TRAINING PARENTS IN DESCRIPTIVE ASSESSMENT AND FUNCTION IDENTIFICATION

by

Makenzie Sip

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

Special Education

Approved:

Tyra Sellers, Ph.D. 
Major Professor

Thomas S. Higbee, Ph.D. 
Committee Member

Timothy A. Slocum, Ph.D. 
Committee Member

Mark R. McLellan, Ph.D. 
Vice President for Research and Dean of the School of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

2017
ABSTRACT

Training Parents in Descriptive Assessment and Function Identification

by

Makenzie Sip, Master of Science
Utah State University, 2017

Major Professor: Tyra Sellers, Ph.D.
Department: Special Education and Rehabilitation

Parents of children with special needs often have trouble knowing how to address their child’s problem behavior. This study examined the effects of group training on parents’ ability to take descriptive data, generate a hypothesis about the function of the problem behavior, and choose an appropriate intervention, as measured by assessing these skills using video vignettes of child actors engaging in problem behavior. Participants included four parents of children with autism spectrum disorder. Procedures involved assessing these skills both before and after a training class in which the instructor explained Antecedent-Behavior-Consequence (ABC) data, functions of problem behavior, and several types of interventions for these problem behaviors. Following the training class, generalization was assessed using video vignettes of each participant’s own child engaging in problem behavior. Results were inconclusive in determining if the training resulted in an increase in parents’ ability to record ABC data, write summary statements, and choose appropriate treatment choices or whether parents
were able to generalize these skills to the problem behavior of their own children. However, results did indicate that training was effective in increasing parents perceived confidence in explaining their child’s problem behavior to professionals.
Training Parents in Descriptive Assessment and Function Identification

Makenzie Sip

It is often difficult for parents to address their child’s problem behavior. Children with special needs can display more frequent and intense problem behavior. Therefore, professionals need to help parents of children with special needs identify how to decrease their child’s problem behavior. Professionals help to decrease problem behavior by performing assessments called descriptive assessments to identify why the problem behavior is happening, and then using these assessments to create an appropriate plan of how to prevent and respond to the problem behavior. We examined if parents could be taught the skills necessary to perform descriptive assessments and then use these assessments to choose appropriate ways to treat the problem behavior. Parents included four parents of children with autism spectrum disorder. Video vignettes of child actors displaying various problem behaviors were used to assess the parents’ ability to perform a descriptive assessment, figure out why the problem behavior was happening, and then use this assessment to choose appropriate ways to get the problem behavior to decrease. These skills were assessed prior to a training class and then following a training class where the parents were taught how to perform the skills. In order for parents to be able to use these skills in their everyday lives, it is important that they can apply the skills to their own children. Therefore, a video vignette of each parents’ child displaying problem behavior was used to see if the parents could apply what they had learned in the training
class to their own child. Results varied for participants. Therefore, it is unknown whether the training class in the current study helped parents to learn to perform a descriptive assessment to figure out why a problem behavior is happening and then use the assessment to identify ways to decrease the problem behavior. More research is needed to teach parents to apply these skills to their own children.
| CONTENTS |
|-------------------|---|
| ABSTRACT | iii |
| PUBLIC ABSTRACT | v |
| LIST OF TABLES | vii |
| LIST OF FIGURES | viii |
| CHAPTER |
| I. INTRODUCTION | 1 |
| II. LITERATURE REVIEW | 5 |
| III. METHODS | 13 |
| Participants and Setting | 13 |
| Materials | 13 |
| Dependent Variables | 17 |
| Data Collection | 18 |
| Interobserver Agreement | 19 |
| Treatment Integrity | 19 |
| Procedural Integrity | 20 |
| Experimental Design | 21 |
| Procedures | 21 |
| IV. RESULTS | 27 |
| V. DISCUSSION | 32 |
| REFERENCES | 37 |
| APPENDICES | 39 |
| Appendix A: ABC Data Recording Sheet | 40 |
| Appendix B: Treatment Choice Selection Sheet | 42 |
| Appendix C: Confidence Communicating with Professionals Questionnaire | 44 |
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Average Score Across Participants on Each Dependent Variable of the Parents’ Confidence Questionnaire Prior to Baseline, Following Training, and Following Generalization</td>
<td>30</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data for participants 1-4</td>
<td>28</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

Parents play a vital role in their child’s life. While this is true for all children, a parents’ role can become of even greater significance when the parent is the caretaker of a child with special needs. One reason is that children with special needs often require more support than typically developing children to grow both emotionally and physically so that they can become independent. Yura (1983) indicated parenting a child of special needs requires a parent to become knowledgeable in many different fields, such as education and physical therapy.

One of the roles of professionals in the field of behavior analysis is to provide support to parents of children with special needs in providing the extra help that is required to help these children work towards independence. One of the biggest challenges for parents of children with special needs is effectively addressing challenging behavior exhibited by their child (Fettig, Schultz, & Ostrosky, 2013). Therefore, professionals in the field of behavior analysis provide support to parents in helping to address these challenging behaviors. Research in the field of applied behavior analysis has found that problem behavior often serves a communicative function for children with special needs (Carr & Durand, 1985). For example, a child who does not have the ability to communicate that he needs a drink may engage in screaming until his parents are able to determine that he needs a drink and fulfill that need. When addressing challenging behaviors, professionals first seek to understand the communicative function that the problem behavior is serving, and then they implement a function-matched intervention.
Because parents are involved with the child’s daily activities, they have valuable knowledge about the routines and behaviors that occur (Fettig et al., 2013). Therefore, it may be beneficial for parents to be trained to identify the need that the child is communicating in order for parents and professionals to better work together in addressing challenging behavior.

In order to increase the likelihood of identifying and implementing effective interventions, first a functional behavior assessment (FBA; Iwata, Dorsey, Slifer, Bauman, & Richman, 1994) is conducted. An FBA begins with conducting interviews with parents and caretakers about when the problem behavior is most likely to occur. Following the interviews, data are collected on the antecedents, events that occur right before the behavior, and the consequences that immediately follow the problem behavior (also known as antecedent-behavior-consequence, or ABC data, or a descriptive assessment). In some cases, a final step is added to the FBA wherein a functional analysis (FA) is completed. During an FA, variables are experimentally manipulated in order to determine the function of the problem behavior, in other words, to determine the reason that problem behavior is occurring. Research has shown that function-based interventions are more effective in reducing challenging behavior than interventions not based on the function of the problem behavior (Ingram, Lewis-Palmer & Sugai, 2005).

After identifying the function of a problem behavior, professionals then use this knowledge to choose appropriate interventions for the behavior. Whereas, it may not be advisable to train parents to run the functional analysis part of an FBA, which requires advanced behavior analytic skills (Hanley, 2012), teaching them the skills necessary to
perform a descriptive assessment may allow parents to understand the function of the problem behavior. Following identification of the function of the problem behavior, parents could then be taught how to choose appropriate interventions. If parents were able to understand function and how to choose appropriate treatment choices, this could result in more consistency between the response to problem behavior by professionals in the clinical/school environment and the responses of parents in the home environment.

Reduction of problem behavior may be more significant if the reduction of the behavior is generalized. Generalization means that the reduction is seen across multiple settings and people. For example, generalization of reduced self-injurious behavior would be demonstrated if the behavior occurred less often not only in the clinical environment, but also in the home environment. For reduction of problem behavior to generalize across settings and implementers, it is important that the same interventions are implemented in the clinical setting, and by parents in the home. Communication between parents and practitioners has been identified as an important factor in effective implementation of interventions for problem behavior (Fettig et al., 2013) and may facilitate generalization. A parents’ ability to understand and more effectively implement interventions indicated by professionals for the reduction of problem behavior may increase if they were first trained in functional assessment skills and how to use these skills to choose appropriate interventions for the problem behavior.

Some studies have looked at training parents in specific interventions (Lucyshyn et al., 2007; Marcus, Swanson, & Vollmer, 2001; Moes & Frea, 2002) and parts of a functional analysis (Lucyshyn et al., 2007; Stokes & Luiselli, 2008). However, few
studies (McNeill, Watson, Henington, & Meeks, 2002; Shayne & Miltenberger, 2013) have examined parent training in function identification or the steps leading up to function identification. Parent training in descriptive assessment, function identification, and treatment choices might allow a parent to not only implement a specific intervention, but be able to identify the communicative function of the problem behavior. This could improve a parents’ ability to respond to problem behavior in general and not just one problem behavior. Therefore, researchers may benefit from examining whether training parents in the skills required to perform a descriptive assessment, identify function and choose appropriate interventions would result in parents becoming proficient in these skills and if, following training, the skills learned by parents would generalize to behavior displayed by their own child.
CHAPTER II
LITERATURE REVIEW

I searched ERIC and PsychInfo using the search phrases Parent Training and Functional Assessment, Parents and Descriptive assessment or ABC data, and Parent Training and Descriptive Assessment. Based on these results, studies were selected training if the study included parents in some part of the FBA including training them in a certain intervention or including them as a part of the functional analysis or if the procedure explained the process of training parents specifically in taking descriptive data as opposed to merely including it as a component of an overall larger training. The reference list in the articles that fit this criterion were also investigated to determine whether there were additional articles pertinent to the current research.

Researchers have made progress in trying to improve the collaboration between parents and professionals to create more effective interventions for problem behavior. Some studies (Lucyshyn et al., 2007; Marcus et al., 2001; Moes & Frea, 2002) involved training parents to participate in the interventions for challenging behavior exhibited by their children. Marcus et al. trained the mothers of four children with special needs who displayed challenging behavior in a specific differential reinforcement procedure that the researchers had determined appropriate for the children. The mothers were trained to implement differential negative reinforcement for three participants, and differential reinforcement of alternative behavior plus noncontingent reinforcement for two of the participants. One of the participants was prescribed both differential reinforcement of alternative behavior plus noncontingent reinforcement and differential negative
reinforcement.

Each mother was trained on the specific intervention that was prescribed for their child through written materials, role play, and corrective feedback. The training sessions were conducted in the homes of the children. The researchers used two multiple baseline designs to evaluate the two different interventions that were taught to the parents. The researchers evaluated both the child’s appropriate and inappropriate behavior during the interventions and the parents’ correct use of the intervention strategies that they had been taught. Marcus et al. (2001) found that parents successfully implemented the interventions they had been taught and there was a reduction in their child’s problem behavior. Although this study helped parents by training them in a specific intervention which produced a reduction in their child’s problem behavior, the study did not assess the parents’ ability to generalize these skills to other interventions. It may be of greater value to train parents in not only one intervention but how to identify appropriate interventions so that the skill of implementing effective interventions in the home would generalize to many different interventions for various problem behaviors.

Other studies have attempted to give parents skills in determining the function of their child’s problem behavior by training them to be the interventionist in an FA (Lucyshyn et al., 2007; Stokes & Luiselli, 2008). In the Stokes and Luiselli study, both parents of two children with autism were trained through role play to conduct conditions of an FA. The parents received the training in their homes and were taught how to run the different components of an FA with a graduate student playing the role of their child. The researchers used a multiple baseline across participants’ design to evaluate the results.
The parents were trained through watching a video of correct technique, receiving step-by-step instructions in writing, and being provided with feedback following the role play of each FA condition. Following the training, the participants were involved in a generalization probe where they ran one of the FA conditions with their actual child. Stokes and Luiselli found that all parents implemented components with near 100% accuracy when the training involved video feedback. The parents also performed with 100% accuracy during the generalization probe. Although the researchers taught parents how to run parts of an FA which helps professions to determine function, parents were only exposed to running these conditions in role play with the researcher and not with their actual children, except in the generalization probe. The researchers also did not teach parents how to interpret the data from the FA in order to figure out why the problem behavior was occurring. Training parents how to determine why a problem behavior is occurring may be more beneficial as it is the first step in choosing appropriate interventions for problem behavior.

Fettig and Barton (2014) conducted a literature review to evaluate the status of parent involvement in treatment for problem behavior. They analyzed 13 studies published between 1997 and 2009 that used parent implementation of function-based procedures to reduce challenging behavior. All of the 13 studies were conducted in the participants’ homes. The authors evaluated the studies by looking at the participant characteristics, the settings of the interventions, the independent variables, training that occurred before the intervention and support that was provided after the training, dependent variables, measurement of the outcome, measurement of fidelity, research
design, and the evidence of how the function of the behavior was determined.

Fettig and Barton (2014) found that parent collaboration varied a great deal across all the studies. While parent training was included in all of the studies, the extent of the collaboration was not well documented. They also determined that only 5 of the 13 studies documented parent collaboration in choosing the intervention for their child. It was also noted that there was a lack of generalization measurement in each of the 13 studies. This literature review indicates a gap in the literature. While parents are being taught function-based interventions, they are not being included in choosing the treatment for their children. They are also not being taught to generalize the skills taught in the studies which makes it difficult for them to apply these skills in a way that would be useful to them in their everyday lives. This literature review also highlights the lack of collaboration between parents and professionals. In many instances, parents are not included in the choosing and implementation of treatment to the extent that is needed for a skill to generalize from the clinical environment to the home environment. If parents are not included in choosing and implementing interventions for problem behavior reduction, then it may be difficult for them to implement the intervention in the home. Therefore, research is needed in which parents are taught how to choose treatments as this could facilitate better collaboration between parents and professionals in making treatment decisions which could facilitate better generalization of the reduction of the problem behavior.

McNeill et al. (2002) trained parents in the skills required to identify the function of problem behavior. The authors discussed that while previous studies had trained
parents to implement a specific intervention, these studies had failed to teach parents the
skills necessary to treat challenging behavior exhibited by their children across multiple
scenarios. McNeill et al. trained parents how to conduct simple functional assessments
and then use this assessment to design an appropriate intervention. In McNeill et al. the
training occurred in one of the treatment rooms located in a university clinic and
participants were four parents who were trained through video vignettes across four
sessions. Parents were taught how to operationally define behavior, identify the
antecedents and consequences of the behavior, and identify the different types of both
antecedent- and consequence-based interventions. Parents were assessed using three
questionnaires to determine a parent’s ability to define the behavior in behavioral terms,
observe the antecedents and consequences of the behavior and select appropriate
interventions for the behavior based on the determined function. These assessments were
administered before and after each of the four training sessions. McNeill et al. provided
data indicating that parental skills generally increased across each of the four sessions.
Some limitations of the study included the limited number of participants, the pre-
test/post-test design of the study, the failure to have maintenance checks to see if the
parents maintained the skills, and the failure to test for generalization to problem
behavior exhibited by their own children.

Shayne and Miltenberger (2013) extended the research in teaching parents the
skills to identify functions and interventions for problem behavior. Participants included
eight foster and/or adoptive parents and the training occurred in the offices of the agency.
In that study, Shayne and Miltenberger conducted two group trainings consisting of three
parents in one group and six parents in another group. In these trainings, parents were taught, using videos of problem behavior, to take ABC data, determine possible function of problem behavior based on the data, and then choose appropriate interventions based on the function that was hypothesized. Shayne and Miltenberger used a multiple baseline across participants’ design. Parents’ performance was assessed before training, right after the training occurred, and then in 1- and 2-week follow-up checks. A social validity component was also included to determine how valuable the parents felt that the training had been. The researchers found that after training, parents’ ability to write a summary statement, record ABC data, and choose three appropriate interventions increased. Most participants increased in all three levels (writing a summary statement, taking ABC data and choosing an appropriate intervention). However, it was also found that some of the parents scored lower in the follow-up sessions than they had in the post training assessments. This indicated a need for more practice in order for the parents to fully master the skills that had been taught such that those skills can be maintained over time.

Although these studies demonstrated that it is possible to teach parents the skills to determine possible functions and interventions for their child’s problem behavior, both McNiell et al. (2002) and Shayne and Miltenberger (2013) failed to evaluate if the skills acquired in training would generalize to problem behavior exhibited by the participants’ own children in the home setting. It is important that parents not only receive training in these skills, but that they can apply these skills at home in order for the skills to be functional and assist the parent in managing challenging behavior exhibited in their own homes. Because Shayne and Miltenberger included a relatively small number of
participants, it is important that the study be replicated to identify if similar results are obtained with additional parents. Although Shayne and Miltenberger included a social validity component in their study, the questionnaire only consisted of questions pertaining to whether or not the parents would use the skills they learned at home and if the parents perceived any benefit of the training. Studies have highlighted the importance of collaboration between parents and professionals in order to increase the effectiveness of interventions (Fettig et al., 2013; Marshall & Mirenda, 2002). Therefore, researchers should explore whether training in determining functions of and treatment for problem behavior would increase a parent’s perceived ability to communicate with the professionals that work with their children.

The purpose of the current study was to add to the literature of training parents of children with special needs in the skills required to perform a descriptive assessment and extend the research by evaluating the generalization and social validity of these skills using a multiple baseline across participants’ design. The following research questions were addressed in the current study.

1. Will training of parents with special needs in ABC data collection, and function identification, and choosing appropriate interventions for problem behavior result in an increased ability for parents to collect ABC data, identify function, and choose appropriate interventions for problem behavior?

2. Given successful completion of a parent training course on recording ABC data, determining function of problem behavior, and identifying possible interventions for problem behavior using video vignettes, to what extent will parents of children with special needs generalize the skills learned in the training course to problem behavior exhibited by their own child in the natural environment displayed in a video vignette?

3. Will training of parents of children with special needs in functional assessment skills increase parents’ confidence and perceived ability in communicating with professionals about their child’s behavior as measured by
pre-training perceived confidence survey score compared to post-training perceived confidence survey score?
CHAPTER III

METHODS

Participants and Setting

Participants included four parents of children with autism spectrum disorder (ASD). The children with ASD were between the ages of 5 to 12 years old. The participants were clients of an autism therapy company and were included if they were willing to complete the required tasks. The participants were asked to participate in a 5-hour training that included baseline sessions, a 1.5-hour training class, post-training sessions, and a generalization probe. They were asked to identify one specific problem behavior that their child exhibited frequently and capture an instance of this behavior on video. The participants were asked to video a 10-minute period of their child during a time of day and location when the problem behavior frequently occurred and the research team edited this clip in order to create a video vignette of the child engaging in problem behavior similar to the video vignettes that were used in the training class. Participants were asked to provide the video of their child engaging in a problem behavior to the research team two days prior to the training for editing purposes. They were asked to refrain from viewing the video prior to participation in the study. Parents that were not willing to do these two activities were excluded from the study.

Materials

A number of materials were used to collect data including video vignettes, ABC
recording sheets, and treatment choice assessment sheets.

**Video Vignettes**

Sixteen video vignettes were used during both assessment and training. The videos varied in length between 3 mins 7 s and 4 mins 7 s and were recorded by the researcher prior to the training sessions. The researcher recorded different scenarios of children engaging in five instances of one problem behavior and an adult providing programmed consequences using children actors of approximately the same age as the children of the parents involved in the study. The researcher then took the videos that were recorded and cut and spliced them to create 16 video vignettes that contained 2-3 different children with three different problem behaviors that served three distinct functions. The instances of the three distinct problem behaviors were displayed in a random fashion. However, each video contained five instances of three distinct problem behaviors displayed by the children. Therefore, each video contained 15 instances of problem behavior all together.

The same children actors were depicted in different video vignettes displaying different problem behavior that served a different function or the same problem behavior that served a different function to ensure that participants could identify the function of the different problem behavior displayed by the same child. The problem behaviors depicted in the video vignettes were maintained by three of the four functions that Shayne and Miltenberger (2013) used in their video vignettes. Some instances of the problem behavior served an escape function where the child was presented with a demand/work task, engaged in problem behavior, and then the demand/work task was removed. Some
of the instances of problem behavior served an attention function where the adult was not providing attention to the child, the child engaged in a problem behavior, and then the adult provided attention to the child. Finally, some of the problem behavior served an access to items function in which the adult took an item from the child, the child engaged in problem behavior, and then the adult returned the item to the child. The fourth consequence involved in the Shayne and Miltenberger study was removed to simplify the training so that all of the scenarios were of the same level of difficulty.

**ABC Recording Sheet**

The ABC recording sheet was similar to the ABC recording sheet used in the Shayne and Miltenberger (2013) study and an example of the form is included in Appendix A. The sheet was in checklist format with sections left open for the participants to write down summaries and more specific information if they felt it was necessary. The checklist included the following antecedent choices: parent not providing attention to child, work task/instruction given, and item taken away. The checklist included the following consequence choices: attention given, work task/instruction removed/changed, and item returned/given. The parents were instructed to fill in the appropriate boxes under each heading of antecedent, behavior, and consequence for each of the different problem behaviors displayed in the video vignette. They were also told that they could write in more specific information if they felt it was necessary.

**Treatment Choices Assessment Sheet**

The treatment choice sheet used in Shayne and Miltenberger (2013) was used
with a slight adaptation. The same choices were provided. However, the researcher mixed up the choices due to noting a pattern in the Shayne and Miltenberger treatment choices sheet and wanting to make sure that participants were identifying correct treatment choices and not the pattern of the treatment choices sheet. The treatment choices sheet is included in Appendix B. The treatment choices included three different type of behavior treatments described in everyday terms for the parent to understand. The treatment choices included three antecedent manipulations, three consequence manipulations, three procedures that involved teaching more appropriate replacement behaviors and three inappropriate treatment choices that served as distracters. The participants were instructed to choose three of the twelve treatment options that were appropriate treatment according to the ABC data they collected for each distinct problem behavior.

**Parent Confidence with Professional Interactions Questionnaire**

The research team developed a questionnaire about the participants’ confidence discussing problem behavior with professionals that work with their children and a copy of the questionnaire is included as Appendix C. The questionnaire included three questions about how confident a parent felt communicating with professionals, how likely the parents would be to approach a professional with concerns, and how well they felt that they could explain the problem behavior to the professional. The questions were based on a Likert scale and participants were given the questionnaire both before and after the training class and after the generalization probe.
Dependent Variables

ABC Data Collection

Researchers assessed the parents’ ability to take ABC data before, during, and after training, as well as in a generalization probe. This was defined as accurate ABC data on problem behavior shown to them in video vignettes. Accuracy was assessed by comparing the ABC data collected by the participant to ABC data that had been collected on the video vignettes by the research team comprised of a BCaBA with additional graduate level training in behavior analysis, a student seeking BCaBA certification with some bachelor level training in behavior analysis, and an RBT with some bachelor level training in research although not specifically in behavior analysis.

Function of Behavior Hypothesis

The researchers assessed parents’ ability to hypothesize about function of problem behavior before, during, and after training as well as in generalization probes. This was defined as writing a summary statement about a possible function of the problem behavior based on the ABC data that they took on the video vignettes. A correction sheet composed by the research team prior to the study was used to grade the participants’ summary statements.

Identification of Appropriate Interventions

The researchers assessed parents’ ability to identify appropriate interventions before, during, and after training as well as in generalization probes. This was defined as choosing an appropriate intervention from a list of choices given to them for the problem
behavior observed based on its possible function. A correction sheet composed by the research team prior to the study was used to grade the participants’ treatment choices.

**Parent’s Confidence and Perceived Ability to Communicate with Professionals Regarding Their Child’s Problem Behavior**

This was defined as how comfortable the parents felt in their ability to talk about behavior problems that were happening in the home with professionals that work with their children in home and school environments. This was assessed by a questionnaire distributed to parents regarding how comfortable they felt communicating with professionals and how likely they would be to do so. A Likert scale was used for the questionnaire.

**Data Collection**

For ABC data collection, the percent accuracy was calculated by dividing the number of correct identification of the antecedent/consequences out of a possible 30. Each video contained 15 instances of problem behavior in which the antecedent and consequence needed to be identified. The summary statements were assessed based on the same criteria that were used in the Shayne and Miltenberger (2013) study. They were graded on whether or not they included the antecedent, the target behavior, and the hypothesized function of the problem behavior. Each video contained three different problem behaviors and so the parents were required to complete three summary statements for each video. Therefore, each participants’ score for the summary statement
were calculated out of a possible nine for each video. The treatment selection data sheet included 12 treatment options with three of the options being appropriate treatment selections. The participants were asked to fill out three treatment selection data sheets for each video vignette in order to identify three appropriate treatment options for each of the three problem behaviors displayed in the video. Therefore, there was a possible nine correct treatment choices for each vignette.

**Interobserver Agreement**

Interobserver agreement (IOA) was assessed by having at least two members of the research team grade 67% of the assessments for accuracy. For the data on which IOA was assessed, two researchers checked the data of the participant for accuracy in recording ABC data, summary statements, and treatment choices to ensure that the researchers were in agreement about what the participant scored on the three variables. IOA was calculated by dividing the total number of instances in which the researchers matched by the total number of occurrences for which IOA was collected and was then multiplied by 100. IOA was 98.6%.

**Treatment Integrity**

Treatment integrity was assessed by having a researcher collect data to ensure that all of the materials intended for training were covered in the training session. This was done by creating a checklist prior to the training that included all the training components intended by the researcher to be covered in the training. The researchers placed a check
mark by the items on the list that were covered in the training and then that number was divided by the total number of intended items and then multiplied by 100 to determine a percentage of treatment integrity. Treatment integrity data were collected for only 50% of the training due to procedures taking longer than planned and some research assistants needing to leave prior to end of the training. The treatment integrity for the 50% of the training in which data were collected was 100%. However, there are no data to support that the second 50% of the training covered the planned material.

**Procedural Integrity**

We assessed procedural integrity by having a second, independent observer collect data to ensure that all procedures were implemented according to plan. This was done by creating a checklist prior to the study that included all of the steps for baseline, post-training, and generalization. The observer marked a check by each procedure that was implemented in the intended way and the final number was divided by the total number of intended items and multiplied by 100. During baseline, procedural integrity data were collected for 30% of all sessions with a score of 100%. However, because the procedures took longer than planned and some researchers were not able to stay for the full length of the training, procedural integrity data were not collected for any of the sessions during post-training or generalization. Therefore, there are no data to indicate if the procedures were followed.
Experimental Design

A multiple baseline design across participants (Cooper, Heron, & Heward, 2007) was used to evaluate the effects of the training on the participants’ ability to take ABC data, write a summary statement about a hypothesized function of problem behavior, choose an appropriate intervention, and generalize these skills to problem behavior exhibited by their own child. This design was chosen because it was important to determine how the skills of each individual were affected by the training.

Procedures

The procedures in this study replicated and extended those used in study by Shayne and Miltenberger (2013). We followed the procedures as closely as possible and extended them by adding a generalization condition in which parents viewed a video of their child engaging in a problem behavior in the natural environment. The training occurred over a 5 hr period which included baseline sessions, a 1.5 hr training class, post-training sessions, and a generalization probe all in one continuous sitting. The training took place at a treatment facility for a private autism therapy company. Prior to the class the parents were given data collection materials to assess their skills prior to training in recording ABC data, writing a summary statement about a hypothesized function of a problem behavior, and choosing appropriate interventions for the problem behaviors displayed in the videos.
Baseline assessments took place in a large training room where participants viewed the videos at the same time using different laptops. Two participants were seated at one table facing towards each other with their computers facing away from each other while the other two participants were seated in the same way on a different table across the room so that participants could not view the screen of other participants. Headphones were used so that each participant could not hear the video of the other participants. The participants were not allowed to talk to each other during the video. The researcher and research assistants were present the room to ensure that the participants did not interact throughout the duration of the video vignettes.

Participants were first asked to complete the confidence communicating with professionals’ questionnaire. Following this questionnaire, participants were shown between three and nine video vignettes. Participants were informed that they could pause the video if needed, but were asked to not rewind/replay the video. Participants were given 7 mins between video vignettes to write a summary statement regarding function of problem behavior, but received no other breaks between video vignettes. Participants viewed video vignettes in one continuous time period on the same day. The video vignettes shown varied across participants. The baseline session ended by each participant viewing the video vignette of their own child engaging in problem behavior. Participants were asked to take ABC data, determine possible function, and choose appropriate treatment options for each of the problem behaviors viewed in the video vignettes. The participants were not given any further instructions and were told that they
could not ask questions regarding what they were supposed to do during this portion of the study. The participants could receive help if they were having trouble with the technology that was used to view the video vignettes including going through the PowerPoint presentation and pausing the videos if needed.

Training

The training class occurred directly following baseline in the same large room where baseline assessments were conducted. The training was given in plain language to maximize the likelihood that participants understood what was being taught, and to avoid possible confusion caused by unfamiliar and highly technical terms. Training began with a discussion about how problem behavior is developed and the possible functions of a child’s problem behavior (i.e., attention, access to tangibles, and escape). The instructor then discussed short-term management versus long-term management of problem behavior and how they differ.

The instructor then trained participants on collecting ABC data. The instructor provided examples of an ABC data collection sheet and explained each component. The instructor provided participants with the definition of antecedent, behavior, and consequences. Each participant then participated in taking ABC data from a video vignette with the help of the instructor. The instructor went step by step through the video vignette with the participants, describing the different things that they should look for and how to collect data correctly. The instructor then discussed how to develop a hypothesis of the functions based on the ABC data that was taken by looking for patterns in the antecedents and consequences. The next step was reviewing the appropriate treatment
options for the problem behavior based on the hypothesized function. The instructor then repeated this process with another video vignette. For the second video vignette, the video was again paused to allow for data collection; however, instead of completing the data as a class, the participants completed them individually. Correct scoring was then discussed as a class and feedback was given. A final video vignette was viewed in which the video was not paused and feedback was discussed on an individual level. The class ended with the opportunity for participants to have questions about anything they did not understand answered by the instructor. Following the training, the post-assessment data was immediately collected with the same room lay-out in which baseline data were collected.

**Post-Training Assessment**

The participants viewed three video vignettes in the post-training assessment. The participants again watched the videos with 7 min pauses between videos to allow for data collection in one continuous sitting as they did in the baseline assessments. All of the video vignettes viewed in post-training were videos that had not been viewed by the participants during baseline. The participants were again asked to collect ABC data, write summary statements, and choose appropriate treatment options for the problem behaviors viewed in the video vignettes. Following the viewing of the first post-assessment video vignette a member of the research team corrected the data taken by participants. If the participants scored 80% or higher on each of the three components for the first video vignette, they immediately moved onto the second post-assessment video vignette without delay. Participants that scored 80% or less correct on any of the three descriptive
assessment skills (ABC data collection, summary statement, or treatment selection) in the first video vignette received corrective feedback from a member of the research team to help clarify their mistakes and provide more training in the areas that participants lacked proficiency. Following the corrective feedback, participants viewed the second video vignette to see that the corrective feedback was helpful in clarifying the training.

Participants that scored 80% or higher on each of the three components for the second video vignette viewed the third post-assessment video without delay. Participants that scored less than 80% on any of the three components continued to receive corrective feedback following every video until they reached a score of at least 80% for all three components of ABC data collection, writing a summary statement, and treatment selection and they had viewed at least three video vignettes. The completion of this criteria ended the post-training assessment phase. This criterion was adapted for participant 1 who was unable to reach 80% for all three dependent variables. He reached 80% in ABC data collection and the researcher determined that even with continued practice it was unlikely that he would reach 80% on all three dependent variables. Therefore, post-assessment sessions were not continued.

**Generalization Probe**

The generalization phase started directly following post-training assessments. The generalization probe consisted of viewing and scoring a video of the participants’ child engaging in problem behavior. The video used was the video that had been previously recorded by the parents and provided to the researchers prior to the training class.

Participants were again given the three assessments used in the baseline assessments and
post-training assessments. If scoring was below 80%, the participants were again given correct feedback and any questions that they had were answered by the research team. Following the generalization probe, participation in the study was concluded.

**Social Validity**

A questionnaire regarding the participants’ confidence talking with professionals about their child’s problem behavior was included during the baseline, post-training, and generalization phases. The questionnaire was administered to the participants prior to baseline, and directly following the post-assessment and generalization phases.
CHAPTER IV

RESULTS

The results from the study are indicated in Figure 1, which displays the percent correct for each dependent variable during baseline, treatment, post-treatment, and generalization probes. During baseline, the percent correct was variable across participants. ABC data were observed to have a higher percent correct than the summary statements and treatment choices. Following treatment, all participants’ skills increased in at least one of the three dependent variables except participant 4, who reached 100% for all three dependent variables during baseline. Some participants generalized the skills taught in training during post-training generalization probes, whereas other participants’ skills decreased from the baseline generalization probe to the post-treatment generalization probe.

During baseline, participant one scored between 6% and 63% for ABC data recording, 0% and 33% for summary statements, and scored 0% across sessions for treatment choices. For the generalization probe in baseline, participant one reached correct responding for 50% for ABC data, 67% for summary statement, and 33% for treatment choice. Following training, participant one scored between 10% and 87% for ABC data, between 67 and 78% for summary statements and between 0% and 11% for treatment choices. For the generalization probe following training, participant one scored 70% on ABC data, 33% on summary statement and 67% on treatment choices. Procedures were slightly altered for participant one due to him having difficulty using the technology used to display video vignettes. A researcher assisted participant one in
Note. While the graph is labeled sessions, it is important to note that all sessions occurred in one continuous sitting on the same day.

*Figure 1.* Data for participants 1-4.
pausing and playing the videos when he wanted during baseline. This assistance started
during the viewing of the first video vignette and continued throughout baseline. No
additional help was provided.

During baseline, participant two scored between 50% and 90% on ABC data,
between 33% and 67% on summary statements and between 0% and 56% on treatment
choices. Participant two scored 50% on ABC data, 67% on summary statement, and 33%
on the treatment choices for the generalization probe during baseline. Following training,
participant two scored 100% across sessions for ABC data, 100% across sessions for
summary statement, and between 67% and 100% for treatment choices. During the
generalization probe following training, participant two scored 100% on all three
dependent variables.

During baseline, participant three scored between 53% and 100% for ABC data,
0% and 100% for summary statements, and 11% and 88% for treatment choices.
Participant three scored 100% for all three dependent variables during the baseline
generalization probe. Following training, participant three scored between 87% and 100%
for ABC data, 100% across all sessions for summary statement, and between 78% and
100% for treatment choices. Participant three scored 100% for ABC data, 100% for
summary statement, and 67% for treatment choices during the post-training
generalization probe.

During baseline, participant four scored between 7% and 100% for ABC data,
between 11% and 100% for summary statement, and between 0% and 100% for treatment
choices. During training, participant four indicated that she did not understand the
instructions for the summary statement section of the data sheet which may have contributed to her highly variable data for the summary statement during baseline. For the generalization probe during baseline, participant four scored 50% for ABC data, and 33% for both summary statement and treatment choice. Following training, participant four scored 100% across sessions for all three dependent variables. During the generalization probe following training, participant four scored 30% for ABC data, 33% for summary statement, and 0% for treatment choice.

As shown in Table 1, a parents’ perceived confidence in communicating with professionals increased following training. Before baseline, the mean score for whether participants would approach professionals regarding their child’s problem behavior was 4. The mean score for whether participants would feel confident approaching professionals about their child’s problem behavior was 3.25 and the mean score for whether participants felt they would be able to explain their child’s problem behavior was

Table 1

Average Score Across Participants on Each Dependent Variable of the Parents’ Confidence Questionnaire Prior to Baseline, Following Training, and Following Generalization

<table>
<thead>
<tr>
<th>Questions</th>
<th>Before baseline</th>
<th>After training</th>
<th>After generalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>How likely would you be to approach professionals regarding problem behavior?</td>
<td>4.00</td>
<td>4.50</td>
<td>4.25</td>
</tr>
<tr>
<td>How confident would you feel in approaching professionals?</td>
<td>3.25</td>
<td>4.25</td>
<td>4.25</td>
</tr>
<tr>
<td>How well do you feel you could explain your child’s problem behavior?</td>
<td>2.75</td>
<td>4.00</td>
<td>4.00</td>
</tr>
</tbody>
</table>
2.75. After post-training, the mean for score for whether participants would approach professionals regarding their child’s problem behavior was. The mean score for parents’ confidence level in approaching professionals about problem behavior went up to 4.25 and the mean score for parents perceived ability to explain their child’s problem behavior went up to 4. Following the generalization probe, the mean for the likelihood that parents would approach professionals regarding their child’s problem behavior went down to 4.25 and the results for the other two dependent variables were the same as the post-training assessment. For the social validity component of how helpful the participants felt that the training was, two of the four participants scored it as 4 (helpful) and the other two participants scored it as a 5 (very helpful).
CHAPTER V
DISCUSSION

Overall, the data were inconclusive and do not allow a determination of whether the training was effective at increasing all participants’ ability to record ABC data, write summary statements about function, and select appropriate treatment choices for problem behavior. Whereas the data do indicate that following training, participants’ ability to collect ABC data, write a summary statement, and select appropriate treatment choices did stabilize at 100% for three of the four participants, it is difficult to determine if the increase resulted from the training or from other variables. While the data for participants one and two show an increase from baseline to post-training, these data should be considered with caution because of the increasing trend in baseline. Also, the data for participants three and four reached 100% across all skills following training. However, due to highly variable responding in baseline, it is very likely that participants could have reached these levels of accuracy with continued practice even without the training.

While participants one and two increased in their ability to generalize the skills of taking ABC data, writing a summary statement, and choosing appropriate treatments from the baseline generalization probe to post-training generalization probe, these results were not replicated in the data of participants three and four for which data indicated a decrease in ability to generalize these skills from baseline generalization probe to post-training generalization probe. Therefore, the data do not support that the training was effective in teaching parents to generalize the skills to their own children. The researchers were unable to replicate the findings of Shayne and Miltenberger (2013), which indicated
most participants increased in at least two of these skills following training.

However, the baseline data in the current study were very similar to the baseline data from the Shayne and Miltenberger (2013) findings. While Shayne and Miltenberger indicated that the variable data in baseline in their study was a result of participants being able to identify some functions of problem behavior more easily than others and not a result of practice effects, the researchers of the current study found no such patterns in the data for this study. The difference noted in the patterns may have resulted from the Shayne and Miltenberger video vignettes only containing one function of problem behavior per video vignette while the video vignettes in the current study contained three problem behaviors with three different functions making it slightly more difficult.

While the researchers are unable to make a determination regarding the effectiveness of the training class in teaching parents of children with special needs to collect ABC data, write summary statements, and choose appropriate treatments, the data did indicate that the training resulted in an increase in both parents perceived confidence in communicating with professionals, and their perceived ability to be able to effectively explain their child’s problem behavior to professionals. This could indicate that the training might increase collaboration between parents and professionals regarding problem behavior because parents felt that they were more confident in doing so.

There were many limitations to the current study that could have resulted in the varied data. The first limitation of the study is that baseline data were not as stable as necessary to demonstrate clear experimental control. The baseline and post-training sessions took much longer than in practice runs. Therefore, to be respectful of
participant’s time, the researcher did not run additional sessions during baseline although this may have resulted in better experimental control. However, the baseline data from participants three and four indicate that even if additional sessions had been implemented, it is very likely that participants one and two could also have increased in the ability to perform the skills being measured simply due to continued exposure and the practice effects demonstrated in the data from participants three and four. Therefore, while extending baseline is usually indicated for variable baseline data, it is likely that it would not have been beneficial in this case. It is possible that future researchers might want to use probes over various days and weeks to evaluate these skills in order to reduce the practice effects seen from continued exposure.

A second limitation of the current study which may have resulted in the practice effects during baseline as well as the lack of generalization of the skills is the clear demonstration of functions displayed in the video vignettes created by the researcher. The antecedent, behavior, and consequence of the problem behavior clips was very straightforward and easy to identify because the researcher anticipated that participants would need straightforward examples in order to learn the skills. However, this likely contributed to participants being able to perform the skills more accurately with repeated exposure. The straightforwardness of the videos, may also have contributed to the lack of ability for all participants to generalize the skills taught to the video of their own child engaging in problem behavior. While the generalization videos were edited to closely resemble the videos made by the researcher, the function of the problem behavior in the generalization videos were not as evident as they were in the videos made by the
researcher. Future researchers should possibly look at training participants with straightforward videos at first and then introducing increasingly difficult videos in order to increase the participants’ ability to generalize the skills to real life problem behavior and decrease the chance of practice effects.

Another limitation of the current study was the data sheet used to assess the parents’ ability to perform the skills. An ABC data checklist form was used, which resulted in participants having few options to choose from, which may have contributed to the practice effects observed in the data. Because there were relatively few options for antecedent, behaviors, and consequences, the chance that parents would be able to identify what occurred in the video was relatively high. Future researchers should look at possibly using an ABC descriptive data form instead of a checklist form which might ensure that participants could identify the antecedent and consequence independently and that the data sheets were not aiding their ability to do so.

A final limitation to the current study was the way that the data were scored, which could have contributed to the lack of increase during the generalization probe following training. Because of the way that the data were scored, if the participant identified the incorrect function of the problem behavior, then they would automatically get the treatment choices incorrect. This effect is demonstrated by the data for participant four. She chose the wrong function of the problem behavior displayed in her generalization video, but chose appropriate treatment choices for the function that she indicated. However, because she indicated the wrong function, the treatment choices were also incorrect. Future research may look at scoring data so that the treatment
choices are not dependent on choosing the appropriate function. However, it is important to note that while this may have changed results for the selecting appropriate treatment choices, it would not have changed the results for accurate ABC data collection or writing summary statements.

Future researchers might also investigate if training increases the fluency of the skills. Anecdotally, during baseline, all participants took the full 7 mins provided in order to write summary statements and choose appropriate treatment choices. However, following training, participants two, three, and four took less than 5 mins to complete the same tasks. Latency was not recorded, so it is unknown exactly how much faster they were able to complete the tasks. Future researchers might have a latency timer to determine improvements in the fluency of the skills following training.

Future research is needed to determine if parents can be effectively taught the skills of collecting ABC data, writing summary statements about function, and selecting treatment choices for problem behavior. The training package in the current study did not result in parents generalizing the skills to problem behavior displayed by their own children. Researchers may wish to investigate additional ways for parents to learn these skills that could result in the ability to generalize the skills to their own children. For example, generalization may be achieved by including a wider variety of exemplars in training or including video samples that are more like the video samples provided by families. It is important to research ways to teach these skills that result in generalization of the skills because generalization of the skills is what will allow parents to use these skills in their everyday lives.
REFERENCES


APPENDICES
Appendix A

ABC Data Recording Sheet
**Instructions:** Please put a check next to the **ONE** that best matches what happened right before the problem behavior (antecedent), the problem behavior that happened and what happened right after the problem behavior (consequence) for each clip in the video. If you put “other,” please indicate what happened in the blank provided.

Complete the bottom of the worksheet (“Summary Statement”) AFTER you have watched the video and completed the ABC Data section.

<table>
<thead>
<tr>
<th></th>
<th>Antecedent</th>
<th></th>
<th>Behavior</th>
<th></th>
<th>Consequence</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Parent not providing attention to child</td>
<td></td>
<td>Spitting</td>
<td></td>
<td>Attention given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work task/instruction given</td>
<td></td>
<td>Throwing</td>
<td></td>
<td>Work task/instruction removed/changed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item taken away</td>
<td></td>
<td>Taking items</td>
<td></td>
<td>Item returned/ given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td>Parent not providing attention to child</td>
<td></td>
<td>Spitting</td>
<td></td>
<td>Attention given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work task/instruction given</td>
<td></td>
<td>Throwing</td>
<td></td>
<td>Work task/instruction removed/changed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item taken away</td>
<td></td>
<td>Taking items</td>
<td></td>
<td>Item returned/ given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td>Parent not providing attention to child</td>
<td></td>
<td>Spitting</td>
<td></td>
<td>Attention given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work task/instruction given</td>
<td></td>
<td>Throwing</td>
<td></td>
<td>Work task/instruction removed/changed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item taken away</td>
<td></td>
<td>Taking items</td>
<td></td>
<td>Item returned/ given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>Parent not providing attention to child</td>
<td></td>
<td>Spitting</td>
<td></td>
<td>Attention given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work task/instruction given</td>
<td></td>
<td>Throwing</td>
<td></td>
<td>Work task/instruction removed/changed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item taken away</td>
<td></td>
<td>Taking items</td>
<td></td>
<td>Item returned/ given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>#5</td>
<td>Parent not providing attention to child</td>
<td></td>
<td>Spitting</td>
<td></td>
<td>Attention given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work task/instruction given</td>
<td></td>
<td>Throwing</td>
<td></td>
<td>Work task/instruction removed/changed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item taken away</td>
<td></td>
<td>Taking items</td>
<td></td>
<td>Item returned/ given</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**SUMMARY STATEMENT**

**Instructions:** Please write a summary statement indicating why you think the **FIRST PROBLEM BEHAVIOR IN THE VIDEO** is happening. Include in your summary the immediate situation (antecedent), the problem behavior that is happening, and the reason you think the problem behavior is happening.
Appendix B

Treatment Choice Selection Sheet
Treatment Choice Selection Sheet
(adapted from Miltenberger & Shayne, 2013)

Please circle the three best choices for possible treatment options for FIRST PROBLEM BEHAVIOR observed in the video.

1. The parent will no longer allow the child to escape from the task following instances of the problem behavior.
2. The parent will give the child more attention throughout the day.
3. The parent will give the child access to the preferred item after instances of appropriate requesting for the item or after instances of other appropriate behavior that has been discussed in advance.
4. When problem behavior occurs the parent will let the child take a break from the task in order to calm him/her down.
5. The parent will no longer attend to the child following instances of the problem behavior.
6. The parent will provide the child with warnings regarding the onset of a demand/task.
7. The parent will no longer allow the child access to the preferred item following instances of problem behavior.
8. The parent will explain to the child in detail why his/her behavior is wrong immediately after the problem behavior occurs.
9. The parent will provide praise and attention once the child completes the task.
10. The parent will let the child have a preferred item following instances of problem behavior in order to calm the child down.
11. The parent will provide expectations and rules about when/where/under what circumstances the child can have the preferred item
12. The parent will give the child attention following instances of appropriate behavior.
Appendix C

Confidence Communicating with Professionals Questionnaire
Confidence Communicating with Professionals Questionnaire

1. How likely are you to approach a professional about your child’s problem behavior?

2. How confident would you feel talking to a professional about your child’s problem behavior?

3. How well do you feel you can explain your child’s problem behavior to a professional?