Summer 8-2014

The Treatment Utility of Hypothesis-Driven Functional Analysis Methods for Students Whose Behavior is Elevated During Escape, Attention, or Escape-to-Attention Contingencies

Chandler Erin McLemore
University of Southern Mississippi

The University of Southern Mississippi

THE TREATMENT UTILITY OF HYPOTHESIS-DRIVEN FUNCTIONAL ANALYSIS METHODS FOR STUDENTS WHOSE BEHAVIOR IS ELEVATED DURING ESCAPE, ATTENTION, OR ESCAPE-TO-ATTENTION CONTINGENCIES

by

Chandler Erin McLemore

A Thesis
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

Approved:

Dr. Brad Dufrene_____
Committee Chair

Dr. Daniel Tingstrom_____

Dr. Joe Olmi_____

Dr. Maureen Ryan_____
Dean of the Graduate School

August 2014

ABSTRACT

THE TREATMENT UTILITY OF HYPOTHESIS-DRIVEN FUNCTIONAL ANALYSIS METHODS FOR STUDENTS WHOSE BEHAVIOR IS ELEVATED DURING ESCAPE, ATTENTION, OR ESCAPE-TO-ATTENTION CONTINGENCIES

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Current research indicates that function-based treatments, based on functional analysis data can be effective for decreasing an array of problem behaviors. The vast majority of the functional analysis literature has focused on single variables that maintain problem behavior. More recently, it has been hypothesized that perhaps multiple variables may maintain a problem behavior at a given time, for example; conceivably, escape and attention could maintain a child's problem behavior simultaneously. Research regarding multiple variables, specifically the use of an escape-to-attention (ETA) condition has been limited. Furthermore, prior studies have fallen short in reporting treatment data. The purpose of the present study was to evaluate a novel functional analysis protocol that allowed for an investigation of the separate and combined effects of escape and attention contingencies on problem behavior of children in a special education classroom. Participants included three elementary-age students receiving special education instruction in a self-contained classroom. One student ruled eligible for special education under the category multiple disabilities, the second participant was identified as hearing impaired, and the third was identified as having a developmental delay. A hypothesis-driven functional analysis was conducted, and various treatments were analyzed. Results and limitations are discussed.

ACKNOWLEDGMENTS

I would like to thank my thesis director, Dr. Brad Dufrene, and my other committee members, Dr. Daniel H. Tingstrom and Dr. Joe Olmi, for their commitment to this project. I would also like to acknowledge Traci Taber, Lindamai Nguyen, Melissa McHugh, Hannah Cavell, and Allison Battaglia for their contributions.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

Figure

CHAPTER I

INTRODUCTION AND REVIEW OF THE LITERATURE

Problem behaviors are often referred to as such when a behavior is socially undesirable or has a harmful impact on others. Problem behaviors in the classroom include but are not limited to aggression, non-compliance, and social deficits or excesses (Langone & Glickman, 2002). There are some mixed findings regarding prevalence of problem behaviors in school settings; however, many authors have claimed that about 25% of children exhibit problem behaviors in the classroom (e.g. Conroy, Sutherland, Haydon, Stormont, & Harmon, 2008; Loeber, Burke, Lahey, Winters, & Zera, 2000; Webster-Stratton, 1997). In one study which investigated 7th graders' academic, social, and emotional problems throughout a school year, Lopas (2007) found as many as 38% of 7th grade students had persistent problems with concentration and sustained attention, more than 43% had assertiveness problems, more than 53% experienced difficulty completing work, more than 80% did not cooperate with peers, and more than 86% made disruptive noises by the end of the school year.

Problem behaviors, if untreated, can have a significant impact on individuals' learning and overall academic achievement in the classroom. First, when a child engages in problem behaviors, it is often disruptive and may take away from classroom instruction time because the teacher may temporarily discontinue instruction in order to address the problem (Carr, Taylor, & Robinson, 1991). Instructional time is taken away not only from the child who exhibits the problem behavior but also from other students in the classroom. Furthermore, the amount of material teachers expose their children to is often more limited for children who frequently engage in problem behavior (Carr et al., 1991).

Particularly for children with developmental disabilities, aberrant behaviors such as aggression towards others, self-injurious behavior (SIB), stereotypy, and severe disruption can become problematic. These behaviors can lead to unfavorable outcomes if they are not treated. For example, individuals with developmental disabilities who engage in maladaptive behaviors frequently are more likely to have inadequate social relationships and skills, have lower academic performance, have an increased likelihood of destroying property, and have a greater risk of developing serious medical problems (e.g., tissue damage from prolonged SIB). Therefore, it is important for children with developmental disabilities who have behavior problems to receive proper assessment and treatment (Delfs & Campbell, 2010).

Functional Behavioral Assessment

Behavioral approaches such as Functional Behavioral Assessments (FBA) have been recommended as efficacious methods to assess the nature of the problem behavior, and subsequently provide proper treatment for individuals with developmental disabilities (Delfs & Campbell, 2010). An FBA assesses the contextual variables that trigger and maintain problem behaviors. FBA is defined as a set of assessment procedures that results in the identification and description of the "relationships between the unique characteristics of the individual and the contextual variables that trigger and reinforce the behavior" (Steege & Watson, 2009, p. 7). The information obtained through conducting an FBA is used to create tailored, individualized treatments that focus on the cause of the behavior in order to decrease its frequency. FBAs include indirect measures, direct descriptive procedures, and experimental functional analysis. Indirect methods can include review of records and permanent products, rating scales, and interviews. These

measures are removed from time and place of the occurrence of behavior. Direct descriptive functional behavioral assessment includes observing target behaviors and the relevant contextual factors. This method produces correlational data regarding relationships between behaviors and contextual factors. Finally, in experimental functional analysis antecedents and consequences are arranged to experimentally test their effects on behavior and determine which variables are maintaining the target behavior (Steege & Watson, 2009).

Functional behavioral assessments, particularly those including a functional analysis, can be useful procedures for the assessment and development of effective treatment for problem behaviors in the classroom. The functional analysis research suggests that students who exhibit problem behavior in the classroom can greatly benefit from function-based interventions (e.g. Ingram, Lewis-Palmer, & Sugai, 2005; Mueller, Nkosi, & Hine, 2011; Newcomer & Lewis, 2004; Solnick & Ardoin, 2010). Function-based interventions are treatments tailored specifically to the function of a problem behavior. For example, if an individual's problem behavior is maintained by attention, an appropriate intervention might be to provide attention for an alternative desired behavior while withholding attention for problem behavior.

Although function-based interventions have demonstrated positive treatment effects, conducting functional assessments may be time consuming when including an indirect assessment and a functional analysis. In addition, studies comparing function-based interventions to non-function based interventions have mixed findings about which type of intervention is most effective (e.g., Ingram et al., 2005; Vance, Gresham, & Dart, 2012). For example, Vance et al. (2012) compared the use of a self-management

program (non-function based intervention) to differential reinforcement of other behavior (function-based intervention) in three participants. In all three participants, the function-based intervention produced increases in percentage of intervals with on task behavior (*M*=72.5) from baseline (*M*=45.3), but greater increases emerged during the non-function-based intervention (*M*=94.4). However, in a study by Ingram et al. (2005), it was found that interventions based on functional assessment data were consistently more effective at reducing problem behavior for each of their three participants. This was indicated by clear changes in level, trend, and variability between treatment conditions. Finally, Bellone, Dufrene, Tingstrom, Olmi, and Barry (2014) found that function-based interventions were more effective for reducing disruptive classroom behaviors than a Mystery Motivator intervention (i.e., token economy with indiscriminable contingency) for four Head Start children. Again, research evaluating the relative effects of function-based and non-function based interventions has produced mixed findings with regard to which type of intervention is most effective.

One possible explanation for the mixed findings could be that traditional functional analysis procedures do not account for the complexities of behaviors that are maintained on compound schedules of reinforcement. They do not take into consideration that some problem behaviors may be simultaneously maintained by multiple variables. For example, children in classroom settings who attempt to avoid or escape academic tasks may be provided with attention in the form of redirections or reprimands while they are concurrently escaping academic tasks. The purpose of the present study was to evaluate a novel functional analysis protocol that allowed the

researcher to investigate the separate and combined effects of escape and attention contingencies on problem behavior.

Functional Analysis

Historically, much of the functional analysis literature has concentrated on identifying variables surrounding SIB of individuals with developmental disabilities (Ellis & Magee, 2004). Iwata et al. (1982) was the first to utilize experimental functional analysis by evaluating how environmental consequences affect SIB in individuals with developmental disabilities. Four stimulus conditions were evaluated: social disapproval (i.e., positive reinforcement in the form of attention), academic demand (i.e., negative reinforcement in the form of escape), alone (i.e., automatic reinforcement), and unstructured play (control). The dependent measure was the percentage of intervals with SIB. Results demonstrated that higher levels of SIB were reliably associated with a particular contingency for six of the nine subjects. This research was some of the primary experimental evidence that behavior could be the result of various reinforcement paradigms in different individuals.

More recently, functional analysis research has diverged from original procedures developed by Iwata et al. (1982) and has extended to assessing various problem behaviors within classroom settings. In one study, Repp, Felce, and Barton (1988) considered the use of hypothesis-driven procedures to assess maintaining variables of individuals with stereotypy and SIB. First, ABC Narrative Observations were conducted. Next, hypotheses of behavioral function were developed based on these observations. Results of this study indicated that choosing a treatment procedure based upon a hypothesis concerning the function can be an effective method for intervention development.

In addition, functional analysis research has become more flexible over the years in order for application in various applied settings. Golonka et al. (2000) analyzed an experimental condition with multiple maintaining variables for problem behavior including an escape component and access to preferred activities or attention. Two female outpatient clients, ages 12 and 30 (no information provided regarding intellectual functioning), were included. The researchers compared a break alone condition for appropriate engagement to a break enriched with access to preferred activities. The results indicated that the enriched break was chosen more often, and appropriate engagement was higher when breaks were enriched. In addition, inappropriate behavior occurred less frequently with an enriched break than the alone break (Golonka et al., 2000).

In a study conducted by Moore, Mueller, Dubard, Roberts, and Sterling-Turner (2002), a functional analysis was conducted with a 6-year old girl who engaged in SIB. The results of the functional analysis data showed that her level of problem behavior was highest during both the attention and tangible conditions. Additionally, there was no clear separation between any of the conditions. Therefore, a follow-up analysis was conducted in which a reversal design was employed to discover the impact of attention during a tangible condition. During a combined condition, attention and a tangible item were provided contingent upon SIB. During this condition, the level of SIB was higher than the single contingency conditions. SIB increased from less than 1 response per minute in a tangible alone condition to a rate of 3 to 6 responses per minute during the combined tangible and attention condition.

The results from both the initial functional analysis and the follow up suggested that an interaction of both attention and a tangible item maintained this client's behavior. This supports the notion that behavior is not always maintained by single reinforcers; rather, this research suggests that multiple reinforcers may be responsible for the maintenance of problem behavior (Moore et al., 2002).

Mann and Mueller (2009) also demonstrated that behavior may be maintained by multiple variables concurrently. In this study, a functional analysis was performed to determine the behavioral function of a young girl's aggressive behavior. The initial functional analysis showed that aggressive behavior was maintained by attention. Next, a treatment was designed according to the functional analysis results, functional communication training (FCT). In this treatment, if she communicated appropriately, she received a card for access to attention. However, during the attention only treatment condition, she failed to acquire the card exchange response. Therefore, the researchers modified and examined changes in the treatment to determine if the functional communication card exchange could be taught (Mann & Mueller, 2009).

A follow-up functional analysis was conducted which revealed that the behavior was maintained by attention followed by access to a tangible or preferred activity. Treatment was again modified, but this time appropriate responses led to attention, then access to a desirable item or activity (an attention-to-tangible condition). This intervention resulted in the participant learning and engaging in the appropriate communication response independently. In addition, aggression decreased to near zero levels (Mann & Mueller, 2009).

In another study, a functional behavioral assessment was conducted to examine separate and combined antecedent and consequent variables related to disruptive classroom behavior (Hoff, Ervin, & Friman, 2005). Specifically, teacher and student interviews and direct observation methods were used. From these data, hypotheses were formulated, taking into account the context in which the behavior occurred (i.e., the classroom). The researchers hypothesized that the student was disruptive in order to gain access to attention and to avoid or escape undesirable task demands. More specifically, they also hypothesized that under the stimulus conditions of having preferred peers in close proximity and less-preferred reading material, the student was more likely to be disruptive in order to gain peer attention and avoid or escape the demand.

Next, treatments were developed and compared for the classroom based on the hypotheses. An alternating treatments design was used to evaluate antecedent manipulations including moving peers further away, increasing the amount of preferred academic tasks, and a combination of those two procedures. Results indicated that the combined intervention of having more preferred work materials and his preferred peers far away from him reduced disruptive behavior more so than either antecedent manipulation in isolation. Again, these results point to the treatment utility of non-traditional functional assessments that assess the influence of multiple variables as opposed to single reinforcers for problem behavior. Given these findings, it would appear additional research that evaluates idiosyncratic combinations of variables related to problem behavior is warranted.

Escape-to-Attention

The first study to include an ETA condition was conducted by Mueller, Sterling-Turner, and Moore (2005). A functional behavioral assessment was conducted for tantrum behavior in a 6-year-old male with autism. Review of records, teacher interviews, assistant interviews, and direct observation methods were employed to generate hypotheses about the function of behavior. It was hypothesized that tantrums were maintained by teacher attention, escape, or a combination of both elements. Next, a functional analysis was conducted to test these hypotheses. The functional analysis showed that tantrums were maintained by escape. However, indirect and direct functional assessment data indicated multiple contingencies were maintaining the behavior, and the researchers considered the preliminary functional analysis to be confounded; it was believed the attention condition did not approximate naturally-occurring attention. Therefore, a follow-up functional analysis was conducted in which an ETA condition was evaluated against escape and control conditions. During the ETA condition, following a tantrum, the task demand was terminated and the participant was provided attention during the escape interval. The ETA condition resulted in higher percentages of intervals with tantrums than the other conditions. This case study provided evidence for the use of an escape-to-attention condition; however, no treatment data were provided. Therefore, additional research evaluating the treatment utility of the escape-to-attention condition was warranted.

Sarno et al. (2011) conducted a follow-up study to determine if an ETA function was evidenced in other individuals and if there was utility to conducting ETA functional analyses. This study expanded upon the ideas of Mueller et al. (2005) to include

treatment evaluation. This study was noteworthy in demonstrating treatment utility for the use of functional analysis methods that analyze combined effects of contingencies. Three participants were included in this study. First, teacher interviews and direct observations were employed to develop hypotheses regarding the behavior of concern. Next, experimental functional analyses were conducted, including a preliminary functional analysis using standard functional analysis conditions (i.e., escape from demands, attention, and control) and a follow-up which included the ETA condition. The initial functional analysis revealed that each of the participants' behavior was maintained by escape. In the follow up, the ETA condition resulted in increases in target behavior for 2 of the 3 participants. Last, a treatment targeting escape (escape extinction) was compared to a multi-component treatment targeting escape and attention (escape extinction+differential reinforcement of alternative behavior; DRA). The combined intervention was more effective for reducing problem behaviors for all three participants. This study offers additional support for the use of an ETA condition, expanding upon the work of Mueller et al. (2005) to include an evaluation of treatment utility.

However, a limitation of this study is that the researchers did not conduct a full evaluation of treatment utility when comparing interventions. They compared an intervention targeted for an escape function with a multi-component intervention targeted at both escape and attention functions. They failed to include an independent attention treatment. Therefore, additional research should be conducted that more fully evaluates the treatment utility of an ETA functional analysis condition.

Summary and Purpose

Generally speaking, the literature has demonstrated that functional assessment practices can be advantageous for designing interventions in classroom settings (e.g., Ingram, Lewis-Palmer, & Sugai, 2005; Mueller et al., 2011; Newcomer & Lewis, 2004; Solnick & Ardoin, 2010). Additionally, it is common practice in school-based settings to conduct functional assessments. The contemporary literature provides support for the use of novel functional analysis protocols that evaluate multiple variables simultaneously (e.g. Golonka et al., 2000; Hoff et al., 2005; Mann & Mueller, 2009; Moore et al., 2002). In particular, the recent literature offers evidence for the utility of an ETA condition in classroom-based functional analysis (e.g., Muller et al., 2005; Sarno et al., 2011). First of all, these studies have found higher levels of problem behavior during ETA conditions. Additionally, Sarno and colleagues (2011) provided preliminary support for treatment utility for an ETA condition. The combined intervention, designed to target both escape and attention, resulted in the most decreases in problem behavior.

Although there is evidence for the treatment utility of an ETA condition, the research evaluating such a condition has been limited. Few studies have experimentally evaluated ETA as a novel functional analysis condition. Additionally, those studies have been limited in terms of fully evaluating the treatment utility of the ETA functional analysis condition. This study attempted to expand the functional analysis literature by further examining the utility of the ETA functional analysis condition. Specifically, this study first sought to identify students' whose problem behavior was maintained by ETA. Then, interventions that target escape contingencies (i.e., escape extinction, escape contingent upon appropriate behavior), attention contingencies (i.e., attention extinction,

attention contingent upon appropriate behavior), and escape and attention contingencies were evaluated. Additionally, teacher acceptability was a variable of interest, as research regarding the acceptability of classroom-based functional analyses is limited.

Research Questions

The following research questions were addressed:

1. When a hypothesis-based functional analysis targets escape, attention, and escape-to attention, do function-based interventions (i.e., escape-based, attention-based, escape-to-attention-based) lead to enhanced intervention outcomes?
2. Do teachers rate comprehensive functional assessments including experimental functional analyses as acceptable for use in their classrooms?
3. Do teachers rate function-based interventions as acceptable for use in their classrooms?

CHAPTER II

METHOD

Participants and Settings

Participants consisted of three lower elementary school-aged children, Brandon, Deirdre, and Victoria (pseudonyms), enrolled in special education classrooms. Data were collected for two additional students; however, these students withdrew from the study prior to completion of data collection. They received behavioral intervention services outside of the context of this study. The following criteria were required for an individual to participate in the study: (a) they were referred for classroom problem behaviors that occurred frequently, at least 20% of intervals observed during a screening observation, (b) the student did not have a current behavior intervention in place during the study, and (c) the student's problem behavior was hypothesized as being maintained by escape and/or attention. To verify that the problem behavior occurred at a level greater than or equal to 20% of intervals, a screening observation was performed for each participant.

Approval from the university's Institutional Review Board (see Appendix A) was obtained prior to the beginning of the study. Both parental (See Appendix B) and teacher consent (See Appendix C) were obtained for all participants. All sessions took place in the participants' classrooms during normal classroom activities. The study was completed in one public elementary school in a school district in a mid-size city in the southeastern United States. The demographic breakdown was as follows: 76% African American, 18% Caucasian, 3% Hispanic, and 1% Asian. Students eligible for free or reduced-price lunch program were 77% at the time of the study.

Brandon

Brandon was a 13-year-old African American male in the seventh grade. Prior to the study, Brandon was diagnosed with epilepsy and narcolepsy. In addition, a review of records indicated that he had limited motor skills, language abilities, and cognitive abilities. Though he was able to walk, he often spent time in a wheel chair for his safety. He received special education services under the disability category multi-disability and was enrolled in a self-contained classroom with approximately five other students. Brandon's teacher reported that his main referral concern was inappropriate vocalizations. She indicated that these vocalizations occurred frequently (i.e., more than 13 times per day), were unmanageable, and were disruptive to the classroom.

Brandon's teacher reported that he was most disruptive while he was strapped in his wheelchair and when she was assisting other students. She stated that the behavior occurred all day, but identified the morning as being most problematic. Therefore observations were conducted in the morning. Brandon's teacher identified both escape and attention as potentially maintaining Brandon's problem behavior.

Deirdre

Deirdre was a 12-year-old, African American female in a self-contained classroom with multiple grade levels. A review of records indicated that Deirdre was deaf as well as non-verbal and received special education services under the disability category hearing impaired. Deirdre's teacher's main referral concern was Deirdre's off task behavior. She reported that the off-task behavior was disruptive, unmanageable, and occurred multiple times per day (i.e., 10-12 times per day).

Deirdre's teacher reported that her behavior was most problematic during center time where Deirdre was required to independently complete her work. There were approximately 20 students in her classroom, but during center time, students were divided into small groups of about three or four. Deirdre's teacher identified both escape and attention as potentially maintaining Deirdre's problem behavior.

Victoria

Victoria was a 7-year-old African American female in a first grade self-contained classroom. A review of records indicated that Victoria received special education services under the disability category developmental delay (DD). Victoria's teacher's main referral concern was Victoria's inappropriate vocalizations. She reported that the inappropriate vocalizations were disruptive, unmanageable, and occurred multiple times per day (i.e., 13 or more times per day).

Victoria's teacher reported that her behavior was always problematic but occurred most during center activities where Victoria was required to independently complete work. There were approximately 12 students in her classroom, but during center time, students were divided into two smaller groups of about five or six. Victoria's teacher identified both escape and attention as potentially maintaining Victoria's problem behavior.

Materials

Functional Assessment Informant Record for Teachers (FAIR-T-II).

The FAIR-T-II (see Appendix D) is a rating scale in which teachers identify 1-3 target behaviors, rank the extent to which those behaviors occur, and rate the extent to which those behaviors are preceded and followed by a variety of antecedent and

consequent events. The FAIR-T-II is an updated version of the FAIR-T, a measure used in previous functional assessment studies to obtain information from teachers in order to develop hypotheses about the reasons a student engages in problem behavior (Edwards, 2002). The information collected in the FAIR-T has matched data gathered during descriptive assessments and functional analyses and has demonstrated usefulness for intervention development (e.g., Doggett, Edwards, Moore, Tingstrom, & Wilczynski, 2001; Doggett, Mueller, & Moore, 2002; Moore, Doggett, Edwards, & Olmi, 1999). The original FAIR-T was a questionnaire administered in a semi-structured interview format, while the FAIR-T-II includes similar items converted to a rating scale format. For the present study, the FAIR-T-II indicated an escape function, attention function, or a combination of escape and attention functions surrounding the participants' problem behaviors.

Assessment Rating Profile-Revised (ARP-R). An adapted version of the Assessment Rating Profile-Revised (ARP-R; see Appendix E) was incorporated to establish teachers' acceptability of the FBA procedures. In the adaptation, the word *school psychologist* was replaced with *teacher*, and the instrument was changed from present to past tense. The ARP-R is comprised of 12 items which are scored on a 6-point Likert scale. Higher scores indicate overall agreement with the assessment procedures (1=strongly disagree to 6=strongly agree). The ARP-R is considered to contain adequate psychometric properties including strong internal consistency (Crohnbach's coefficient alpha of .99; Eckert, Hintze, & Shapiro, 1999).

Intervention Rating Profile-15 (IRP-15). A modified version of the Intervention Rating Profile-15 (IRP-15; Martens, Witt, Elliot, & Darveux, 1985; see Appendix F) was

used to measure intervention acceptability. Each teacher rated the acceptability of each intervention procedure. The IRP-15 is comprised of 15 Likert-type items for teachers to rate from 1 ("strongly disagree") to 6 ("strongly agree"). In the present study, the IRP-15 was changed from present to past tense and was given to each teacher upon completion of the treatment analysis. Simple modifications to this measure such as the ones made here have been shown to be non-consequential in terms of altering the validity of the IRP (Freer & Watson, 1999). The IRP-15 loads on a General Acceptability Factor, falling between .82 and .95, which provides sufficient, construct validity. In addition, high internal consistency has also been found with this measure (Cronbach alpha=.98; Martens et al., 1985).

Experimental Design and Data Analysis

To assess consequences that maintain students' problem behavior, a multi-element experimental design was incorporated. The functional analysis was hypothesis-driven (i.e. based on information from the FAIR-T-II regarding behavioral function). Functional analysis conditions were implemented in semi-random order, with no more than two contiguous sessions of the same condition. Sessions were 10 minutes in duration and took place at a time identified by the teacher as being likely to evoke the problem behavior. Sessions took place during typical classroom activities at approximately the same time each day. Two sessions could occur in one day; however these sessions included a 5 minute break between sessions and a change in the experimenter, in efforts to reduce potential carryover effects while increasing discriminability between conditions. The condition with the highest occurrence of problem behavior, at least a 20% divergence from the other conditions, was selected as

the hypothesized function of the target behavior. If the functional analysis data were undifferentiated, the researcher moved forward with treatment. Due to purposes of the study, the functional analysis conditions included attention, escape, ETA, and control.

During the treatment analysis, an alternating treatments design (ATD; Cooper, Heron, & Hewaard, 2007) was incorporated to evaluate the effectiveness of an escape-only function-based intervention, an attention-only function-based intervention, and an intervention package consisting of elements to target both escape and attention, against a baseline condition. The ATD phase was immediately preceded by a baseline phase as to identify the pre-intervention level of problem and appropriate behavior for each student. Treatment conditions during the ATD phase were applied in semi-random order (i.e. randomly drawn with no more than two consecutive sessions of a particular condition) and were altered quickly to control for order effects. An ATD was an appropriate methodology for this study because it permitted quick comparisons of two or more interventions (Barlow & Hayes, 1979; Cooper et al., 2007). Level, trend, and variability around level and trend were evaluated for each condition and compared to the other conditions. The most successful treatment was identified as the condition with the highest level of appropriate behavior, lowest level of inappropriate behavior, and largest amount of divergence among conditions. An independent verification phase was also included upon completion of the treatment analysis for Deirdre in order to confirm results and increase experimental control for multiple treatment interference. An independent verification phase was not included for Brandon due to time constraints (i.e. the academic year ended).

Dependent Variables and Data Collection

The study included two dependent measures: problem behavior and appropriate engagement. Target behaviors were operationally defined upon completion of the FAIR-T-II. Target behaviors were those that the teacher identified as affecting the child's functioning or the overall classroom. For Brandon and Victoria, any instance of an inappropriate vocalization was the target behavior. It was defined as any vocalization unrelated to the task demand, including talking without teacher permission, talking to peers at inappropriate times, grunting, and making audible vocal sounds, or laughing. For Deirdre, off task behavior was included as the target inappropriate behavior. It was defined as breaking contact with work materials for 3 seconds or longer. Data were also collected on appropriate engagement, which was also defined for Brandon as sitting in his wheelchair facing the academic activity (screen or teacher), and being still. The behavior included directing head toward the video monitor, directing head toward the teacher during teacher instruction, being actively engaged in the task, or vocalizing in response to teacher requests. If Brandon was trying to get out of his chair, he was not considered to be academically engaged. For Deirdre, academically engaged behavior was defined as active task engagement (reading, writing, facing the computer), facing the teacher during instruction and making eye contact, responding appropriately to teacher requests, raising her hand to speak, and engaging in an activity accepted by the teacher (adapted from Hawken & Horner, 2003). Percentage of intervals in which problem behavior occurred was the dependent variable throughout the study. Ten minute observations were conducted using a partial interval recording method (i.e. if the behavior occurs any time during a specific interval, it will be recorded).

Observations were conducted by undergraduate and graduate students who had been previously trained to conduct behavioral observations for a variety of target behaviors to a 90% agreement criterion with the primary researcher. Additionally, the primary researcher met with observers prior to data collection and reviewed operational definitions of target behaviors and coding procedures. Observations were conducted in the students' classroom in an unobtrusive location. A digital audio device was used to cue observers.

Procedures

First, each participant's teacher independently completed the FAIR-T-II. Next, a follow-up meeting was held to ensure that the rating scale was completed in its entirety, and clarification was sought for any unclear responses. Results from the FAIR-T-II were used to develop operational definitions of target and appropriate replacement behaviors and to formulate a hypothesis regarding the function of problem behavior(s). Next, a screening observation was conducted in order to gain more information regarding behavioral function and verify that the problem behavior occurred at a level of at least 20% of intervals. Subsequently, a functional analysis was conducted. Conditions included an ETA condition, an attention-only condition, an escape-only condition, and a control condition. Prior to intervention implementation, baseline observations were conducted. Last, a treatment analysis was used to compare an intervention based on an escape-only function, an intervention based on an attention-only function, and a multi-component treatment that is tailored for both escape and attention-maintained behaviors.

FAIR-T-II

Each of the participants' teachers was given the FAIR-T-II, a rating scale that asks for information in order to define target behaviors and determine antecedents and consequences for the target behavior. Information from the FAIR-T-II was used to form hypotheses about behavioral function.

Screening Observations

Upon completion of the FAIR-T-II, screening observations were conducted for each participant to ensure that the target behaviors occurred at a relatively high level, at least 20% of intervals. Initial observations were 10 minutes long and occurred during regular classroom instruction during an activity identified by the teacher as evoking the target behavior. A student was required to meet the 20% criterion to participate in this study. All students who were referred for participation in the study met the screening criterion.

Hypothesis-Driven Functional Analysis

A hypothesis-driven functional analysis was employed in order to experimentally manipulate and test the variables that were hypothesized as maintaining the target behavior. Only individuals whose behavior was hypothesized as being maintained by an escape contingency, attention contingency, or both were eligible to participate. An ETA condition, an attention condition, and an escape condition were evaluated against a control/play condition for all participants. Conditions were presented in semi-random order, where one condition could not be repeated more than twice in a row. The results were evaluated using a multi-element design. Sessions took place during normal

classroom activities that were identified by the teacher as being problematic. Stimulus conditions were consistent across all conditions except for the control condition.

Control/play condition. During the control condition (see Appendix G for the protocol), the participants were given free access to preferred items in the classroom and attention. The researcher interacted with the students and provided neutral attention (e.g., "You're playing with cars.") once every 30 seconds. No academic demands or consequences for target behavior were included for this condition.

Attention condition. In the attention condition (see Appendix H for the protocol), participants had access to tangibles and activities that were normally available during classroom instruction. The researcher interacted with the participant until he/she engaged in the activity. Then, the researcher separated herself from the activity by saying she needed to do her work and averted her attention to work materials. The researcher provided verbal attention in the form of verbal reprimands contingent upon each occurrence of the target behavior. Examples of verbal reprimands included "Stop doing that!" and "You know you shouldn't do that!" All other behaviors were ignored, and no other contingencies were provided for the target behavior.

Escape condition. In the escape from academic demands condition (see Appendix I for the protocol), the participants were presented with academic tasks that typically arose during classroom instruction (e.g., regular literacy instruction). For Deirdre and Victoria, the task demand consisted of activity centers (e.g., worksheets, attending to oral instruction, working on a computer, etc). The researcher interacted with the child until he/she engaged with the activity using a least-to-most prompting sequence. First, the task was presented verbally. The researcher waited 5 seconds for the child to respond. If the

child responded, verbal praise was provided to the child. If the child did not comply, the task demand was presented again in the form of gestural prompts. Then if the child complied, verbal praise was delivered. If the child still did not comply, the researcher restated the command and provided physical guidance. Once the child was engaged, the researcher diverted her attention to work materials by saying, "I have to do my work." Contingent upon the target behavior, the task demand was removed for 30 seconds. No other consequences were provided for the target behavior and all other behavior was ignored. Following each escape sequence, the researcher presented a new task demand on the least-to-most prompting sequence. The escape condition was slightly modified for Brandon based upon discussion of his problem behavior with his teacher. Brandon's teacher indicated that his problem behavior was most elevated while he was required to sit in his wheelchair. Therefore, his task demand consisted of sitting in a wheelchair and watching an educational video. Contingent upon his target inappropriate behavior, Brandon was let out of his wheelchair for 30 seconds. After the 30 second interval, he was placed back in the wheelchair.

Escape-to-attention condition. For this condition, the participants were given a task demand with a least-to-most prompting sequence in the same way as the escape condition (see Appendix J for the protocol). Contingent upon each occurrence of target behavior, the researcher removed work materials and provided verbal attention in the form of verbal reprimands within the 30 second interval just as in the attention condition. After each break, the researcher re-presented the demand with the same prompting sequence. The ETA condition was slightly modified for Brandon based on discussion of his problem behavior with his teacher. Contingent upon his target inappropriate

behavior, Brandon was let out of his wheelchair for 30 seconds and simultaneously provided attention. After the 30 second interval, he was placed back in the wheelchair.

Treatment Analysis

An evaluation of three different treatments was used to analyze their impact on the target behavior. Differential reinforcement of alternative behavior (DRA) was the first treatment. This treatment was used to target attention-maintained problem behavior. The second treatment was differential negative reinforcement of alternative behavior (DNRA) to target attention-maintained problem behavior. The final treatment was a treatment package which included a combination of DRA and DNRA to target both escape and attention. Each session in the treatment analysis was 10 minutes.

Baseline. Baseline data were collected prior to intervention implementation. During the baseline condition (see Appendix K for the protocol), the teacher was instructed to conduct class as in a typical manner. During these sessions, the researcher was observing from a non-intrusive location in the classroom.

Differential Reinforcement of Alternative Behavior (DRA). During the DRA condition (see Appendix L for the protocol), attention was provided in the form of labeled praise contingent upon appropriate engagement. For Brandon, at the beginning of each session, the researcher presented the participant with a discriminative stimulus by saying, "Today if you work hard on your school work, I will tell you that you did a good job." For Deirdre, her teacher signed the expectation and reinforcer using American Sign Language. In addition, picture cards were used that visually demonstrated the appropriate behavior as well as the specific reinforcer for both Brandon and Deirdre. Once there was confirmation that the student attended and was facing the instruction, the

student was provided with a typical academic task, and the observation began. During the session, praise was delivered on a fixed interval schedule of 30 seconds. If the student refrained from engaging in the target behavior for 30 s, then the first appropriate behavior engaged in after 30 s was followed by reinforcer delivery (i.e., specific labeled praise). If the participant engaged in the target behavior, no attention was provided.

Differential Negative Reinforcement of Alternative Behavior (DNRA). During the differential negative reinforcement of alternative behavior condition (see Appendix M for the protocol)**,** the researcher provided breaks contingent upon appropriate engagement. For Brandon, at the beginning of each session, the researcher presented the participant with a discriminative stimulus by saying, "Today if you work hard on your school work, I will tell you that you did a good job." For Deirdre, her teacher signed the expectation and reinforcer using American Sign Language. In addition, picture cards were used that visually demonstrated the appropriate behavior as well as the specific reinforcer for both Brandon and Deirdre. Once there was confirmation that the student attended and was facing the instruction, the student was provided with a typical academic task, and the observation began. During the session, breaks were delivered on a fixed interval schedule of 30 seconds. If the student refrained from engaging in the target behavior for 30 s, then the first appropriate behavior engaged in after 30 s was followed by reinforcer delivery (i.e., a 30 s break). If the participant engaged in the target behavior, the task demand was re-presented, using a graduated prompting technique to ensure no escape occurred for target behavior (i.e., escape extinction). That is, the student was first presented the instruction to complete the task orally. If the student completed the task, praise was delivered. If the student did not complete the demand within 5 seconds, a

gestural prompt was presented and the verbal request was repeated. If the student complied at this point, praise was delivered. However, if the student still did not comply, hand-over-hand guidance was provided along with the verbal request. If the student complied at this point, no praise was delivered. For Brandon, the break consisted of being let out of his wheelchair. All other procedures were the same.

Differential Reinforcement of Alternative Behavior+ Differential Negative Reinforcement of Alternative Behavior (DRA+DNRA). During the combined DRA+DNRA condition (see Appendix N for the protocol), attention was provided in the form of labeled praise, and a 30-s break was provided contingent upon appropriate engagement. For Brandon, at the beginning of each session, the researcher presented the participant with a discriminative stimulus by saying, "Today if you work hard on your school work, I will tell you that you did a good job." For Deirdre, her teacher signed the expectation and reinforcer using American Sign Language. In addition, picture cards were used that visually demonstrated the appropriate behavior as well as the specific reinforcer for both Brandon and Deirdre. Once there was confirmation that the student attended and was facing the instruction, the student was provided with a typical academic task, and the observation began. During the session, praise and a break were delivered on a fixed interval schedule of 30 s. If the student refrained from engaging in the target behavior for 30 s, then the first appropriate behavior engaged in after 30 s was followed by reinforcer delivery (i.e., specific labeled praise and a 30 s break). If the participant engaged in the target behavior, the task demand was represented with as little attention as possible in an attempt to place the problem behavior on extinction. For Brandon,

reinforcer delivery consisted of being let out of his wheelchair while simultaneously receiving attention. All other procedures were similar.

Inter-observer Agreement and Procedural Integrity

Inter-observer agreement (IOA) was obtained for at least of 33% of observations during functional analysis and treatment analysis sessions. IOA was calculated by dividing the total number of agreements (occurrence and nonoccurrence) of target behavior by the total number of intervals and multiplying by 100. An average of at least 90% agreement with the primary researcher was obtained for the study. If at any point IOA fell below 90% agreement, the observer was retrained (i.e. operational definitions were reviewed and a 90% criterion level was again obtained prior to observing independently). IOA was completed for 47% of Brandon's functional analysis sessions, with a mean agreement of 92.5% (range=82-100%). IOA was completed for 61.5% of Deirdre's functional analysis sessions, with a mean agreement of 96.9% (range=90-100%). IOA was completed for 69.2% of Victoria's functional analysis sessions, with a mean agreement of 91.8% (range=75-98%). IOA was completed for 52.9% of Brandon's intervention sessions, with a mean agreement of 92.2% (range=82-99%). IOA was completed for 66.7% of Deirdre's intervention sessions, with a mean agreement of 95.6% (range=90-99%). Data that fell below the 90% criterion were retained for data analysis.

The protocol for procedural integrity consisted of a checklist containing each procedural step of the functional analysis conditions, the baseline condition, and the treatment sessions for each condition (see Appendixes O-V for integrity checklists). Procedural integrity was evaluated for each condition. These data were collected for at least 25% of the functional analysis sessions and treatment sessions (by condition). IOA

for procedural integrity was also completed for at least 25% of sessions in which procedural integrity data were collected.

Procedural integrity was completed for 64.7% of Brandon's functional analysis sessions with an average of 99.1% procedural integrity (range=90%-100%). For Brandon's intervention sessions, procedural integrity was completed for 93.7% of sessions and was 100% for all sessions. IOA for integrity checks was completed for 63.6% of Brandon's functional analysis integrity checks and 60% of Brandon's intervention integrity checks and was 100% for all sessions. Procedural integrity was completed for 69.2% of Deirdre's functional analysis sessions and was 100% for all sessions. For Deirdre's intervention sessions, procedural integrity was completed for 89.6% of sessions and was 100% for all sessions. IOA for integrity checks was completed for 66.7% of Deirdre's functional analysis sessions and 70.8% of Deirdre's intervention sessions and was 100% for all sessions. Procedural integrity was completed for 75% of Victoria's functional analysis sessions with an average of 99.1% procedural integrity across conditions (range= 92%-100%). IOA for integrity check was completed for 77.8% of Victoria's functional analysis sessions and was 100% for all sessions.

CHAPTER III

RESULTS

Functional Analysis

Brandon

Brandon's hypothesis-driven FA was implemented to determine function of inappropriate vocalizations. Conditions with elevated levels of target behavior indicated the contingency associated with that condition maintains the behavior. Results from Brandon's FA are included in Figure 1. The control condition resulted in inappropriate vocalizations during an average of 25.4% of the observed intervals (range=12-38%). The attention condition resulted in inappropriate vocalizations during an average of 51% of the observed intervals (range=40-77%). The escape condition resulted in inappropriate vocalizations during an average of 17.7% of intervals (range=13-23%). The ETA condition resulted in inappropriate vocalizations during an average of 12.2% of intervals (4-22%). Based on these data, it was hypothesized that Brandon's inappropriate vocalizations were maintained by attention.

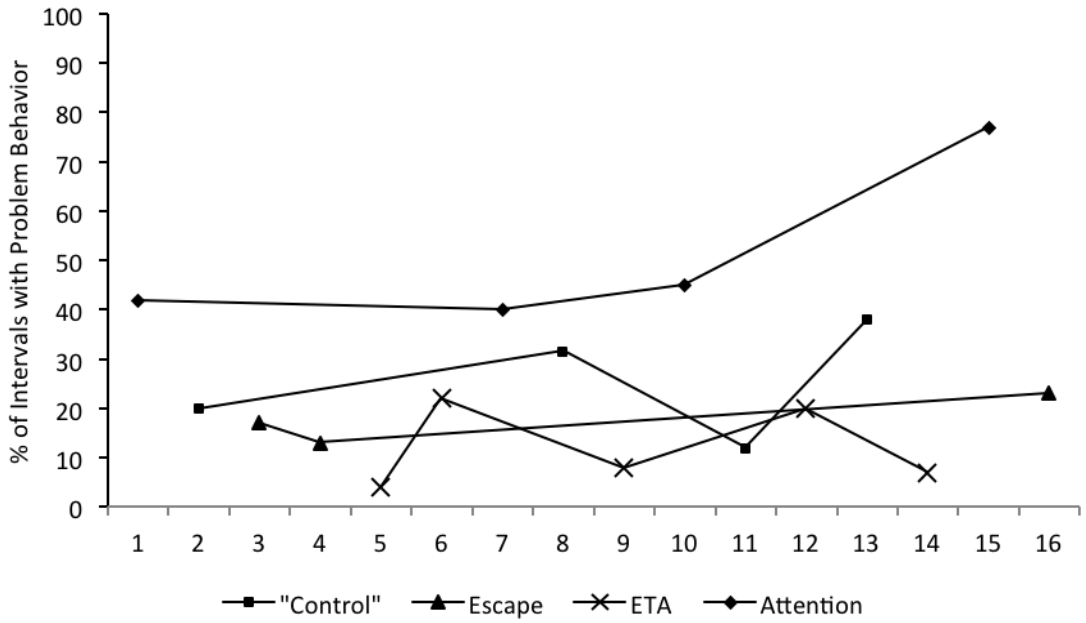

Figure 1. The results of Brandon's functional analysis.

Deirdre

Deirdre's hypothesis-driven FA was implemented to determine the function of her off-task behavior. Results from Deirdre's FA are included in Figure 2. During the control condition, off-task behavior occurred during an average of 17% of intervals (range=15-18%). The attention condition resulted inappropriate vocalizations during an average of 57.8% of the observed intervals (range=18-83%). The escape condition resulted in off-task behavior during an average of 14.5% of intervals (range=8-21%). The ETA condition resulted in off-task behavior during an average of 12.5% of intervals (range=10-15%). Based on these data, it was determined that Deirdre's off-task behavior was maintained by attention.

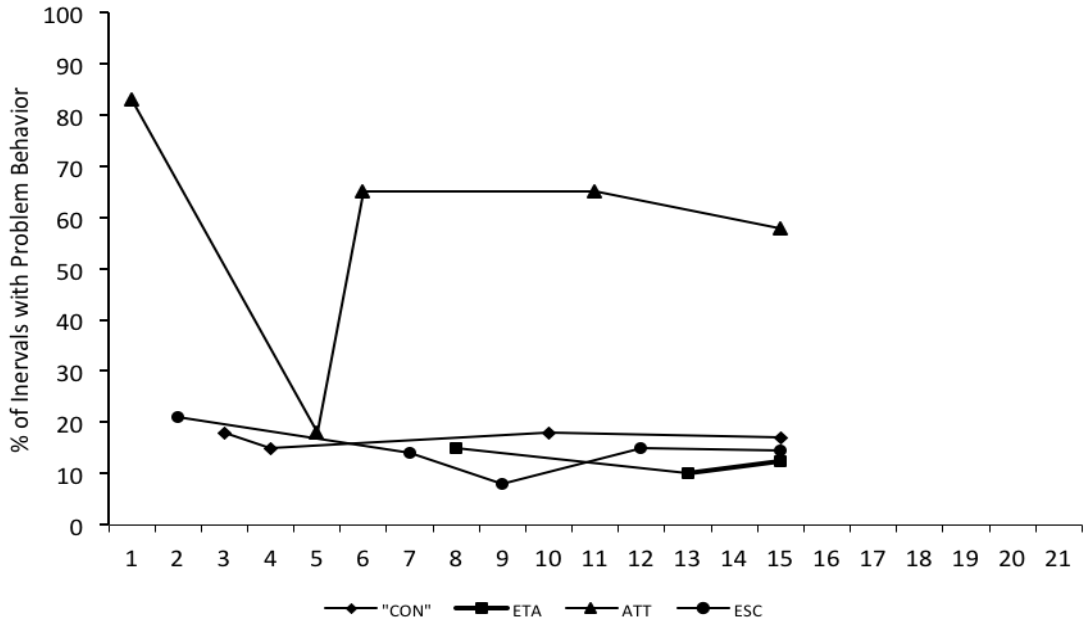

Figure 2. The results of Deirdre's functional analysis.

Victoria

Victoria's FA was conducted to determine the function of her inappropriate vocalizations. Results from Victoria's FA are included in Figure 3. During the control condition, inappropriate vocalizations occurred during an average of 15% of intervals (range=12-18%). The attention condition resulted inappropriate vocalizations during an average of 27.5% of the observed intervals (range=25-30%). The escape condition resulted in off-task behavior during an average of 61.3% of intervals (range=40-72%). The ETA condition resulted in off-task behavior during an average of 58.3% of intervals (range=48.3-73%). The function of Victoria's behavior was unclear. Both the ETA and escape conditions resulted in elevated levels of inappropriate vocalizations. If data collection had been carried out further, divergence may have emerged between the ETA and the escape conditions because the ETA condition had a steady increasing trend. Therefore, it is believed that both escape and attention played a role in maintaining

Victoria's inappropriate vocalizations. Unfortunately, Victoria's functional analysis was terminated early due to Victoria moving to a new school district and withdrawing from the study.

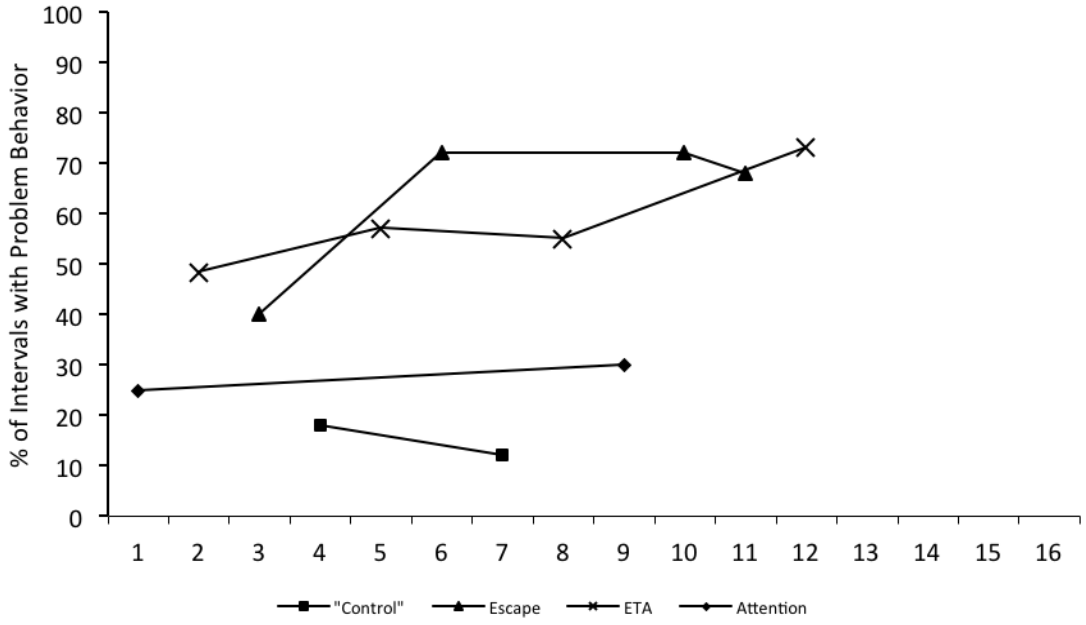

Figure 3. The results of Victoria's functional analysis.

Intervention

Brandon

Figure 4 includes results for inappropriate vocalization during the intervention analysis. During the baseline condition, Brandon engaged in inappropriate vocalization during an average of 55.5% (range=50-72%). During the DRA condition, Brandon engaged in inappropriate vocalization during an average of 39.3% (range = 17-63%) of the observed intervals. The DNRA condition resulted in inappropriate vocalizations during an average of 2% of the observed intervals (range=0-4%). The DRA+DNRA condition resulted in inappropriate vocalizations during an average of 22.5% of the observed intervals (range=20-25%).

Figure 5 includes the results for AEB during the intervention analysis. During baseline, Brandon engaged in AEB during an average of 16.3% (range=10-22%). During the DRA condition, Brandon engaged in AEB during an average of 21.6% (range=2-45%) of the observed intervals. During the DNRA condition, Brandon engaged in AEB during an average of 30.3% (range=16-47%) of the observed intervals. During the DRA+DNRA condition, Brandon engaged in AEB during an average of 28% (range=11-45%) of the observed intervals. There was clear divergence between the DNRA condition and the other conditions; DNRA had the lowest percentage of inappropriate vocalizations. However, there was no clear divergence that emerged between conditions for academically engaged behavior.

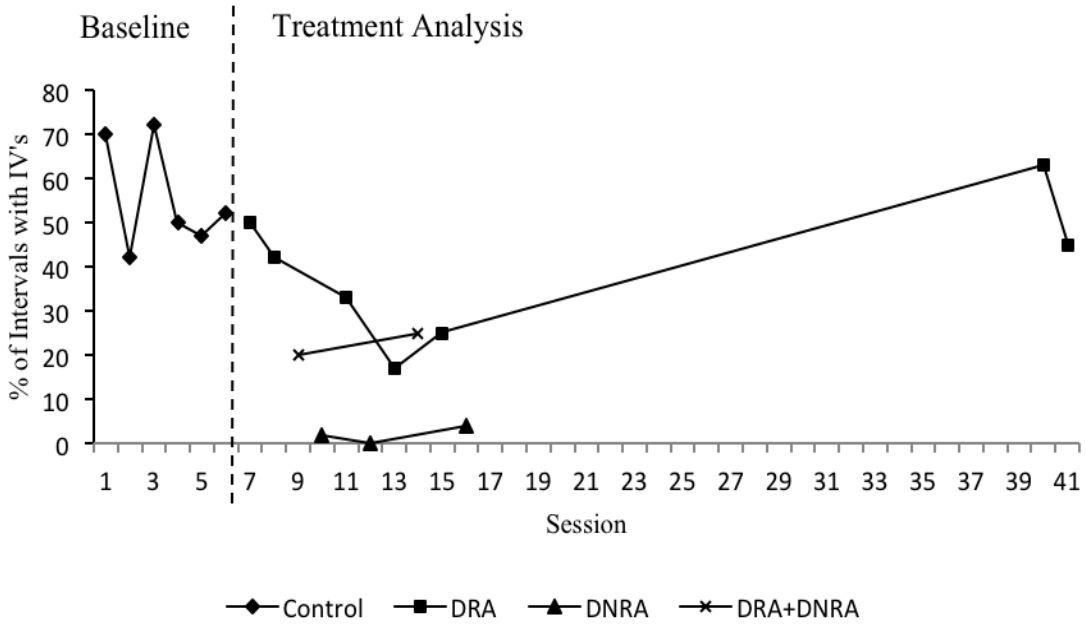

Figure 4. Brandon's level of inappropriate vocalizations, measures as the percentage of intervals with the occurrence of inappropriate vocalizations.

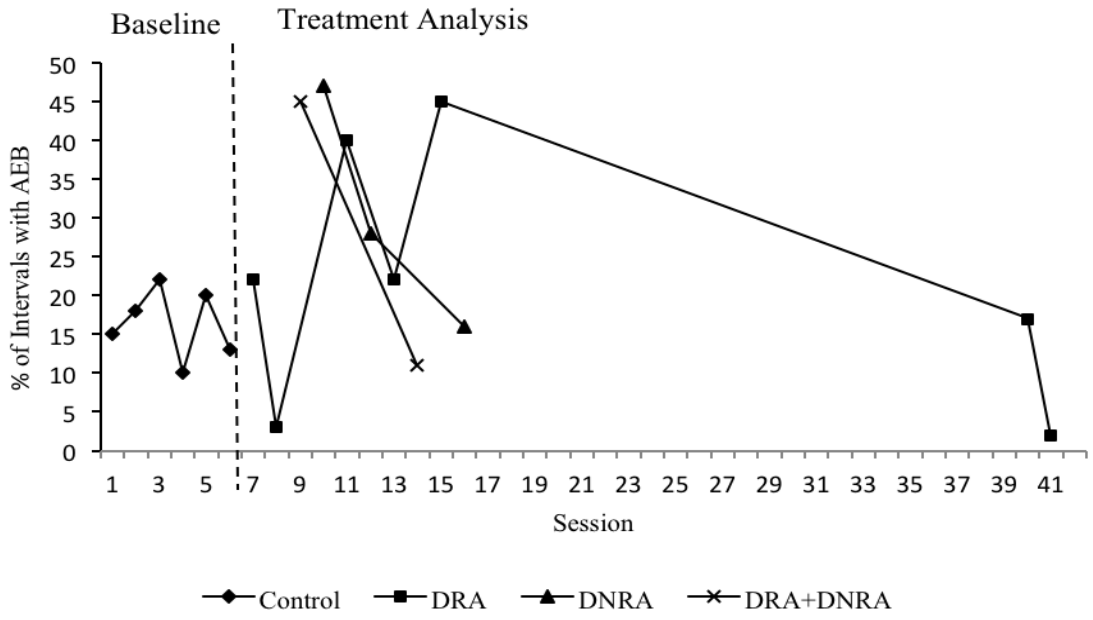

Figure 5. Brandon's level of academically engaged behavior (AEB), measured as the percentage of intervals with the occurrence of AEB.

Deirdre

Figure 6 includes the results for off-task behavior during the intervention analysis. During the baseline condition, Deirdre engaged in off-task behavior during an average of 37.5% of intervals (range=22 to 53%). During the DRA condition, Deirdre engaged in off-task behavior during an average of 33% (range=7 to 45%) of the observed intervals. The DNRA condition resulted in off-task behavior during an average of 27% (range=25-29%) of the observed intervals. The DRA+DNRA condition resulted in the lowest occurrence of off-task behavior, with an average of 18.1% (range=5-21%) occurrence of off-task behavior.

Figure 7 depicts the effects of the intervention on AEB. During the baseline condition, Deirdre engaged in AEB during an average of 51.5% of interval (range=30-67). For the DRA condition, Deirdre engaged in AEB during an average of 61.3%

(range=40-90%) of the observed intervals. The DNRA condition resulted in AEB during an average of 55% (range: 49-61%) of the observed intervals. During the DRA+DNRA condition, Deirdre engaged in AEB during an average of 85.8% (range= 74-97%) of the observed intervals.

The combined DRA+DNRA condition resulted in the lowest levels of off-task behavior, as well the highest levels of AEB. As a result, the DRA+DNRA condition was chosen as the intervention to evaluate during the verification phase. During the verification phase, off-task behavior occurred during an average of a 20.5% (range= 0-49%) of the observed intervals. During the verification phase, AEB was variable, but there was a clear increase in level relative to baseline. Average occurrence of AEB during the verification phase was 76.4% of the observed intervals (range = 58-100%).

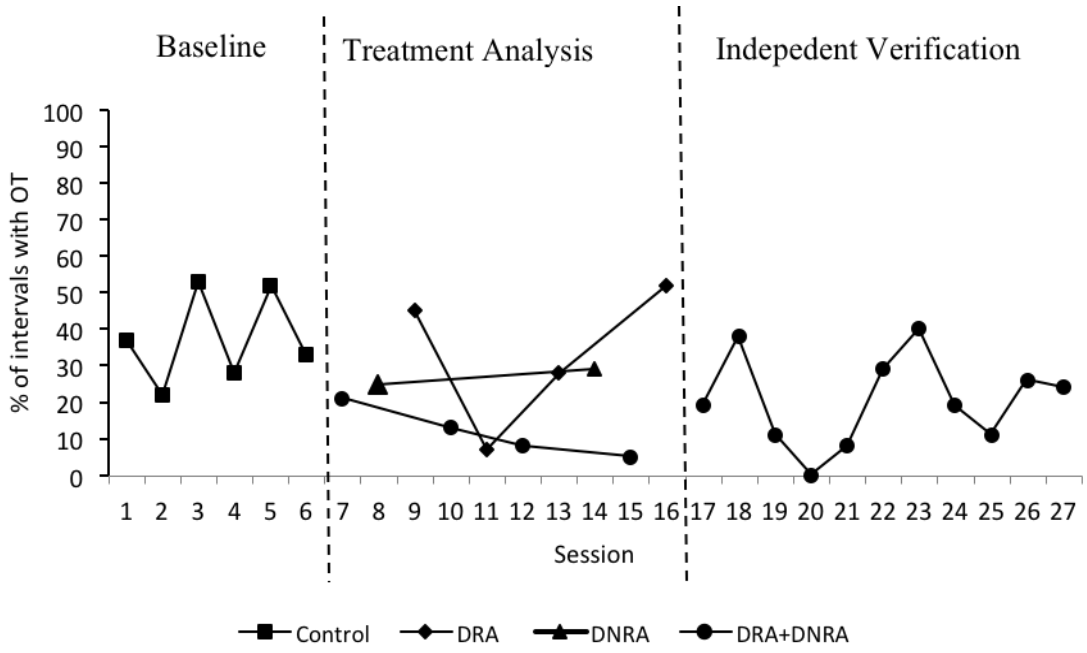

Figure 6. Deirdre's level of off-task behavior.

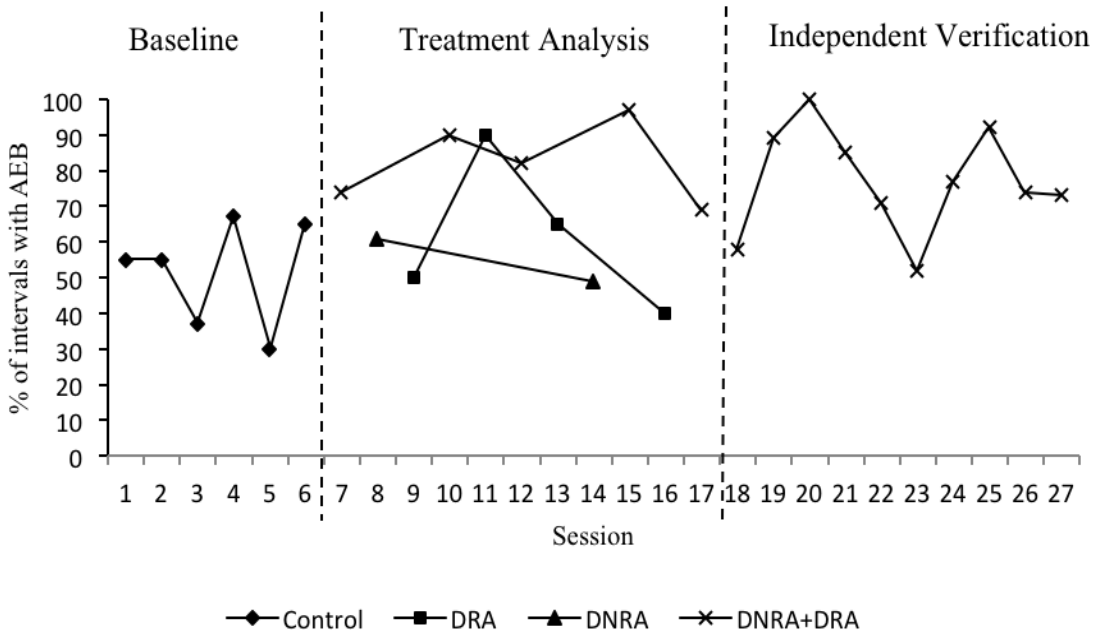

Figure 7. Deirdre's level of appropriately engaged behavior (AEB).

Acceptability

Brandon and Deirdre's teachers completed the ARP-R and IRP-15 at the conclusion of the study (i.e., upon completion of all data collection). The ARP-R was completed by each student's teachers to determine their acceptability of FBA procedures. Brandon's teacher found the functional analysis procedures acceptable. However, Deirdre's teacher did not. Brandon's teacher's ratings resulted in a total score of 72, which is the highest possible score. Deirdre's teacher's ratings resulted in a total score of 39.

In addition, the IRP-15 was completed by Brandon and Deirdre's teacher to determine their acceptability of the intervention procedures. A score of 52.5 and above indicates that the teacher found the intervention acceptable (Von Brock & Elliott, 1987). Brandon's teacher rated the intervention as acceptable (with a total score of 90), whereas Deirdre's teacher did not rate the intervention as acceptable (with a total score of 44).

CHAPTER IV

DISCUSSION

The purpose of this study was to evaluate the treatment utility of a hypothesis-based functional assessment that targeted escape, attention, and escape-to-attention contingencies. With regard to the first research question pertaining to the treatment utility of the functional assessment, results are mixed and limited by including on two data sets that incorporated assessment and treatment data. First, both Brandon and Deirdre had attention functions for their problem behavior. However, for Brandon, the escape-based intervention was most successful at reducing his problem behavior. For Deirdre, the combined intervention was most successful at decreasing her problem behavior and increasing her AEB. Therefore, it was not necessarily the case that function-based interventions were more effective.

With regard to the second research question regarding acceptability of classroom-based functional assessment (including an experimental functional analysis), results were mixed. Brandon's teacher found the intervention procedures acceptable, whereas Deirdre's teacher did not find it acceptable. With regard to the third research question regarding acceptability of function-based intervention, results were also mixed. Again, Brandon's teacher found the intervention procedures to be acceptable, whereas Deirdre's teacher did not find them acceptable.

The results of this study allude to the idea that perhaps experimental functional analyses are not always more beneficial than interventions not matched to behavioral function. Perhaps the idiographic nature of behavior is such that function-based interventions may be most effective for many individuals, but not all individuals. It may

be that for some individuals, the functional analysis serves as a "teaching" procedure in which individuals learn that a behavior may not contact a new, not previously experienced contingency. Moreover, when that is the case, the intervention matched to that function may not be as effective as an intervention matched to a different function. Finally, experimental functional analyses may be viewed as intrusive in classroom settings as a functional analysis is designed to evoke greater rates of problem behavior. When functional analyses are conducted in restrictive settings such as developmental disability centers, the impact of a functional analysis may not be as disruptive due to the availability of isolated rooms for functional analysis conditions that do not include several other students or residents. There is only a limited research base available assessing classroom teachers' acceptability of experimental functional analyses (Dufrene, Doggett, Henington, & Watson, 2007). Therefore, researchers should continue to assess classroom teachers' perceptions of classroom-based functional analyses to determine the acceptability of those procedures in classrooms.

Limitations

There are several limitations that should be noted for the present study. Firstly, all students were African American students in self-contained classrooms in a mid-sized southeastern city; and as a result, findings may not generalize to other students in other settings. Future research should be conducted examining an ETA function across various settings, with children of different ethnicities, ages, and diagnoses. Second, this study included only three participants and one of those participants left the study prior to receiving intervention. Therefore, this study includes very limited data and future research is certainly needed to address the primary aims of this study.

Third, one of the primary goals of this study was to test the treatment utility of the ETA functional analysis condition. Unfortunately, for the two students with assessment and intervention data, neither student was identified as having problem behavior maintained by ETA; therefore, future research including students with ETA maintained problem behaviors is needed to more fully examine the treatment utility of ETA as a functional analysis condition. Finally, for one of the two students with intervention and assessment data, a verification phase was not conducted due to time constraints. Therefore, multiple treatment interference may be a confounding variable for Brandon's treatment data. Furthermore, the intervention was unable to increase Brandon's AEB during the course of the study. This may have been due to his level of functioning (i.e., inability to pay attention to a video screen for an extended time period). In addition, Deirdre's intervention data were variable. This is believed to be due to unavoidable changes in her environment. For example, there was an aide present in Deirdre's classroom for the majority of the school year, and she was terminated right before session 22.

The purpose of this study was to evaluate the treatment utility of a hypothesis driven functional analysis for children whose problem behavior was maintained by escape, attention, and ETA contingencies. The current literature is limited with regard to including multiple contingencies that may maintain a problem behavior. The present study suggests that there may be some instances in which a child's problem behavior may be maintained by multiple variables simultaneously. For example, Victoria's functional analysis results provide preliminary evidence for an ETA function. In addition, the present study suggests that determining behavioral function prior to developing an

intervention may not be necessary for practitioners to have successful intervention outcomes. Finally, assessment and intervention acceptability data with regard to these methods were mixed.

It seems that some teachers find functional analysis procedures acceptable, whereas others may not. Classroom size may be a factor that potentially impacts teacher perception. When a classroom is large, disruption may be more salient than when a classroom is small. For example, Deirdre's teacher may have found the procedures unacceptable because during the functional analysis, Deirdre's escalated behavior may have been particularly distracting. Her classroom was relatively large (consisting of approximately 20 students), and therefore more sensitive to disruption. When Brandon's problem behavior escalated, his classroom may not have experienced such interruptions, as it contained only 5 students. Therefore, his teacher may have felt that the procedures were acceptable because they did not interfere with ongoing classroom activities.

APPENDIX A

IRB APPROVAL LETTER

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS
39406-0001 Phone: 601.266.6820 | Fax:
601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **C12080803**

PROJECT TITLE: **The Treatment Utility of Hypothesis-Driven Functional Analysis Methods for Students whose Behavior is Elevated During Escape, Attention, or Escape-to-Attention Contingencies**

PROJECT TYPE: **Thesis -** Continuation
RESEARCHER(S): **Chandler McLemore**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **School of Psychology**
FUNDING AGENCY/SPONSOR: **N/A**

IRB COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **06/28/2013 to 06/27/2014**

Lawrence A. Hosman, Ph.D. Institutional Review Board

APPENDIX B

PARENT CONSENT FORM

Title of Study**:** *The Treatment Utility of Hypothesis-Driven Functional Analysis Methods for Students whose Behavior is Elevated During Escape, Attention, or Escape-to-Attention Contingencies.*

Study Sites**:** **Forrest County School District**

Hattiesburg Public School District

Name of Researcher & University affiliation**: Chandler McLemore, B.S.**

The University of Southern Mississippi

Dear Parent,

We are conducting a research study to look at different methods for helping students with behavior problems at school. The methods we will use include designing a specific intervention for your child and observing your child in a number of settings. We will use the information from teachers and observations to develop a behavior intervention plan to help improve your child's classroom behavior.

As a participant, your child will receive a comprehensive behavioral assessment and positive behavioral intervention. The study would take place in your child's classroom during various classroom activities. Sessions will last about 30 minutes and will take place 2 – 5 times per week for the next month or two. The methods being used are all effective and acceptable in school settings. We are asking your permission for your child to be included in this study. Participants in the study may show improvements in classroom behavior by showing decreases in inappropriate behavior and increases in appropriate behavior. There are minimal risks involved with participation in this study outside what normally occurs in a classroom (for example, a temporary increase in

disruptive behavior). If you decline participation for your child, it will not affect the services provided to your child at school.

Will this information be kept confidential?

Your child's name and behavior information will be kept confidential. To protect your child's privacy, he or she will be assigned a number. This number will be placed on all paper work. At no time will any paperwork contain your child's name. Please note that these records will be held by a state entity and therefore are subject to disclosure if required by law.

Who do I contact with research questions?

If you should have any questions about this research project, please feel free to contact Chandler McLemore at 601-988-2622 or Dr. Brad A. Dufrene at 601-266-5256. For additional information regarding your rights as a research participant, please feel free to contact the USM Institutional Review Board at 601-266-5509.

What if I do not want to participate?

Please understand that your **participation is voluntary**, your **refusal to participate will involve no penalty or loss** of benefits to which you are otherwise entitled, and you **may discontinue you and your child's participation** at any time without penalty or loss of benefits.

What if I <u>DO</u> want my child to participate? If you would like your child to participate, please sign the bottom of this sheet. You may keep the second copy for your records.

_____

Your Child's Name

_____ _____

Parent Signature Date

_____ _____

Investigator Signature Date

APPENDIX C

TEACHER CONSENT FORM

Title of Study**:** *The Treatment Utility of Hypothesis-Driven Functional Analysis Methods for Students whose Behavior is Elevated During Escape, Attention, or Escape-to-Attention Contingencies.*

Study Site**:** **Forrest County School District**

Hattiesburg Public School District

Name of Researcher & University affiliation**: Chandler McLemore, B.S.**

The University of Southern Mississippi

Dear Teacher,

We are conducting a research study to examine how various assessment and observation procedures affect the development of effective interventions for children who exhibit behavior problems at school. We will conduct teacher interviews, record reviews, and observe child behavior during various conditions.

As a participant, you will receive assistance with regard to a comprehensive behavioral assessment and positive behavioral support plan for a student referred for behavior problems in the classroom. The study would take place in your classroom during various classroom activities. Sessions will last about 30 minutes and will take place 2 – 5 times per week for the next month or two. The procedures being used are all effective and acceptable in school settings. We are asking your permission to include information from your involvement in the assessment and intervention process for this study. Students in the study may show improvements in classroom behavior as evidenced by decreased disruptive behavior and increased appropriate behavior as a result of a comprehensive assessment and implementation of a positive behavioral support plan. There are minimal

risks for students involved in this study outside typical response to intervention in young children (e.g., temporary increase in disruptive behavior). If you decline participation it will not affect the services provided to you or the referred child at your school.

Will this information be kept confidential?

Your name and behavior information will be kept confidential. To protect your and the student's privacy, you will be assigned a number. This number will be placed on all paper work. At no time will any paperwork contain your name. Please note that these records will be held by a state entity and therefore are subject to disclosure if required by law.

Who do I contact with research questions?

If you should have any questions about this research project, please feel free to contact Ms. Chandler McLemore at 601-988-2622 or Dr. Brad A. Dufrene at 601-266-5256. For additional information regarding your rights as a research participant, please feel free to contact the USM Institutional Review Board at 601-255-5509.

What if I do not want to participate?

Please understand that your **participation is voluntary**, your **refusal to participate will involve no penalty or loss** of benefits to which you are otherwise entitled, and you **may discontinue your participation** at any time without penalty or loss of benefits.

What if I <u>DO</u> want to participate? If you would like to participate, please sign the bottom of this sheet. You may keep the second copy for your records.

_____ _____

Participant Signature Date

_____ _____

Investigator Signature Date

APPENDIX D

FUNCTIONAL ASSESSMENT INFORMANT RECORD FOR TEACHER-II

Functional Assessment Informant Record for Teachers - II **Teacher No.:** **Student No.:**

Teacher Information Teacher Name: _____ School: _____

Please Circle One:

Gender:	Male	Female								Area:	General Education	Special Education								
Race/Ethnicity:	African American	Asian	Caucasian	Hispanic	Native American	Other _____														
Age:	22-25	26-29	30-33	34-37	42-45	46-49	50-53	54-57	58-61	62-65	66+									
Years Teaching:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
Grade Level You Are Teaching (If you teach more than one grade, please circle all that apply):																				
	K	1	2	3	4	5	6	7	8	9	10	11	12							
Highest Degree:	Bachelors	Masters	Masters +30	Specialist	Doctorate															
Experience with Functional Behavior Assessment:																				
	1	2	3	4	5	1 = No Experience	5 = Very Experienced													
Experience with Classroom Consultants																				
	1	2	3	4	5	1 = No Experience	5 = Very Experienced													

Student Information Assigned Student Number: _____

Briefly list below the student's typical daily schedule of activities.

Time	Activity	Time	Activity
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please indicate good days and times to observe. (At least two observations are needed.)

Observation #1		Observation #2		Observation #3 (Back-up)	
Date:	_____	Date:	_____	Date:	_____
Time:	_____	Time:	_____	Time:	_____

Student Information FAIR-T II 2

Gender:	Male	Female	Grade:	_____	Age:	_____
Race/Ethnicity	African American	Asian	Caucasian	Hispanic	Native American	Other _____
Classification:		General Education	Special Education		Ruling:	_____

Please do not reference the student by name. Please put "he" or "she" or the student's initials.

1. Describe the referred student. What is he/she like in the classroom? (Write down what you believe is the most important information about the referred student.)

_____
_____
_____
_____

2. Pick a second student of the same sex who is also difficult to teach. What makes the referred student more difficult than the second student?

_____
_____
_____
_____

3. a. On what grade level is the student reading? _____
   b. On what grade level is an average student in the class reading? _____

4. a. On what grade level is the student performing in math? _____
   b. On what grade level is an average student in the class performing in math? _____

5. a. What is the student's classwork completion percentage (0 - 100%)? _____
   b. What is the student's classwork accuracy percentage (0 - 100%)? _____

6. a. What percentage of adult instructions will the student follow the first time ? _____
   b. What percentage of adult instructions will the student eventually follow? _____
   c. What is the student's accuracy for compliance with adult instructions? _____

7. Is the student taking any medications that might affect their behavior?
   _____ Yes _____ No If yes, briefly explain: _____

_____
_____

8. Do you have any specific health concerns regarding this student?
   _____ Yes _____ No If yes, briefly explain: _____

_____
_____

9. Please describe the student's strengths.

_____
_____

10. What have you tried in the past to deal with this student's problem behavior?

_____

11. Describe your current classroom behavior management plan. FAIR-T II 3

_____

_____

_____

12. When during the day (two academic activities and times) does the student's problem behavior(s) typically occur?

Academic Activity #1: _____ Time: _____

Academic Activity #2: _____ Time: _____

Problem Behaviors

Please circle **1 to 3** problem behaviors only and rank the behaviors in order of severity with 1 being the most severe and 3 being the least severe.

Potential Problem Behaviors (only circle 3; rank in order of severity 1= most; 3 = least)	**Rank Order**
Off-task behavior (e.g., looking away from academic work/ teacher; failing to complete work)	1 2 3
Inappropriate Vocalizations (e.g., talking without permission; making sounds; calling out)	1 2 3
Fidgeting or playing with objects (e.g., tapping pencil; playing with toys)	1 2 3
Out of Seat or Area (e.g., leaving assigned seat or area; student leaves classroom)	1 2 3
Non-complaint behavior (e.g., failing to follow adult instructions)	1 2 3
Disrespectful behavior (e.g., arguing with adults, using profanity)	1 2 3
Aggressive Behavior (e.g., hitting, kicking, biting others; throwing objects at others)	1 2 3
Self-injurious Behavior (e.g., hurting oneself)	1 2 3
Bullying (e.g., picking on peers; making fun of others; coercive comments)	1 2 3
Tantrum (e.g., yelling, screaming, crying, throwing oneself on the floor)	1 2 3
Inappropriate social behvaior (e.g., staring at others; too close in physical proximity)	1 2 3
Failure to speak/talk in class (e.g., will not talk to others despite ability to do so)	1 2 3
Emotional behavior (e.g., student shuts down; student cries excessively outside of tantrums)	1 2 3
Sleeping in class (e.g., student lays head down or sleeps during instruction)	1 2 3
Other behavior: _____	1 2 3

1. Rate how *manageable* the behavior is:

a. Problem Behavior 1	1 Manageable	2	3	4	5 Unmanageable
b. Problem Behavior 2	1 Manageable	2	3	4	5 Unmanageable
c. Problem Behavior 3	1 Manageable	2	3	4	5 Unmanageable

2. Rate how *disruptive* the behavior is:

a. Problem Behavior 1	1 Mildly	2	3	4	5 Very
a. Problem Behavior 2	1 Mildly	2	3	4	5 Very
a. Problem Behavior 3	1 Mildly	2	3	4	5 Very

3. How often does the behavior occur *per day* (please circle)?

a. Problem Behavior 1	< 1 - 3	4 - 6	7 - 9	10 - 12	> 13
a. Problem Behavior 2	< 1 - 3	4 - 6	7 - 9	10 - 12	> 13
a. Problem Behavior 3	< 1 - 3	4 - 6	7 - 9	10 - 12	> 13

4. How many *months* has the behavior been present?

a. Problem Behavior 1	< 1	2	3	4	entire school year
a. Problem Behavior 2	< 2	2	3	4	entire school year
a. Problem Behavior 3	< 3	2	3	4	entire school year

5. How long does the problem behavior last in duration?

a. Problem Behavior 1	< 1 min	1 - 5 min	6 - 10 min	> 10 min
b. Problem Behavior 2	< 1 min	1 - 5 min	6 - 10 min	> 10 min
c. Problem Behavior 3	< 1 min	1 - 5 min	6 - 10 min	> 10 min

6. For each problem behavior, provide an appropriate replacement behavior that you would like the student to perform instead of the current problem behavior.

a. Problem Behavior 1	a. Replacement Behavior:_____
b. Problem Behavior 2	b. Replacement Behavior:_____
c. Problem Behavior 3	c. Replacement Behavior:_____

Antecedents: FAIR-T II 5

Behavior 1: _____ Behavior 2: _____ Behavior 3: _____

0= never happens 1 = happens a little 2 = happens some 3 = happens very often

Please circle the corresponding number for each of the three behaviors listed.	Behavior 1	Behavior 2	Behavior 3
I. Academic Task Demand			
1 Does the behavior occur during a certain *type* of task?	0 1 2 3	0 1 2 3	0 1 2 3
2 Does the behavior occur during *easy* tasks?	0 1 2 3	0 1 2 3	0 1 2 3
3 Does the behavior occur during *difficult* tasks?	0 1 2 3	0 1 2 3	0 1 2 3
4 Does the behavior occur during *certain subject areas* ?	0 1 2 3	0 1 2 3	0 1 2 3
5 Does the behavior occur during *new* subject material?	0 1 2 3	0 1 2 3	0 1 2 3
II. Transitions			
6 Does the behavior occur when a request is made to *stop* an activity?	0 1 2 3	0 1 2 3	0 1 2 3
7 Does the behavior occur when a request is made to *begin a new activity* ?	0 1 2 3	0 1 2 3	0 1 2 3
8 Does the behavior occur during *transition* periods (academic subjects or locations)?	0 1 2 3	0 1 2 3	0 1 2 3
III. Academic Settings			
9 Does the behavior occur in *certain settings* ?	0 1 2 3	0 1 2 3	0 1 2 3
10 Does the behavior occur in *large group* ?	0 1 2 3	0 1 2 3	0 1 2 3
11 Does the behavior occur in *small group* ?	0 1 2 3	0 1 2 3	0 1 2 3
12 Does the behavior occur in *independent work* ?	0 1 2 3	0 1 2 3	0 1 2 3
13 Does the behavior occur in *one-to-one interaction* ?	0 1 2 3	0 1 2 3	0 1 2 3
IV. Non-Classroom Settings			
14 Does the behavior occur in the *bathroom* ?	0 1 2 3	0 1 2 3	0 1 2 3
15 Does the behavior occur at *recess* ?	0 1 2 3	0 1 2 3	0 1 2 3
16 Does the behavior occur in the *cafeteria* ?	0 1 2 3	0 1 2 3	0 1 2 3
17 Does the behavior occur on the *bus* ?	0 1 2 3	0 1 2 3	0 1 2 3
18 Does the behavior occur in *other situations* ? Specify other: _____	0 1 2 3	0 1 2 3	0 1 2 3
V. Presentation Style			
19 Does the behavior occur when items are presented *auditorily* ?	0 1 2 3	0 1 2 3	0 1 2 3
20 Does the behavior occur more often during motor activities?	0 1 2 3	0 1 2 3	0 1 2 3
21 Does the behavior occur when items are presented *visually* ?	0 1 2 3	0 1 2 3	0 1 2 3
VI.Time of Day			
22 Does the behavior occur in the morning (before lunch)?	0 1 2 3	0 1 2 3	0 1 2 3
23 Does the behaviuor occur in the afternoon (after lunch)?	0 1 2 3	0 1 2 3	0 1 2 3
VII.Physiological			
24 Does the behavior occur when the student is having complications with a medical condition?	0 1 2 3	0 1 2 3	0 1 2 3
25 Does the behavior occur if the student appears to be hungry?	0 1 2 3	0 1 2 3	0 1 2 3
33 Does the behavior occur if the student appears to be tired?	0 1 2 3	0 1 2 3	0 1 2 3
VIII Other			
26 Does the behavior occur when a *disruption* occurs in the normal routine?	0 1 2 3	0 1 2 3	0 1 2 3
27 Does the behavior occur when the student's *request has been denied* ?	0 1 2 3	0 1 2 3	0 1 2 3
28 Does the behavior occur when a *specific person is in the room* ?	0 1 2 3	0 1 2 3	0 1 2 3
29 Does the behavior occur when a *specific person is absent from the room* ?	0 1 2 3	0 1 2 3	0 1 2 3
30 Are there any other behaviors that usually *precede* the problem behavior? What?	0 1 2 3	0 1 2 3	0 1 2 3
31 Is there anything you could do that would *ensure* the occurrence of the behavior? What?	0 1 2 3	0 1 2 3	0 1 2 3
32 Are there any events occurring in the child's home that seem to *precede* the occurrence of the behavior at school? What?	0 1 2 3	0 1 2 3	0 1 2 3
34 Does anything else preceed the problem behavior that is likely to "set it off"?	0 1 2 3	0 1 2 3	0 1 2 3

Consequences: FAIR-T II 6

Behavior 1: _____ Behavior 2: _____ Behavior 3: _____

0= never happens 1 = happens a little 2 = happens some 3 = happens very often

Please circle the corresponding number for each of the three behaviors listed.	Behavior 1	Behavior 2	Behavior 3
I. Positive Reinforcement: Access to Preferred Activities or Items			
1 Does someone provide the student with access to an activity after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
2 Does someone provide the student with access to a toy or item after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
3 Does the student take possession of an activity after the behvaior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
4 Does the student take possession of a toy or item after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
5 Does the student bring activities, toys, or items to school that are associated with the behavior?	0 1 2 3	0 1 2 3	0 1 2 3
II. Negative Reinforcement: Escape, Delay, Reduction or Avoidance of Demands	0 1 2 3	0 1 2 3	0 1 2 3
6 Are ongoing task demands removed or terminated during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
7 Are ongoing task demands reduced during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
8 Is the start of a new task demand delayed after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
9 Is the start of a new task demand completely avoided after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
10 Is there any task you have stopped presenting to the student as a result of the problem behavior? If yes, describe: _____	0 1 2 3	0 1 2 3	0 1 2 3
III. Positive Reinforcement: Attainment of Peer and Teacher Attention			
11 Does the student receive positive attention from peers during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
12 Does the student receive negative attention from peers during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
13 Does the student receive positive attention from adults during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
14 Does the student receive negative attention from adults during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
15 Does the teacher re-direct or interrupt the child during or after the behavior is exhibited?	0 1 2 3	0 1 2 3	0 1 2 3
IV. Negative Social Reinforcement: Escape, Delay, Reduction or Avoidance of Attention			
16 Are ongoing social interactions with peers stopped during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
17 Are upcoming social interactions with peers avoided after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
18 Are ongoing social interactions with adults stopped during or after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
19 Are upcoming social interactions with adults avoided after the behavior has occurred?	0 1 2 3	0 1 2 3	0 1 2 3
20 Specific individuals stopped interacting with this student due to the behavior?	0 1 2 3	0 1 2 3	0 1 2 3
V. Automatic Reinforcement:			
21 Does the student display the behavior when alone without interaction from others?	0 1 2 3	0 1 2 3	0 1 2 3
22 Does the student appear to be calm or relaxed as a result of performing the behavior?	0 1 2 3	0 1 2 3	0 1 2 3
23 Does the student appear to be excited or aroused as a result of performing the behavior?	0 1 2 3	0 1 2 3	0 1 2 3
24 Does the student apper to obtain pleasure or enjoyment from performing the behavior itself?	0 1 2 3	0 1 2 3	0 1 2 3
25 Does the student appear to obtain stimulation (visual, auditory, motor) as a result of performing the behavior?	0 1 2 3	0 1 2 3	0 1 2 3
	0 1 2 3	0 1 2 3	0 1 2 3
VI. Other Problems			
26 Are there other problem behaviors that often occur after the behavior is exhibited? If yes, describe: _____	0 1 2 3	0 1 2 3	0 1 2 3
VII Intervention			
27 Does the student typically receive praise or any positive consequence when behavior occurs that you would like to see instead of the problem behavior? If yes, describe: _____	0 1 2 3	0 1 2 3	0 1 2 3

APPENDIX E

ASSESSMENT RATING PROFILE-REVISED (ARP-R)

Please circle the number that best describes your agreement or disagreement with each statement.

Statement	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1. This was an acceptable assessment strategy for the child's problems	1	2	3	4	5	6
2. Most teachers would find this approach to assessment appropriate for problems in addition to this child's current problems	1	2	3	4	5	6
3. This assessment proved effective in identifying the child's problems	1	2	3	4	5	6
4. I would suggest the use of this assessment to other teachers	1	2	3	4	5	6
5. I would be willing to receive assessment results such as those described with a student transferring into my school	1	2	3	4	5	6
6. The assessment would be appropriate for a variety of children	1	2	3	4	5	6
7. The assessment was a fair way to identify the child's problems	1	2	3	4	5	6
8. This assessment was reasonable for the problems described	1	2	3	4	5	6
9. I liked the assessment procedures used in this assessment	1	2	3	4	5	6
10. This assessment was a good way to handle the child's problems	1	2	3	4	5	6
11. Overall, this assessment was beneficial for the child	1	2	3	4	5	6
12. This assessment was helpful in the development of intervention strategies	1	2	3	4	5	6

Adapted from Eckert, Hintze, & Shapiro, 1999

APPENDIX F

THE INTERVENTION RATING PROFILE (IRP-15)

The purpose of this questionnaire is to obtain information that will aid in the evaluation of the intervention for _____. Please circle the number which best describes your agreement or disagreement with each statement.

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	This was an acceptable procedure for the child's problem behavior.	1	2	3	4	5	6
2.	Most teachers would find this procedure appropriate for problem behaviors.	1	2	3	4	5	6
3.	This procedure was effective in changing the child's problem behavior.	1	2	3	4	5	6
4.	I would suggest the use of this procedure to other teachers.	1	2	3	4	5	6
5.	The child's problem behavior was severe enough to warrant use of this procedure.	1	2	3	4	5	6
6.	Most teachers would find this procedure suitable for dealing with the child's problem behaviors.	1	2	3	4	5	6
7.	I would be willing to use this procedure again.	1	2	3	4	5	6
8.	This procedure did NOT result in any negative side-effects for the child.	1	2	3	4	5	6

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
9.	This procedure would be appropriate for a variety of children.	1	2	3	4	5	6
10.	This procedure was consistent with those I have used in the past.	1	2	3	4	5	6
11.	This procedure was a fair way to deal with the child's problem behavior.	1	2	3	4	5	6
12.	This was reasonable for the child's problem behavior.	1	2	3	4	5	6
13.	I liked the procedure.	1	2	3	4	5	6
14.	This procedure was beneficial in understanding this child's problem behavior.	1	2	3	4	5	6
15.	Overall, this procedure was beneficial for the child.	1	2	3	4	5	6

Adapted from Martens, Witt, Elliott, & Darveaux, 1985.

APPENDIX G

FUNCTIONAL ANALYSIS PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Condition: **CONTROL**

Operational Definition and Measurement of Target Behaviors

Target Behavior: Will be identified through consultation with teachers

Definition: Will be based on the topography of the problem behavior

Dependent Measure: Will be based on the topography of the problem behavior

Data Collection Procedures and Other Behavioral Definitions

1. Target Behavior = Recording scheme will be determined by topography

Session Duration:	10 min
Setting:	Classroom
Type of activity:	Preferred toy play (e.g., magazines, puzzles, books)
Materials:	Student's preferred materials/toys (Allow the student free access). Have all preferred items present.

Procedures:

1. Say, "[*Student's name*], would you like to play with these _____?"

2. Seat student at the designated area.

3. Interact with the student by providing a neutral comment every 30s or by responding to each appropriate response from the student.

4. Provide descriptive praise for appropriate nonacademic activity engagement.

5. Provide any assistance necessary using a least-to-most prompt for appropriate toy play if requested or needed.

6. Do not respond to any problem behavior.

APPENDIX H

FUNCTIONAL ANALYSIS PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Condition: **ATTENTION**

Operational Definition and Measurement of Target Behaviors

Target Behavior: Will be identified through consultation with teachers

Definition: Will be based on the topography of the problem behavior

Dependent Measure: Will be based on the topography of the problem behavior

Data Collection Procedures and Other Behavioral Definitions

1. Target Behavior = Recording scheme will be determined by topography

Session Duration:	10 minutes
Setting:	Classroom
Type of activity:	Will be determined through consultation with teachers
Materials:	Task related items

Procedures:

1. Instruct the student to sit in his/her assigned seat. [*Present class activity that in the past has been related to the occurrence of the target behavior*].

2. Say "[*Student's Name*], it's time to listen and do your work."

3. Divert your attention from the student to the work at your desk.

5. Contingent on each occurrence of target behavior:

   - Provide a disapproving comment (or specific type of attention identified in the descriptive analysis)
   - Interact with the student for 30 seconds.
   - Then divert your attention again back to the work at your desk.

6. Do not respond to any other problem behavior.

APPENDIX I

FUNCTIONAL ANALYSIS PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Condition: **ESCAPE**

Operational Definition and Measurement of Target Behaviors

Target Behavior: Will be identified through consultation with teachers

Definition: Will be based on the topography of the problem behavior

Dependent Measure: Will be based on the topography of the problem behavior

Data Collection Procedures and Other Behavioral Definitions

1. Target Behavior = Recording scheme will be determined based on topography

Session Duration:	10 minutes
Setting:	Classroom
Type of activity:	Will be determined through consultation with teachers
Materials:	Any Work Related Materials

Procedures:

1. Instruct the student to sit in his/her assigned seat.

2. Say "[*Student's Name*], it's time to do listen and do your work."

3. Researcher will present student with instructions typical of the group activity. [*Present class activity that in the past has been related to the occurrence of the target behavior*].

4. Wait 5 s for independent initiation of activity

- If student independently initiates task, the Researcher will provide praise and deliver next command as needed.
- If student does not initiate within 5 s, the Researcher will use a verbal and gestural prompt (for example, say "*[student, answer the question.]"* while pointing to the Researcher) and wait 5 s for initiation.
    - If student complies with the verbal/gestural prompt within 5 s, the Researcher will provide praise and move to the next command as needed.
    - If the student does not comply within 5 s, the Researcher will use physical guidance to have student comply (e.g., Say, "student, answer the question," while using gestural prompts to assist in handing you the pencil.)

DO NOT PRAISE STUDENT IF PHYSICAL GUIDANCE IS NEEDED.

5. Contingent on each occurrence of target behavior:

- Remove work related materials and provide a 30s break.
- Repeat the instruction after the 30s break.
- DO NOT PROVIDE STUDENT WITH ANY ATTENTION.

6. Contingent on *compliance with a verbal or verbal and gestural prompt*:

a. Provide descriptive praise
b. REMEMBER: Do not provide praise if physical guidance was required.
c. Point to the next problem and repeat instruction.

7. Do not respond to any other problem behavior.

APPENDIX J

FUNCTIONAL ANALYSIS PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Condition: **ESCAPE-TO-ATTENTION**

Operational Definition and Measurement of Target Behaviors

Target Behavior: Will be identified through consultation with teachers

Definition: Will be based on the topography of the problem behavior

Dependent Measure: Will be based on the topography of the problem behavior

Data Collection Procedures and Other Behavioral Definitions

1. Target Behavior = Recording scheme will be determined based on topography

Session Duration: 10 minutes

Setting: Classroom

Type of activity: Will be determined through consultation with teachers

Materials: Any Work Related Materials

Procedures:

1. Instruct the student to sit in his/her assigned seat.

2. Say "[*Student's Name*], it's time to do listen and do your work."

3. Researcher will present student with instructions typical of the group activity. [*Present class activity that in the past has been related to the occurrence of the target behavior*].

4. Wait 5 s for independent initiation of activity

- If student independently initiates task, the researcher will provide praise and deliver next command as needed.
- If student does not initiate within 5 s, the researcher will use a verbal and gestural prompt (for example, say "*[student, answer the question.]"* while pointing to the Researcher) and wait 5 s for initiation.
    - If student complies with the verbal/gestural prompt within 5 s, the researcher will provide praise and move to the next command as needed.
    - If the student does not comply within 5 s, the researcher will use physical guidance to have student comply (e.g., Say, "student, answer the question," while using gestural prompts to assist in handing you the pencil.)
        - DO NOT PRAISE STUDENT IF PHYSICAL GUIDANCE IS NEEDED.

5. Contingent on each occurrence of target behavior:

- Remove work related materials and provide a 30s break.
- Provide verbal attention during the 30s break
- Repeat the instruction after the 30s break.

6. Contingent on *compliance with a verbal or verbal and gestural prompt*:

d. Provide descriptive praise
e. REMEMBER: Do not provide praise if physical guidance was required.
f. Point to the next problem and repeat instruction.

7. Do not respond to any other problem behavior.

APPENDIX K

BASELINE PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Protocol: **BASELINE**

Operational Definition and Measurement of Target Behaviors

Target Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Replacement Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Session Duration:	10 minutes
Setting:	Classroom
Type of activity:	Will be identified through consultation with the teacher

Materials: Instruction Related Materials

Procedures:

1. Researcher will instruct the teacher to only use typical teaching techniques.

2. Teacher will maintain normal teaching methods and classroom management techniques

APPENDIX L

DRA PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Protocol: **DRA**

Operational Definition and Measurement of Target Behaviors

Target Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Replacement Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Session Duration:	10 minutes
Setting:	Classroom

Type of activity:	Will be identified through consultation with the teacher
Materials:	Instruction Related Materials

Procedures:

1. Immediately prior to the DRA session, the researcher will remind the student of behavioral expectations and associated consequences (i.e., discriminative stimulus).

2. The researcher will provide the student with examples and non-examples of expected behavior, and then the teacher will have the student provide examples of expected behaviors while providing the student feedback on their response (i.e., corrective feedback for incorrect response, praise for a correct response).

3. The student will return to the relevant academic task.

4. When the DRA component of the intervention begins, the teacher will engage in her scheduled instruction.

5. If the student of interest engages in the targeted inappropriate behavior, the researcher will withhold all previously identified forms of reinforcement.

6. If the student of interest engages in the identified appropriate replacement behavior, the researcher will then present that student with specific, labeled praise

7. Reinforcement will be withheld following the occurrence of any behavior accept the targeted appropriate replacement behavior.

APPENDIX M

DNRA PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Protocol: **DNRA**

Operational Definition and Measurement of Target Behaviors

Target Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Replacement Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Session Duration:	10 minutes
Setting:	Classroom
Type of activity:	Will be identified through consultation with the teacher

Materials: Instruction Related Materials

Procedures:

1. Immediately prior to the DNRA session, the researcher will remind the student of behavioral expectations and associated consequences (i.e., discriminative stimulus).

2. The researcher will provide the student with examples and non-examples of expected behavior, and then the researcher will have the student provide examples of expected behaviors while providing the student feedback on their response (i.e., corrective feedback for incorrect response, praise for a correct response).

3. The student will return to the relevant academic task.

4. When the DNRA component of the intervention begins, the teacher will engage in her scheduled instruction.

5. If the student of interest engages in the targeted inappropriate behavior, the researcher will withhold all previously identified forms of reinforcement.

6. If the student of interest engages in the identified appropriate replacement behavior, the researcher will provide the student with a break.

7. Reinforcement will be withheld following the occurrence of any behavior accept the targeted appropriate replacement behavior.

APPENDIX N

DRNA+DRA PROTOCOL

Student Name: _____ Teacher: _____

Session: _____ Date: _____

Protocol: **DRA+DNRA**

Operational Definition and Measurement of Target Behaviors

Target Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior
Replacement Behavior:	Will be identified through consultation with the teacher
Definition:	Will be developed based on the topography of the problem behavior
Dependent Measure:	Will be based on the topography of the problem behavior

Session Duration:	10 minutes
Setting:	Classroom
Type of activity:	Will be identified through consultation with the

teacher

Materials: Instruction Related Materials

Procedures:

1. Immediately prior to the DRA+DNRA session, the researcher will remind the student of behavioral expectations and associated consequences (i.e., discriminative stimulus).

2. The researcher will provide the student with examples and non-examples of expected behavior, and then the teacher will have the student provide examples of expected behaviors while providing the student feedback on their response (i.e., corrective feedback for incorrect response, praise for a correct response).

3. The student will return to the relevant academic task.

4. When the DRA+DNRA component of the intervention begins, the teacher will engage in her scheduled instruction.

5. If the student of interest engages in the targeted inappropriate behavior, the researcher will withhold all previously identified forms of reinforcement.

6. If the student of interest engages in the identified appropriate replacement behavior, the researcher will then present that student with a break and specific labeled praise

7. Reinforcement will be withheld following the occurrence of any behavior except the targeted appropriate replacement behavior.

APPENDIX O

PROCEDURAL INTEGRITY FOR FUNCTIONAL ANALYSIS CONDITIONS

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Condition: **CONTROL**

This form is used to assess the level of procedural integrity for each implemented functional analysis **control** condition. Record if the researcher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each FA control condition.

	YES	**NO**	**N/A**
1. Student is within designated area of target activity	____	____	____
2. Researcher provided student with access to preferred materials available in the classroom	____	____	____
3. Researcher provides interactive play and attention every 30 s	____	____	____
4. Researcher does not respond to problem behavior	____	____	____
5. Researcher does not present academic demands to the student	____	____	____
*** Repeated steps 3-5 for each 30 s interval**	**____**	**____**	**____**

APPENDIX P

PROCEDURAL INTEGRITY FOR FUNCTIONAL ANALYSIS CONDITIONS

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Condition: **ATTENTION**

This form is used to assess the level of procedural integrity for implemented functional analysis **attention** condition. Record if the researcher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each FA attention condition.

	YES	NO	N/A
1. Participant is within designated area of target activity	____	____	____
2. Researcher presents academic materials to the student	____	____	____
4. Researcher interacts with student until student engages in task	____	____	____
5. Researcher says, "I have to do my work now, it's time for work"	____	____	____
6. Researcher diverts attention to her work materials	____	____	____
7. Contingent on student exhibiting target behavior			
a. Researcher provides a disapproving comment	____	____	____
b. Interacts with the student for 30 seconds	____	____	____
8.Following 30 seconds of interaction, researcher diverts attention back to the work materials	____	____	____
8. Researcher does not respond to any other problem behavior	____	____	____
*** Repeated steps 7-8 for each occurrence of target behavior**	**____**	**____**	**____**

APPENDIX Q

PROCEDURAL INTEGRITY FOR FUNCTIONAL ANALYSIS CONDITIONS

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Condition: **ESCAPE**

This form is used to assess the level of procedural integrity for each implemented functional analysis **escape** condition. Record if the researcher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each FA demand condition.

	YES	NO	N/A
1. Participant is within designated area of target activity	____	____	____
2. Researcher presents student with identified task demand	____	____	____
3. Researcher provides verbal instructions to student to complete the identified task	____	___	____
4. Researcher waits 5 s for compliance	____	____	____
a. The student complies	____	____	____
i. Researcher provides descriptive praise	____	____	____
ii. Researcher moves to the next demand	____	____	____
b. The student does not comply with 5 s	____	____	____
i. Researcher restates instructions with verbal/gestural prompts	____	____	____
ii. Researcher waits 5 s for compliance	____	____	____
A. Student complies			
1. Researcher provides descriptive praise	____	____	____
2. Researcher moves to the next demand	____	____	____
B. Student does not comply	____	____	____
1. Researcher restates the instructions and provides hand-over-hand guidance	___	____	____
5. Researcher does not respond to any other problem behavior	____	____	____
6. When student exhibits problem behavior			
a. Researcher removes task demand for 30 s	____	____	____
b. After 30 s, Researcher represents the task demand	____	____	____
*** Repeat steps 3-6 for each demand sequence**	**____**	**____**	**____**

APPENDIX R

PROCEDURAL INTEGRITY FOR ETA CONDITION

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Condition: **ETA**

This form is used to assess the level of procedural integrity for each implemented functional analysis **ETA** condition. Record if the researcher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each FA demand condition.

	YES	**NO**	**N/A**
1. Participant is within designated area of target activity	____	____	____
2. Researcher presents student with identified task demand	____	____	____
3. Researcher provides verbal instructions to student to complete task demand	____	____	____
4. Researcher waits 5 seconds for compliance	____	____	____
a. The student complies	____	____	____
i. Researcher provides descriptive praise	____	____	____
ii. Researcher moves to the next demand	____	____	____
b. The student does not comply with 5 s	____	____	____
i. Researcher restates instructions with verbal/gestural prompts	____	____	____
ii. Researcher waits 5 s for compliance	____	____	____
A. Student complies			
1. Researcher provides descriptive praise	____	____	____
2. Researcher moves to the next demand	___	____	____
B. Student does not comply	____	____	____
1. Researcher restates the instructions and provides hand-over-hand guidance	___	____	____
5. Researcher does not respond to any other problem behavior	____	____	____
6. Contingent upon problem behavior			
a. Researcher removes task demand for 30 s	____	____	____
b. Researcher provides attention during escape period	____	____	____
***Repeat steps 3-6 for each demand sequence**	**____**	**____**	**____**

APPENDIX S

PROCEDURAL INTEGRITY FOR BASELINE CONDITON

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Condition: **BASELINE**

This form is used to assess the level of procedural integrity for the baseline condition. Record if the researcher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each FA demand condition.

	YES	**NO**	**N/A**
1. Researcher reminded the teacher to only use typical teaching techniques	_____	_____	_____
2. Teacher maintained normal teaching methods and classroom management techniques	_____	_____	_____

APPENDIX T

PROCEDURAL INTEGRITY FOR DRA IMPLEMENTATION

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Protocol: **DRA**

This form is used to assess the level of procedural integrity for each implemented **DRA** intervention. Record if the teacher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each group instruction session.

	YES	**NO**	**N/A**
1. Following the occurrence of the targeted inappropriate behavior, reinforcement was withheld	____	____	____
2. Following a 30 second absence of the targeted inappropriate behavior and at least one occurrence of the identified appropriate replacement behavior, attention was provided	____	____	____
3. The identified form of reinforcement was withheld following following any other behaviors.	____	____	____

APPENDIX U

PROCEDURAL INTEGRITY FOR DNRA IMPLEMENTATION

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Protocol: **DNRA**

This form is used to assess the level of procedural integrity for each implemented **DRA** intervention. Record if the teacher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each group instruction session.

	YES	**NO**	**N/A**
1. Following the occurrence of the targeted inappropriate behavior, reinforcement was withheld	____	____	____
2. Following a 30 second absence of the targeted inappropriate behavior and at least one occurrence of the identified appropriate replacement behavior, a break was provided	____	____	____
3. The identified form of reinforcement was withheld following any other behaviors.	____	____	____

APPENDIX V

PROCEDURAL INTEGIRTY FOR DRA+DNRA IMPLEMENTATION

Student: _____ Session: _____

Teacher: _____ Date: _____

Observer: _____ Protocol: **DRA+DNRA**

This form is used to assess the level of procedural integrity for each implemented **DRA** intervention. Record if the teacher behaviors were implemented as planned (*Yes*) or not implemented as planned (*No*) during each group instruction session.

	YES	**NO**	**N/A**
1. Following the occurrence of the targeted inappropriate behavior, reinforcement was withheld	____	____	____
2. Following a 30 second absence of the targeted inappropriate behavior and at least one occurrence of the identified appropriate replacement behavior, a break was provided along with attention	____	____	____
3. The identified form of reinforcement was withheld following any other behaviors.	____	____	____

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