

The Pennsylvania State University
The Graduate School
College of Education

TRAINING THERAPISTS IN FUNCTIONAL BEHAVIOR ASSESSMENTS

A Thesis in
Special Education
by
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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

December 2013

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ABSTRACT

With the emphasis on FBAs and requirement by most school districts to use this intervention in the academic environment, this study focused on training therapists in conducting FBAs. The study was conducted at a residential facility which houses children and adults with special needs. Two of the participants were PhD level psychologists and one was a Masters level professional. All three participants were working with school age children and had expressed a need to learn how to conduct FBAs. Thus the purpose of this study was to teach these professionals how to conduct FBAs, as being cognizant in how to conduct FBAs was deemed significant within the purview of their jobs. It was also considered important in trying to decipher the function and reason for the behavior of their students. A baseline probe was taken to determine the therapists' competencies in FBA terminology. Then a voiceover power point presentation was presented which explained FBAs in detail. A post intervention probe was taken to determine if the therapists' understanding of FBAs had increased and a social validity survey was assessed to determine if this training had been beneficial and pertinent for these therapists. The results indicated that the understanding of FBAs had increased and it was determined that the training had been socially significant.

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Chapter I

Introduction

Challenging and problem behaviors in the school environment have an adverse effect, not only on the student displaying such behavior, but also on other students and teachers, as it disrupts learning and physical safety of everyone in that environment (O'Neill, Horner, Albin, Sprague, Storey & Newton, 1997). Problem behaviors can take many forms and can range from talking out, leaving the classroom, physical and verbal altercations, and threats, sleeping in class, destroying property to self-injurious and self-stimulatory behaviors. Indeed, problem behaviors are a source of concern for all involved. It can be painful for the person displaying the inappropriate behavior, for the families who have to live with the behavior, for the teachers, and staff who deal with the problem behavior in the school environment (O'Neill et al., 1997).

Punitive measures have been used frequently by teachers in order to deal with problematic behaviors (Ishii-Jordan, 2000). The extensive use of punitive measures highlights the importance given to a narrow range of behavior methods despite the extensive availability of other empirically validated methods (Dukes, Rosenberg, & Brady, 2008), such as those built on positive reinforcement or environmental modification. It is pivotal that to change challenging behavior the educator must understand that the behavior is happening in a context and thus the educator needs to first identify and then alter the relevant aspects of the environment that are contributing to the problem behavior (Ryan, Halsey, & Matthews, 2003). In other words we must know something about the cause or the *function* of the problem behavior before designing the intervention.

The educator needs to understand that the problem behavior has meaning, a purpose and a function for child. That is the child displaying the problem behavior is getting something for engaging in the behavior (Ryan, Halsey & Matthews, 2003). It is not enough to focus on a diagnostic label (e.g. autism, mental retardation etc.) or on the simple topography of the behavior (e.g. hitting, kicking, screaming etc.). We must know something about the purpose of the behavior in order to design effective individualized intervention (O'Neill et al., 1997). The process of determining the purpose of problem behavior is called Functional Behavior Assessments (FBA).

Functional Behavior Assessment is a behavioral support intervention development procedure, which not only identifies the events which predict and maintain problem behaviors, but it also leads to functional alternatives and interventions for the problem behavior (O'Neill et al., 1997; Scott, Nelson & Zabala, 2003). A focus on the function of behavior is the cornerstone of Applied Behavior Analysis (Cooper et al., 2007). Thus, an important assumption of FBA is that problem behavior occurs for a reason and serves a specific function for the child. Most challenging behaviors exist because they have been reinforced in the past and will probably continue to be displayed under similar circumstances. Some student behaviors (e.g., acting out) may be considered problematic for educators, but are considered logical for the child displaying the behavior as effective responses to events that have occurred in his or her environment (Neilsen & McEvoy, 2004). For example, during group time, if a child elopes from the group and the teacher redirects or reprimands the child, the child obtains the teacher's attention. Thus even though the behavior is not safe or appropriate, it serves the function of the child obtaining adult attention. The function of undesirable behavior is unique to the child, the behavior, and the context. One child's behavior may be maintained by access to tangibles, while a different child's

challenging behavior may be maintained by obtaining attention or obtaining escape (Neilsen, & McEvoy, 2004). To determine the function of the behavior, educators need to conduct FBAs to identify the specific contingencies unique to that child (Neilsen, & McEvoy, 2004). Interventions can then be designed that make the inappropriate behavior less relevant by teaching more effective methods to acquire reinforcers.

With IDEA 1997, Congress tried to help schools to (a) respond appropriately to behavior problems of students with disabilities, (b) to use appropriate and effective behavioral interventions, and (c) increase the likelihood of school completion and success of high-risk students (Hartwig & Ruesch, 2000). One of the consequences of the IDEA 1997 legislation has been an emphasis on FBAs and has imposed new demands on educators to be trained in this assessment (Dukes et al., 2008; Scott et al., 2003). The requirement to conduct FBAs for students with disabilities before certain disciplinary practices as well as basing behavior plans on this assessment has elevated FBAs as a significant procedure for educators (Scott et al., 2003).

The Current Investigation

With the emphasis on FBAs and requirement by most school districts to use this procedure in academic environments, this study focused on training therapists in conducting FBAs. This study endeavored to train these professionals in an overview of FBA procedures as an understanding of FBA was deemed significant within the purview of their jobs. This organization dealt with multiple school districts and all these school districts required FBAs. The importance of FBAs and the relevance to these professionals' jobs was the rationale of this study. The purpose of the study was also to examine a user friendly and inexpensive method of teaching FBA related skills. More specifically the questions I asked were:

Research Questions:

1. Is an individually delivered online training an effective way to teach important concepts of functional behavior assessment?
2. How would the participants rate the FBA voice over training in a social validity survey?

Chapter II

Literature Review

Functional Behavior Assessment (FBA) is an important method of assessment that is used by behavior analysts and other professionals to understand problem and challenging behavior. Applied Behavior Analysis has its roots in J. B. Watson's behaviorism with his famous article "Psychology as the Behaviorist Views It." Watson took psychology in a different direction when he argued for the importance of observable behavior and emphasized the relationship between environment and behavior (Watson, 1913). Experimental Analysis of Behavior (EAB) came about with Skinner's publication of "The Behavior of Organisms." Skinner used behaviorism's philosophy and applied the theories in laboratory settings and outlined the methodologies for practicing this branch of behaviorism (Hilgard, 1988). Applied Behavior Analysis is the application of these theories to the real world; with a focus on socially significant problems and a dedication to changing behaviors to improve the lives of the client and/or the people that they live with (Baer, Wolf & Risley, 1968).

An important recent development within the field of Applied Behavior Analysis is Functional Behavior Assessment (FBA), which is a process that focuses on socially significant issues and tries to understand the relationship between observable behavior and the individual's environment. It is a formal assessment method that attempts to identify the reinforcers that maintain challenging behavior (Iwata & Worsdell, 2005), thus identifying the purposes or functions a behavior serves for a person (Cooper, Heron & Heward, 2007) that can serve as a basis for intervention (Scott & Caron, 2005).

There are three general premises of FBA. First, FBAs are based on the premise that problem behaviors are functional for the individual and they are displaying such behaviors because certain patterns of behaviors have worked for these individuals in the past and continue to work over time (O'Neill et al., 1997). People do not engage in problem behaviors because of their disabilities, rather they do it because it works for them. A second premise of an FBA is not only to understand and extinguish undesirable behaviors, but also to understand the structure and function of those behaviors in order to develop functional alternatives (O'Neill et al., 1997). The third premise is that the FBA focuses not only on the individual displaying the behavior but also on the immediate and broader environment and looks at the relationship between the context and the person (O'Neill et al., 1997). Iwata, Dorsey, Slifer, Bauman & Richman (1982) are often recognized as being the pioneers of formal FBA procedures.

Common Elements of FBA

Over the past 30 years many methods to determine function have been developed. Most procedures include two types of data collection (indirect and direct). In addition, FBA procedures may include an experimental analysis of the problem behavior.

Informant methods (Also called indirect or anecdotal method). Informant methods are often the first step of an FBA and include interviewing the individual and/or to the people who know the individual well (O'Neill et al., 1997; Iwata & Dozier, 2008). The informant method can include structured interviews, checklists, rating scales, and questionnaires. Informant methods are also called indirect methods of data collection because there is no direct observation of the behavior; rather the information is based on others' recall of the behavior (Cooper et al., 2007). Indirect methods are a convenient method of gathering information as the information is

very easily obtained, and also it can provide information about the context of the behavior, thus it is used extensively by practitioners (Cooper et al., 2007; Iwata & Dozier, 2008). However, there are also some disadvantages with this method, for example, these may be unreliable, as most informants may not have an accurate and unbiased recall of the behavior and the conditions under which it was manifested (Cooper et al., 2007; Iwata & Dozier, 2008).

Direct observation or descriptive analysis. In direct observation a person is observed in his or her natural environment and in relation to events that are not structured or contrived; rather it involves observing in the natural environment (O'Neill et al., 1997; Iwata & Dozier, 2008). Direct observation may use ABC continuous recording, ABC narrative recording and scatterplots (Cooper et al., 2007). Direct observation is an essential part of an FBA process and it is advantageous because the individual is observed in their natural environment but may have some disadvantages as the behavior of interest may not occur during the observation (Cooper et al., 2007).

Functional Analysis. Functional analysis or analog assessment is the systematic manipulation of potential controlling variables in natural conditions and observation of the effects on the person's behavior (O'Neill et al., 1997). The basic process of a functional analysis includes presenting different environmental situations and then observing how they affect a person's behavior (O'Neill et al., 1997). One approach involves manipulating antecedent events and the other approach focuses on changing the consequences for the problem behavior (O'Neill et al., 1997). When higher rates of problem behavior are seen when particular consequences or antecedents are manipulated, one will conclude that those antecedents or consequences are maintaining the problem behavior (O'Neill et al., 1997).

Functional analysis is considered the gold standard, as it allows the documentation of a true functional relationship between the problem behavior and the maintaining consequence (O'Neill et al., 1997). Even though it is considered gold standard, a functional analysis is conducted only if the data collected from the interviews and direct observation are unclear (O'Neill et al., 1997). The reason for this is because a functional analysis requires a highly skilled person and may also require informed consent and human subjects' approval (O'Neill et al., 1997). Also functional analysis may involve the occurrence of serious problem behavior, thus several people with technical know-how and extra attention to safety are needed in that situation (O'Neill et al., 1997). Thus, Functional Behavior Assessment (FBA) is a formal method of identifying reinforcers that sustain the problem behaviors. It includes informant method, descriptive analysis and functional or experimental analysis (Iwata & Dozier 2008). Hence functional analysis is a part of an FBA and should not be confused with an FBA.

Outcomes of FBA

The outcomes of the functional assessment process start with a clear description of the problem behaviors, including patterns of behaviors that occur together. It also facilitates the identification of the times, situations and triggers that predict when the problem behavior will and will not occur. The outcomes also identify the consequences and functions of the problem behaviors (O'Neill et al., 1997). This is a very important aspect of FBAs. The function of the behavior identifies why the behavior is happening and which reinforcers are maintaining the problem behavior. The reinforcers that could maintain the problem behaviors could be social positive reinforcement (attention), tangible reinforcement, automatic positive reinforcement, social negative reinforcement (escape) and automatic negative reinforcement (Cooper et al., 2007). This identification of function assists in the development of one or more summary

statements or hypotheses that describe specific behaviors, the context and the outcomes or reinforcers maintaining those behaviors. The hypotheses then assist in the collection of direct observation data that supports the summary statements. These summary statements then guide the team in developing interventions which teach socially appropriate alternative skills to replace problem behaviors (O'Neill et al., 1997; Ryan et al., 2003). The replacement behavior should serve the same function for the student as the problem behavior (e.g., raising hand to get attention vs. blurting out). That is, the replacement behavior should be “functionally equivalent” to the problem behavior (O'Neill et al., 1997; Ryan et al., 2003). The intervention plan is then designed to make the problem behavior “irrelevant, ineffective, and inefficient” (O'Neill et al., 1997). Evaluation of the effectiveness of the intervention is an ongoing process called formative assessment (Ryan et al., 2003).

Linking Function and Intervention

During the 1970s several studies focused on the effects of reinforcement and reductions in problem behaviors were observed when reinforcement for academic performance was provided (Young-Yon, Sugai, & Horner, 1999). However, these results were inconsistent, as other studies did not observe a reduction in disruptive behaviors after reinforcement was given for academic tasks (Young-Yon et al., 1999). One reason for the inconsistency of results may have been that the researchers failed to identify students whose challenging behaviors were affected by factors other than academic success or failure, that is attention or escape seeking behavior (Young-Yon et al., 1999). In other words, these researchers failed to identify the function of the students' behavior.

Schools often experience issues when the function of the behavior is ignored and educators may implement punitive and aversive strategies to address challenging behavior

(Skiba, 2002). Consequences for inappropriate student behavior are most often determined in these schools by the nature of the offense with little effort to understand the reason a student might engage in the problem behavior (Skiba, 2002).

Some of the most common punitive measures for problem behaviors involve suspension and expulsion (Stacey, Tapscott & Savner, 1998). Students with disabilities have often been excluded from school as a result of challenging behaviors and thus removing these students from the educational milieu only serve to undermine their opportunity to progress, learn and practice the skills they lack (Stacey et al., 1998). Reactive measures such as suspension and expulsion are correlated with failing grades, increased dropout rates, and increased rate of future expulsions and suspension (Stacey et al., 1998). These reactive measures appear to be more of a relief for school personnel rather than for understanding and ameliorating student outcomes (Stacey et al., 1998). This trial and error process of arbitrary punitive measures or default technologies do not focus on the function of the behavior and thus may come up with ineffective interventions and may even cause the behavior to worsen (Cooper et al., 2007). Thus, the one size fits all method has been shown to be ineffective and the determination of the function of behavior is a very important facet in coming up with interventions.

The importance of function of behavior was demonstrated by a seminal study conducted by Iwata, Dorsey, Slifer, Bauman & Richman (1982). They conducted experimental functional analyses between target behavior and events that occur in the environment and found empirical evidence that certain behaviors may be the function of one or more sources of reinforcement. They assessed functional relationships between self-injury and environmental factors. The self-injurious behaviors of nine people with developmental disabilities were tested and observed during a series of analogue conditions. For four of the subjects, self-injury was relatively high

during the alone condition, thus suggesting a self-stimulatory reason. Two of the subjects demonstrated high self-injurious behavior during the demand condition, thus suggesting that escape was the motivation for their behavior. Only one subject showed higher level of self-injury during the social attention condition. This ground breaking study had major ramifications for the field, as it not only identified specific stimulus conditions which evoked the behavior but it also had immense implications for the selection of suitable treatments.

Now researchers are able to functionally assess and comprehend problem behaviors and are able to develop effective interventions based on these assessments (Young-Yon et al., 1999). Functional assessments focus on identifying factors and variables that maintain problem behaviors, which in turn enhances the probability of treatment effectiveness and prevents the usage of punitive or default technologies which may have been based on guesses and unconfirmed hypotheses (Iwata et al., 1982). In such circumstances strategies not based on the function of the behavior may not promote the acquisition of appropriate behaviors to replace the problem behavior (Chandler, Dahlquist, Repp, & Feltz, 1999). Research has shown that a variety of problem behaviors are maintained by a) escaping from aversive stimuli (negative reinforcement) and b) obtaining reinforcers (positive reinforcement) (Young-Yon et al., 1999; Iwata & Worsdell, 2005). Hence, these functional assessments are used to develop logical interventions designed to (a) weaken the relationship between stimuli and problem behavior and (b) establish or strengthen the relationship between stimuli and available alternatives in a target context by manipulating antecedent or consequent events (Young-Yon et al., 1999). The aim of the functional assessment information is to improve the efficiency of behavior support (Horner, 2000).

Thus, Functional Behavior Assessment is an applied behavior analytic intervention which as delineated by the Baer, Wolf and Risley article (1968) focuses on interventions which are applied, behavioral, analytic, technological, conceptually systematic, effective and capable of generalization. Functional Behavior Assessment (FBA) as an Applied Behavior Analysis procedure has been hailed as a proactive approach to students with less challenging behaviors, as an important intervention for students with very challenging behaviors and also as a school-wide primary prevention tool (Scott & Eber, 2003). Recently it has also been defined as a critical component at various levels of a systemic positive behavior support (PBS) approach to preventing problem behaviors from occurring across the school (Scott & Caron, 2005).

Most interventions now deal with altering antecedent conditions, eliminating reinforcement for the behavior and reinforcing the absence of the problem or the occurrence of an alternative behavior (O'Neill et al., 1997; Cooper et al., 2007). Antecedent conditions are manipulated to decrease the effectiveness of the reinforcers that maintain the problem behaviors. Altering the antecedents of problem behavior can modify either the motivating operation or the discriminative stimuli that trigger the problem behaviors. Three antecedent interventions with established results are: Noncontingent reinforcement, high probability request sequence, and functional communication training.

As FBA identifies the source of reinforcement for the problem behaviors, these reinforcers can be eliminated which are maintaining the problem behavior. Thus, the reinforcers are not delivered when the problem behavior is manifested (Cooper et al., 2007). Another strategy that can be used is reinforcing the absence of challenging behavior or the occurrence of an alternative behavior (O'Neill et al, 1997; Iwata & Worsdell, 2005). This would involve providing reinforcement for alternative appropriate behaviors that are functionally equivalent to

the problem behavior (Cooper et al., 2007). Hence if the problem behavior is maintained by escape from difficult tasks, an antecedent strategy may involve presentation of an easier task or modification of the curriculum. Consequent strategies could involve differential reinforcement: extinction for the problem behavior and positive reinforcement for the alternative behavior. Therefore because of this focus on function and nexus between function and intervention, FBAs have been hailed as an effective and significant intervention by researchers in general and special education settings (Neilsen & McEvory; 2004 Scott & Caron 2005).

Selected School-Based Research

Blair, Umbreit, & Bos (1999), demonstrated that the problem behaviors of children with challenging behavior issues could be reduced after conducting FBAs. This study imbedded preferred activities within their existing curricula, which had been identified by a prior functional assessment. This study also demonstrated the preference of teachers to this kind of intervention as opposed to the instructional and behavior management procedures they had used in the past.

Similarly, Jones, Drew, & Weber, (2000) emphasized the importance of functional analysis and its link to interventions by modifying the contingencies for problem behavior by using extinction, differential reinforcement, or NCR (Noncontingent Reinforcement). This study used functional analysis to isolate peer attention as the maintaining consequence for disruptive behavior for a student with attention deficit hyperactivity disorder (ADHD). Using a brief reversal design, non-contingent reinforcement was shown to reduce disruptive behavior relative to peer attention (Jones, Drew, & Weber, 2000). This study demonstrated that when intervention is linked to function, there is reduction in the problem behavior.

Another study examined the effect of FBA based interventions on problem behaviors for students with or at risk for emotional and behavioral issues. These researchers used a hierarchical linear modeling meta-analysis to examine a sample of 69 FBA studies, 146 subjects, and 206 outcome graphs and the results determined that over all, FBA-based interventions reduced problem behavior by an average of 70.5% and demonstrated that this procedure and methodology was highly effective (Gage, Lewis, & Stichter, 2012).

Ya-yu & Cartledge (2006) focused on the overrepresentation of African American boys in disciplinary and special education referrals and used functional behavioral assessments (FBAs) and behavioral intervention plans (BIPs) as means to prevent inappropriate behaviors. Based on FBA results, interventions were developed for four elementary students to include skill training, differential reinforcement, and a self-monitoring program. The interventions were very beneficial in not only reducing students' target problem behaviors to a level similar to that of their comparison peers, but also brought about favorable outcomes for their alternative replacement behavior.

Thus at the individual student level multiple studies have documented the interconnection between FBA and effective interventions (Scott & Caron, 2005). FBAs have also been cited as a critical element in a systemic positive behavior support plan (PBS), which is an approach to preventing problem behaviors from occurring across schools (Scott & Carson, 2005). Under a system of PBS, FBA is a tool which is used proactively for typically developing students across schools as well as individual students experiencing challenges. This usage of FBAs involves prediction of failures and providing for a full range of positive and proactive strategies for the proliferation of socially significant behavior change (Sugai, Sprague, Horner, & Walker, 2000). Thus Functional Behavior Assessments are considered significant as they can provide the

educators with proactive (“positive and preventative measures”) based on ongoing assessment of multiple school systems rather than reactive approaches (punitive measures, hiring security guards etc.) (Sugai et al., 2000).

Training of Educators

Given the recent focus on FBA in schools, training has become a key issue. Educators are bound by the requirements outlined in the 1997 version of IDEA which was developed in a large part because of the research advancements and empirically validated procedures and also by the advocacy efforts of families and educators (Dukes et al., 2008). But the key to effective assessment, planning for intervention, implementation and subsequent modification depends on effective staff development (Dukes et al., 2008). Thus for students to be successful and for FBAs to be implemented correctly; staff needs to be properly trained in this procedure.

Many issues have surfaced in the implementation and training of professionals in the tenets of FBA (Scott, Alter & McQuillan, 2010; Conroy, Alter, and Scott, 2009). Conroy, Alter & Scott (2009) provide examples where training efforts have failed because of the complexity and formality with which FBA has been conceptualized and presented to school staff. Scott, Alter & McQuillan (2010) propose a process for considering FBA as a set of steps that are both familiar and realistic for classroom teachers. This study emphasized that a scaled down version of FBA needs to be used. Scaling down does not necessarily mean a watering down of the tenets of FBA, rather it implies a more precise, succinct and straightforward usage of language. This would also involve refraining from using jargons or esoteric vocabulary and present manifold vignettes and examples which would be relevant in the classroom.

Scott & Nelson (1999) assert that competence in FBAs would require teachers being trained in ABA theories and procedures as well as in functional intervention procedures. Scott & Nelson emphasized that teachers and educators have to accept and embrace the practice to avail the assessment procedures and interventions. In essence, this study stressed that this very important procedure should be taught in conjunction with other behavioral procedures and theories and that functional assessment should be a school wide practice which should be implemented in natural settings as a proactive rather than a reactive strategy.

Janine, Shellady, Sealander & Eigenberger (2000) examined FBA training for preservice teachers and scrutinized what was being taught to the teachers in the teacher training programs. This study stressed that the teachers should be given a comprehensive and in depth knowledge of this important assessment. It also reiterated that FBA should be taught as a process and it would behoove the instructors to use guided practice, mentor support and feedback in natural settings. It also emphasized that it is pivotal that the practitioners' critical and clinical abilities be honed and enhanced. The study also highlighted the fact that with this behavioral instruction, the teachers should be able to recognize behavior patterns, discriminate between assumptions and actual trends, and understand that behavior can have one function or multi- functions and then learn to develop interventions based on this information.

Conroy, Clark, Gable & Fox (1999) reiterated that implementation of an FBA is a "process-not a product", where the schools need to have a philosophical foundation for all students to stay in school, create an atmosphere of support within the schools for FBAs, and most importantly produce professionals who are well versed in the FBA process. The researchers emphasized that education regarding FBAs must be given both at pre-service and in-service levels of teacher training, as well as continued training and professional development through

implementation of university-school enterprises. The researchers also asserted that knowledge of FBAs should be extended to include district level administrators and those who are in the position of policy decisions. This training would not only give the professionals an understanding of the relevance of FBAs but also give these educators and professionals the skill set to develop district-wide policies and procedures.

Dukes et al., 2008 investigated the efficacy of a short-term intensive training program for special education teachers in FBA understanding and expertise. These special education teachers were trained in the FBA process and also in the subsequent development of recommendations to promote behavior change. The teachers trained in the FBA process were then compared to untrained teachers in the district. Teachers trained in the FBA process were better able to answer questions about function of behavior than teachers who did not receive training.

It is important that school staffs that are in contact with the student have an understanding of the process and are able to assess and implement an FBA. Most schools have a model of consultation, where the classroom staff waits for the “expert” and precious time is lost (Chandler et al., 1999). Chandler et al., (1999) examined the effectiveness of a training model for teaching school-based teams how to conduct an FBA and to retain those skills in a four month follow up period. This training and subsequent follow up was quite successful and the participants did make gains in the various methodologies of an FBA.

Crone, Hawken & Bergstrom, (2007) endeavored to increase schools' resources and staff skills in providing function-based behavior support to individual students with chronic problem behaviors. This goal of training school staff was accomplished by training teams of school staff to conduct FBAs of problematic behavior and to design, implement, and monitor function-based

BSPs. Over a period of 3-years, a total of 10 school teams received training and onsite consultation on FBA and function-based behavior support. Results indicated a statistically significant improvement in scores from pre- to posttest. The training showed an improvement in participants' knowledge of basic concepts, terminology, and applied principles of FBA.

All the studies cited so far have dealt with professionals' training in a group setting. But one thing that is evident from the research data is that training and instruction does have a positive impact on the understanding of FBA concepts and tenets. Ling & Mak (2012) took a sample of 311 frontline staff in educational settings and put them in one of three conditions: psychoeducation (PE) on autism, introduction of functional behavioral analysis (FBA) and emotional management (EM). A total of 175 participants completed all three sets of questionnaires during pre-training, immediate post-training and 1-month follow-up. The results showed that even these one session training workshops increased staff knowledge.

Therefore Functional Behavior Assessment is an important procedure mandated by Congress to be used by teachers and therapists to identify the function of problem behavior, and to replace the problem behavior with a functionally equivalent replacement behavior. An FBA endeavors to understand the relationship between the environment and the inappropriate behavior and come up with interventions that serve the same function for the individual as the problem behavior. The key link is to insure that professionals in education are equipped to conduct and interpret FBAs.

Chapter III

Methods

Participants

Three female participants volunteered from a residential facility that houses children and adults with special needs. All three participants were volunteers and had expressed a desire to be trained in functional behavior assessments. Each professional was actively involved in providing assessment, therapy, and counseling services to these individuals and their families. Learning how to conduct an FBA was an important part of their jobs and it was mandated by all the different school districts relevant to that organization. Thus this training was considered socially significant for them.

Sarah was a 37 year old female with a PhD in Psychology. She had been practicing in the field since 8 years. Molly was a 49 year old female with a PhD in Psychology and she had been working since 21 years. Brianne was a 28 year old female with a Master's degree in Special Education. She had been practicing since 5 years. After they had expressed a desire for the training and after I received approval from the Penn State University's IRB, I sent them a letter requesting their participation in the study. After being recruited for this training, the participants signed a consent form and agreed to the training.

Setting

The training for each participant took place in their individual offices. All offices were about 100 to 120 square feet. The training was initiated and completed on a laptop computer. All three participants used the same laptop and presentation which was placed on their desks, while they sat on their chairs and completed the training. There was no one else in the room at the time of training.

Materials

Power point presentation. A 35 min power point narrated training program was created (see Appendix C). The training program focused on defining FBA procedures, functions of behavior and intervention strategies. The training material was developed using information in O'Neill et al. (1997) and Cooper et al. (2007). The training included (a) definitions of an FBA, (b) defining behavior, (c) functions of behavior, (d) identifying the positive and negative reinforcement, (e) methods of gathering information about the client, (f) intervention plan development, and (g) decreasing problem behavior and finding behaviors which are functionally equivalent to the problem behaviors. The training focused on various setting events, predictor, teaching and consequence strategies. This training put together information that the participants needed within their organization to better conduct FBAs. Once the training program was completed, it was shown to two board certified behavior analysts (BCBAs) who verified that that the information was valid and relevant. One of the BCABs worked in the same organization where the study was conducted and he agreed that the power point training was relevant to the organization and would be beneficial to the participants.

Dependent Variable

Probes. First, a master list of 30 important FBA terms was developed. The terms were pulled from O'Neill et al. (1997) and Cooper et al. (2007). A BCBA examined the terms and verified that they were relevant specifically to the power point training and generally to FBAs. Then 21 probes were created in which the terms from the master list were randomly pulled. Each probe consisted of 10 questions and answers. The participants had to match the question to the corresponding answer.

Social Validity Survey. The social validity survey was an anonymous survey which was mailed to the participants a day after the data were collected (See Appendix B). The social validity survey included 5 closed ended questions ranging from the usefulness of the training to the relevance of the training for the therapists and their clients to ensuring that the presentation was easy to comprehend. It also had optional open ended questions where the participants could put in their feedback or comments.

Experimental Design

A multiple baseline across subjects design was used to evaluate the effects of the training on terms identification. A multiple baseline across subjects design is a method that is used for two or more subjects in the same setting and for the same behavior (Cooper et al., 2007). For this design, the independent variable is applied to one of the subjects while baseline conditions remain in effect for the other participant (Cooper et al., 2007). This study in congruence with a multiple baseline design set out to understand what the initial level of performance was and what happens after training is provided (Cooper et al., 2007).

Procedures

The participants were given the baseline probes first and were told to complete the probes. Each Participant was given 10 minutes to complete each probe. Sarah was given 3 baseline probes, while Molly was given 4 baseline probes, and Brianne was given 5 baseline probes. The training occurred in one day but each Participant completed the training at different times. When Sarah completed the baseline probes, she was put in training and then completed the intervention probes. Each Participant followed the same procedure and protocol. One day after the training, the participants were sent social validity forms which were filled out by the participants and mailed without disclosing their identity. Thus it retained the participants' anonymity.

Reliability

There were two scorers for the recording of scores for the probes. Both scorers scored the entire baseline and intervention probe set independently. Reliability was calculated at a 100%. The formula that was used:

$$\frac{\text{Smaller Count}}{\text{Larger Count}} \times 100 = \text{Total Count IOA \%}$$

Treatment integrity

Treatment integrity was maintained by giving all three participants the same instructions and the same intervention. The three participants were given the same voice over training power

point presentation in their office on the same laptop. All three were given probes which had been developed from the same master list.

Chapter IV

Results

Sarah was given 3 baseline probes with 10 questions each. She answered 7 of the 30 questions incorrectly. The mean correct for the baseline was 76%. At the end of the training, she was given 3 post intervention probes, which were all answered correctly. Thus the mean correct score for the post intervention was 100% (see Fig. 1).

Molly was given 4 baseline probes. She answered 11 of the 40 questions incorrectly. The mean correct for the baseline was 72.5%. For the post intervention probes, she was given 30 questions, and out of those, she got 2 answers wrong. Thus the mean correct for the intervention probes was 93%.

Brianne was given 5 baseline probes, and out of the 50 questions, she got 4 answers wrong. The mean correct for the baseline was 92%. For the post intervention probes, she was given 3 probes and the participant got all of the answers correct. Thus the mean correct score was 100%

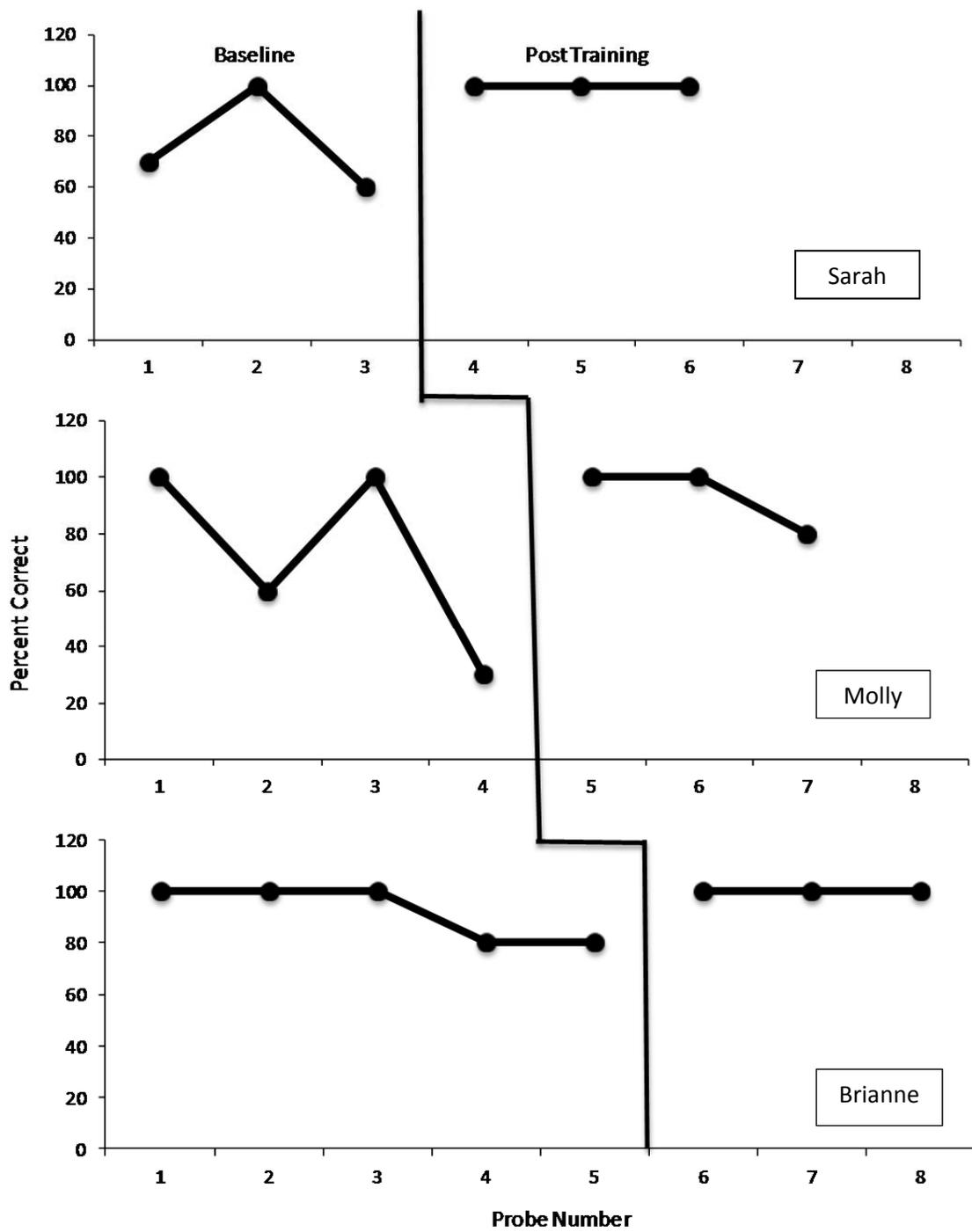


Figure 1. Multiple baseline across subjects design was used to compare the results of the participants from baseline to intervention conditions. Results indicate that the participants' scores increased after the training.

Chapter V

Discussion and Conclusion

Functional Behavior Assessment is a behavior support procedure that identifies the events which predict problem behavior and it also leads to the alleviation or reduction of the problem behaviors with strategies and interventions which are functionally equivalent to the problem behavior (O'Neill et al., 1997). This method seeks to identify the reinforcers that maintain problem behavior (Iwata & Worsdell, 2005). This methodology endeavors to identify the relationship between behavior and the individual's environment and develop interventions based on that relationship (O'Neill et al., 1997). For this group of participants, FBAs were an important part of their job requirements. Thus learning how to conduct an FBA was deemed significant by the participants. For the purposes of this study, I examined a method for successfully teaching the FBA procedure. A voiceover method of training was used instead of training each person personally or in a group by the researcher. This was not only a cost-effective method but it also had the advantage of being a computer based file which was retained for future use. The potential of successful usage of such methods is immense. Researchers can supplement a computer based method with direct instruction or utilize it independently.

The first research question investigated if the voice over training would be successful and if the participants would be able to comprehend tenets of an FBA without any human interaction. The results indicate that the participants' knowledge and understanding of FBA terminology did increase after the training. All the participants made mistakes on the baseline probes. After the training the majority of the participants scored perfect scores. This demonstrates that the computer based program was successful in teaching skills and increasing the knowledge of the

participants. This also indicates that increasing knowledge in FBAs would be beneficial for the participants in their roles as service providers to their clients.

The second research question would also be answered affirmatively as the participants did indicate that this training was beneficial for them and it did help them as therapists. They also indicated that this was relevant to their jobs and that they would be able to use this training to benefit their clients. The social validity survey was administered anonymously and it queried the participants about the importance and relevance of the training.

Delivering training via online or computer-based methods may hold several advantages over face-to-face methods of training. First, online versions may be delivered inexpensively. Even “in house” training can cost an organization in terms of lost therapist hours. This individually administered training could be used again and again to train therapists in FBA. Second, the content of the computer-based training was tightly controlled. Again, by recording (and rerecording as needed) only content deemed important was ultimately presented. Finally, therapists could complete the training according to their own schedules. Large group trainings or scheduling common times for trainings were not needed.

Limitations

Although the outcomes were positive, they must be viewed within the limitations of the study. First, the sample was one of convenience and volunteer participation. It is unknown how the training would work with individuals who were less motivated to complete the training. Second, generalizability and maintenance of skills was not investigated. Due to time constraints and the busy schedule of the participants, follow up probes could not be sent to them. Finally, even though the training increased vocabulary acquisition of the participants, it does not mean

that the participants were fluent at FBA procedures. Future studies should examine how knowledge of vocabulary plays out with administering a FBA.

Summary

This study has implications for the field of Behavior Analysis. Functional Behavior Assessment is a very significant procedure in the field of Behavior Analysis and also for therapists and teachers in schools. Since IDEA 1997, the prominence of FBAs has increased and schools and therapists are required to conduct this procedure and thus be trained in conducting FBAs. This study examined the relevant issue of facilitating therapists in the understanding and knowledge of FBAs. This study did not involve any human interaction with the training of participants. A voice over power point was used which was cost effective and very easily replicated. This kind of computer training was also beneficial because of the ease with which the participants could revise and review the information on the presentation. This kind of format can be used very inexpensively by employers to train their therapists without incurring huge consultant costs. Employers could also use such a format to supplement a real life presentation.

In conclusion, this study endeavored to train therapists in conducting FBAs. This study examined a method of training these therapists in identification of the problem behavior, in deciphering the function of the problem behavior and in coming up with interventions which are functionally equivalent to the problem behavior.

Appendix A

Social Validity Survey

The following survey was sent to the participants:

1. Did you find this training relevant to your job?

A. strongly agree

B. agree

C. strongly disagree

D. disagree

2. Will you be able to use this training with your clients?

A. strongly agree

B. agree

C. strongly disagree

D. disagree

3. Will your clients benefit from your training?

A. strongly agree

B. agree

C. strongly disagree

D. disagree

4. Did you benefit as a therapist from training?

A. strongly agree

B. agree

C. strongly disagree

D. disagree

5. Was the training easy to understand and comprehend?

A. strongly agree

B. agree

C. strongly disagree

D. disagree

6. Please provide any comment/suggestions/feedback about the training (Optional):

Results from the social validity survey:

Strongly agree	Agree	Strongly disagree	Disagree
9 answers	6 answers		

Appendix B
Sample Probe

Put the correct letter next to the definition:

_____ BIP	A. This tries to understand the relationship between student's problem behavior and the context.
_____ Positive Reinforcement	B. This is used to gather information about the client by interviewing people who know the client.
_____ Behavior	C. This is the plan which prevents problem behaviors from occurring, teaches alternative behaviors and tells us how to effectively respond when problem behaviors occur.
_____ Aim of BIPs	D. This needs to be observable and measurable. It should not be a construct or a subjective definition; rather it needs to be objective, usually a verb, narrow definition.
_____ Functional Behavioral Assessment	E. The aim is to try and make the problem behavior irrelevant, ineffective and inefficient
_____ ABC Narrative method	F. These work on making problem behaviors

	INEFFECTIVE ways of obtaining reinforcers.
_____ Function of Behavior	G. occurs when a response is followed by the presentation of a stimulus and as a result similar responses occur more frequently in the future.
_____ Consequence strategies	H. Collected only when Behaviors of interest are observed. The recording is open ended.
_____. Informant methods	I. This tells why the behavior is occurring
_____ Escape	J. Increase in the frequency of behavior which would get one out of an unpleasant situation would be considered what kind of negative Reinforcement.

Appendix C

Functional Behavior Assessment Training Materials

See link at:

<https://app.box.com/s/ygi0clx9k5vtxolmvy5>

Appendix D

Informed Consent Form

Informed Consent Form for Social Science Research

The Pennsylvania State University

Title of Project:

FBA training for Therapists

Principal Investigator:

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Academic Director, Applied Behavior

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814-865-3567 (voice)

1. **Purpose of the Study:** The purpose of this study is train therapists in Functional Behavior Assessment.

2. **Procedures to be followed:** You will be asked to take baseline probes, followed by the intervention and answer post intervention probes.
3. **Duration:** This whole process should take a maximum of 45 minutes.
4. **Statement of Confidentiality:** Your participation in this research is confidential. The data will be stored and secured at Dr. Lee’s office in a locked file. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared.
5. **Right to Ask Questions:** Please contact Durriya Shamsi (267-544-0733) or Dr. David (814-865-3567) with questions or concerns about this study.
6. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

You must be 18 years of age or older to take part in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.

You will be given a copy of this form for your records.

Participant Signature

Date

Person Obtaining Consent

Date

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