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## Evaluation of Behavioral Skills Training for Teaching Functional Assessment and Treatment Selection Skills to Parents

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Evaluation of Behavioral Skills Training for Teaching Functional Assessment and  
Treatment Selection Skills to Parents

by

Rachel K. Graves

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Arts  
Department of Child and Family Studies  
College of Behavioral and Community Sciences  
University of South Florida

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classroom training

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## Dedication

I dedicated this manuscript to my family, for their support throughout my academic career, both emotionally and financially. I would also like to dedicate this manuscript to my fiancé, Andrew, for his support, encouragement, and love.

### Acknowledgements

I would like to acknowledge and thank my advisor, Dr. Raymond Miltenberger. During my two years at USF he has been a great mentor and a source of valuable information and encouragement. I would also like to acknowledge Dr. Kim Crosland and Dr. Bobbie Vaughn for their support throughout my thesis. Lastly, I would like to acknowledge and thank my research assistants, Victoria Fogel, Shannon Koehler, Viviana Gonzalez, and Errity Jones.

## Table of Contents

List of Tables	ii
List of Figures	iii
Abstract	iv
Introduction	1
Method	7
Participants and Settings	7
Materials	7
Video Vignettes	8
ABC Recording Sheet	8
Treatment Choices Recording Sheet	9
Target Behaviors and Data Collection	10
Inter-Observer Agreement	11
Procedures	11
Baseline	11
Training	12
Post-Training Assessments and Corrective Feedback	13
Follow-Up Assessments	14
Treatment Integrity	14
Social Validity	14
Results	15
Treatment Integrity	22
Social Validity	22
Discussion	24
List of References	29
Appendices	32
Appendix A: Video Vignettes	33
Appendix B: ABC Data Sheet	34
Appendix C: Treatment Choices Recording Sheet	35
Appendix D: Summary Statement Matrix	36
Appendix E: Treatment Integrity Checklist	37
Appendix F: Social Validity Questionnaire	39

## List of Tables

Table 1.	Average Score on Each Dependent Variable for Each Participant in All Phases	17
Table 2.	Average Score on Each Dependent Variable in All Phases for the Four Types of Function	21

## List of Figures

- Figure 1. The percentage correct on each dependent variable across baseline, training, post-training, and follow-up assessments for four participants. Closed circles = ABC recording, open squares = summary statement, and closed triangles = treatment choice. \* indicates the demand/attention functions. 16
- Figure 2. The percentage correct on each dependent variable across baseline, training, post-training, and follow-up assessments for the four other participants. Closed circles = ABC recording, open squares = summary statement, and closed triangles = treatment choice. \* indicates the demand/attention functions. 19

## Evaluation of Behavioral Skills Training for Teaching Functional Assessment and Treatment Selection Skills to Parents

Rachel K Graves

### ABSTRACT

There have been many studies on teaching behavior analytic skills to parents for addressing problem behavior exhibited by their children. However, very few studies have addressed the issue of teaching parents to conduct a functional assessment and design a treatment for the problem behavior. The present study utilized behavioral skills training to teach parents how to conduct ABC recording, write a summary statement based on the data collected, and determine the proper treatment choices. The 8 participants participated in one 3 hour class in which a trainer used instructions, modeling, rehearsal, and feedback to teach these three skill sets. Prior to class, during class, directly after class training, and 1 to 2 weeks following class, the participants viewed at least four videos with each showing a problem behavior serving a different function in the context of a parent child interaction. The percentage of correct responding for each dependent variable (ABC recording, summary statement, and treatment choices) was calculated and baseline and post-treatment scores were compared via a multiple baseline across participants design. The results showed an increase in the percentage correct for most skills for most participants. These results show that it is possible to teach parents to conduct a functional assessment and chose proper treatment strategies. Future implications in parent training are discussed.



## Introduction

Many children exhibit problematic behaviors, such as tantrums, noncompliance, and other disruptive behaviors (Johnson & Katz, 1973). Their parents often lack the knowledge of behavioral principles and the proper ways to handle their children's behavior. Thus, inappropriate contingencies may form that promote child problem behaviors. For example, a child may refuse to do a chore by screaming and stomping his feet because in the past this behavior has been reinforced by escape from the chore. Because the parent may have let the child get out of doing the chore following similar behavior in the past, this behavior is now more likely to occur. Fox, Dunlap, and Cushing (2002) discuss how many children who display challenging behaviors are likely to continue to have behavioral challenges and also have a greater probability of having more difficulties in elementary school and into adolescence. They discuss the importance of family involvement in early intervention techniques.

Many studies have addressed the issue of training parents using behavior analytic principles in an attempt to teach parents the skills to reduce their child's problem behavior (McIntyre, 2008; Sanders & James, 1983; Sanders, Mazzucchelli, & Studman, 2004; Sharry, Guerin, Griffen, & Drumm, 2005). These strategies are generally called behavioral parent training (BPT; Serketich & Dumas, 1996; Van Camp et al., 2008). Behavioral parent training typically involves giving the parents instructions on what to do and descriptions of behavioral procedures, modeling of the procedures, role-play, and corrective feedback. The majority of research on parent training focuses on teaching parents skills to manage their child's behavior more effectively; these skills are often

consequential manipulations such as various forms of differential reinforcement, redirection, extinction, and time out (Hawkins, Peterson, Schweid, & Bijou, 1966; Peed, Roberts, & Forehand, 1977; Van Camp et al., 2008; Webster-Stratton, 1998). These studies often report an increase in appropriate behavior by the parents as well as a decrease in inappropriate behavior exhibited by their children following training. However, some studies have shown that these new parenting skills do not generalize to the home setting and do not maintain in follow-up assessments (Sanders & James, 1983; Wahler, 1980). One possible explanation for this issue is that the parents were taught specific consequential manipulations to deal with problem behavior but were not taught about possible functions of the problem behavior and how to identify these functions in order to change the environment and thus change the variables responsible for their child's behavior (McNeill, Watson, Henington, & Meeks, 2002).

Although there has been much research on teaching parents how to decrease their child's problem behavior and how to teach their child important skills, there has been little research on how to teach parents to conduct a functional behavior assessment to identify the antecedents and consequences of problem behavior and come to a conclusion about possible functions for the behavior. Such training could be beneficial because parents would learn how to choose functionally appropriate treatment for problem behaviors. Durand and Hieneman (2008) discuss and outline a program for parents of children with challenging behavior called Positive Family Intervention (PFI); this approach utilizes the principles and strategies of positive behavior support (PBS), an application of applied behavior analysis, with the addition of a cognitive-behavioral portion designed to address parents' pessimistic attitudes and beliefs. In this parent training program, parents are taught to define behavior in observable and measurable

terms, identify, describe, and record the antecedents, and consequences of their child's problem behavior, and to take data on the frequency and/or duration of their child's problem behavior. They are then guided by the trainer through a process of analyzing the patterns of the behavior and determining possible interventions. Although these are the core components of a functional assessment, the program discussed by Durand and Hieneman is much more extensive and also places great emphasis on analyzing parental self talk and pessimistic thoughts.

In an experimental analysis, McNeill et al. (2002) examined the effects of training parents to administer functional behavior assessments and then to design an intervention. In this study, four parents were trained in four sessions that utilized modeling to identify problem behavior and the antecedents and consequences, conduct functional behavior assessments, and design interventions. These skills were assessed using written questionnaires administered before treatment and after every session. In Session 1, the parents learned how to operationally define problem behavior, and define consequences. In Session 2, they learned how to define antecedents and discussed replacement behaviors and the importance of replacing inappropriate behavior with an appropriate one. In Session 3, they learned procedures to increase appropriate behavior, change antecedents, and change consequences, and when to use positive and negative reinforcement. In Session 4, they learned ways to decrease inappropriate behavior including differential reinforcement, verbal reprimands, and timeout. The results showed that participants scored significantly higher on the questionnaires as they received more training. However, the skills were assessed via questionnaire and data on the parents' actual behavior of conducting indirect or direct observation measures during the functional assessment (i.e. recording data on the antecedents, behaviors, and

consequences, and interviewing relevant people and recording their findings) were not assessed.

Teaching parents how to conduct functional behavior assessments is an important step when teaching parents how to manage their child's problem behavior. Data on parents' ability to accurately record data on the antecedents and consequences of problem behavior is important when examining the effects of a training program designed to help parents determine the function for their child's behavior. In a recent study, Lerman, Hovanetz, Strobel, and Tetreault, (in press) examined the accuracy of teacher collected data on the antecedents and consequences of problem behavior. The teachers collected data while observing video tapes of common complex interactions. The researchers compared two types of recording formats: narrative and structured. With the narrative recording format, the teachers were to provide a narrative description of the interaction. With the structured format, the teachers used a data recording sheet that had a list of events to select when recording information about the events surrounding the behavior. Accuracy was assessed by comparing the teachers' scores and an "expert's" score and calculating the inter-observer agreement. The teachers' data were more accurate when they recorded using the structured format compared to the narrative format; in addition, the teachers showed a preference for this format. Therefore, when putting together a training program for parents on functional assessments it may be beneficial to use a structured ABC recording format.

Even though there has been little research on teaching people to conduct a functional assessment there have been several studies evaluating training to teach people to conduct a functional analysis. Similar to a functional assessment, a functional analysis helps to identify the function of problematic behavior and determine an appropriate

intervention. However, a functional analysis is an experimental analysis in which variables are systematically manipulated in different conditions (e. g., demand, attention, alone, play) in order to determine the function of the behavior. One criticism of functional analysis methodology is that it takes someone with extensive training and knowledge of the procedures to conduct an analysis with high accuracy (Iwata et al., 2000). However, Iwata et al. (2000) taught undergraduate students how to conduct functional analyses using group training with written descriptions and outlines of the conditions, video modeling of the conditions, and corrective feedback. The results of this study showed that all participants improved following the training. In addition to this research, Wallace, Doney, Mintz-Resudek, and Tarbox (2004) taught teachers in a 3 hr workshop how to implement functional analyses. The workshop included descriptions of each experimental conditions, video modeling of each condition, and role-playing. Following this workshop, the participants then conducted the functional analyses; if the participant did not conduct one of the conditions with more than 90% accuracy, he or she received specific verbal feedback and then conducted the analysis again. All three of the participants scored extremely high following training; two met criteria for accuracy after the workshop and one required the additional feedback to meet the criteria. These two studies demonstrate that it does not require extensive training to teach someone how to do a functional analysis. In addition to this research, others have also shown that it is possible to train people how to conduct a functional analysis with high accuracy (Moore & Fisher, 2007; Najdowski, Wallace, Doney, & Ghezzi, 2003; Najdowski et al., 2008). It is reasonable to believe that because numerous studies demonstrate you can teach non-professionals how to conduct a functional analysis with high accuracy, that you could

also train people, including parents, how to conduct a functional assessment with high accuracy.

The purpose of this study was to examine the effectiveness of a parent training program to teach parents how to conduct a functional assessment of problem behavior. Behavioral skills training was used to teach the parents to record data on problem behavior using a structured ABC recording sheet, generate a summary/hypothesis statement about the function of the behavior, and choose appropriate treatment strategies.

## Method

### *Participants and Setting*

Participants were eight foster and/or adoptive parents, six females and two males, who volunteered to take a parent training class offered through a local foster/adoption agency as part of thesis study. Two participants were single mothers. Seven of the participants had foster, adoptive, and/or biological children in their home at the time of this study. The parents were required to take training classes as part of the requirement for being a foster/adoptive parent, and this class met part of that requirement. Prior to participating in this study, the parents had not taken any courses that covered the topic of functional assessment or treatment for child problem behaviors. The parent training class taken by the participants in this study was taught at two main offices of the agency in a 5 m x 5.5 m classroom and a 2.5 m x 4 m classroom that both had a laptop, projector, and dry erase board with markers. Each room had a large table in the middle with chairs around the table for the participants, the instructor stood at the head of the table. The post-training assessments were conducted in adjacent offices or cubicles located in the building.

### *Materials*

A number of materials were used for data collection, including the video vignettes the subjects scored to assess their ABC data collection and treatment selection skills, ABC recording sheets, and treatment choice recording sheets.

*Video vignettes.* The videotapes used for assessments and training consisted of twelve different scenarios (see appendix A). The videos ranged in length from 2:06 minutes to 4:20 minutes. All of the tapes involved an interaction with a parent and a child in which the child engaged in several instances of a specific problem behavior; some of the instances of problem behavior were followed by a specific consequence. Prior to assessments, another behavior analyst was shown the videos and agreed that each video accurately depicted the antecedents and consequences it was designed to depict. Three of the videotapes represented a scenario in which the child had no attention from the parent, the child engaged in problem behavior, and then got attention from the parent (attention). Three of the videotapes represented a scenario in which the child was given a task to complete, the child engaged in problem behavior, and then the child was allowed to escape/avoid the task (escape). Three other videotapes represented a scenario in which an item was present and the child was denied access to the item, the child engaged in problem behavior, and the child was given the item (tangible). The last three videos involved scenarios in which the child was given a task/demand, the child engaged in problem behavior, and the child was given attention by the parent (demand/attention). The problem behavior demonstrated by the child in these videos included behaviors associated with noncompliance, aggression, and tantrums. Four of these videos, one of each scenario, were used exclusively in class for modeling and practice; the other eight videos were used for baseline, post training, and follow-up assessments.

*ABC recording sheet.* This sheet had sections for the behavior, antecedents, and consequences. Various choices were written under each section (e. g., under the antecedent column - no attention from parent, given a demand/task, access to preferred item/activity denied); there were also sections left blank for the participants to write in a



different or more specific event if necessary. Each row corresponded to one instance of antecedent, behavior, consequence; the participant was instructed to check the appropriate boxes under the different sections. At the bottom of the ABC recording sheet, there was a space for the participant to write a summary statement (see appendix B).

*Treatment choices recording sheet.* This sheet was attached to the ABC recording sheet. It consisted of a list of 12 possible treatments with three different types of treatment choices: antecedent manipulations, consequence manipulations, and procedures to teach alternative behavior (i.e., some form of differential reinforcement) and one category of inappropriate parental response involving inadvertently reinforcing the problem behavior. The participant was told to choose three treatments from the list and, depending on the information from the ABC recording, only one antecedent manipulation, one consequence manipulation, and one form of differential reinforcement was functional for the ABC information and therefore correct. For the attention function, the three correct treatments were; the parent will give the child more attention throughout the day, the parent will no longer attend to the child following instances of the problem behavior, and the parent will give the child attention following instances of appropriate behavior. For the demand function, the three correct treatments were; the parent will provide the child with warnings regarding the onset of a demand/task, the parent will no longer allow the child to escape from the task following instances of the problem behavior, the parent will provide praise and attention once the child completes the task. For the tangible function, the three correct treatments were; the parent will provide expectations and rules about when/where/under what circumstances the child can have the preferred item, either one of two consequence manipulations - the parent will no

longer allow the child access to the item following instances of problem behavior, or the parent will no longer attend to the child following instances of problem behavior, and 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. For the demand/attention function, the three correct treatments were; the parent will give the child more attention throughout the day, the parent will no longer attend to the child following instances of the problem behavior, and either one of two forms of differential reinforcement - the parent will give the child attention following instances of appropriate behavior and the parent will provide praise and attention once the child completes the task. The remaining choices were not functional or were not actual treatments and therefore incorrect (see appendix C).

#### *Target Behaviors and Data Collection*

Three sets of data were analyzed in this project. The data were collected from the participants' ABC recording as they observed the video vignettes before, during, and after participating in training, and at 1 to 2 week following up assessments. First, the percentage of correct responses on the ABC recording sheet was calculated. It was decided that labeling the correct category of behavior was not as important as accurately identifying the antecedents and consequences; therefore, the percentage correct represents the correct choice of antecedent and consequences only. Because there were 6 occurrences of problem behavior in each video and 2 scored categories (antecedents and consequences), there were 12 opportunities for correct responses. Data for the ABC recording were calculated as the percentage of the 12 response opportunities that were correct. Second, the percentage of correct sections of the summary statement was calculated; the sections included: immediate situation (antecedent), identification of the

problem behavior, and the maintaining function (see appendix D for the scoring matrix). The participants' summary statements were compared to a standard one that was completed by the researcher. Third, the percentage of correct items chosen from the treatment choices recording sheet was calculated. The participants were asked to choose three treatment choices; only three choices from the list were correct for each function (with the two exceptions noted above).

#### *Inter-observer agreement*

Inter-observer agreement (IOA) was calculated by comparing the grading of two researchers on each of the three data sets. Inter-observer agreement was collected on 73% of all data. For each recording sheet there was a grading template to aid in scoring the participants performance. The primary researcher's scoring served as the primary data for IOA; a second researcher scored the participants' data using the template. The two scores of the researchers were compared for IOA. Agreement was calculated by dividing the number of agreements by the number of opportunities for correct responses. Overall IOA for all dependent variables combined was 99%. IOA was 99%, 96%, and 100% for ABC recording, summary statement, and treatment choice, respectively.

#### *Procedures*

The parent training class was taught for approximately two hours and forty-five minutes in one day. Two different classes started a week apart. Prior to the start of class, the parents were given a series of pretests to evaluate the accuracy of their ABC data collection, hypothesis statements, and treatment choices in baseline. Training was evaluated in a multiple baseline across participants design.

*Baseline.* Baseline assessments were conducted before the class on an individual basis. The participants in each class viewed at least three videos during baseline. The

order of these videos was different for each participant. The participants filled out an ABC recording sheet with the summary/hypothesis statement and a treatment choices recording sheet for each of the videos. If the baseline data represented an increasing trend for a participant, additional videos were shown.

*Training.* Following the pretest, the training classes occurred. The training time for the two different classes ranged from 2 hours 30 minutes to 2 hours 45 minutes. The parents first received a discussion of the possible functions of problem behaviors and the importance of conducting a functional assessment. They were told and provided examples of the following; “Problem behaviors can serve many different functions, some of which include getting attention, escaping a task, or gaining access to a preferred item. In order to understand the function of certain behaviors it is important to be able to identify the antecedents and consequences of that behavior. Observing the individual with problem behavior and identifying occurrences of the behavior, the antecedents, and the consequences of that behavior is part of a functional assessment often referred to as ABC recording. This type of recording allows the person recording to see any patterns that may be occurring with the behavior that could lead to a conclusion about the function of the behavior. For example, if most of the occurrences of the problem behavior were preceded by a demand and were followed by a removal of the demand, this would lead to the conclusion that the function of the behavior is most likely escape.”

Next, participants received a description of antecedents, behaviors, and consequences and how to identify and define them, how to record using an ABC recording sheet, discussion and information about potential functions of behavior as related to the identified antecedents and consequences, how to form summary statements based on direct observation data of the antecedents, behavior, and consequences, and

discussion of possible treatment/interventions for problem behavior. Behavioral skills training was used to teach these skills. The trainer discussed the previously mentioned topics with the participants in a lecture format utilizing PowerPoint slides. The trainer then watched a video vignette with the participants, discussed what events to pay close attention to in the scenario, and showed the participants how and what to record. The trainer then generated a summary statement and further discussed the importance of this information for understanding function and choosing treatments that are functional. The trainer then chose the best treatments based on the observation and discussed with the class how this was done. Following this modeling, the participants practiced using another video vignette. The participants recorded on the ABC recording sheet, formed a summary statement, and chose three treatments just as in baseline and they received praise and corrective feedback on their performance during this practice. After the participants practiced recording each antecedent-behavior-consequence episode, the trainer paused the tape, discussed the episode and proper scoring, checked the participants' scoring and provided feedback, and answered any questions. The participants practiced in this manner two more times. All forms were collected after the third practice and the data were later calculated to show participants scores as training progressed. Following practice and feedback, the trainer reviewed all material taught and asked for any additional questions from the participants. Then the class concluded and the participants were individually assessed on their post training performance in separate rooms.

*Post training assessments and corrective feedback.* The first videos shown for post assessments were the ones the participant had not seen yet, followed by ones they may have viewed in baseline; the order of the videos was again different for each

participant and each participant viewed four videos during post assessment. If the participants did not score well (above 80% on each dependent variable) on any two of the post-assessments, the trainer provided corrective feedback on their performance

*Follow-up assessments.* One or two weeks following training, the participants were assessed individually using the same assessment methods as the baseline assessments. Four videos that were not shown in post-training assessments were shown in follow-up; the order of the videos was different for each participants.

*Treatment integrity.* During training, two research assistants recorded data on treatment integrity (see Appendix E). The percentage of items completed on the checklist was calculated by dividing the number completed by the total number of items on the checklist and then multiplying by 100.

*Social validity.* Immediately following training, participants were given a social validity form (see Appendix F). The rated questions were averaged across participants in order to determine the average score for each question.

## Results

Figure 1 shows the percent correct for ABC recording, summary statements, and treatment choices for four of the participants in each assessment across baseline, during training, post-training, and follow-up phases. Overall, baseline scores were variable and low for summary statements and treatment choices and high for ABC recording. Assessments in the training and post-training phases show an increase in each dependent variable for each participant. During follow-up, scores on each dependent variable remained high with the exception of assessment 11 for Ellen and 16 for Marian. These two assessments were for the demand/attention scenario; implications and issues regarding these findings will be discussed further in the discussion section.

Figure 1 and Table 1 show that Ellen had high baseline scores for ABC recording that remained high throughout the following phases. Ellen's scores for summary statement and treatment choice were low in baseline and increased in training, post-training, and follow-up phases. Isabel had slightly lower scores for ABC recording in baseline and low and variable scores for summary statement and treatment choice. During training, Isabel's scores on all the dependent variable increased and during post training she received 100% for all of the dependent variables in each assessment. During follow-up her scores for treatment choice and summary statement remained perfect while the scores for ABC recording slightly decreased from the scores seen during the post-training phase but remained higher than baseline scores. Figure 1 and Table 1 also show that Marian had high ABC recording scores during baseline that remained high during

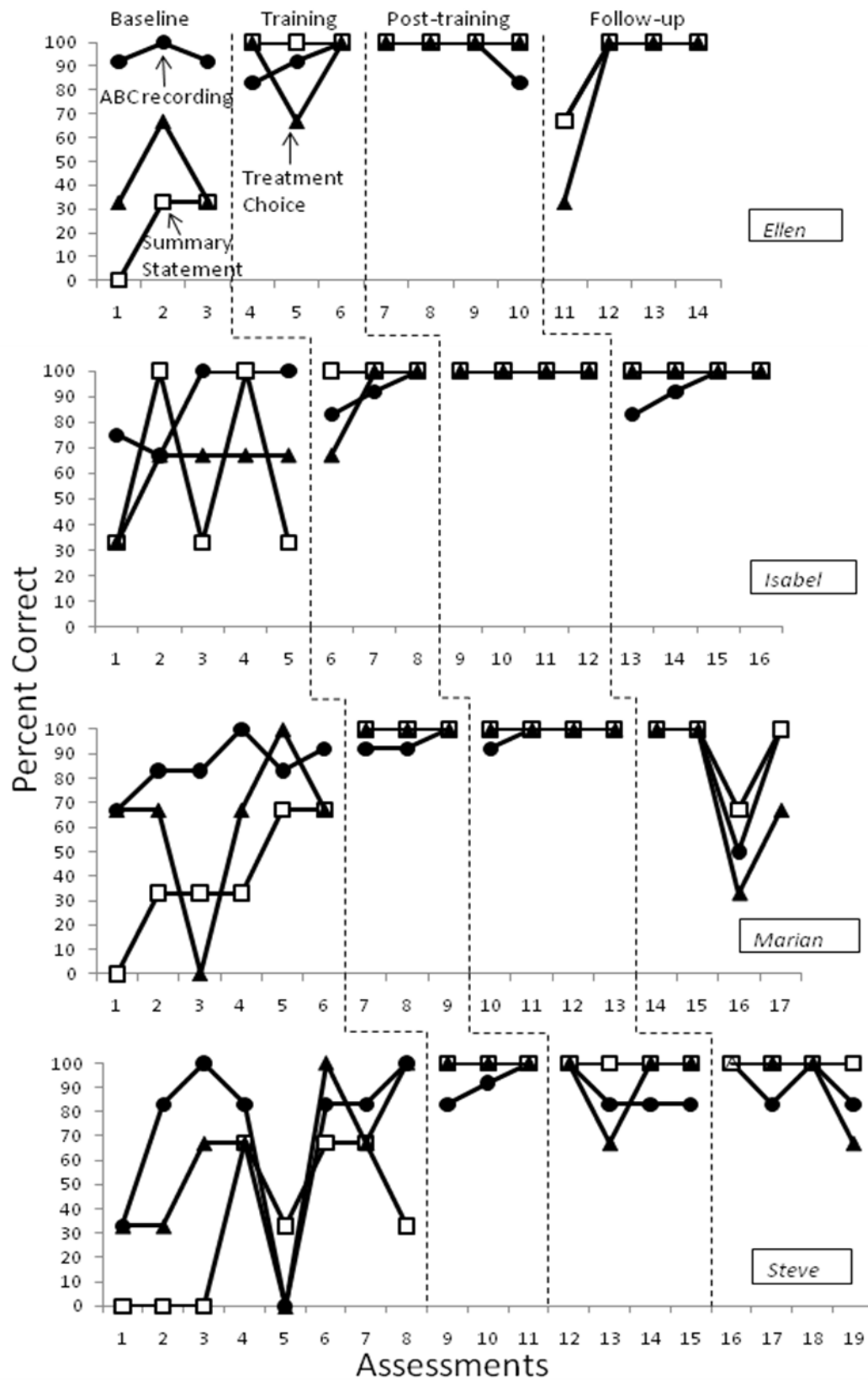


Figure 1. Percent Correct on Dependent Variables Across All Phases.



Table 1  
*Average Score on Each Dependent Variable for Each Participant in All Phases*

Dependent Variables	Participant								Combined
	Laila	Ellen	Marian	Steve	Isabel	Carin	Ben	Grace	
ABC recording									
Baseline	78	95	85	71	88	92	83	89	84
Training	97	92	95	92	92	92	97	86	93
Post-training	96	96	98	87	100	100	92	92	95
Follow-up	96	92	88	92	94	96	88	94	92
Summary statement									
Baseline	0	22	39	33	60	50	78	17	35
Training	89	100	100	100	100	89	78	100	95
Post-training	100	100	100	100	100	100	84	100	98
Follow-up	84	92	92	100	100	92	84	100	93
Treatment choice									
Baseline	60	44	61	58	60	41	56	78	58
Training	100	89	100	100	89	78	89	89	92
Post-training	100	100	100	92	100	100	100	100	99
Follow-up	92	83	75	92	100	75	83	92	86

subsequent phases. Marian's scores on summary statements and treatment choices during baseline were highly variable, but her means for these score were low as shown in Table 1. During training and post training, there was a sharp increase in these scores; they remained high during follow-up as well with the exception of one data point that brought the averages lower than seen in the previous two phases but still higher than baseline. Figure 1 shows that Steve's scores for all three dependent variables were highly variable during baseline and Table 1 shows that his means were low as well. However, scores increased and remained high for the three following phases.

Figure 2 shows the percent correct for ABC recording, summary statements and treatment choices for the other four participants in each assessment across baseline, during training, post-training, and follow-up phases. Overall, scores were variable in baseline with ABC recording high for 2 out of the 4 participant and summary statements and treatment choices lower in comparison to ABC recording with the exception of Grace who had several very high scores for treatment choice and ABC recording during baseline, but very low scores for summary statement. Assessments in the training phase show an increase for at least 2 of the 3 dependent variables for each participant. Assessments in the post-training phase show an increase in all of the dependent variables for 3 of the participants. Scores remained high, but variable in the follow-up phase.

Figure 2 shows that Ben's scores in each condition were highly variable; however, as seen in Table 1, his scores for all dependent variables increased in post-training compared to baseline. Ben's scores were higher in follow-up compared to baseline as well. His scores for ABC recording and treatment choice rose during the training, post-training, follow-up phases. Ben was the only participant to need feedback during the post-training sessions; this feedback was given after the fourth assessment and

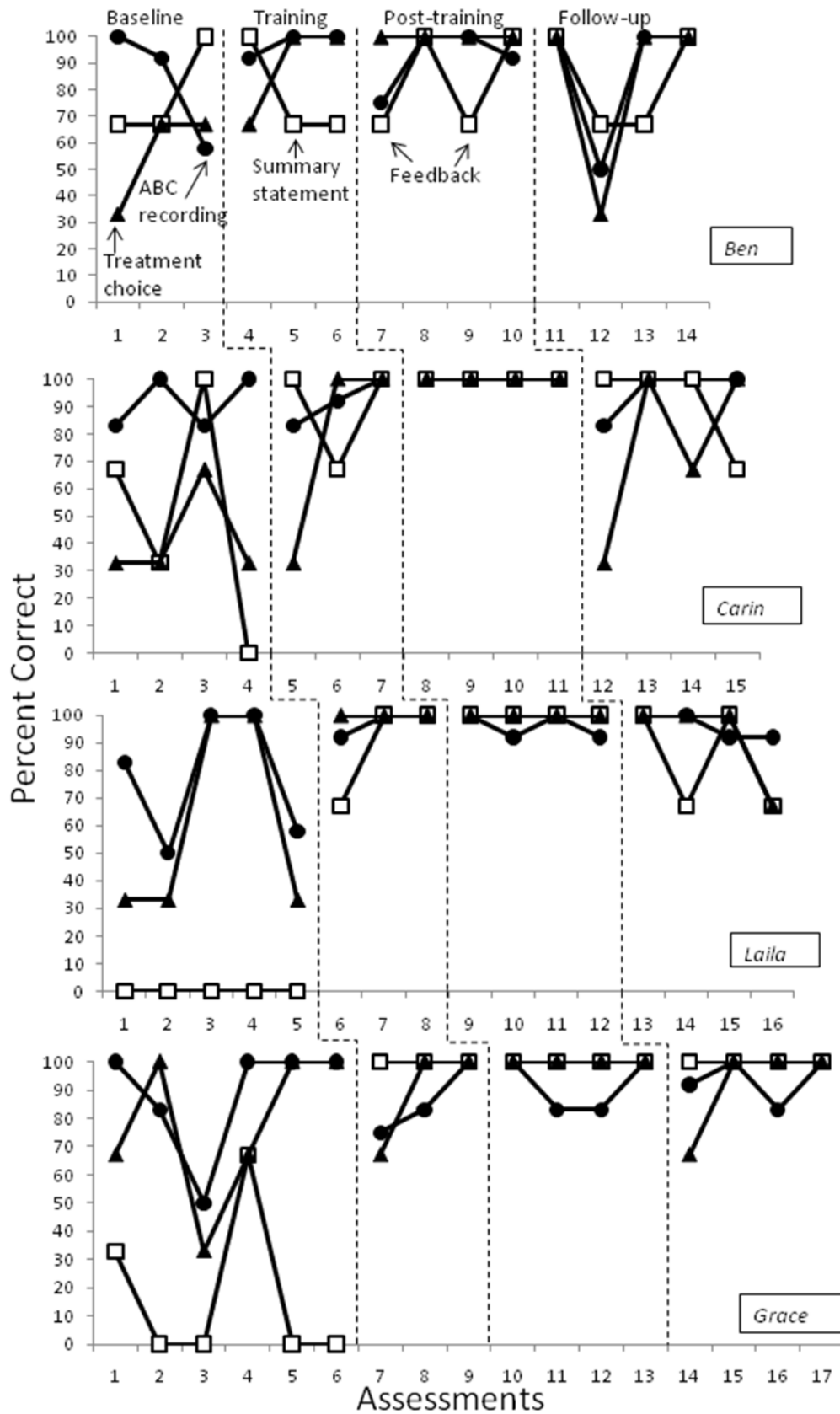


Figure 2. Percent Correct on Dependent Variables Across All Phases.

was for the first and third post-assessments' summary statements. Carin had high scores for ABC recording during baseline that remained high throughout the subsequent phases. Carin's scores increased to 100% for all post-training phases. Her follow-up scores were not as high as post-training. However, Table 1 shows that the means were still high compared to baseline and were comparable with those seen during the training phase. Laila's scores for ABC recording and treatment choice were highly variable in baseline with most assessments being low except for two, and her scores for summary statement were extremely low. Figure 2 and Table 1 show that her scores for summary statements increased substantially during training and all subsequent phases and her scores for ABC recording and treatment choice increased as well and remained stable throughout the next phases. Figure 2 shows that Grace had extremely low scores for summary statements in baseline which increased to 100% for all subsequent phases. Grace had variable scores for the other two dependent variables in baseline; however, her scores increased in post training and follow-up phases as shown in Table 1.

Mean scores on each dependent variable across participants in every phase for the four types of functions are shown in Table 2. ABC recording was high in baseline for attention and escape functions, but lower for tangible and demand/attention functions. Baseline summary statements were low for all functions; however, tangible was the highest. Baseline treatment choice was relatively low for demand/attention compared to the other three functions. Scores rose for all dependent variables in the training phase; however, demand/attentions scores were still lowest for ABC recording and treatment choice compared to the other functions. Scores for all functions in the post-training phase were very high across all three dependent variables. However, Table 2 shows that

Table 2  
*Average Score on Each Dependent Variable in All Phases for the Four Types of Functions*

Dependent Variable	Functions			
	Attention	Escape	Tangible	Demand/Attention
ABC recording				
Baseline	97	95	71	69
Training	100		93	85
Post-training	100	96	91	94
Follow-up	100	97	94	78
Summary statement				
Baseline	27	55	23	33
Training	96		92	96
Post training	96	100	96	100
Follow-up	96	100	96	79
Treatment choice				
Baseline	67	73	57	37
Training	100		96	79
Post-training	100	100	100	96
Follow-up	100	96	83	67

in the follow-up phase, scores for all three dependent variables were high for attention, tangible, and escape functions but were lower with the demand/attention function.

In addition to calculating the percentage of correct treatment choices across phases, the percent of distracter treatments chosen on the treatment choice recording sheet (contraindicated treatments such as the provision of attention for attention maintained problem behavior; see appendix B) was also calculated for baseline and compared to the percentages from training, post-training, and follow-up phases.

Distracter choices were chosen 13% of the time during baseline, 0% in training and post-training phases, and 1% for follow-up.

#### *Treatment Integrity*

Treatment integrity (appendix E) scores for the first and second class were 100% and 92%, respectively. The 2 items missed in the second class were to have the class generate important questions regarding the antecedent and to have the class generate important questions regarding the consequence. IOA was conducted for treatment integrity for both classes; the IOA was 100% for both classes.

#### *Social Validity*

The average scores for each ranked question on the social validity questionnaire (appendix F) ranged from 4.6 to 5 (4 = Agree, 5 = Strongly Agree). In response to the statement, "I will use the strategies taught in this class in my home," the average score was 4.6. In response to the statement, "This class was beneficial," the average score was 4.6. In response to the statement, "The information was easy to understand and presented clearly," the average score was 4.8. In response to the statement, "The instructor took time to answer questions," the average score was 5. In response to the statement, "The

practices were helpful,” the average score was 4.6. The average score was also 4.6, for the statement, “I feel better prepared for managing child behavior after this class.”

For the open-ended questions in the social validity questionnaire the comments were generally enthusiastic about the class. Some of the statements for the question, “What part of class did you like best?” were: “That I learned to identify the function, and also the classroom environment,” “The videos and worksheets,” “Discussing the treatment plan and focus on getting desired behaviors.” Some of the statements for the questions, “What part of class did you like the least?” were: “There was a little too much repetition,” “That it was not specific enough on very bad circumstances or behaviors; wish it was more in depth.” For the question, “What was the most important thing you learned?” some statements included: “Sometimes you need to ignore the behavior because the function may be attention,” “ABC model,” “Collecting the data to prepare a plan.”

## Discussion

This study showed that when given a structured ABC recording sheet and instructions to write a summary statement and choose the three most appropriate treatments from a list, participants scores on these dependent variables during baseline were highly variable; scores were often low for summary statements and treatment choice, even though many times scores were relatively high for ABC recording. However, most participants increased their scores on all three dependent variables, and all participants increased their scores on at least one dependent variable during post-training assessments. Follow-up assessments showed that all of the skills were maintained at a level higher than baseline for 7 out of 8 participants but that they were not at the level seen during post-training for some participants. These results suggest that a refresher course would be necessary to help participants maintain their skills over time.

The data in this study suggest that even if parents without any training are able to correctly identify the antecedents and consequences involved in a child's problem behavior, that doesn't necessarily mean that they will be able to summarize what they have observed and identify the function of the behavior or correctly choose treatment options without proper training. However, following BST parents will likely be able to identify the function of the behavior and choose treatments that address that function with more accuracy. It is also important to note that parents chose distracter treatments, or those that were contraindicated based on the function of the behavior, 13% of the time in baseline, which is a higher percentage than in training, post-training, and follow-up. This



is an important finding because correctly identifying the ABC's and accurately summarizing the function of the behavior will not be as valuable if the participant is choosing treatments that go against the function and possibly reinforce the problem behavior.

Follow-up scores were not as high as post-training scores, indicating that the skills learned did not fully maintain 1 to 2 weeks following training. It is not clear why performance did not maintain at post-treatment levels 1 to 2 weeks after training. It is possible that the participants did not receive enough practice for them to remember what they had learned 1 to 2 weeks after training. Another possible variable that could have influenced the difference in the post-training and follow-up scores is the place of assessment. Baseline and follow-up assessments were done by appointment either in the participant's home or office. Training assessments occurred in the classroom and post-training assessments occurred in the office building in other office/training rooms or cubicles. All assessments were conducted in a quiet place with no distractions; children were never present during the assessments. Even though every attempt was made to make the assessment conditions neutral, similar, and quiet, this variable could have influenced the data for some participants.

During the classes a couple of issues occurred that could have possibly influenced the data. One participant, Ben, did not show the same patterns in his data as the other participants. His treatment choices increased in post-training assessments compared to baseline and his ABC recording scores increased in level slightly too as shown in Table 1; however, as Figure 2 illustrates his scores were variable especially for summary statements. During class, Ben frequently asked the trainer to repeat statements and questions made to the class and complained of not being able to hear all of the dialogue

on the videos shown during training. During the post-training assessments, Ben told the trainer he is partially deaf in one ear and was having trouble hearing what was said in the videos. The trainer simply said the dialogue as it was said in the video and did not provide any additional assistance. Ben's hearing difficulty could possibly account for some of the variability seen in his data. In addition, Grace's scores increased during training, post-training, and follow-up, however, there was slight variability in her ABC recording and treatment choices. Grace was seen texting on her phone frequently during class. This behavior could explain some of the variability in her data.

The baseline data on ABC recording were highly variable and, for a couple of participants, reveal an upward trend. Therefore, there is reason to believe that the order of the videos may have influenced the data because some functions were more likely to be scored correctly before training. For example, as seen in Table 2, participants scored 95% and 97% respectively on escape and attention functions in baseline but scored near 70% on tangible and demand/attention functions in baseline. Because the order of the videos/functions shown was random and different for each participant, if the videos were shown in a different order, trends may have been eliminated or may have been in the opposite direction. It appears that trends in baseline were not due to practice effects but rather were related to the function of the behavior being recorded.

There were several limitations to this study. First, as mentioned, baseline data were highly variable and some participants showed increasing trends that were potentially a result of the order of the videos. One thing that could have been done to address this issue is to make the videos more difficult, for example by making them longer and having the ABC relationship harder to detect. This was not done in the present study because we wanted to evaluate training effects with videos that illustrated

relatively straightforward functional relationships. Future research might evaluate BST procedures for teaching functional assessment skills with more difficult scenarios.

Furthermore, even though some participants were able to accurately record ABC data, they often did not accurately summarize the data and choose function based treatments.

Another limitation of this study concerns the follow-up data and the lower levels seen during this phase for some of the assessments. During the follow-up, some scores for some of the assessments were lower than the previous phase. In many cases these assessments were the demand/attention function. One thing that could have been done to address this issue could have been to have more practices and feedback during training especially for the demand/attention function which seemed to have been a difficult function for most participants. Another thing that could have been done would be to provide more feedback during the post-training assessments. Feedback was provided on a dependent variable if the participant scored less than 80% on two assessments. Perhaps, feedback should have been given even if the participant scored less than 80% only once. In addition perhaps feedback could have been provided for correct performances as well so that the participants were aware of when they were correctly completing the task.

Future research concerning training parents in functional assessment strategies should address the limitations mentioned above by using videos that contain more complex interactions, including those that represent behaviors that have multiple functions. In addition training should include more practice opportunities during training especially for those functions that seem to be more difficult for participants to accurately assess (i.e., demand/attention), and provide booster sessions to aid in maintenance of the skills. Future research also should address generalization issues and examine if these

skills will generalize to the participants' home environment with their own children. This is a particularly important research question because this type of training is only valuable if it results in the successful use of functional assessment strategies by parents in the home environment. However, conducting ABA observations in the home could prove more difficult as the parent would be involved in the ongoing interaction with the child while trying to conduct direct observation and record the ABCs. As a result, it is important for research to document the transfer of parents' functional assessment skills to the home environment. Finally, research should investigate the effects of training with other parents of children with problem behaviors who are not part of the foster care system. The parents in this study were foster parents who expected to participate in training activities as part of the requirement of being a foster parent. In this sense they may have been more motivated to participate and succeed than a typical parent for whom such expectations were not present. Therefore, it is important to see if the same results could be achieved when training is implemented with typical parents seeking help for their child's problem behaviors.

In conclusion, this study showed that the application of behavioral skills training implemented in a 3 to 4 hour class, was successful in teaching foster parents to conduct three functional assessment activities, ABC recording, hypothesis generation, and treatment selection. Although there was some variability in the data and elevated baselines for one target behavior (ABC recording), the results showed that all subjects increased their skills to high levels following training, with maintenance of the skills well above baseline levels.

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## Appendices



## Appendix A: Video Vignettes

*Each of the following videos will depict six parent-child interactions that are related to the following scenario descriptions.*

Video 1-3 (no attention-attention)—Parent will be doing a chore, on the phone, having a conversation with another person, reading, or watching TV and not paying attention to the child, the child will be in another room and will start to throw toys or other objects, tantrum, or hit the parent, the parent will then run to the child and provide attention.

Video 4-6 (demand-escape)—Parent will tell the child to do some form of homework (i.e. math, reading, play instrument, etc.), pick up toys or clean room, or do a chore and the child will tantrum (i.e. yell, whine, and stomp feet), or throw objects, the parent will then allow the child to continue what they are doing for some amount of time (“Fine, you can play video games for 10 more minutes!”).

Video 7-9 (item present-item given)—Parent and child will be in a store, the child will request a preferred item or snack, the child will request a toy or snack, the parent will first say “no,” the child will then begin to tantrum (i.e. drop to floor and cry), then parent will then give the child the item.

Video 10-12 (demand-attention)—The parent tells the child to do a task, and then the child engages in a tantrum or throws objects. The parent then attends to the child (without letting them escape).

## Appendix B: ABC Data Sheet

Name: \_\_\_\_\_

### ABC Data Sheet

	Antecedents			Behaviors			Consequences						
	No attention from parent	Given a demand/task to complete	Access to a preferred item/activity denied	Tantrum (i.e. scream, cry, plead, stomp feet, etc)	Throws, pushes, knocks over item/s	Hits, pinches, or pushes parent	Hits themselves	Parent gives the child access to item/activity	Parent attends to the child	Child is allowed to escape the demand/task	Access to preferred item/activity denied	No attention provided by parent	Child is not allowed to escape the demand/task
	Other			Other			Other						
1													
2													
3													
4													
5													
6													
7													
8													

*Please write one to two sentences summarizing what you have observed and your hypothesis about the function of the behavior.*

**Summary Statement:**

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## Appendix C: Treatment Choices Recording Sheet

### Treatment Choices Recording Sheet

*Please circle the three best choices for possible treatment options for the problem behavior observed in the video.*

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

## Appendix D: Summary Statement Matrix

The following possible answers will be scored as correct for the no attention—attention function.

<b>Antecedent</b>	<b>Behavior</b>	<b>Consequence</b>
<i>Often, when the parent...</i>	<i>The child...</i>	<i>And then the parent...</i>
does not attend to child. ignores the child. does not pay attention to the child	one of the specified categories of behavior, or a descriptive account of the child's actions.	talks to the child. pays attention to the child does not ignore the child anymore.

The following possible answers will be scored as correct for the demand—escape function.

<b>Antecedent</b>	<b>Behavior</b>	<b>Consequences</b>
<i>Usually, when the parent...</i>	<i>The child...</i>	<i>And then the parent...</i>
asks the child to do something. tells the child to do a chore. says to do a non-preferred	one of the specified categories of behavior, or a descriptive account of the child's actions	lets the child escape the task/chore/demand. doesn't make the child do it. lets the child get out of the task/activity.

The following possible answers will be scored as correct for the demand—attention function.

<b>Antecedent</b>	<b>Behavior</b>	<b>Consequences</b>
<i>Typically, when the parent...</i>	<i>The child...</i>	<i>And then the parent...</i>
asks the child to do something. tells the child to do a chore. says to do a non-preferred task.	one of the specified categories of behavior, or a descriptive account of the child's actions	talks to the child. pays attention to the child explains to child why he/she should do behavior.

The following possible answers will be scored as correct for the tangible function.

<b>Antecedent</b>	<b>Behavior</b>	<b>Consequences</b>
<i>Often, when an item is present...</i>	<i>The child...</i>	<i>And then the parent...</i>
the parent denies access to the item the item is off limits the item the child is not allowed to have the item	one of the specified categories of behavior, or a descriptive account of the child's actions	gives the child access to the item says the child can get it allows the child to have lets the child have it.

## Appendix E: Treatment Integrity Checklist

### Treatment Integrity Checklist

Circle “Yes” or “No” for each teaching point to indicate whether or not the trainer addressed it during training.

Identifying problem behavior—discuss the definition of behavior and give examples of behavior vs. non-behavior/categories

Yes

No

Discuss the reasons why behavior occurs and provide examples of each (get something-attention or tangible/activity and get out of something-escape/avoid)

Attention Yes

No

Tangible Yes

No

Escape Yes

No

Define what is meant by the function of behavior and the importance of determining the function

Yes

No

Discuss why it is important to collect objective ABC data

Yes

No

Define antecedent, go over important questions, and have the class generate important questions (3 separate items)

Yes

No

Yes

No

Yes

No

Define consequence, go over important questions, and have the class generate important questions (3 separate items)

Yes

No

Yes

No

Yes

No

Discuss the ABC recording sheet and how you use the data to form a summary statement

Yes

No

Practice looking at sample ABC data, and forming summary statements (4X)

Yes

No

Yes

No

Yes

No

Yes

No

Discuss how to change behavior that is occurring for attention

	Yes	No
Discuss how to change behavior that is occurring for escape	Yes	No
Discuss how to change behavior that is occurring for access to a tangible/activity	Yes	No
Model collecting ABC data	Yes	No
Model generating a summary statement	Yes	No
Model choosing appropriate treatments	Yes	No
Have participants practice collecting data, forming a summary statement, and choosing a treatment (3X)	Yes	No
	Yes	No
	Yes	No

## Appendix F: Social Validity Questionnaire

### *Changing Behavior* Class Evaluation

Training site \_\_\_\_\_

Date \_\_\_\_\_

1. What part of class did you like the best?
2. What part of class did you like the least?
3. What was the most important thing you learned?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I will use the strategies taught in this class in my home.	1	2	3	4	5
This class was beneficial.	1	2	3	4	5
The information was easy to understand and presented clearly.	1	2	3	4	5
The instructor took time to answer questions.	1	2	3	4	5
The practices were helpful.	1	2	3	4	5
I feel better prepared for managing child behavior after this class.	1	2	3	4	5