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Assessing Teacher Preference for Training Modalities for Behavior Intervention Plans

Laurel M. Porter
University of South Florida, lport55249@gmail.com

Assessing Teacher Preference for Training Modalities for Behavior Intervention Plans

by

Laurel M. Porter

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of the requirements for the degree of
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College of Behavioral and Community Sciences
University of South Florida

Major Professor: Andrew Samaha, Ph.D., BCBA-D
Kwang-Sun Cho Blair, Ph.D., BCBA-D
Jolena Ferro, Ph.D., BCBA-D

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DEDICATION

This manuscript is dedicated to my parents, Christopher and Glennis Porter for their unwavering support throughout my entire life. They instilled in me the principles I live by today and it is my hope that my journey though life will always make them proud of the daughter they raised. To Christopher Doyle, my fiancé and best friend, who I cannot thank enough for being my rock the last few years. No matter the day or stress I am under, he has an amazing ability to be lighthearted and make me laugh. To my brother, Sean, who is an inspiration to find joy wherever possible and to never take life too seriously. To my Nana, Mary-Ann, who is full of wisdom and kindness and who exemplifies what it means to be a strong woman. And, finally, to Meeko and Maxine who have been with me through thick and thin and have never left my side.

ACKNOWLEDGMENTS

I want to thank Dr. Andrew Samaha and Karie John for helping and supporting me through this process. Dr. Samaha has been an amazing advisor and I am so thankful for his guidance, knowledge, and responsiveness. His dedication to his students is truly admirable. I am also grateful to have Karie in my life as a friend and peer. She has helped shape me into the person I am today and I cannot thank her enough for being by my side the last four years. Both have been integral parts of the thesis process and their involvement is greatly appreciated.

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ABSTRACT

Within public schools, teachers and instructors may require training to implement procedures listed in a behavior intervention plan (BIP) to support students with disabilities. It is crucial that teachers receive training that is both effective and efficient. Behavioral skills training (BST) and video modeling are two training modalities that are proven to be effective for a wide range of skills and learners. Written instructions, although they are not supported as an effective training method in the literature, can be used as task analysis for the steps that are needed to be performed for a procedure. At present, there is no standard for training teachers to implement BIP procedures and potentially effective training methods may be impacted by the amount of time training or the intensity of the training procedure. Therefore, the purpose of this study was to assess teacher preference for training modalities and to assess the feasibility of each modality in terms of training time and intensity. The participants in this study overwhelmingly selected self-assessments for both pre- and post-assessment evaluations as well as written instructions for their training modality.

CHAPTER ONE:

INTRODUCTION

In 2013, 13% of students, ages 6 to 21, in the United States, had an individualized education plan (IEP; NCES, 2016). Generally speaking, an IEP provides an overview of the student's academic performance levels and contains specific measurable goals. Individualized education plans are created for students with disabilities to aid those students academically and provide supports for them throughout the classroom and school. For students who engage in problem behavior that interferes with their learning, the IEP will also include strategies to address that behavior (IDEA, 2004) which would be included in a behavior intervention plan (BIP). A BIP contains procedures that will be implemented, most often by the student's teacher or aide, to target maladaptive behaviors within the school setting.

For a BIP to be effective in helping students with increased needs, the procedures listed within them must be implemented correctly indicating that proper training is crucial (Vaughn & Dammann, 2001). Teachers' attitudes have been consistent with acknowledging one of the key barriers to including students with disabilities into general education settings: a lack of comprehensive training (e.g., Avramidis, Bayliss, & Burden, 2000; Buysse, Wesley, & Keyes, 1998; Glazzard, 2011; Scruggs & Mastropieri, 1996; Wesley, Buysse, & Tyndale, 1997). One barrier teachers face in terms of obtaining necessary, individualized training is time (Collins, Higbee, & Salzberg, 2009; Severtson & Carr, 2012). Although a general pre-service or in-service course may be available, it does not provide training specific to that student or students

(Marin, 2014). This results in the behavior specialist, or school psychologist, training the teacher on how to implement certain behavioral procedures before, during, or after a typical school day. These trainings, specifically for the implementation of BIPs, can take many forms, including behavioral skills training (BST), video modeling, or written instructions (task analyses). At present, there is no standard training provided prior to teachers implementing the procedures outlined by the BIP.

Behavioral Skills Training

Behavioral Skills Training is a well-established method of teaching individuals certain skills (e.g. Alaimo, Seiverling, Sarubbi, & Sturmey, 2018; Sawer et al., 2017; Tai & Miltenberger, 2017) and is effective when training teachers to implement the procedures identified in a BIP (Hogan, Knez, & Kahng, 2015). The four components of BST include instructions, modeling, rehearsal, and feedback. In the instructions portion of BST, the trainer provides instructions for how the learner should engage in the target behavior. For modeling, the trainer acts as a model by engaging in the behavior which then leads to rehearsal where the learner practices engaging in the behavior. If the learner engaged in the behavior correctly, he or she receives praise from the trainer. If the learner does not engage correctly, the trainer provides corrective feedback and the learner rehearses the behavior until it is performed correctly. Those two consequences – praise and corrective feedback – make up the feedback component.

Although BST is a proven method for training new skills, one of the largest drawbacks is the amount of resources the training requires – specifically time (Collins et al., 2009; Severtson & Carr, 2012). Another consideration for training is the amount of time the trainer can allocate. For many school districts, there are a limited number of behavior specialists or behavior analysts that have the knowledge and experience to train teachers (National Research Council, 2001).

Depending on the teacher and their school, there may only be a short window of time in the day for the behavior specialist to train the teacher. As such, BST may not be the most efficient training method as the training time can take anywhere from 40 min to 15 hours, depending on the skill being taught (Jull & Mirenda, 2016; Gianoumis, Seiverling, & Sturmey, 2012; Hassan, Thomson, Khan, Burnham Riosa, & Weiss, 2017; Hogan et al., 2015; Miller, Crosland, & Clark, 2014; Nigro-Bruzzi & Sturmey, 2010).

In attempts to decrease total training time, some researchers have found using only parts of the BST model can be still effective. More specifically, studies using only a combination of modeling and feedback following in vivo implementation of the skills have shown those two components are very effective in training participants (Madzharova, Sturmey, & Jones, 2012; Madzharova, Sturmey, & Yoo, 2018; Ward-Horner & Sturmey, 2012). Given this, instructions and rehearsal with the trainer may not be necessary components to a training package.

Video Modeling

As BST is typically time-intensive, a shorter, more practical method of training may suit learners and still be effective. Video modeling is another training procedure involving the presentation of a video depicting the target behavior occurring in a relevant context. A video model may contain only depiction of the target behavior and voiceover instructions (e.g., Delli Bovi, Vladescu, DeBar, Carroll, & Sarokoff, 2017; Lipschultz, Vladescu, Reeve, Reeve, & Dipsey, 2015; Martocchio & Rosales, 2017), or depiction of the target behavior and written, on-screen instruction (e.g., Spiegel, Kisamore, Vladescu, & Kartsen, 2016; Nottingham, Vladescu, Giannakakos, Schnell, & Lipschultz, 2017). Moore and Fisher (2007) assessed the effects of video modeling on the implementation of functional analysis procedures and found that videos with a wide array of examples resulted in an increase of performance. The authors also noted

partial array of examples within video instruction was insufficient in increasing performance. Video modeling has also been used to teach implementation of discrete-trial training (Catania, Almeida, Liu-Constant, & DiGennaro Reed, 2009; Vladescu, Carroll, Paden, & Kodak, 2012). Catania et al. and Vladescu et al. examined the effectiveness of using a video model to train participants to implement discrete-trial instruction procedures and found that all the participants increased in percentage of accuracy for performing skills. The participants in each study watched the video model during each training session until they reached mastery criteria. One of the benefits of video modeling is that it typically requires less training time as compared to BST. Of the nine aforementioned studies, the average length of the video models was 16 min (from 5 to 19 min). Total training time varied a lot across studies due to the number of videos subjects watched and the addition of other training components (e.g. introduction of the video by the researchers, post-video questions).

Written Instructions

Moyer and Dardig (1978) define a task analysis (TA) as a list of steps that make up a behavior chain. Also known as written instructions, TAs can serve as a checklist for engaging in a behavior chain. Research shows that written instructions are not an effective way to teach skills. When compared with groups who received in vivo or video modeling, the groups who receive written instruction do not perform as well. Shah and Gupta (2017) found written instructions were not effective for teaching individuals to properly use an inhaler when compared with individuals who received a video model. Reo and Mercer (2004) determined their participants who received a handout with written instructions and simple pictures did not perform upper extremity exercises as accurately as those in the live or video training groups and made more errors during the exercises than those groups as well. Mueller, Piazza, Moore, and

Kelley (2003) trained parents to implement pediatric feeding procedures by using four multicomponent training packages. For each participant, the researchers presented them with a written protocol in baseline and assessed the percentage of correct prompts and consequences. The average percentage correct for all nine participants was 15.4% therefore, it may be concluded that the written protocol was not sufficient in training parents to implement a feeding program. Another study evaluated the effects of written instruction following a baseline condition (Spiegel et al., 2016). For two of the three participants, their percentage correct for the implementation of guided compliance in the written instruction phase did not differ in level, trend, or variability from baseline and, one of the participant's percentage correct increased in level by 20% following baseline. Although using a TA to perform a skill is proven to have very little effectiveness, their inclusion in this study is rationalized because BIPs, which contain the procedures to be used with a student and brief instructions for implementation, can be used as a form of written instruction which may be given to staff members without further training to implement a procedure.

Treatment Acceptability and Preference

Treatment acceptability may be collected to determine participants' perceptions of the procedures of an intervention (Kazdin, 1977). Elswick and Casey (2011) assessed both student and teacher acceptability of the implementation of a classwide group contingency. Teachers' acceptability of interventions has also been assessed for the usage of daily behavior report cards (Chafouleas, Riley-Tillman, & Sassu, 2006), a Check-in/Check-out procedure (Miller, Dufrene, Sterling, Olmi, & Bachmayer, 2015), a Social Story intervention (Scattone, Tingstrom, & Wilczynski, 2006), and a response to intervention model (Regan, Berkeley, Hughes, & Brady, 2015). In many cases, social validity or treatment acceptability data are collected on the

assumption that if implementers like or accept an intervention, that implementation is more likely to occur. Treatment acceptability might sometimes be used as an approximation for measuring teacher preference, the latter of which is harder because it involves presenting choices and allowing teachers to contact those choices.

Research surrounding teacher preference on intervention and implementation has been conducted. Johnson et al. (2013) examined the effects of teacher preference on the implementation and effectiveness of an intervention. Results indicated that the individuals who had a choice in interventions adopted the intervention more quickly, implemented the chosen intervention with higher fidelity, and had higher quality of implementation without additional coaching. The no-preference groups required supplemental coaching to adopt and implement the intervention with high fidelity. However, when coaching was removed, implementation of the intervention was not sustained. The effects of teacher preference on student outcomes have also been previously studied. Ennis, Blair, and George (2016) evaluated the role of teacher preference on classwide behavior when implementing group contingencies. When implementing a teacher-preferred group contingency, higher average rates of appropriate behavior were observed when compared with non-preferred group contingencies. Although there is no literature on the effects of preferred training methods or assessment types, teacher preference has been studied previously and the findings suggest that preference may impact the adoption and implementation fidelity of certain interventions as well as influence student behavior outcomes.

Purpose

Although there is no standard training method for teaching individuals to implement BIP procedures nor for assessing their acquisition of those skills, there are several methods that are both available and effective. Their effectiveness, however, may differ when implemented with

teachers or instructors due to training time or intensity. Therefore, the purpose of the current study is to evaluate teacher preference of training and assessment modalities in a classroom and to identify the feasibility of each training modality in terms of training time.

CHAPTER 2:

METHOD

Participants and Setting

Participants included three individuals employed by a private, clinic-based school located in southwest Florida which serves children and adolescents diagnosed with autism spectrum disorder (ASD). All three participants met the inclusion criteria of having at least one student in their classroom with a BIP and having been identified as needing training to implement procedures listed within a BIP. For the purposes of maintaining participant privacy and confidentiality, each participant was given a pseudonym that is used throughout this manuscript. The first participant, Winona, was a 50-year-old female who was working on obtaining her bachelor's degree. She worked as the lead instructor in the classroom and was certified as a registered behavior technician (RBT). She had been teaching in a school setting for three years and had relevant training on behavior-analytic procedures through training from the Board Certified Behavior Analyst (BCBA) who wrote the behavior plans for every student in the class. The second participant, Amanda, was a 26-year-old female who acted as a one-on-one instructional assistant with a student in the classroom and as the assistant teacher. She had an associate's degree and had been working in school settings for four years. The third participant, Eleanora, was a 22-year-old female who was also certified as an RBT. She had a bachelor's degree and had been working in a school setting for less than a year.

Materials

The BIPs for two students at the private school were utilized for staff training. Training materials were created once participants selected their training modality. TAs were created by breaking down procedures listed within a student's BIP (see Appendix A).

Procedures

This study was comprised of two phases including procedure identification and the study proper. In the study proper, there were four sub-phases including recruitment, pre-assessment, training, and post assessment. The procedures for the phases are listed below.

Phase 1: Procedure Identification

Two student BIPs from the private school were utilized for training. These BIPs were selected by the school's BCBA for training staff. From the BIPs, TAs were created which contained all of the necessary steps to complete the procedures listed within the BIP.

Phase 2: Study Proper

The study proper consisted of four sub-phases for each participant: Recruitment, Pre-Assessment, Training, and Post-Assessment.

Recruitment

This sub-phase involved identifying participants, obtaining consent, administering a participant experience and demographic survey. The survey contained questions pertaining to information about the participants (as mentioned in the participants section; see Appendix B). Participants were recruited from a private, ABA-based school in southwest Florida. Potential participants were identified by the school's BCBA as they contacted the chosen BIPs during the

typical school day. Once the potential participants were identified, the recruitment process continued with gaining participant consent and the completion of the experience and demographic survey.

General Methods

Following recruitment, interactions with teachers occurred in up to four general steps (described further below): pre-assessment, training, post-assessment, and post-survey.

Measurement

For this study, participants' selections for training modalities and pre- and post-assessment components were measured as the primary measure. The frequency of selections was collected from the modality and component selection form.

Duration data was also collected as secondary measures for pre-assessment, training, post-assessment, and survey completion. A stopwatch and a smartphone were used to determine the duration of each of the training and assessment components.

Interobserver agreement (IOA). Point-by-point IOA was assessed for 30.4% of participants' pre-assessment scores, post-assessment scores, and selections made for training modalities and other training components. Along with the Principal investigator, a secondary researcher scored the participants' assessments. The participants' selections for their training modalities and training components were also assessed by another researcher. Agreement between the two researchers was calculated to be 100% for pre-assessment, post-assessment, and modality and component selections.

Treatment fidelity. A treatment fidelity checklist was created (see Appendix D) and used by the researcher for 30.3% of training sessions. The checklist contained steps for pre-training (completion of survey), pre-assessment, training, post-assessment, responding to

mastery criteria being met or unmet. Overall, the average cumulative total score was 98.75% (range of 95.83% to 100%).

Pre-Assessment

Following the recruitment process, the researcher met with each participant to identify a procedure from a student's BIP to be trained. Once the procedure had been identified, the researcher administered a modality and component selection form. This form included a brief description of each training method and their potential components for the participants to select (see Appendix C). Participants had the choice between training intensity components including pre- and post-training for role play, in vivo, and self-assessment evaluations, feedback on performance during roleplays and in vivo evaluations, and continued training to proficiency. Prior to the participants' selection of the training intensity options, the researcher provided the participants with recommendations for best practice. A pre-assessment evaluation was then conducted to establish performance level prior to training.

Pre-assessment roleplay evaluation. For this pre-training component, the researcher conducted an evaluation with the participant in a roleplay scenario prior to training. During the roleplay evaluation, the researcher would act as the student and provide examples of when the target behavior should occur and observe what the participant does in the scenario without delivering feedback. The evaluation would begin by the researcher stating the expectations of the evaluation. For instance, the researcher would first indicate their role in the evaluation as they act as the student. Then, the researcher would ask the teacher to act as they normally would with the student. This component allows the researcher to assess the participant's performance level prior to training.

Pre-assessment in-vivo evaluation with target students. For this component, the researcher evaluated the participant with their students before being trained. The researcher observed the participant interacting with the student in the natural environment. Upon initiating the in-vivo evaluation, the researcher told the participant to act as they normally would with the student. During the observation, the researcher can assess the participant's performance using a task-analyzed.

Pre-assessment self-assessment evaluation. If the participant selected this pre-training component, the researcher administered a TA to the participant and gave directions for how to fill out the form. Once the form was completed, the researcher would calculate the percentage of steps marked correct to establish the participant's baseline level of performance.

Training

The training method identified in the Pre-Assessment phase was be used to teach the participant how to implement the procedures listed in their students' BIPs. To train the BIP procedure, three forms of training were used: written task analysis/written instruction, video modeling, and behavioral skills training. The procedures for each are described below.

Written instructions. Task analyses were created to train the participant on the BIP procedure. The TA broke down the procedure into individual steps and was then be given to the teacher where the researcher discussed the overall procedure and then read the steps to the participant. Additionally, the researcher answered any questions the participants had pertaining to the procedure.

Video modeling. If selected, participants were given a video to watch created by the researcher. The video model first introduced the procedure and provided a brief description of the procedure. Following the description, the procedure would then be acted out.

Behavioral skills training. If selected, the experimenter would conduct the training beginning with the vocal instructions component where the procedure would be described completely by the researcher. Following the instructions portion, the researcher would model the target behavior/procedure. The modeling would include all the steps required to implement the procedure. Once the researcher has modeled the procedure, the participant would then engage in the target behavior. If the participant performs the procedure correctly, the researcher would provide behavior-specific praise. If the procedure is not performed correctly, the researcher would provide corrective feedback and the participant would be required to rehearse the strategy until it is performed correctly.

Post-Assessment

Following the training, the participants' implementation of the selected strategy was assessed using in vivo, roleplay, and self-assessment evaluations which were chosen during the modality and component selection process. For their performance to be considered mastered, the participant must have scored 90% or above in at least one of the three assessment options.

Post-assessment roleplay evaluation. During the post-training component, an evaluation with the participant would be conducted via a roleplay with the researcher. These evaluations would be conducted similarly to the pre-training roleplay evaluations.

Post-assessment in vivo evaluation with target students. If this component were selected, the researcher would conduct an in-vivo evaluation with the participant and the student(s) who were relevant to the BIP procedure. These would be conducted similarly to the pre-training in vivo evaluations.

Post-assessment self-assessment evaluation. For participants who selected the self-assessment evaluation, a task-analyzed list of steps to implement the identified procedure was

administered by the researcher. This was conducted similarly to the pre-training self-assessment evaluation.

Feedback on performance during roleplays. For this selection, the researchers would deliver behavior-specific praise or corrective feedback dependent on the participants' performance while conducting the roleplay evaluation.

Feedback on performance during in-vivo evaluation. This component consists of the researcher delivered behavior-specific praise or corrective feedback to the participant during the in-vivo evaluation.

Training Time

One of the goals of this study is to present teachers with effective training that did not interfere with their work at the school so they can be better suited to meet the needs of their students with BIPs while also maintaining consistent instruction with the remaining students. Therefore, the length of time spent on the survey(s), training, and assessment was collected.

Post-Survey

Following the teachers' participation in this study, they were provided with a survey to assess their attitudes towards the trainings given (see Appendix E). Participants were asked to identify the training method they selected and answer three Likert-style questions. If any of the participants rated the Likert-style questions at 2 or 1, they were asked to answer additional questions in the form of multiple choice and/or open-ended questions. The survey contained questions targeting the acceptability of asking teachers for their preferred training method as well as how feasible the trainings were (i.e. how much time the training took away from their responsibilities as a teacher).

CHAPTER THREE:

RESULTS

Overall Assessment and Component Selections

Across all three participants, 27 procedures from two student BIPs were trained. Figure 1 depicts the selections made for pre-assessment, training modality, and post-assessment. For pre-assessment, participants selected self-assessment 26 out of 27 times and in vivo evaluation once. No selections were made for the roleplay evaluation. As when selecting their training modalities, the participants chose written instructions 27 out of 27 times. No other training modality was selected. Participants selected post-assessment evaluations 27 out of 27 opportunities, whereas roleplay and in vivo assessments were not selected at all. In summary, participants showed near exclusive preference of self-assessments and written instructions.

Individual Assessment and Component Selections

Figure 2 illustrates the individual participants' selections for pre-assessment evaluations broken down into three panels. Winona selected self-assessment (top panel of Figure 2) four times and in vivo assessment once. Of the 21 procedures that Amanda received training on, she selected self-assessment for her pre-assessment 21 times. Eleanora was trained on seven procedures and selected self-assessment seven times. In the middle panel (Figure 2), participant selections for training modalities are present. Winona selected written instructions 5 out of 5 times and made no selections of video modeling or BST. Amanda selected written instructions 21 times and never selected video modeling or BST.

For the first procedure selected to be trained, Amanda initially selected in-vivo assessments for both pre- and post-assessment evaluations. During the in-vivo assessment for the pre-assessment, Amanda was unable to perform the procedure (responding to physical aggression to access escape) in the pre-determined 10-min observation due to the student not engaging in physical aggression. After the observation period was over, the researcher gave Amanda the choice of scheduling another time for an in-vivo observation or switching to another type of assessment. Amanda then chose to switch to self-assessment for both pre- and post-evaluations (depicted in Figure 3). Eleanora selected written instructions for her desired training modality seven times and made no selections of video modeling or BST. The bottom panel of Figure 2 illustrates the participants' selections for post-assessment. Of the five procedures that Winona received training on, she selected self-assessment five times and did not select in vivo or roleplay. Amanda selected self-assessment for all 21 procedures and did not select in vivo or roleplay. Eleanora selected self-assessment for all seven procedures and did not select in vivo or roleplay.

Individual Pre-Post Assessments

The individual pre-post data for all three participants are depicted in Figure 4. Winona received training on five procedures listed within a student's BIP. Winona's pre-post data indicate that improvement was made across all five procedures (increase of 67-100% depending on the procedure). Of the 19 procedures that Amanda received training on, improvements were made on eight procedures (38.1%) and the percent increase from pre- to post-assessment ranged from 17% to 50%. For Eleanora, she showed improvement for one of the seven procedures (14.29%) that she was trained on. For the procedure that she improved on, her score increased by 50%.

Time Spent

Figure 5 shows the total time participants spent participating in assessment and training phases, and survey times. The top left panel depicts the total time the participants each spent in this study and the bottom left panel illustrates the average time spent being trained per procedure. Winona spent a total of 16.57 min in this study which, when divided by the number of procedures trained, equals 5.52 min per procedure. Amanda spent 47.97 min participating in this study which equals 2.52 min per procedure. Finally, Eleanora participated for a total of 11.7 min, equaling 2.34 min per procedure. In the top right panel of figure 13, the total time participants spent in the study are broken down into the individual areas and the bottom right panel shows the time per the number of procedures trained. Winona spent 12.07 min in pre-assessment (2.41 min/procedure), 2.32 min in training (0.46 min/procedure), 1.47 min in post-assessment (0.29 min/procedure), and 3.92 min completing surveys (0.78 min/procedure). Amanda spent 17.85 min in pre-assessment (0.85 min/procedure), 12.85 min in training (0.61 min/procedure), 5.75 min in post-assessment (0.27 min/procedure), and 14.17 min completing surveys (0.67 min/procedure). Eleanora spent 2.92 min in pre-assessment (0.42 min/procedure), 4.12 min in training (0.59 min/procedure), 2 min in post-assessment (0.29 min/procedure), and 5.57 min completing surveys (0.8 min/procedure).

Social Validity

Upon completion of participation in this study, the participants completed a social validity survey to indicate their perceptions of the training. All three participants indicated that they felt the training allowed them to perform the procedures correctly, that the training did not take too much time out of their day, and that, given a choice of being trained again, they would all continue to select the same training modality (written instructions).

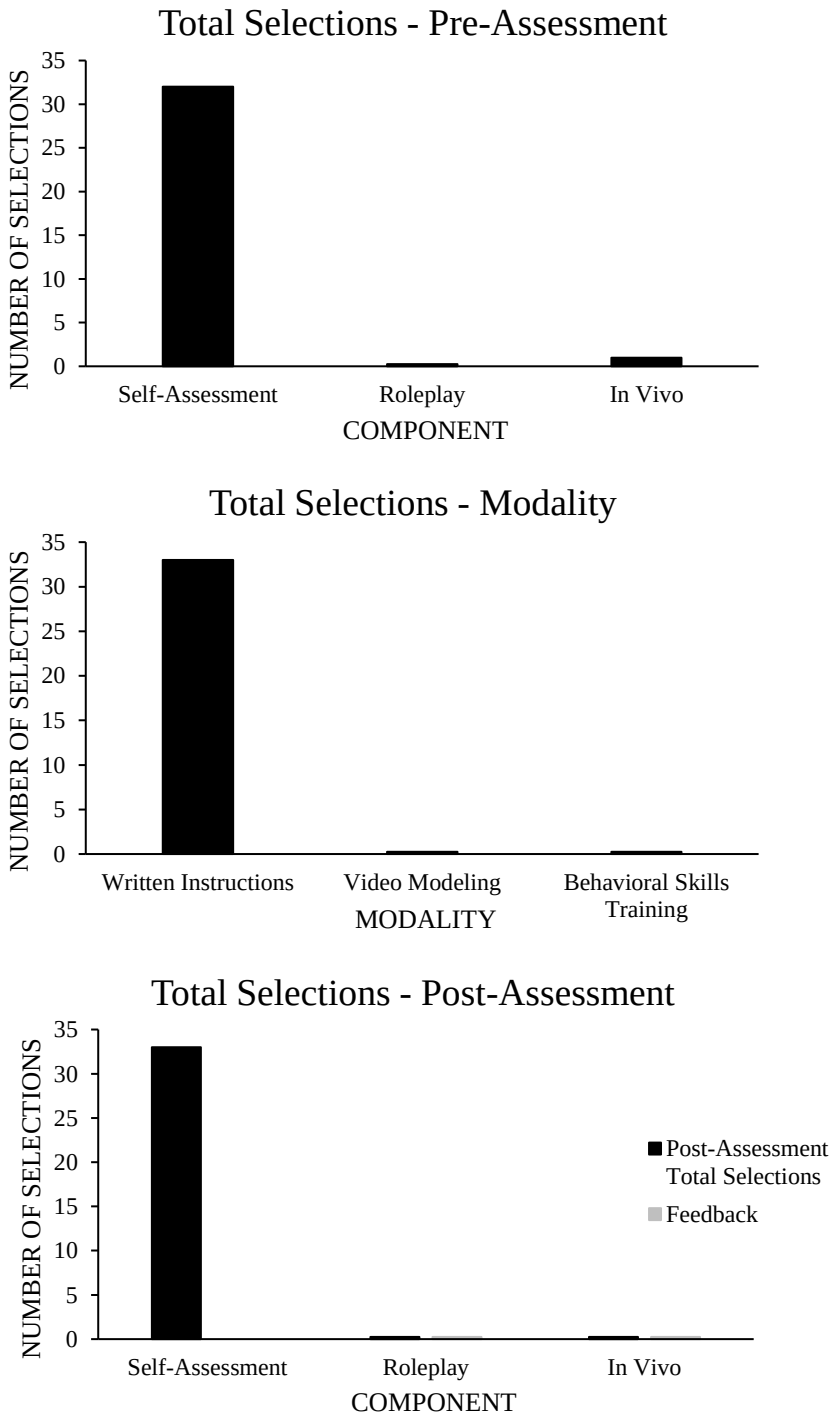

Figure 1. Total selections for pre-assessment, training modality, and post-assessment.

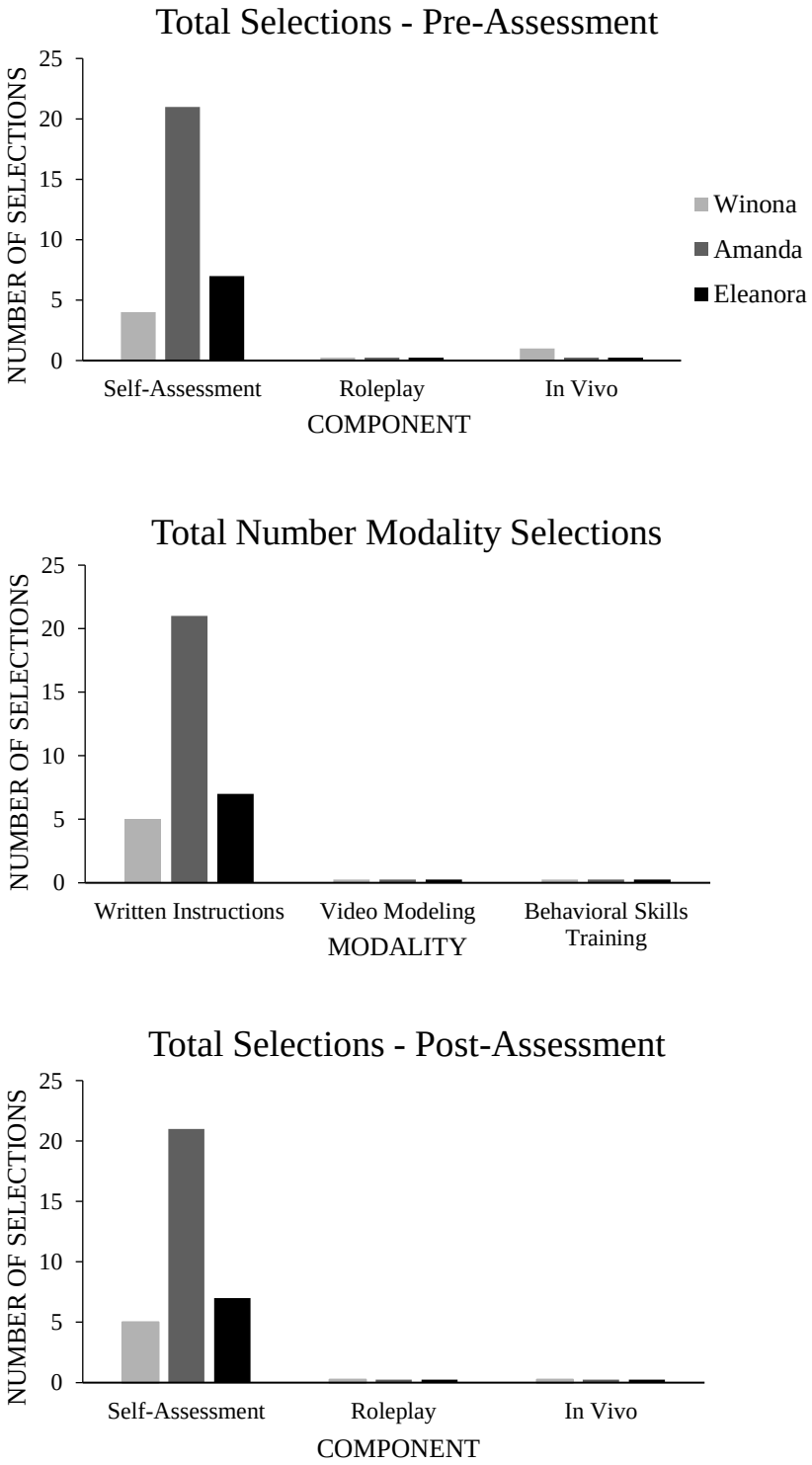

Figure 2. Individual participants' selections for pre-assessment, training modality, and post-assessment.

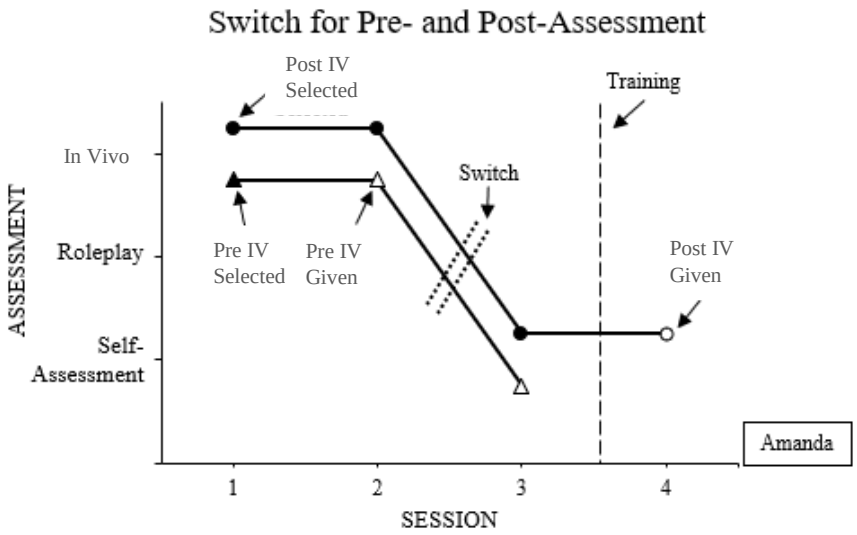

Figure 3. This graph depicts the switch that Amanda made for her pre- and post-assessments.

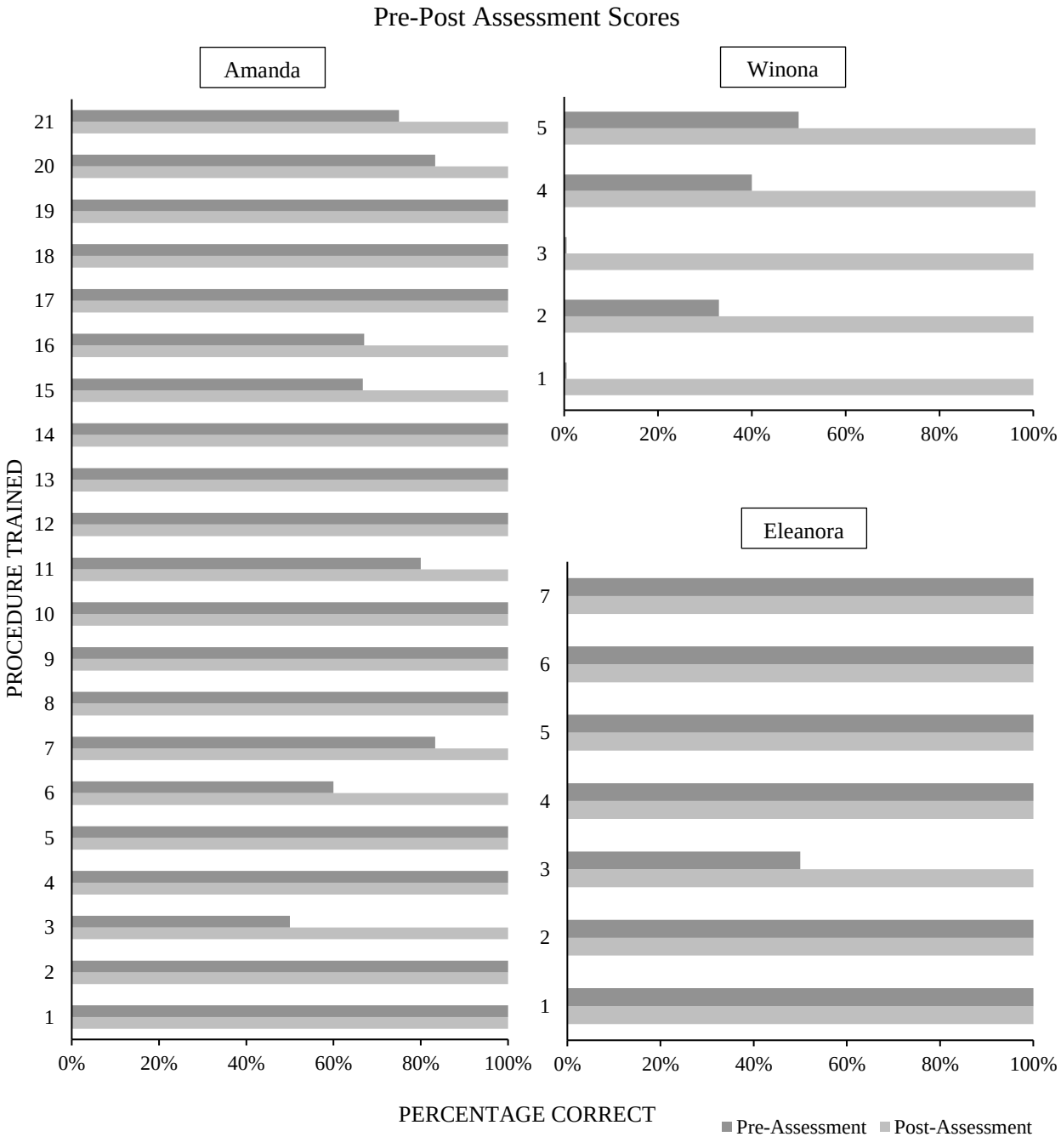

Figure 4. The participants' pre-post data for each procedure trained.

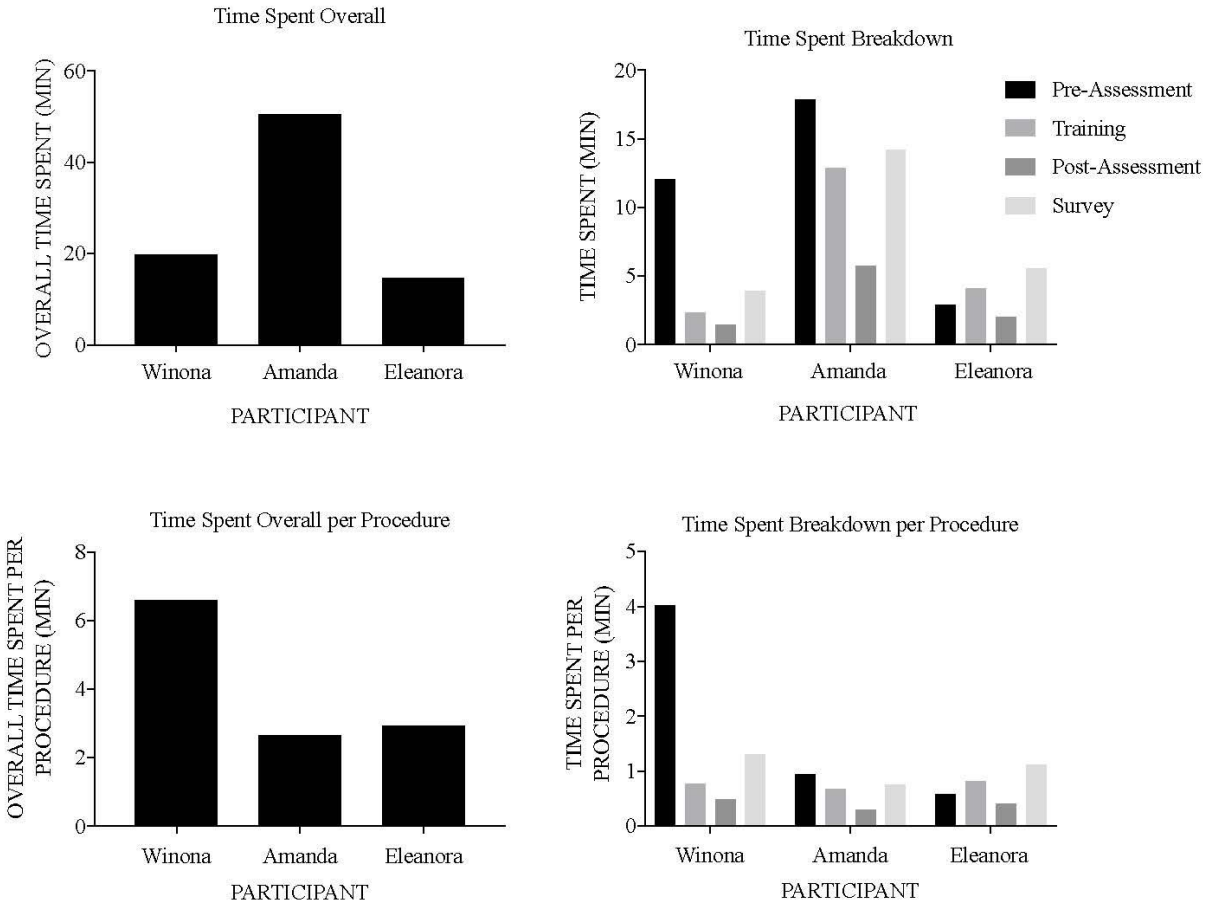

Figure 5. This graph includes participants' time spent overall and broken down into individual components. The left two panels depict the overall time spent in the study and the time spent per procedure. The two panels on the right illustrate time spent broken down into the individual components and then the breakdown per procedure.

CHAPTER 4

DISCUSSION

For all but two training cases, participants overwhelmingly selected self-assessment for their preferred choice of pre-assessment. Winona, who did select an in-vivo assessment for her first pre-assessment, subsequently selected self-assessment for the following two procedures to be trained. It may be that the contact with the in-vivo assessment led Winona to select a less-intensive assessment method. Amanda also selected an in-vivo assessment for the initial pre-assessment but, after the allotted time for the assessment ended and there was no opportunity for her to engage in the targeted response, Amanda made the choice to switch to a self-assessment.

Each of the participants exclusively selected written instructions for their training modality. Anecdotally, every participant expressed how much they enjoyed the ease of having written instructions for training. The social validity post survey was designed to obtain the participants' perceptions of the training they received. With the average training time for a single procedure (which, for written instructions, consisted of handing the participant a sheet of paper and reading the instructions to the participants) being about 38 s (0.64 min), it is clear that providing the written instructions took little time. With such data, it could be reasonable to assume that a behavior plan featuring 12 procedures may take less than 8 min to administer written instructions.

Once again, the participants in this study chose self-assessment for their post-assessment for all but one case. Amanda, who changed her pre-assessment type from in vivo to self, also

changed her post-assessment type at the same time. Both of her initial selections for pre- and post-assessment were in vivo and, following the in-vivo pre-assessment where she was unable to engage in the target response, she chose to switch to self-assessment for her post-assessment evaluation.

The procedures selected for training came from two student BIPs, one of which was a novel plan and the participants had never contacted the procedures prior to assessment. The novelty of the procedures was not associated with any difference in the patterns of choices made by participants. Thus, although one might suppose teachers are more likely to choose more intensive training and assessment methods when learning new skills, no such pattern appeared in this study.

Implications of Results

Participants in this study showed near exclusive preference for the least intensive forms of assessment and training. Although consistent with research on preference when effort and delay are manipulated (Athens & Vollmer, 2010), it leaves out consideration of other important consequences, namely of being able to actually implement a procedure with fidelity, or seeing behavior change as a result of implementing such a procedure. Written instructions, the training that each participant selected exclusively, is not an effective method of training (e.g. Mueller et al., 2003; Reo & Mercer, 2004; Shah & Gupta, 2017; Spiegel et al., 2016) whereas video modeling and BST have both been proven to be effective (e.g. Alaimo et al., 2018; Catania et al., 2009; Moore & Fisher, 2007; Sawyer et al., 2017; Tai & Miltenberger, 2017; Vladescu et al., 2012) but generally require more effort when compared to written instructions. As participants' selections aligned with the least effortful and least time intensive training modality and assessment type, they also aligned with the least effective form of training and the least accurate

form of assessment. Although no data were collected to infer why exactly the participants made the selections they did, it may be assumed that their choices were influenced by a number of variables. Specifically, training time, effort of training, and feedback may have individually or in tandem had an effect on the participants' selections for training and assessment. Ultimately, effective training is more important than overall preference for a certain training modality, however identifying an individual's preference for training may aid trainers when adapting the training they administer. Procedures used in this study could be used as a baseline to study independent variables that might shift preference in favor of more effective and valid training and assessment methods. One approach might be to borrow independent variables from research on delay discounting, that have been shown to help participants favor larger-later rewards (e.g., correct implementation, student behavior change) at the expense of smaller-sooner rewards (e.g., avoiding extensive training and potentially aversive feedback).

Amanda's switch from in-vivo to self-assessment for pre- and post-assessment evaluations is an indication of one of the disadvantages of in-vivo assessments. During the initial in-vivo pre-assessment, the student did not engage in the target behavior and Amanda had no corresponding opportunity to implement the targeted procedure. At the end of the allotted observation time, when given the choice of completing another in-vivo assessment at a different time or switching to another pre-assessment type, Amanda decided to switch to self-assessment. It may be possible that her switch was due to not having the opportunity to perform the procedure during the initial assessment.

If a trainee is to be assessed on their response to another individual's behavior, that individual must engage in the behavior. If there is no behavior to respond to, the in-vivo assessment would not provide a trainer with an adequate baseline level and additional session

would have to occur. However, such issues do not apply to role-play assessments, so her switch to self-assessment cannot completely be explained by the difficulty of waiting for actual problem behavior during in-vivo assessments.

Administering written instructions for training was efficient in terms of trainee time. These training sessions occurred prior to school starting, during instructor breaks, and after school had ended. Anecdotally, each participant made at least one statement regarding how feasible the written instructions were by using terms such as "painless," "super easy," and "straightforward." Additionally, every participant also stated how, just by contacting the procedures listed in the student's BIP, they were able to recall the details of the procedures more readily.

Limitations and Future Research

One of the limitations to this study is the validity of the self-assessment pre- and post-evaluations that the participants favored. First, self-assessment scores were high, with 19 out of 33 (57.58%) showing 100% fidelity. This led to a ceiling effect in that improvements could only have been made in the remaining 14 of 33 (42.42%) procedures trained. Typically, self-assessments are not accurate at measuring performance as individuals tend to overestimate their abilities to perform specific skills (e.g. Dunning, Health, & Suls, 2004; Maderick, Zhang, Hartley, & Marchand, 2016). Although the validity of teacher self-assessment has not been thoroughly examined, student self-assessment is frequently used in educational settings to promote academic achievement despite not being a completely valid way to assess performance (Ross, 2006). Still, it seems reasonable to question the validity of self-assessment procedures in school. Future studies should include some minimally intrusive procedures to evaluate the

validity of self-assessment. One possible approach might be to deliver a short quiz following self-assessments.

Another limitation is that due to the near exclusive preference for WI and self-assessments, we could not assess the relative preference for the other two modalities or assessment methods against each other. The methodology of this study may be compared to a multiple stimulus (MS) preference assessment which was first described by Windsor (1994). In an MS preference assessment, an individual would always be presented with the same options from which to choose. Previous research has shown that exclusive preference for one item can obscure relative preference for the remaining items (DeLeon & Iwata, 1996). Future researchers may seek to modify this type of preference sampling by altering the possible choices participants can make. For instance, in a multiple stimulus without replacement preference assessment, as described by DeLeon and Iwata, stimuli that are selected are then removed as options in subsequent trials. To relate this to the current study, systematically removing the most-frequently selected training options from the array of possible choices may lead to a more structured hierarchy of preference.

Duration data were collected as a secondary measure in this study. The purpose of collecting these data was to, initially, compare training and assessment durations as a means to discuss feasibility in terms of taking up the valuable commodity that is teacher time. However, as written instructions were the only training modality that the participants selected, it is impossible to compare the duration of administering written instructions with either roleplay or in-vivo evaluations. It was possible to compare the self-assessment duration with the in-vivo evaluations and the data indicated that self-assessment is a much quicker form of assessment that in-vivo evaluations. One limitation of the duration data that were collected is that there was no

IOA for any of the duration data which, if present, would enhance the believability of the data. Future studies that are interested in comparing the feasibility or duration of assessment or training types should include IOA measures for duration data.

In this study, we were unable to determine whether the choices made by participants were influenced by effort or by the delivery of feedback from another individual. It is unknown whether the current participants made the selections they made due to overall feasibility or to avoid receiving performance feedback. By manipulating the effort it takes to receive a more feasible training (i.e. only being able to schedule a time for training during the participant's lunch time) or manipulating the type of feedback delivered (i.e. through email rather than in person), future studies may be able to isolate which variable impacts participants' selections.

The participants in this study all worked in a private, not-for-profit school for children and adolescents diagnosed with ASD. This school was based out of a clinic that specialized in serving individuals with disabilities using applied behavior analysis (ABA). In addition to working as school personnel, each of the participants had experience implementing behavior-analytic procedures and following BIPs. The choices made by the three participants in this study may have been affected by their knowledge of ABA and their practice with BIPs. Future studies should examine the preference for training type and training components of individuals with less experience implementing BIPs such as general education teachers in the public-school system.

The present study aimed to assess teacher selections for training for implementing procedures in a BIP. The small-scale approach presented here featured three participants in a small, private school. Administering the modality and component selection form proved to be an efficient way to obtain participants' choices for training. This same approach should be

investigated in a large-scale setting such as a public school where many people require training to appropriately implement student BIP procedures.

This study sought to investigate an approach to assess teacher and instructor preference for training modalities and training components when given the choice for being trained on procedures listed within student behavior intervention plans. When presented with the training modality options of written instructions, video modeling, and behavioral skills training, participants exclusively selected written instructions. Similarly, participants selected self-assessments more frequently than roleplay or in-vivo assessments for both pre- and post-assessment evaluations. The participants' selections aligned with the choices that were the least effortful and required the least amount of time. This approach showed initial success and feasibility at assessing preference for assessment and training procedures in a school. Future research should refine these procedures to obtain a better hierarchy of preference, and then begin investigating variables to shift preference toward higher fidelity training and more valid assessment methods.

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APPENDICIES

Appendix A: Denying Request with Alternatives TA

Description: When denying a request, the implementer will use the following procedure.

Step	Description	+ / - / NA
1	If you deny the request, present a **variety** of highly preferred items/activities as alternatives. Make sure you are using multiple alternatives throughout the day.	
2	Praise the student's request.	
3	Indicate that the requested item is unavailable and provide at least two alternatives (i.e. "You can't have that item, but you can have this alternative item or this other alternative item.").	
4	If the student selects an alternative item, provide it immediately and provide behavior-specific praise.	
5	If the student does not select an alternative, differentially reinforce appropriate behavior.	
6	If the student engages in problem behavior, use the procedures specified previously.	

Appendix B: Participant Survey

Demographic Information

1. Age ____ Prefer not to respond
2. Gender (circle) Male Female Other Prefer not to respond

Education History

1. Highest level of education (circle)

   Bachelor's Some graduate Master's Doctorate

2. Please list any professional development (PD) trainings you attended during the last year.

   _____ _____

   _____ _____

   _____ _____

   _____ _____

3. Did any of the PD trainings you listed feature the following? (circle response) If so, please describe briefly.

   Applied Behavior Analysis Yes / No _____

   Behavior Intervention Plans Yes / No _____

   Individualized Education Plans Yes / No _____

   Tier 2 Procedures (PBS) Yes / No _____

   Tier 3 Procedures (PBS) Yes / No _____

Teaching History

1. How many years have you been teaching in public/private/charter schools?

   _____ years

2. Have you ever had a student in your class with a behavior intervention plan (BIP)? (circle)

   Yes / No

Appendix B (Continued)

3. If you said YES, have you had to implement a procedure that was listed in the student(s) BIP?

Yes / No

If YES, please state the four most recent procedures you have implemented.

_____ _____

_____ _____

4. Do you currently have at least one student that has a BIP with procedures that you will implement?

   Yes / No

5. If you said YES, please state up to four procedures listed in the students' BIPs.

   _____ _____

   _____ _____

6. From the procedures listed above, please discuss each one with the researcher to determine what procedure will be used in this study. Indicate the selected procedure by writing it below.

   _____

Appendix C: Modality and Component Selection

Training Modalities

Please read the following descriptions of three training modalities.

Modality	Description	Approximate Training Time
Written Instructions	A written description of the steps to implement a procedure.	5 – 10 min
Video Modeling	A video depicting a procedure with written instructions embedded in the video.	10 – 15 min
Behavioral Skills Training	Instructions on how to implement a procedure, modeling of the procedure done by a trainer, rehearsal of the procedure by the learner, feedback in the form of praise or correction.	15 – 30 min

If you were to choose one of the training modalities with consideration to the descriptions AND approximate training times, which would you select?

_____

In this section, you may choose any of the components in any combination. Given sufficient time and resources, it would be recommended to select every component to ensure that training is effective. Please select the components that are feasible for you.

Pre-Training Components		
	Component	**Description**
○	Roleplay Evaluation	The researcher will assess your skill level during a roleplay scenario.
○	In-vivo Evaluation with Student	The researcher will assess the skill level of the participant as he or she performs the skill with the student.
○	Self-Assessment	The participant will fill out a form listing all the steps needed to perform the skill that is selected and mark if they performed the skills correctly.

Appendix C (Continued)

Training Components		
	Component	**Description**
○	Feedback During Roleplay	The researcher will deliver behavior-specific praise or corrective feedback dependent on the participants' performance while conducting the roleplay evaluation.
○	Feedback During In-vivo Evaluation	The researcher will deliver behavior-specific praise or corrective feedback to the participant during the in vivo evaluation.
Post-Training Components		
	Component	**Description**
○	Roleplay Evaluation	An evaluation with the participant will be conducted via a roleplay with the researcher.
○	In-vivo Evaluation with Student	The researcher will observe the participant performing the skill with the student that it pertains to.
○	Self-Assessment	The participant will fill out a form listing all the steps needed to perform the skill that is selected and mark if they performed the skills correctly.

Appendix D: Treatment Fidelity Checklist

Implementer: _____ Date:_____

STEP	DESCRIPTION	+ / - / NA
	PRE-TRAINING	
1	Ensure the participant is willing to participate.	
2	Select the procedure to be trained with the participant.	
3	Review modalities and ask if there are any questions. Remind participants they can change their selections at any time.	
4	Have the participant indicate which modality they would like for training.	
5	Review training components and ask if there are any questions. Remind participants they can change their selections at any time.	
6	Have the participant indicate which components they would like for training.	
7	Agree upon a time to complete the pre-assessment.	
	TOTAL	**___ / ___ ___ %**
	PRE-ASSESSMENT	
1	Ensure the participant is willing to participate.	
2	Reiterate the selection the participant chose.	
3a	SELF ASSESSMENT: Record amount of time to complete self-assessment.	
4a	SELF-ASSESSMENT: Administer the data sheet and provide directions.	
5a	SELF-ASSESSMENT: Collect data sheet once participant is finished.	
3b	ROLEPLAY: Record amount of time to complete roleplay assessment.	
4b	ROLEPLAY: Engage in behavior to target skill, allow participant to respond.	
5b	ROLEPLAY: Complete pre-assessment data sheet.	
3c	IN-VIVO: Record amount of time to complete in-vivo assessment.	
4c	IN-VIVO: Observe participant with student and fill out data sheet.	
5c	IN-VIVO: If participant was unable to engage in the targeted skill/procedure, ask the participant to reschedule for another observation and provide option of changing pre-assessment type.	
	TOTAL	**___ / ___ ___ %**
	TRAINING	
1	Ensure the participant is willing to participate.	
2	Reiterate the training modality the participant chose.	
3a	WI: Record amount of time it takes the participant to complete training.	
4a	WI: Provide task-analyzed procedure and read each step aloud.	
5a	WI: Ask the participant if they have any questions.	
3b	VM: Record amount of time it takes the participant to complete training.	
4b	VM: Allow access to a video model of the procedure being performed.	
5b	VM: Ask the participant if they have any questions.	
3c	BST: Record amount of time it takes the participant to complete training.	
4c	BST: Instruct the participant on how to perform the skill/procedure.	
5c	BST: Have the participant act as the student and roleplay how to perform the procedure.	
6c	BST: Act as the student and have the participant perform the procedure.	
7c	BST: Provide corrective feedback or behavior-specific praise depending on performance.	
	TOTAL	**___ / ___ ___ %**

Appendix D (Continued)

STEP	DESCRIPTION	+ / - / NA
	POST-ASSESSMENT	
1	Ensure the participant is willing to participate.	
2	Reiterate which component/s the participant selected.	
3a	SELF ASSESSMENT: Record amount of time to complete self-assessment.	
4a	SELF-ASSESSMENT: Administer the data sheet and provide directions.	
5a	SELF-ASSESSMENT: Collect data sheet once participant is finished.	
3b	ROLEPLAY: Record amount of time to complete roleplay assessment.	
4b	ROLEPLAY: Engage in behavior to target skill, allow participant to respond.	
5b	ROLEPLAY: Complete pre-assessment data sheet.	
6b	ROLEPLAY: Deliver feedback IF SELECTED by the participant.	
3c	IN-VIVO: Record amount of time to complete in-vivo assessment.	
4c	IN-VIVO: Observe participant with student and fill out data sheet.	
5c	IN-VIVO: Deliver feedback IF SELECTED by the participant	
6c	IN-VIVO: If participant was unable to engage in the targeted skill/procedure, ask the participant to reschedule for another observation and provide option of changing pre-assessment type.	
	TOTAL	**___ / ___ ___ %**
	MASTERY CRITERION	
1a	CRITERION MET: Inform the participant of their score and indicate that they reached the mastery criterion.	
2a	CRITERION MET: Thank them for participating and ask if they would like to continue participating with another procedure.	
1b	CRITERION NOT MET: Inform the participant of their score and the mastery criterion of achieving 90%.	
2b	CRITERION NOT MET: If the participant indicates they would like more training, allow them to select a training modality and provide that specific training.	
3b	CRITERION NOT MET: If the participant indicates they would not like more training, thank them for participating and ask if they would like to continue participating with another procedure.	
	TOTAL	**___ / ___ ___ %**
	CUMMULATIVE TOTAL	**___ / ___ ___ %**

Appendix E: Post Survey

1. Which training method did you select? (circle one)

   Written Instructions Video Model Behavioral Skills Training

2. Please rate the following sentence:
   I felt that the trainings ultimately allowed me to perform the procedure correctly.

1	2	3	4	5
Disagree completely	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree completely

3. If you selected 1 or 2, please circle one or more reasons why.
   a. Training was not comprehensive.
   b. Training was not relevant.
   c. There was not enough training.
   d. Other: _____

4. Please rate the following sentence:

   The training took too much time out of my day.

1	2	3	4	5
Disagree completely	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree completely

5. If you selected 4 or 5, please circle one or more reasons why.
   a. It took too much time from my planning time.
   b. The training length prohibited me from working with students.
   c. I felt the training time was too long.
   d. Other: _____

6. Please rate the following sentence:
   If I were to be trained on another procedure, I would select the same training method.

Appendix E (Continued)

1	2	3	4	5
Disagree completely	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree completely

7. If you selected 1 or 2, please circle which training you would rather have.
    a. Written Instructions
    b. Video Model
    c. Behavioral Skills Training

8. If you selected a different training method, please circle why.
    a. Shorter training time.
    b. Better training.
    c. I prefer being trained in a different way than I selected during the study.
    d. Other: _____

Appendix F: IRB Letter of Approval

RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

November 6, 2018

Laurel Porter
ABA-Applied Behavior Analysis
Tampa, FL 33612

RE: **Expedited Approval for Initial Review**
IRB#: Pro00034054
Title: Assessing Teacher Preference for Training Modalities for Behavior Intervention Plans

Study Approval Period: 11/6/2018 to 11/6/2019

Dear Ms. Porter:

On 11/6/2018, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

Approved
Item(s): Protocol
Document(s):
Porter_Protocol_Revision.docx

Consent/Assent Document(s)*:
Adult Informed Consent_Version 1.pdf
Parental Permission_Version 1.pdf

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved.

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110. The research proposed in this study is categorized under the following expedited review category:

(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

This research involving children's records was approved under 45 CFR 46.404: Research not involving greater than minimal risk to children is presented.

Requirements for Assent and/or Permission by Parents or Guardians: 45 CFR 46.408
: Permission of one parent is sufficient.

Assent is not required; parent will give permission to review child's records.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) business days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D.,
Chairperson USF Institutional
Review Board