIP that serves this student's needs within the school environment.

After the student is selected for the single-subject design, the experimenter will need to receive permission from the student's parents, school principle, and UW-Stout's Human Subject Review committee before conducting this study. The evaluation process will begin after all of these sources agree that behavioral intervention is needed to help this student succeed in school.

## *Instrumentation, Data Collection, and Data Analysis*

### *Functional Behavioral Assessment*

After the participant is chosen and permission is granted, an FBA will be conducted. The experimenter will begin this process by collecting indirect measures of the student's behavior. Reviewing records and conducting interviews will help the researcher collect information that has been reported from educational professionals, parents, and other individuals who have observed the challenging behavior as it occurs in the environment (Barnhill, 2005).

Reviewing the student's cumulative record will provide background information about their school attendance, grades, and previous behaviors expressed in the school setting (O'Neill et al., 1997). Looking at this information will help the researcher understand patterns of behavior and also identify events in the environment that seem to affect the occurrence or nonoccurrence of the target behavior. Additionally, the review of records will allow the researcher to view specific assessments and interventions that were previously conducted (O'Neill et al., 1997).

After the file review is completed, a functional assessment interview (FAI) will be conducted with a teacher and parent of the student who expresses behavioral problems (O'Neill et al., 1997). The FAI requires the interviewees to discuss four main areas about the participant. The first section in this FAI requires the teacher and parent to operationally define the target behavior (O'Neill et al., 1997). The second step is identifying environmental factors that predict the challenging behavior. Thirdly, the maintaining consequences need to be identified (O'Neill et al., 1997). The last part of the interview requests summary statements that describe the relationship between the

predictors, target behaviors, and maintaining consequences (see Appendix A). In addition to an FAI, a student directed functional assessment interview form should be given to the individual who displays challenging behavior (O'Neill et al., 1997). This interview will have the same components of the FAI, however, this form is shorter and simplifies the questions to help the student respond appropriately (see Appendix B).

After the indirect measures are completed, the researcher will directly observe the student using an FAO form and a summary statement table. This direct assessment will be used to observe the target behavior as it occurs in the student's school environment (O'Neill et al., 1997). The experimenter will use an FAO form to document the occurrence of the target behavior in multiple settings (O'Neill et al., 1997). During each observation schedule, the experimenter will tally the frequency of the behaviors, predictors, perceived functions, and the consequences of the behavior (see Appendix C).

After the researcher completes the FAO form, this data will be transferred onto a summary statement table (see Appendix D). This table will allow the researcher to identify the relationships between the setting events, antecedents, problem behaviors, and maintaining consequences that were directly observed in the student's natural environment (O'Neill et al., 1997). Once this list has been formed, the researcher will compare these statements to the initial summary statements created from the FAI and student-directed functional assessment interview forms (O'Neill et al., 1997). This comparison will either confirm or disconfirm the initial ideas about the function of the target behavior (O'Neill et al., 1997). If the hypothesis statements developed during the indirect and direct measures of the FBA are consistent, then the researcher will start to develop the functional behavioral analysis.



### *Functional Behavioral Analysis*

A functional behavioral analysis will test the summary statements in the FBA to determine whether identified antecedents, consequences, and functions are related to the problem behavior (Shapiro & Kratochwill, 2000). In order to verify the hypothesis statements developed in the FBA, the researcher will need to create a test condition (Shapiro & Kratochwill, 2000). The test condition will tightly control the presence or absence of the environmental factors thought to influence the target behavior (Shapiro & Kratochwill, 2000). All other variables within this setting will also be held constant to make sure the manipulations added in the test conditions are the only changes that can directly affect the target behavior (Shapiro & Kratochwill, 2000). The researcher will also need to compare the test condition to a control condition (Shapiro & Kratochwill, 2000). The control condition will also closely monitor and regulate the environment, but the student will be allowed to receive access to preferred activities with little demand (Iwata, Duncan, et al., 1994). The test condition and control condition will be compared to determine if the manipulated variables are the cause of the target behavior (Shapiro & Kratochwill, 2000).

A reversal design (ABAB) will be used to assess the test condition and control condition in the functional behavioral analysis (O'Neill et al., 1997). In the first part of this reversal design (A) is a control condition phase. The presence of the student's target behavior will be evaluated without presenting the manipulation into the controlled setting (O'Neill et al., 1997). The second (B) phase of this design will observe the student's behavior in the test condition. The manipulated variables, derived from the antecedents and consequences from summary statements, are added into the controlled environment to assess whether they trigger the target behavior (O'Neill et al., 1997). These conditions will be

repeated in alternating order until the relationship between the manipulated variables and the target behavior is demonstrated (O'Neill et al., 1997).

Two observers will be trained to collect data during the reversal design (ABAB). The observers will be shown how to use an interval recording (see Appendix E), and tally the occurrence or nonoccurrence of the target behavior (Kerr & Nelson, 2002). To assess interobserver agreement, the experimenter will calculate the number of agreements and divided by the number of agreements plus disagreements and multiply this score by 100 (Kerr & Nelson, 2002).

When the reversal design (ABAB) is finished, the interval recording from the control condition and the test condition will be collected and graphed using Chart Wizard from Excel. If the graph shows an upward slope indicating that the target behavior increased during the test condition, this will prove that the manipulated variables added into the controlled setting are the function of the target behavior (Kazdin, 2001). In addition, this graph will confirm that the initial summary statements developed in the FBA accurately identified the environmental events that cause the target behavior to occur in school setting (O'Neill et al., 1997).

#### *Behavioral Intervention Plan*

After the maintaining variables are identified, the researcher will be able to organize and conduct a BIP (Crone & Horner, 2003). A competing behavior model will be used to help identify alternative behaviors, which serve the same function for the subject (O'Neill et al., 1997). From the summary statements, the researcher will identify behaviors, which will replace the target behaviors and diagram the competing behavioral model to show the pathway between the antecedents, target behaviors, and consequences (Kerr & Nelson,

2002). Identifying these behavioral pathways and how they compete with each other will help the researcher develop appropriate interventions (see Appendix F).

The researcher will be able to define the general approach to the intervention after the competing behavior model is finalized. The researcher, along with other educators involved in the intervention process, will develop a set of procedures to make the target behavior irrelevant, ineffective, and inefficient (O'Neill et al., 1997). The goal of these procedures is to make changes in the subject's physical setting and alter the responses that the subject receives from their peers and teachers after the target behavior is performed (Kerr & Nelson, 2002). The changes in the antecedents and consequences will make the subject's behavior irrelevant and ineffective (O'Neill et al., 1997). Also, it is imperative to define strategies that will teach the student how to perform more appropriate behavior and show how these alternative behaviors are more efficient than the target behavior (O'Neill et al., 1997).

After the BIP is fully developed, a reversal design (ABAB) will be used to determine the effectiveness of the intervention (O'Neill et al., 1997). The first part of this reversal design is the baseline (A) phase. The student's target behavior will be observed and recorded before the interventions from the BIP are added to the environment (Kazdin, 2001). The second part of this design is called the intervention (B) phase. The BIP will be conducted and the researcher will observe and collect data regarding the occurrence or nonoccurrence of the target behavior (Kazdin, 2001). The baseline and the treatment condition will be repeated in alternating order to complete four phases. If the student's behavior improves during the intervention phases and reverts to the target behavior in the baseline phases, this will provide evidence that the treatment is successful (Kazdin, 2001).

The researcher will use an interval recording (see Appendix G) to collect data during both the baseline and intervention phases (Kerr & Nelson, 2002). The researcher will observe the student's behavior in the school settings where the target behavior is most prevalent. Each baseline and intervention phase will be observed for three hours, and the target behavior will be recorded in 15-minute intervals. The interval recording will be able to rate the occurrence of the target behavior across the baseline and intervention phases (Kerr & Nelson, 2002).

When the data collection for the reversal design (ABAB) is completed, the researcher will have the ability to determine the effectiveness of the intervention. The data collected from the interval recording during the baseline and intervention phases will be graphed using Chart Wizard from Excel. This graph will plot the amount of time the target behavior occurred during all four phases of the reversal (ABAB) design. The BIP will be considered effective if the graph displays a downward slope showing that the target behavior decreased during the intervention phases (Kazdin, 2001).

### *Limitations*

There are many limitations to this research design. As discussed previously, challenging behavior is multidimensional and serves different functions within the school environment (O'Neill et al., 1997). Therefore, the results of this study cannot be replicated with other students who express behavioral challenges in school. Yet, it does serve as a model for the process of assessing behaviors and implementing interventions.

Educators in the school setting could also have a difficult time understanding the complexity and specificity of this design. This particular approach requires the experimenter to be properly trained in functional behavioral analysis (O'Neill et al.,

1997). If the researcher does not have experience using behavioral analysis, they will need to be trained and supervised by a highly qualified professional (O'Neill et al., 1997).

Another limitation is ethical constraints. In some circumstances, a student's target behavior may result in self-injury or harm to the experimenter (Crowl, 1993). It is important to understand the risks of recreating the target behavior in a simulated environment before conducting this experimental design.

### *Summary*

Challenging behavior is a serious concern within the school system and many educators strive to develop interventions that will serve the needs of students with behavioral problems (Bell, Carr, Denno, Johnson, & Philips, 2004). In order to develop a successful intervention, functional assessments need to be conducted to understand the characteristics of the challenging behavior, the environment in which the behavior occurs, and the function it provides within the school setting (Kerr & Nelson, 2002). Conducting an FBA and functional behavioral analysis within the school environment will allow educators and researchers to identify the sources of the behavior issue and find interventions that will serve the needs of students who exhibit behavioral challenges within the educational environment (O'Neill et al., 1997).

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## Appendix A: Functional Assessment Interview Form (FAI)

**FUNCTIONAL ASSESSMENT INTERVIEW (FAI)**

Person of concern \_\_\_\_\_ Age \_\_\_\_\_ Sex M F  
 Date of interview \_\_\_\_\_ Interviewer \_\_\_\_\_  
 Respondents \_\_\_\_\_

**A. DESCRIBE THE BEHAVIORS.**

1. For each of the behaviors of concern, define the topography (how it is performed), frequency (how often it occurs per day, week, or month), duration (how long it lasts when it occurs), and intensity (how damaging or destructive the behaviors are when they occur).

	<i>Behavior</i>	<i>Topography</i>	<i>Frequency</i>	<i>Duration</i>	<i>Intensity</i>
a.	_____	_____	_____	_____	_____
b.	_____	_____	_____	_____	_____
c.	_____	_____	_____	_____	_____
d.	_____	_____	_____	_____	_____
e.	_____	_____	_____	_____	_____
f.	_____	_____	_____	_____	_____
g.	_____	_____	_____	_____	_____
h.	_____	_____	_____	_____	_____
i.	_____	_____	_____	_____	_____
j.	_____	_____	_____	_____	_____

2. Which of the behaviors described above are likely to occur together in some way? Do they occur about the same time? In some kind of predictable sequence or "chain"? In response to the same type of situation?

\_\_\_\_\_

\_\_\_\_\_

*Note.* From "Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 100)," by R. E. O'Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

**B. DEFINE ECOLOGICAL EVENTS (SETTING EVENTS) THAT PREDICT OR SET UP THE PROBLEM BEHAVIORS.**

1. What *medications* is the person taking (if any), and how do you believe these may affect his or her behavior?

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2. What *medical or physical conditions (if any)* does the person experience that may affect his or her behavior (e.g., asthma, allergies, rashes, sinus infections, seizures, problems related to menstruation)?

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3. Describe the *sleep patterns* of the individual and the extent to which these patterns may affect his or her behavior.

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4. Describe the *eating routines and diet* of the person and the extent to which these may affect his or her behavior.

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- 5a. Briefly list below the person's typical daily schedule of activities. (Check the boxes by those activities the person enjoys and those activities most associated with problems.)

<i>Enjoys</i>	<i>Problems</i>		<i>Enjoys</i>	<i>Problems</i>	
<input type="checkbox"/>	<input type="checkbox"/>	6:00	<input type="checkbox"/>	<input type="checkbox"/>	2:00
<input type="checkbox"/>	<input type="checkbox"/>	7:00	<input type="checkbox"/>	<input type="checkbox"/>	3:00
<input type="checkbox"/>	<input type="checkbox"/>	8:00	<input type="checkbox"/>	<input type="checkbox"/>	4:00
<input type="checkbox"/>	<input type="checkbox"/>	9:00	<input type="checkbox"/>	<input type="checkbox"/>	5:00
<input type="checkbox"/>	<input type="checkbox"/>	10:00	<input type="checkbox"/>	<input type="checkbox"/>	6:00
<input type="checkbox"/>	<input type="checkbox"/>	11:00	<input type="checkbox"/>	<input type="checkbox"/>	7:00
<input type="checkbox"/>	<input type="checkbox"/>	12:00	<input type="checkbox"/>	<input type="checkbox"/>	8:00
<input type="checkbox"/>	<input type="checkbox"/>	1:00	<input type="checkbox"/>	<input type="checkbox"/>	9:00

*Note.* From "Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 101)," by R. E. O'Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

- 5b. To what extent are the activities on the daily schedule *predictable* for the person, with regard to what will be happening, when it will occur, with whom, and for how long?

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- 5c. To what extent does the person have the opportunity during the day to *make choices* about his or her activities and reinforcing events? (e.g., food, clothing, social companions, leisure activities)

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6. How many other persons are typically around the individual at home, school, or work (including staff, classmates, and housemates)? Does the person typically seem bothered in situations that are more crowded and noisy?

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7. What is the pattern of *staffing support* that the person receives in home, school, work, and other settings (e.g., 1:1, 2:1)? Do you believe that the *number* of staff, the *training* of staff, or their *social interactions with the person* affect the problem behaviors?

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**C. DEFINE SPECIFIC IMMEDIATE ANTECEDENT EVENTS THAT PREDICT WHEN THE BEHAVIORS ARE LIKELY AND NOT LIKELY TO OCCUR.**

1. *Times of Day: When* are the behaviors most and least likely to happen?

Most likely: \_\_\_\_\_  
 \_\_\_\_\_

Least likely: \_\_\_\_\_  
 \_\_\_\_\_

*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 102),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

2. **Settings:** Where are the behaviors most and least likely to happen?

Most likely: \_\_\_\_\_

Least likely: \_\_\_\_\_

3. **People:** With whom are the behaviors most and least likely to happen?

Most likely: \_\_\_\_\_

Least likely: \_\_\_\_\_

4. **Activity:** What activities are most and least likely to produce the behaviors?

Most likely: \_\_\_\_\_

Least likely: \_\_\_\_\_

5. Are there particular or idiosyncratic situations or events not listed above that sometimes seem to "set off" the behaviors, such as particular demands, noises, lights, clothing?

\_\_\_\_\_

6. What one thing could you do that would most likely make the undesirable behaviors occur?

\_\_\_\_\_

7. Briefly describe how the person's behavior would be affected if . . .

a. You asked him or her to perform a difficult task.

\_\_\_\_\_

b. You interrupted a desired activity, such as eating ice cream or watching TV.

\_\_\_\_\_

c. You unexpectedly changed his or her typical routine or schedule of activities.

\_\_\_\_\_

*Note.* From "Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 103)," by R. E. O'Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

d. She or he wanted something but wasn't able to get it (e.g., a food item up on a shelf).

\_\_\_\_\_

e. You didn't pay attention to the person or left her or him alone for a while (e.g., 15 minutes).

\_\_\_\_\_

**D. IDENTIFY THE CONSEQUENCES OR OUTCOMES OF THE PROBLEM BEHAVIORS THAT MAY BE MAINTAINING THEM (I.E., THE FUNCTIONS THEY SERVE FOR THE PERSON IN PARTICULAR SITUATIONS).**

1. Think of each of the behaviors listed in Section A, and try to identify the *specific* consequences or outcomes the person gets when the behaviors occur in different situations.

Behavior	Particular situations	What exactly does he or she get?	What exactly does she or he avoid?
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____
h.	_____	_____	_____
i.	_____	_____	_____
j.	_____	_____	_____

**E. CONSIDER THE OVERALL EFFICIENCY OF THE PROBLEM BEHAVIORS. EFFICIENCY IS THE COMBINED RESULT OF (A) HOW MUCH PHYSICAL EFFORT IS REQUIRED, (B) HOW OFTEN THE BEHAVIOR IS PERFORMED BEFORE IT IS REWARDED, AND (C) HOW LONG THE PERSON MUST WAIT TO GET THE REWARD.**

	Low Efficiency		High Efficiency		
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 104),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

**F. WHAT FUNCTIONAL ALTERNATIVE BEHAVIORS DOES THE PERSON ALREADY KNOW HOW TO DO?**

1. What socially appropriate behaviors or skills can the person already perform that may generate the same outcomes or reinforcers produced by the problem behaviors?

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**G. WHAT ARE THE PRIMARY WAYS THE PERSON COMMUNICATES WITH OTHER PEOPLE?**

1. What are the general expressive communication strategies used by or available to the person? These might include vocal speech, signs/gestures, communication boards/books, or electronic devices. How consistently are the strategies used?

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2. On the following chart, indicate the behaviors the person uses to achieve the communicative outcomes listed:

Communicative Functions	Complex speech (sentences)	Multiple-word phrases	One-word utterances	Echolalia	Other vocalizing	Complex signing	Single sign	Pointing	Leading	Shakes head	Grabs/reaches	Gives objects	Increased movement	Moves close to you	Moves away or leaves	Fixed gaze	Facial expression	Aggression	Self-injury	Other	
Request attention																					
Request help																					
Request preferred food/objects/activities																					
Request break																					
Show you something or some place																					
Indicate physical pain (headache, illness)																					
Indicate confusion or unhappiness																					
Protest or reject a situation or activity																					

*Note.* From "Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 105)," by R. E. O'Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

3. With regard to the person's receptive communication, or ability to understand other persons . . .
- Does the person follow spoken requests or instructions? If so, approximately how many? (List if only a few.)  


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  - Does the person respond to signed or gestural requests or instructions? If so, approximately how many? (List if only a few.)  


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  - Is the person able to imitate if you provide physical models for various tasks or activities? (List if only a few.)  


---



---
  - How does the person typically indicate *yes* or *no* when asked if she or he wants something, wants to go somewhere, and so on?  


---



---

**H. WHAT ARE THINGS YOU SHOULD DO AND THINGS YOU SHOULD AVOID IN WORKING WITH AND SUPPORTING THIS PERSON?**

- What things can you do to improve the likelihood that a teaching session or other activity will go well with this person?  


---



---



---
- What things should you avoid that might interfere with or disrupt a teaching session or activity with this person?  


---



---



---

**I. WHAT ARE THINGS THE PERSON LIKES AND ARE REINFORCING FOR HIM OR HER?**

- Food items:  


---



---



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*Note.* From "Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 106)," by R. E. O'Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

2. *Toys and objects:* \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. *Activities at home:* \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. *Activities/outings in the community:* \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. *Other:* \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**J. WHAT DO YOU KNOW ABOUT THE HISTORY OF THE UNDESIRABLE BEHAVIORS, THE PROGRAMS THAT HAVE BEEN ATTEMPTED TO DECREASE OR ELIMINATE THEM, AND THE EFFECTS OF THOSE PROGRAMS?**

<i>Behavior</i>	<i>How long has this been a problem?</i>	<i>Programs</i>	<i>Effects</i>
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			

*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 107),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.



**K. DEVELOP SUMMARY STATEMENTS FOR EACH MAJOR PREDICTOR AND/OR CONSEQUENCE.**

<i>Distant Setting Event</i>	<i>Immediate Antecedent (Predictor)</i>	<i>Problem Behavior</i>	<i>Maintaining Consequence</i>
	→		→
	→		→
	→		→
	→		→
	→		→

9

*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 108),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

## Appendix B: Student Directed Functional Assessment Interview Form

**Student-Directed Functional Assessment Interview**

Student Name: \_\_\_\_\_ Interviewer: \_\_\_\_\_  
 Referring Teacher: \_\_\_\_\_ Date: \_\_\_\_\_

**I. Opening.** *"We are meeting today to find ways to change school so that you like it more. This interview will take about 30 minutes. I can help you best if you answer honestly. You will not be asked anything that might get you in trouble."*

---

Assist the student to identify specific behaviors that are resulting in problems in the school or classroom. Making suggestions or paraphrasing statements can help the student clarify his or her ideas. You should have a list of behaviors nominated by the referring teacher.

---

**II. Define the behaviors of concern.** *"What are the things you do that get you in trouble or are a problem?"*  
 (Prompt: *Late to class! Talk out in class! Don't get work done! Fighting!*)

Behavior	Comment
1.	
2.	
3.	
4.	
5.	

**III. Complete student schedule.** *Use the "Student Daily Schedule" matrix to identify the times and classes in which the student performs problem behavior. Focus the interview on those times that are most likely to result in problem behavior.*

\* You will use the numbers to the left as codes for the identified behaviors as you complete the rest of the interview.

1

*Note.* From "*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 110)," by R. E. O'Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.



**Summary Statement Form**

<b>Place/Activity/Event</b>   	<b>Problem Behavior(s)</b>   	<b>Maintaining Consequences</b>   
---	--	---

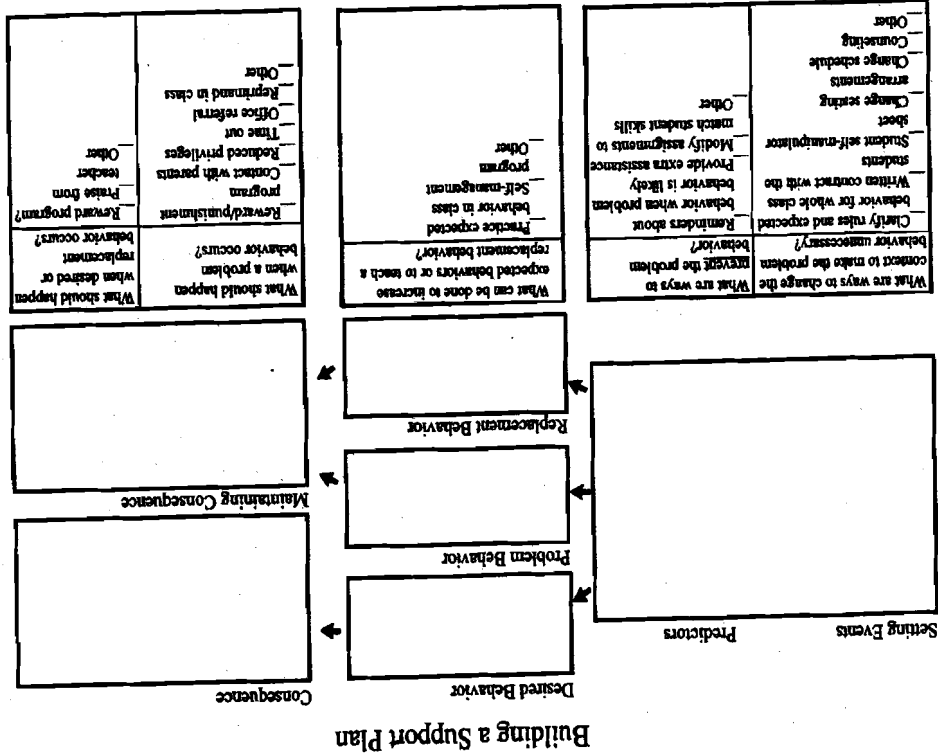
➔      ➔      ➔

④      ③

Complete the summary statement diagram following the numbered sequence (Behavior(s) first, then Predictors, etc.). Consider the best before as possible statements for inclusion in the summary statement. Complete a different summary statement for each new consequence.

<b>What Important Events, Places, or Activities Tend to be Associated with the Behavior?</b> Lack of sleep _____ Illness _____ Physical pain _____ Hunger _____ Trouble at home _____ Fight/conflict with peers _____ New situations _____ Activity/Class _____ Other _____	<b>What Appears to Set off Problem Behavior?</b> Class demands like sex: -too hard _____ -boring _____ -sarcasm _____ -joking _____ Teacher repetitions _____ Peer teasing _____ Peer encouragement _____ Other _____	<b>What do the Problem Behavior(s) Look Like?</b> Late to class _____ Talk out in class _____ Disruptions _____ Inappropriate language _____ Disrespectful behavior _____ Property destruction _____ Carrying weapons _____ Fighting _____ Not completing work _____ Stool _____ Threats _____ Verbalism _____ Insult/offense _____ Other _____
<b>What Does the Student Gain From the Problem Behavior?</b> Escape or Avoid -teacher demands _____ -teacher repetitions _____ -teacher correction _____ -peer social contact _____ -teasing _____ -status (peer, love) _____ Get Attention -from peers _____ -from teacher/parents _____ Get Attention or Item -access to game _____ -access to toy _____ -access to food _____ -access to money _____ -access to book _____		

Note. From “Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 112),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.



Note. From "Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition (p. 113)," by R. E. O'Neil, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

Appendix C: Functional Assessment Observation Form (FAO)

Functional Assessment Observation Form

Time	Behaviors			Predictors			Perceived Functions			Notes
	Get/Obtain	Escape/Avoid	Other	Get/Obtain	Escape/Avoid	Other	Get/Obtain	Escape/Avoid	Other	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
Totals										

Event: \_\_\_\_\_ Date: \_\_\_\_\_

*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 116),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

## Appendix D: Summary Statements

**Summary Statements from FAO Form**

Setting Events	Antecedents	Problem Behaviors	Maintaining Consequences
1.			
2.			
3.			
4.			

*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 48),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

### Appendix E: Interval Recording for the Control Condition and Test Condition

#### Interval Recording (Control condition)

Target behavior: \_\_\_\_\_

Date (MM/DD/YYYY): \_\_\_\_\_

Observer: \_\_\_\_\_

Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Target behavior occurred

Target behavior did not occur

#### Interval Recording (Test condition)

Manipulated Variables \_\_\_\_\_

Target behavior: \_\_\_\_\_

Date (MM/DD/YYYY): \_\_\_\_\_

Observer: \_\_\_\_\_

Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

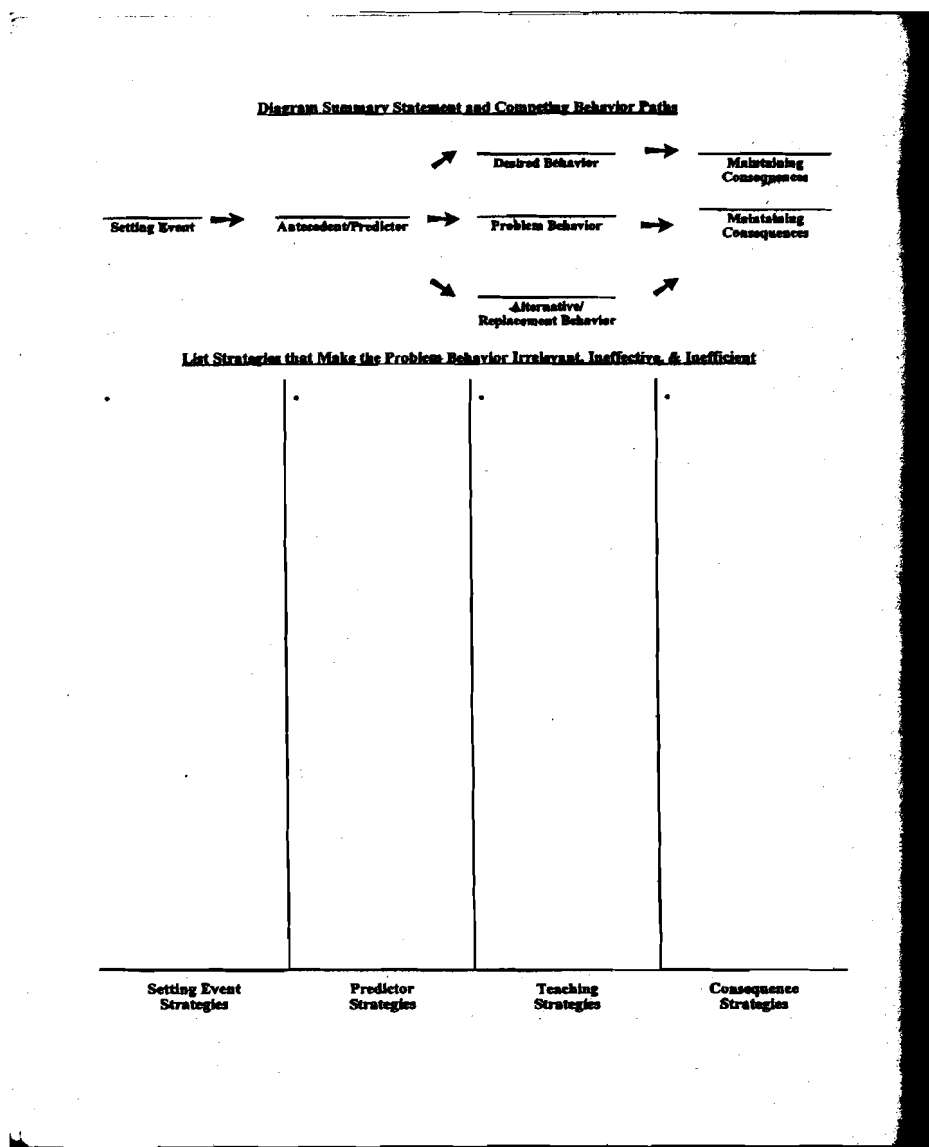
\*Mark when manipulating variable is introduced.

Target behavior occurred

Target behavior did not occur



## Appendix F: Competing Behavior Model Form



*Note.* From “*Functional Assessment and Program Development from Problem Behavior, A Practical Handbook 2<sup>nd</sup> edition* (p. 122),” by R. E. O’Neill, R. H. Horner, R. W. Albin, J. R. Sprague, K. Storey, and J. S. Newton, 1997, Pacific Grove: Brooks/Cole Publishing Company. Copyright 1997 by Wadsworth, a division of Thomson Learning. Reprinted with permission.

## Appendix G: Interval Recording for the Baseline Condition and Intervention Condition

### Interval Recording (Baseline Condition)

School Setting: \_\_\_\_\_

Target behavior: \_\_\_\_\_

Date (MM/DD/YYYY): \_\_\_\_\_

Observer: \_\_\_\_\_

<b>Time Intervals</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Target behavior occurred

Target behavior did not occur

**Interval Recording  
(Intervention Condition)**

Intervention \_\_\_\_\_

School Setting: \_\_\_\_\_

Target behavior: \_\_\_\_\_

Date (MM/DD/YYYY): \_\_\_\_\_

Observer: \_\_\_\_\_

<b>Time Intervals</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Target behavior occurred

Target behavior did not occur

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