Evaluation of a Hierarchal Training Model for Group Home Staff

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Evaluation of a Hierarchal Training Model for Group Home Staff

by

Elizabeth Marie Lynch

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science
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Keywords: Staff training, group home, hierarchal training model, video model, video model+assessment, behavioral skills training

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ABSTRACT

Direct-care staff working with individuals with developmental disabilities (DD) are frequently exposed to challenging behavior from residents and expected to respond correctly to challenging resident behavior, but often receive insufficient training due to lack of resources and high staff turnover (e.g., Collins, 2012; Collins, Higbee, & Salzberg, 2009; Haberlin, Beauchamp, Agnew, & O’Brien, 2009; Pelletier, McNamara, Braga-Kenyon, & Ahearn, 2010). Training methods such as Behavioral Skills Training (BST) are highly intrusive and require high amounts of resources (e.g., Parsens, Rollyson, & Reid, 2012). Research suggests technological based alternatives are more cost effective, decreases training time and response effort from management, and increases distance learning opportunities and dissemination capabilities. The purpose of this study was to evaluate the use of a hierarchical training model that incorporated video modeling, video modeling+assessment, and BST to train behavior management strategies for direct-care staff working with adults with developmental disabilities. Subjects were exposed to the most cost effective training approach first (i.e., video model) and sequentially moved to more intrusive methods (i.e., video model+assessment, & BST) as needed. All subjects implemented behavior management strategies with fidelity after exposure to technological based training alternatives (i.e., video model, video model+assessment).

Keywords: Staff training, group home, hierarchal training model, video model, video model+assessment, behavioral skills training
INTRODUCTION

Direct-care staff working with individuals with developmental disabilities (DD) are frequently exposed to challenging behavior from residents (e.g., Burg, Reid, & Lattimore, 1979; Ducharme, & Feldan, 1992; Page, Iwata, & Reid, 1982). Additionally, staff are expected to respond correctly to challenging resident behavior, but often receive insufficient training (e.g., Collins, 2012; Collins, Higbee, & Salzberg, 2009; Haberlin, Beauchamp, Agnew, & O’Brien, 2009; Pelletier, McNamara, Braga-Kenyon, & Ahearn, 2010). The lack of funding provided to group homes, along with high staff-turnover have been suggested reasons for insufficient training (e.g., Du, Nuzzolo, & Alonso-Alvarez, 2016; Pelletier et al., 2010). Additionally, the majority of training methods introduced to residential settings are intrusive and require high amounts of resources that are not available in this setting and therefore, resulting in questionable fidelity and maintenance (e.g., Nosik, Williams, & Lee, 2012; Parsens, Rollyson, & Reid, 2012).

Research has shown Behavioral Skills Training (BST) is an effective training method (Drifke, Tigerm & Wierzba, 2017; Pollard, Higbee, Akers, & Brodhead, 2014; Rosales, Stone, & Rehfeldt, 2009). BST is a training package comprised of instructions, modeling, rehearsal, and performance (e.g., Miltenberger et al., 2009; Parsons et al., 2012). BST has repeatedly been shown to increase a wide-range of desired direct-care staff, teacher, and caregiver behavior (e.g., Fetherston, & Sturmey, 2014; Hogan, Knez, & Kahng, 2015; Nigro-BruZZi, & Sturmey, 2010). Despite demonstrated effectiveness of BST in literature, practical concerns have been indicated. BST requires live face-to-face training delivered by a trained individual thus, producing a costly
and time consuming training (e.g., Nosik et al., 2013; Macurik, O’Kane, Malanga, & Reid, 2008; Parsons et al., 2012). Given the issues of funding and high staff-turnover in human service organizations, cost and time efficient alternatives to BST have been evaluated (e.g., Geiger, 2012; Severston, & Carr, 2012; Sparks, 2016).

Due to high resource requirements of BST, technological approaches, such as video modeling (e.g., Catania, Almeida, Liu-Constant, Digennaro-Reed, 2009; Lipschultz, Vladescu, K. Reeve, S. Reeve, & Dipsey, 2015; Moore, & Fisher, 2007; Rosales, Gongola, & Homilitas, 2015). Video modeling involves viewing a live/animated model on a computer (or similar technological device) implementing the procedure with full fidelity and providing various examples and non-examples (Karsten, 2015). Further, in-depth evaluation of video models with supplementary quizzes providing corrective and positive feedback to subjects in ways that might be parallel to BST have been initiated by researchers (e.g., Collins, 2012; Gerencser et al., Serna et al., 2016; Sparks, 2016). These studies evaluating video models demonstrate efficacy without quizzes (e.g., Digennaro-Reed, Codding, Catania, & Maquire, 2010; Jamison et al., 2014; Sparks, 2016; Vladescu, Carroll, Paden, & Kodak, 2012), with quizzes in written format (e.g., Collins, 2012; Macurik et al., 2008), embedded quizzes (e.g., Jamison et al., 2014; McCulloch, & Noonan, 2013), and embedded quizzes with interactivity (e.g., Gerencser et al., 2017; Serna et al., 2016; Sparks, 2016).

With demonstrated evidence for various training methods, researchers have attempted to conduct comparison studies. There seem to be two categories of studies: those that provide training using various methods in a sequential (e.g., least to most effortful) manner and those that involve direct comparison across different skills or individuals (e.g., Drifke, Tiger, & Wierzb,
Results from sequential evaluations are mixed: Research on BST component analyses shows modeling and feedback as the crucial components (i.e., Difke et al., 2017; Hogan et al., 2015; Ward-Horner, & Sturmey, 2012). Conversely, Severtson and Carr (2012) conducted a sequential analysis of Computer Based Instruction (CBI) for training DTT; an instructional manual was initially provided, then video instruction and models, ending with performance feedback. Results showed three subjects only required the self-instruction manual, while the other three subjects needed all components of the treatment package to reach mastery criterion.

Relatively fewer studies have involved direct comparisons. For example, Nosik, Williams, Garrido, and Lee (2013) compared BST and CBI in an under-powered group design. Subjects were either exposed to the BST or CBI training. Results showed subjects in the BST group exhibited higher performance and maintenance compared to the CBI group. However, Nosik et al. noted the limitation that training duration for BST was three times the length to CBI. In addition, there were only three subjects per group, which limits the authors’ ability to rule out sampling error.

Geiger (2012) addressed the limitation found in the Nosik et al. (2013) study by conducting a randomized 2-group repeated measures design and used statistical analysis to compare effects of BST and CBI on subjects’ performance on implementing DTT. The BST condition included instruction, modeling, rehearsal, and feedback in a live face-to-face individual setting. Whereas, the CBI condition delivered the same basic instruction as BST, but replaced rehearsal and feedback with active responding and a multiple choice quiz at the end of the lesson. The active responding component comprised of clicking and dragging stimuli to set up an
array, collect data, and place stimuli in chronological order. Subjects’ in the BST condition moved to the next module after displaying 100% accuracy for 3 consecutive sessions, while subjects’ in the CBI condition progressed to the next lesson once quiz performance displayed 100%. Geiger found the primary target measure of post training DTT implementation to be 87% with CBI and 96% with BST. Additionally, Geiger evaluated secondary measures of time and errors. Analysis of time indicated slightly less learner time invested with BST (52 min) compared to CBI (59 min). While subjects’ in both conditions displayed statistically significant errors for data collection, subjects’ in CBI showed increased errors in steps involving prompts then the BST condition. With statistical analysis, BST was shown to be substantially more effective than CBI, similar to results found by Nosik et al. Yet, Geiger noted if more than 62 staff were trained (which is typical in residential settings), CBI is a more effective training method with regard to cost and resources, displaying a limitation of BST.

Another BST-CBI comparison groups design by Wolfe and Slocum (2015) trained subjects on visual analysis of AB graphs and found no significant difference between experimental groups (BST, CBI).

In a comparison of different types of video model, Sparks (2016) conducted an alternate comparison study evaluating a traditional video model versus an interactive video model (with an embedded quiz). Findings showed no difference; subjects in both video model conditions reached mastery criterion. Two of the four subjects, required one less session when trained with IVM compared to traditional video models. Nevertheless, one study is not enough to make conclusions regarding the efficacy of IVM and traditional video model.

The above literature suggests that technology-based alternatives to BST like CBI and IVM can sometimes result in similar performance as standard BST while being more cost-
effective. The goal for consumers is to have access to a training method that is effective while also being low in cost, and training time. Further, given the resource constraints in residential settings that might limit the practicality of BST, there is a need for researchers to find an efficient and effective alternative training method, sustainable for group homes. One way to do this might be to create a hierarchy of instructional methods where initially, the most cost-effective procedures are used, and more-intensive methods (e.g., BST) are reserved for skills that are not acquired using the former approach. Therefore, the purpose of this study was to evaluate the use of a hierarchical training model that incorporated video modeling (VM), video modeling+assessment (VM-Assessment), and BST to train behavior management strategies for direct-care staff working with adults with developmental disabilities.
METHOD

Subjects and Setting

Three direct care staff working with individuals with developmental disabilities participated in this study. Subjects were employed at a local Adult Day Program (ADT) and recruited with fliers provided by their management from the researcher. Subjects were provided with an incentive in the form of a $25 gift card to participate. An additional incentive of a $25 gift card was given to subjects at completion of the study.

All three subjects ranged from 19-26, two were female and one was male. The male subject was identified as Dustin. He had been employed at the ADT program for four months at the start of the study. The two female subjects were identified as Max and Ellie. Ellie had been an employee at the ADT program for one year. Lastly, Max had been employed the longest out of the subjects, indicating she’d been working for two and a half years at the start of the study. All subjects indicated in the pre-training questionnaire that they had not had any experience with the behavior management skills that were to be trained (i.e., DRO, First, Then). Through conversation with subjects it was identified they were not familiar with ABA.

All subjects were staff that worked directly with clients throughout the day. Staff were responsible for a team of clients. Teams were switched one time throughout the course of the study (three and a half months). A day consisted of staff carrying out the daily schedule, responsible for engaging clients in tasks and activities while making sure their needs were met (e.g., going to the bathroom, eating lunch, taking medicine). All direct-care staff adhered to a staffing supervisor that oversaw their work completion.
Two clients from the ADT program were recruited for this study. Both clients were over the age of 30 with no behavior analytic services at the time. These clients were chosen due to their problem behavior identified by management. Management also expressed the inability to take one of the clients on outings due to the severity of the problem behavior. Problem behavior identified was aggression and repetitive questioning.

Sessions were conducted within the adult day program facility. Sessions were held throughout the facility, in various rooms conducive to the skill being trained and assessed. Rooms included the break room, office and main room where clients and staff were typically located. Session duration ranged from 10 min to 30 min, dependent on the skill and training method. Sessions were conducted in the afternoon after lunch.

**Materials**

Materials included task analyses and data sheets (Appendices C and D), treatment integrity checklist (Appendices E, F, and G), a writing utensil, tablet or computer, stopwatch, First, Then board, laminated pictures of chores and objects/activities, and a video camera.

The video was produced from task analyses for each target skill through iMovie (Version 10.1.5; Apple inc, 2017); an Apple computer program capable of creating video. Videos were uploaded to Youtube on private for storing and viewing purposes (Lynch, DRO, 2018; Lynch, First, Then, 2018).

The VM+Assessment was created with Qulatrics; an online survey/quiz generator (Version 1.18; Qualtrics, 2018).

**Experimental Design**

The experimental design was a non-concurrent multiple baseline across subject’s times two skills. Training was introduced to the first subject on the first skill and once stability of data
was demonstrated, training was introduced to the second subject and so on until the third subject received the training. The same process was implemented for the second skill. Training sessions were separate for each skill, but conducted within the same time period.

**Target Skills**

Target skills were selected through open ended interviews with BCBA’s working in a group home setting. BCBA’s indicated providing appropriate reinforcement and instructions was not typically performed by direct-care staff. Therefore, the skills identified were Differential Reinforcement of Other Behavior (DRO) and appropriate use of First, Then statements. The BCBA’s further specified that increasing staff fidelity with these behavior management skills would benefit both staff and clients, potentially increasing positive interactions.

**Mastery Criterion.** The mastery criterion for subjects was three consecutive role-play assessment sessions at 90% or above performance. Primary measures were subject’s implementation of skills. Subjects were scored using task analyses (Appendices C and D) for each behavioral skill. Performances were averaged out from all trials and intervals in a single session and multiplied by 100 to assess percentage correct. Performance was scored with a plus sign (i.e., correct response), or minus sign (i.e. incorrect response) for each step on the data sheet corresponding to the task analysis. A correct response was scored as independently performing a step as outlined in the task analysis and taught in training. An incorrect response was skipping a step, or not performing it as trained. Percentage of correct responses were calculated by adding all plus signs and dividing the plus sign total by the total number of steps within the task analysis, and multiplying by 100. A secondary measure of total subject time invested was evaluated by adding up the length of each training session until performance reached mastery.
criterion, at which point all of the session training times were added to get the total amount of training per subject per skill.

Assessments

**Role Play Assessment** Performance at baseline, post VM, and post VM+Assessment was scored through role-play assessments. Assessments were completed during subjects’ scheduled shift immediately after training sessions. The researcher brought the subject to the break room/front office to receive training (except in baseline). Then immediately after training, the assessment began in the same room. The researcher provided the subject with a random scenario, and informed the subject they could start whenever they were ready. The researcher and/or research assistant scored the subjects’ performance. Subjects’ were scored on correct responses which correlated to the task analysis (Appendices C and D). Role play assessments included performance during one session.

**DRO.** During DRO role-play assessments the researcher provided the subject with a randomized problem behavior and interval length. All interval lengths were under 30s. Once the researcher informed the subject of the scenario and started the recording, the subject implemented DRO. A session for DRO consisted of 10 intervals.

**First, Then.** During First, Then role-play assessments the researcher provided randomized tasks (relevant to the ADT program) and reinforcers. Once the researcher informed the subject of each First, Then scenario and started the recording, the subjects implemented First, Then. A session for First, Then consisted of 5 trials.

**Client Probe Assessment** Client probe assessments were conducted at least once in each phase; baseline, VM, VM+Assessment. Probes were completed in the afternoons post-lunch during subjects scheduled shifts. The researcher brought the subject to the break room/front
office to receive training (except in baseline). Then immediately after training the researcher asked the subject which client they wanted to work with. Once the subject chose, both researcher and subject transitioned to the main room where all clients were, and the researcher informed the subject they could start whenever they were ready. The researcher and/or research assistant scored the subjects' performance. Subjects’ were scored on correct responses which correlated to the task analysis (Appendices C and D). Client probe assessments included performance during one session.

**DRO.** During DRO client probes the researcher reminded the subject of the problem behavior and interval length for the client they decided to work with. The client was engaged in an activity in the main room and once the subject started the timer the session began. A DRO client probe consisted of five intervals.

**First, Then.** During First, Then client probes the researcher informed the subject of the low-p and high-p activity for the client they decided to work with. Sessions began once the client finished lunch in the main room. This time was chosen for session due to the lack of clients’ compliance with completing afternoon clean up tasks (e.g., sweep, vacuum, wash dishes, wipe tables) which were rotated weekly. The low-p activity provided was the task assigned to that client for that week, but only a portion was required for the probe (i.e., complete part of task and receive break with high-p activity). The subject let the researcher know when they were ready and the session began. A First, Then client probe consisted of one trial.

**Procedures**

Performance on correct implementation of DRO and First, Then statements was assessed in all phases Training methods were introduced to subjects sequentially until mastery of the target skill was displayed. The order of training methods was VM, VM+Assessment, (BST was not needed).
Subjects’ had 5 sessions to reach mastery criterion before they received the following intrusive training method unless performance displayed an upward trend. If an upward trend was demonstrated, the researcher waited for performance to become stable (3 data points within 15% of each other), or if a downward trend was seen. Once mastery criterion was reached, training ended.

**Phases** Subjects completed a baseline condition for each skill before video model implementation. Following baseline, video modeling was introduced and assessed. Subjects that did not reach criterion within 5 sessions (or no upward trend was shown), VM+Assessment was implemented and assessed. If subjects did not master the skill in the VM+Assessment phase, they were moved onto BST. However, subjects mastered the skills with either VM or VM+Assessment and BST was not necessary. Once mastery criterion of 90% for three consecutive sessions was demonstrated, training ended.

**Baseline.** During baseline, subjects were scored on their implementation of DRO and First, Then statements. The researcher presented each subject individually with a scenario and verbally instructed the subject to demonstrate the skill. Baseline sessions were used to evaluate subject’s prior knowledge and fidelity during implementation of DRO and First, Then statements. Subjects were able to express incompetence during baseline assessments and were informed by the researcher they would receive a 0% for that session. Ellie and Dustin expressed their inability to implement DRO twice during DRO baseline. No performance feedback or answers to subjects’ questions was provided during baseline assessments. Any subject that scored over 40% in baseline sessions would have been excluded from the study.

**Video model (VM).** The steps of VM were used to train subjects on DRO and First, Then statements. The video model length was 3:44 min. for DRO and 4:48 min. for First, Then.
Training modules included video media with audio and textual aids that demonstrated the correct sequence of steps for implementation of DRO and First, Then statements with full fidelity. Steps consisted of (a) introduction and description of the skill, (b) appropriate situations to use skill and its corresponding benefits, (c) scenarios laying out each step with a textual aid numbering each step, (d) correct versus incorrect implementation. Video model completion and role-play assessments were administered until subjects completed 5 sessions (with no upward trend demonstrated). The researcher did not provide any performance feedback. The VM training and assessments were administered until criterion was met. If subjects completed 5 sessions and no upward trend was demonstrated, were exposed to VM+Assessment.

**VM+Assessment (feedback).** The steps of VM+Assessment were used to train subjects on implementation of DRO and First, Then statements. Instructions were the same as the VM condition with new video modules created. However, positive and corrective feedback was provided through administration of a quiz with accurate responses assessed. Quizzes were introduced to subjects in an electronic form to assess content comprehension. Subjects were required to obtain a 100% on the VM+Assessment to move onto implementation of the corresponding skill. The VM+Assessment training and assessments were administered until criterion was met. If subjects completed 5 sessions and no upward trend was demonstrated, they would have been exposed to BST until mastery was displayed.

**Interobserver Agreement (IOA) and Treatment Integrity**

Interobserver agreement (IOA) and treatment integrity data were collected a minimum of 33% of sessions for each subject during each phase per skill by the researcher and research assistants through video recordings of sessions. Research assistants were recruited from the undergraduate and graduate Applied Behavior Analysis program at the University of South
Florida. Research assistants were required to complete C1TI training and received training on data collection.

IOA was calculated by adding the total number of agreements divided by the total number of agreements and disagreements, and multiplying by 100 (Cooper, Heron, & Heward, 2007). An agreement was defined as observers both marking the same subject response; +/- on the data sheet for the corresponding step within the task analysis. A disagreement was defined as observers scoring different responses for the corresponding step within the task analysis (i.e., one observer marks a + while the other observer marks a -).

IOA was collected for each skill. For DRO, average IOA was 98% for Dustin (range, 93%-100%), 96% for Max (range 93%-100%), and 96% for Ellie (range, 93-100%). Additionally, for First, Then, average IOA was 95% for Dustin (range, 82%-100%), 93% for Max (range, 82%-100%), and 93% for Ellie (range, 82%-100%).

Trained research assistants evaluated treatment integrity of the researcher implementing training and assessment sessions to fidelity of each behavioral skill with a checklist (Appendix 5). Treatment integrity was calculated by adding up the correctly performed steps, then dividing by the total number of steps in the checklist, and multiplying by 100.

Treatment integrity was collected for each skill. For DRO, Average treatment integrity was 100% for Dustin and Max, and 96% for Ellie (with one session at 75%) For First, Then, average treatment integrity was 100% for all subjects.

Social Validity & Questionnaires

Social validity questionnaires were completed by subjects in a pen and paper format. Questionnaires consisted of 5-point Likert scales with space for comments under each question. A pre-study questionnaire (Appendix A) was given to each subject, inquiring about their pre-
existing knowledge on the skills being trained and history with training methods. Additionally, a post-study social validity questionnaire (Appendix B) was provided to subjects after reaching mastery criterion of each skill to assess their opinion and satisfaction of the study.

**Visual Analysis of Skill Components**

As is typical in skill acquisition programs, each target skill in the current study consisted of a number of individual constituent skills (Appendix C and D). To facilitate an understanding of role that acquisition of those constituent skills were affected by each training step, we developed a method of graphing the data loosely based on an approach used by Silverman, Svikis, Wong, Hampton, Stitzer, and Bigelow (2002) where several time series datasets are represented in a grid where the passage of time is depicted from left to right and each row represents a different skill component. Cells in the grid are coded as either filled or empty according to subjects responding at 80% performance for the specific step. If a subject performed the step at 80% of above the cell was filled with gray, and any step performed below 80% for that session was empty. Further, if a step was not required in the session the cell was filled with NA (i.e., not applicable).
RESULTS

Figure 1 displays subjects’ performance for DRO. During baseline, subject performance was low. Following the introduction of VM, all subjects’ performance increased and stabilized with no overlap between baseline and training sessions, but only Dustin’s reached mastery. The remaining subjects, Ellie and Max, moved onto VM+Assessment. Max’s performance increased under VM+Assessment but failed to reach mastery after 5 sessions. An analysis (Figure 2) of the individual skill components showed Max was consistently missing specific DRO steps. This led us to re-examine the assessment materials and we identified a gap in skills included in the assessment, which we corrected beginning on session 20 for Max, indicated by an asterisk. Specifically, we clarified the expectations related to delivering social positive reinforcement and behavior specific praise after each interval when there was no occurrence of problem behavior. After that correction to the assessment materials, Max mastered DRO in 6 sessions. Ellie was only exposed to the corrected VM+Assessment and mastered DRO in 3 sessions. However, due to a slight downward trend seen with Ellie’s performance we conducted another training and assessment session and she maintained mastery performance.

Figure 3 displays subjects’ performance for First, Then statements. During baseline subject performance was similar, low, and showed no upward trend. Once VM was introduced all subject performance increased and no overlap seen with baseline, but only Ellie reached mastery criteria. The remaining subjects, Max and Dustin moved onto VM+Assessment. Dustin increased to mastery criteria in 5 sessions. Through an analysis (Figure 4) of the individual skill components, we identified gaps in the assessment with components not acquired in the VM or
VM+Assessment phases. This led us to correct the assessment beginning on session 20 for Max, indicated by the asterisk. Specifically, we clarified the importance of providing high and low levels of behavior specific praise for independent versus prompted responses. Max was only introduced to the corrected VM+Assessment and increased her performance to mastery criteria in 3 sessions.

Figure 5 displays subjects total training for DRO and First, Then. Overall training time was variable and ranged from 20 minutes to 1 hr and 47 min.

In addition to the role play assessments that make up the bulk of the data in Figures 1 and 3, we also assessed generalization of the subjects’ skills with actual clients. These data are graphed as open data points in Figures 1 and 3. Generally, performance during client probes was similar to performance during role-plays. Similarly, once subjects mastered the skill in the role-play assessments, client probes also displayed mastery performance. Ellie displays the only exception to this in Figure 1, with her client probe slightly lower than mastery performance during the role-play assessments. The relationship between role-play and client probe performances is shown more clearly in Figure 6, with performance during client probes graphed as a function of performance during the preceding role-play assessment. The best-fit (dotted) line falls just below the 45-degree line, indicating performance during client probes fell on average just 6.6% ($r^2 = .93$) below performance on the preceding role-play assessment (obtained from the y-intercept of the best-fit line on Figure 6).

We provided a pre-study questionnaire and a post-study social validity questionnaire to subjects. In the pre-study questionnaire, all subjects indicated with a 1 on the Likert scale they had not had prior experience with DRO or First, Then statements. Additionally, Dustin recorded not having any prior experience with any of the training methods implemented in the study with
1’s on the Likert scale. Ellie reported having prior experience with video modeling and video model + assessment indicated with 4’s on the Likert scaled, but not with BST, seen with a 1 recorded. Max reported having prior experience with all of the training methods implemented, seen with 4’s for all training methods.

In the post-study social validity questionnaire all subjects indicated participation in this study was beneficial to their job, behavior specific praise was adequately explained, each skill was equal in difficulty, and that they feel competent implementing DRO and First, Then in the natural setting, indicated with 4’s on the Likert scale. When inquiring about positive changes in clients, only Ellie agreed she noticed one compared to Dustin and Max who said they were unsure, indicated by a 3 on the Likert scale. Additionally, while Dustin and Ellie preferred VM+Assessment, Max did not (indicated by a 4 on the Likert scale) commenting that she answered the questions based off of memory and that this phase would have been more beneficial if there were new questions presented each session.
The current study extended the literature on the effectiveness of skill acquisition through video modeling with and without an assessment. Subjects reached mastery in both skills during either VM or VM+Assessment: Two cases reached mastery with VM while the remaining four cases reached mastery criterion with VM+Assessment. Results from this study are consistent with previous research supporting active responding, branching, and feedback in technology based training methods (Collins, 2012; Gerencser et al., 2017; Serna et al., 2016; Sparks, 2016). Additionally, this study furthered previous findings on the positive benefits of including modeling and feedback in training (Drifke et al., 2017; Hogan et al., 2015; Ward-Horner, & Sturmey, 2012). Results indicated in the majority of cases mastery criterion was reached with the VM+Assessment phase, extending research on the necessity of including feedback in technological based training methods (Digennero-Reed et al., 2010; Jamison et al., 2014; Vladescu et al., 2012; McCulloch, & Noonan, 2013; Rosales et al., 2015; Moore, & Fisher, 2007). Importantly, this study extends research on training methods adaptable to online formats in which no feedback is given following performance on the skill.

Additionally, the current study adds to the social validity of technology based training methods, specifically for group home settings. All subjects indicated participation in the study was beneficial to their job and they felt competent implementing both DRO and First, Then in the natural setting. However, only Ellie indicated she noticed a positive change in the clients. It should be noted the purpose of this study was to increase staffs’ correct implementation of DRO and First, Then statements. Due to the purpose of the study, the majority of assessments were
conducted in a role-play context and not in client probe context, thus limiting the number of sessions with clients. Additionally, although, Dustin and Ellie preferred VM+Assessment as a training method Max did not, commenting that this phase would have been more beneficial if there were new questions presented each session. Overall, this extends the acceptability of technology based training methods.

Although subjects in our study were more likely to acquire the skills in VM+Assessment, one limitation of our study was that we are unable to disentangle the influence of the earlier VM phase on the later mastery obtained in VM+Assessment. Future studies may compare acquisition across both interventions using group designs.

While the majority of subjects mastered each skill in the VM+Assessment phase, an individual skill component analysis indicated modifications should be made to cover steps of each skill in more depth. Once these modifications were complete, the last two subjects mastered the correlating skill within six sessions. Although our results suggest that immediate feedback following performance of a skill like that provided in BST may not always be necessary, we would not have known about the gaps in our VM+Assessment materials without direct observation. This could be viewed as a limitation.

The individual skill component analysis was able to identify that subjects were consistently missing the same steps. Due to the small sample size we cannot conclude these steps are the most difficult. However, future research can assess if certain steps are more difficult to acquire for DRO and First, Then compared to other steps in the skill. More specifically, for DRO, subjects were not initially acquiring providing a consequence after each interval (i.e., providing reinforcement and behavior specific praise after each interval ends). Once the modifications were made subjects acquired these steps of DRO. For First, Then subjects were not
providing varied levels of behavior specific praise for independent vs. prompted client responses (i.e., steps 6A and 8A in the task analysis). However, behavior specific praise and varied levels of praise was grouped in the same step. Therefore, data collection could not differentiate which part of the step was not being acquired. Future studies should separate this step into two steps for increased accuracy and analysis of data collection. Without conducting the individual skill component analysis, we would have found the gaps in the training material. In practice, deployed VM+Assessment training materials may need to be piloted so gaps in materials can addressed before they might be expected to be effective.

Additionally, there was no assessment prior to the study regarding staff’s behavior analytic pre-requisite skills. It cannot be determined if pre-requisite skills would have led to faster skill acquisition. However, in the pre-study questionnaire all subjects indicated not having previous experience with either skill (i.e., DRO & First, Then).

Overall, results provide further evidence for the effectiveness of video VM+Assessment for staff training in group home settings and show promise for an online format for training behavioral interventions. Future research should continue to address staff training through technological based methods. Also, staff motivation may be another area of future research. It could be helpful in practice to assess the role of staff motivation to learn behavior management skills and how to increase compliance with skill implementation on the job. While subjects were able to acquire the skills during assessment it, we are not sure if they implemented skills in practice (on the job). Future studies can assess the role of staff motivation to implement skills in practice compared to staff acquiring skills. Additionally, although Qualtrics had the capabilities for VM+Assessment it could be beneficial to consider other computer programs to determine if there is a program that is more cost and time efficient in comparison. Through Qualtrics, the
subject watched the short video model, then answered a question. A different computer program may have capabilities to create a more fluid training presentation, potentially leading to faster acquisition.

This study adds to existing literature on the continuous transition from live to technology based training methods. Through this transition to an online format, training is more sustainable for group home settings with limited resources and high staff turnover. Additionally, technology based training methods increases dissemination opportunities.
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parents to implement three-step prompting: A component analysis and generalization

and learner behavior across responses and skill sets. *Research in Developmental

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computerized training to teach parents to implement photographic activity schedules with
online publication.*

increased staff compliance with a data collection task at a large residential facility.
*Journal of Organizational Management, 36*, 56-70. doi:

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[Lynch, E]. (2018, January 11). First, Then Statements [Video File]. Retrieved from https://www.youtube.com/watch?v=n6rD5jYqR68&list=PL3cHa65GmHYvbQ-fFsKprljV1A0SnaOzM.


TABLES AND FIGURES

<table>
<thead>
<tr>
<th>Skill</th>
<th>Subject</th>
<th>Dustin</th>
<th>Max</th>
<th>Ellie</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRO</td>
<td>93% - 100% (98%)</td>
<td>93% - 100% (96%)</td>
<td>93% - 100% (96%)</td>
<td></td>
</tr>
<tr>
<td>First, Then</td>
<td>82% - 100% (95%)</td>
<td>82% - 100% (93%)</td>
<td>82% - 100% (93%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. This table depicts IOA for each subject and skill. The left most column displays skill with subjects shown on the right. The IOA range is seen under each subject’s name with the average IOA in parenthesis.

Figure 1. Subject performance for DRO. X-axis is sessions and Y-axis is percentage correct. Filled data points represent the average performance across 10 successive intervals of DRO during role-play assessments and open white data points represent average performance across 5 successive intervals of DRO during client probes. Asterisk above Max’s session 20 data point indicates corrections made to VM+Assessment.
Figure 2. Individual skill component analysis for DRO. X-axis is sessions and Y-axis is DRO steps. Gray boxes indicate the subject performed the step correctly and white boxes indicate the subject did not perform the step correctly. NA is marked when the step was unnecessary. Asterisk in step 1 of Max’s session 20 indicates corrections made to VM+Assessment.
Figure 3. Subject performance for First, Then. X-axis is sessions and Y-axis is percentage correct. Filled data points represent the average performance across 5 successive trials of First, Then during role-play assessments and open white data points represent performance of 1 trial of First, Then during client probes. Asterisk above Max’s session 20 data point indicates corrections made to VM+Assessment.
Figure 4. Individual skill component analysis for First, Then. X-axis is sessions and Y-axis is First, Then steps. Gray boxes indicate the subject performed the step correctly and white boxes indicate the subject did not perform the step correctly. NA is marked when the step was unnecessary. Asterisk above step 1 of Max’s session 20 indicates corrections made to VM+Assessment.
Figure 5. Total training time. X-axis is subjects and Y-axis total training time in minutes. On the top section represents DRO and the bottom sections represents First, Then. The gray bars represent mastery through VM and the black bars represent mastery through VM+Assessment. The correlating mastered skill is labeled above each bar.
Figure 6. Subject correlated performances during role-play assessments and client probes. X-axis is accuracy during role-play assessments and Y-axis is accuracy during the subsequent client probes.
Appendix A
Pre-study questionnaire

Please read the following statements and choose the answer that mostly resembles your opinions.

1. I am familiar with DRO

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:

2. I know how to implement DRO

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:

3. I am familiar with First, Then statements

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:

4. I know how to implement First, Then statements

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:
5. I have been trained with video model+assessment before.

   1 2 3 4 5

   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:

6. I have been trained with Behavioral Skills Training (BST) before.

   1 2 3 4 5

   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:

7. I have been trained with video modeling before.

   1 2 3 4 5

   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

   Comment:
Appendix B
Post-study social validity questionnaire

Please read the following statements and choose the answer that mostly resembles your opinions.

1. This study was beneficial and applicable to my job.

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

Which method:

2. I would recommend video modeling to other professionals.

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

Which method:

3. I noticed a positive behavior change in residents after implementing these skills with residents.

   1  2  3  4  5
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree

Comment:

4. I preferred the video modeling training method (leave blank if not applicable).
5. I preferred the video model+assessment training method (leave blank if not applicable).

6. I preferred BST (leave blank if not applicable).

7. I felt DRO was more difficult to learn compared to First, Then statements.

8. I felt First, Then statements was more difficult to learn compared to DRO.
9. I felt behavior specific praise was adequately explained throughout the training process.

   1  2  3  4  5  
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree  

Comment: 

10. I feel competent implementing DRO after completing training.

   1  2  3  4  5  
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree  

Comment: 

11. I feel competent implementing DRO after completing training.

   1  2  3  4  5  
   Strongly Agree  Agree  Undecided  Disagree  Strongly Disagree  

Comment: 

12. If you have any suggestions or feedback for the overall study please write below:
### Appendix C
DRO Task Analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<tbody>
<tr>
<td>1) Start interval</td>
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<tr>
<td>2) <strong>Occurrence of target problem behavior</strong></td>
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<tr>
<td>a. Withhold reinforcement (social positive)</td>
<td></td>
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<tr>
<td>b. Do not comment on occurrence of target problem behavior</td>
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<tr>
<td>c. Do not make eye contact/ look at client</td>
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<tr>
<td>d. Reset interval</td>
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<td></td>
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<tr>
<td>3) <strong>Interval ends with NO occurrence of target problem behavior</strong></td>
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</tr>
<tr>
<td>a. Deliver high levels of behavior specific praise</td>
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<tr>
<td>b. Deliver reinforcement (social positive)</td>
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**TOTAL SCORE**
Appendix D
First, Then Task Analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
<th>Trial 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Put corresponding first Velcro picture on board</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2) Put corresponding Then Velcro picture on board</td>
<td></td>
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<tr>
<td>3) Use attending response or say learner’s name</td>
<td></td>
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<tr>
<td>a. Make brief (1s or less) eye contact with learner</td>
<td></td>
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<tr>
<td>4) Deliver verbal instruction</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a. Exact concise instruction phrase “First _______, Then _______”</td>
<td></td>
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<tr>
<td>b. State in firm voice, loud enough for client to hear</td>
<td></td>
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<tr>
<td>c. Point to each Velcro picture as instruction is given</td>
<td></td>
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<tr>
<td>5) Wait 5s for client to response</td>
<td></td>
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<tr>
<td>6) IF initiates within 5s</td>
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<tr>
<td>a. Provide high levels of behavior specific praise</td>
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<tr>
<td>b. Provide access to Then item/activity</td>
<td></td>
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<tr>
<td>c. Specify duration with access to Then item/activity (i.e. 3-5 min.)</td>
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<tr>
<td>7) IF no initiation within 5s</td>
<td></td>
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<tr>
<td>a. Restate expectation (“First _____, Then _____”)</td>
<td></td>
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<td></td>
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<tr>
<td>b. Point to each Velcro picture as instruction is given</td>
<td></td>
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<td></td>
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<tr>
<td>8) Initiates after Prompt</td>
<td></td>
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</tr>
<tr>
<td>a. Provide low-medium levels of behavior specific praise</td>
<td></td>
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<tr>
<td>b. Provide access to Then item/activity</td>
<td></td>
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<tr>
<td>c. Specify duration with access to Then item/activity (i.e. 1-2 min.)</td>
<td></td>
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<tr>
<td>9) NO initiation after Prompt</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a. Do not comment on resident’s refusal to complete First activity</td>
<td></td>
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<tr>
<td>b. Do not provide access to Then item/activity</td>
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**TOTAL SCORE**
## Appendix E
### BST Treatment Integrity

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
<th>Trial 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Materials present</td>
<td>Pencil, paper, necessary items for high-p and low-p behavior,</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>Researcher provides written instruction</td>
<td>TA provided to caregiver</td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
<td>Researcher provides verbal instruction</td>
<td>Verbal review of TA</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5.</td>
<td>Researcher models trial</td>
<td>Researchers implement a trial with the training assistant per the steps of the TA while the caregiver observes</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Research instructs caregiver to practice responses</td>
<td></td>
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<tr>
<td>7.</td>
<td>Caregiver practices trial</td>
<td>With training assistant or child</td>
<td></td>
<td></td>
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<tr>
<td>8.</td>
<td>Researcher provides feedback on performance</td>
<td>Researcher reviews with caregiver all steps implemented correctly and incorrectly</td>
<td></td>
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<tr>
<td>9.</td>
<td>Caregiver asked if he/she wants more practice</td>
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<tr>
<td>10.</td>
<td>Caregiver given more practice trials</td>
<td></td>
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<tr>
<td>11.</td>
<td>Researcher reviews performance in previous assessment</td>
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**TOTAL SCORE**
## Appendix F

First, Then Treatment Integrity

Treatment Integrity Checklist: Baseline, VM, VM+assessment, VM+assessment 2

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
<th>Trial 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Materials present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1a. First, Then board</td>
<td></td>
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<tr>
<td></td>
<td>1b. First, Then pictures</td>
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<tr>
<td></td>
<td>1c. Work items</td>
<td></td>
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<tr>
<td></td>
<td>1d. Leisure items</td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>Materials set up and provided to subject</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>2a. Work items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2b. Leisure items</td>
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<td></td>
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<tr>
<td>3.</td>
<td>Researcher provides instruction</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Subject is informed the First task and Then task by researcher</td>
<td></td>
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<tr>
<td>4.</td>
<td>No feedback provided</td>
<td></td>
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<tr>
<td></td>
<td>Researcher does not discuss staff performance</td>
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**TOTAL SCORE**
### Appendix G

**DRO Treatment Integrity**

**Treatment Integrity Checklist: Baseline, VM, VM+assessment, VM+assessment 2**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
<th>Trial 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Materials present</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1a. Busy work items</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1b. Timer</td>
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<td></td>
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<td>If subject requested</td>
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<td>2.</td>
<td>Materials set up</td>
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<td></td>
<td>2a. Busy work items</td>
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<td></td>
<td>2b. Timer</td>
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<td></td>
<td>“Implement a ___ DRO procedure for ___, maintained by attention/tangible”</td>
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<td>3.</td>
<td>Researcher provides instruction</td>
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<td></td>
<td>3a. Researcher instructs subject to start timer</td>
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<td></td>
<td>“Start whenever you are ready”</td>
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<td>4.</td>
<td>Researcher provides subject opportunity to express inability</td>
<td></td>
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<td></td>
<td>4a. Informs subject they will receive a 0%</td>
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<td></td>
<td>e.g., “If you do not know how to implement the procedure you can express this and you will just receive a 0% for today.”</td>
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<td>5.</td>
<td>No feedback provided</td>
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<td></td>
<td>Researcher does not discuss staff performance</td>
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</tbody>
</table>
Appendix H
DRO VM+Assessment

Start of Block: Block 1

1 What is Differential Reinforcement of Other Behavior?

- Reinforcement for the occurrence of target behavior (1)
- Reinforcement for the absence of a target behavior (2)
- None of the above (3)

End of Block: Block 1

Start of Block: Block 2

2 During a DRO procedure for 10-min intervals, when is reinforcement provided assuming the target behavior does not occur?

- At the beginning of the 10-min (1)
- At the end of the 10-min (2)
- In the middle of the 10-min (3)
- Whenever staff notice (4)

End of Block: Block 2

Start of Block: Block 3
3 What is reinforced during DRO?

- Absence of target behavior (1)
- Occurrence of target behavior (2)
- Engaging in new skill (3)
- Nothing (4)

End of Block: Block 3

Start of Block: Block 4

4 How does DRO decrease problem behavior?

- Provide attention for every occurrence of target behavior (1)
- Eliminates punishment for target behavior (2)
- Brings self-awareness to target behavior (3)
- Eliminates reinforcement maintaining target behavior (4)

End of Block: Block 4

Start of Block: Block 5

5 What happens if a client engages in the target problem behavior during DRO implementation?

- Client receives reinforcement (1)
- Reinforcement is withheld (2)
- Interval is reset (3)
- Both B & C (4)
- Non of the above (5)
6 What do staff do if Jake, a resident, does not engage in screaming for a 5-min specified DRO interval?

- Provide reinforcement (1)
- Start next interval (2)
- Withhold reinforcement (3)
- Both A & B (4)
- None of the above (5)

7 Categorize clip as either correct or indicate error
DRO interval: 8s
Target Response: Bang objects on desk
Reinforcer: Attention

- Correct (1)
- Delivered reinforcement when it should have been withheld (2)
- Failed to deliver reinforcement (3)
- Failed to reset interval (4)

8 Categorize clip as either correct or indicate error
DRO interval: 8s
Target Response: Bang objects on desk
Reinforcer: Attention

- Correct (1)
- Failed to reset interval (2)
- Failed to deliver reinforcement (3)
- Delivered reinforcement when should have withheld (4)

End of Block: Block 8

Start of Block: Block 9

9 Categorize clip as either correct or indicate error
DRO interval: 8s
Target Response: Bang objects on desk
Reinforcer: Tangible

- Correct (1)
- Failed to deliver reinforcement (2)
- Delivered reinforcement when it should have been withheld (3)
- Failed to reset interval (4)

End of Block: Block 9

Start of Block: Block 10

10 Categorize clip as either correct or indicate error
DRO interval: 8s
Target Response: Bang objects on desk
Reinforcer: Tangible

- Correct (1)
- Delivered reinforcement when it should have been withheld (2)
- Failed to reset interval (3)
- Failed to deliver reinforcement (4)

End of Block: Block 10

Start of Block: Block 11

11 Categorize clip as either correct or indicate error
DRO interval: 8s
Target Response: Bang objects on desk
Reinforcer: Attention

- Correct (1)
- Failed to reset interval (2)
- Delivered reinforcement when it should have been withheld (3)
- Failed to deliver reinforcement (4)

End of Block: Block 11

Start of Block: Block 12

12 Categorize clip as correct or indicate error
DRO interval: 8s
Target Response: Hit Head
Reinforcer: Attention

- Correct (1)
- Failed to reset interval (2)
- Failed to deliver reinforcement (3)
- Delivered a tangible reinforcer (4)

End of Block: Block 12

Start of Block: Block 13

13 Categorize clip as correct or indicate error
DRO interval: 8s
Target Response: Hit Head
Reinforcer: Attention

- Correct (1)
- Failed to deliver reinforcement (2)
- Failed to reset interval (3)
- Delivered reinforcement when should have withheld (4)

End of Block: Block 13

Start of Block: Block 14

14 Categorize clip as correct or indicate error
DRO interval: 8s
Target Response: Hit Head
Reinforcer: Attention

- Correct (1)
- Failed to reset interval (2)
- Delivered reinforcement when should have withheld (3)
- Delivered a tangible reinforcer (4)

End of Block: Block 14

Start of Block: Block 15

15 Categorize clip as correct or indicate error
DRO interval: 8s
Target Response: Hit Others
Reinforcer: Tangible

- Correct (1)
- Delivered reinforcement when should have withheld (2)
- Failed to reset interval and delivered reinforcement when should have withheld (3)
- Delivered an attention reinforcer (4)

End of Block: Block 15

Start of Block: Block 16

16 Categorize clip as correct or indicate error
DRO interval: 8s
Target Response: Hit Others
Reinforcer: Attention

- Correct (1)
- Failed to deliver reinforcement (2)
- Failed to reset interval (3)
- Delivered a tangible reinforcer (4)

End of Block: Block 16

Start of Block: Block 17

17 Sue is implementing a 1 min DRO procedure for head hitting maintained by attention. The session is 5 min. Assuming the behavior has not occurred, how many times should Sue have delivered reinforcement and behavior specific praise?

- 3 (1)
- 5 (2)
- 1 (3)
- 2 (4)

End of Block: Block 17

Start of Block: Block 18
18 In a DRO procedure for a behavior maintained by tangible what would staff deliver as the reinforcer and how often?

- Praise; After every interval (1)
- Sticker; After each interval with no instance of problem behavior (2)
- Pat on back: After each interval with no instance of problem behavior (3)
- Sticker; After every few intervals with no instance of problem behavior (4)

End of Block: Block 18

Start of Block: Block 19

19 When is reinforcement and behavior specific praise delivered in a DRO procedure?

- Throughout the session (1)
- After every few intervals with no problem behavior (2)
- After each interval with no problem behavior (3)
- At the end of the session (4)

End of Block: Block 19

Start of Block: Block 20

20

Did the therapist deliver reinforcement correctly? DRO Interval: 8s
Target Response: Hit Table
Reinforcer: Tangible

- Yes (1)
- No, reinforcement was delivered too frequently (2)
- No, reinforcement was not delivered each interval with no problem behavior (4)
- No, reinforcement should have only been delivered at the end of the session (3)

End of Block: Block 20

Start of Block: Block 21

21

How many times should reinforcement and behavior specific praise should have been delivered? DRO Interval: 8s
Target Response: Hit Table
Reinforcer: Tangible

- 3 (1)
- 5 (4)
- 2 (2)
- 4 (3)

End of Block: Block 21
Appendix I  
First, Then VM+Assessment

Start of Block: Block 1

1 What are first, then statements?

- Probability to engage in high-preferred behavior contingent on occurrence of low-preferred behavior (1)
- Free access to high-probability behavior (2)
- Non-contingent reinforcement (3)
- None of the above (4)

End of Block: Block 1

Start of Block: Block 2

2 Which is not a benefit of using first, then statements?

- Reduces problem behavior (1)
- Low-p behavior can result in acting as secondary reinforcer (2)
- Decreases occurrence of low-preferred behavior (3)
- Addresses individuals difficulty with sequential memory (4)

End of Block: Block 2

Start of Block: Block 3
3 When is an appropriate time to use this strategy?

- Teach new skill (1)
- Manage challenging behavior (2)
- Teach simple schedule sequences (3)
- All of the above (4)

End of Block: Block 3
Start of Block: Block 4

4 Generally speaking, which behavior is considered high-probability behavior?

- Cleaning bathroom (1)
- Listening to music (2)
- Washing dishes (3)
- Academic work (4)

End of Block: Block 4
Start of Block: Block 5

5 What do you need to do first before giving first, then statement?

- Tap resident on arm (1)
- Make brief eye contact with resident (2)
- Tell the resident to, "Come here" (3)
- Provide access to high-preferred behavior (4)

End of Block: Block 5
Start of Block: Block 6
What do you do if the client does not initiate the low-preferred behavior within 5s when first, then statement initially given?

- Restate the expectation (1)
- Point to instructed task (2)
- Tap resident on arm (3)

You need to a client to wash their dishes, but they want to watch T.V. How would you put this scenario into a first, then statement?

- You need to First wash the dishes, Then you can watch T.V (1)
- First wash dishes, Then watch T.V (2)
- No T.V until you wash dishes (3)

Categorize clip as either correct or indicate error

- Correct (1)
- Provided access to high-p, leisure activity before completion of low-p activity (2)
- Did not restate expectation when client did not initiate within 5s (3)
- Did not provide behavior specific praise (4)
9 Categorize clip as either correct or indicate error

- Correct (1)
- Did not use first, then visual board (2)
- Did not provide levels of behavior specific praise (3)
- Did not use exact instruction phrase "First ____, Then ____" (4)

End of Block: Block 9

Start of Block: Block 10

10 Categorize clip as either correct or indicate error

- Correct (1)
- Did not use exact instruction phrase "First ____, Then ____" (2)
- Did not specify length time with access to high-p activity (3)
- Provided access to high-p activity too soon (4)

End of Block: Block 10

Start of Block: Block 11

11 Categorize clip as either correct or indicate error

- Correct (1)
- No behavior specific praise provided (2)
- Did not restate expectation when client did not initiate within 5s (3)
- Did not use exact instruction phrase "First ____, Then ____" (4)

End of Block: Block 11
12 Categorize clip or indicate error

- Correct (1)
- Did not use exact instruction phrase "First ____, Then ____" (2)
- Did not specify length time with access to high-p activity (3)
- Provided access to high-p activity too soon (4)

End of Block: Block 12

Start of Block: Block 13

13 Categorize clip as correct or indicate error

- Correct (1)
- Provided access to high-p activity too soon (2)
- No behavior specific praise provided (3)
- Did not restate expectation when client did not initiate within 5s (4)

End of Block: Block 13

Start of Block: Block 14

14 Categorize clip as correct or indicate error

- Correct (1)
- Did not use first, then visual board (2)
- Did not restate expectation when client did not initiate within 5s (3)
- No behavior specific praise provided (4)

End of Block: Block 14
Start of Block: Block 15

15 Categorize clip as correct or indicate error

- Correct (1)
- Did not specify length time with access to high-p activity (2)
- Provided access to high-p activity too soon (3)
- No behavior specific praise provided (4)

End of Block: Block 15

Start of Block: Block 16

16 Categorize clip as correct or indicate error

- Correct (1)
- Did not specify length time with access to high-p activity (2)
- Did not use first, then visual board (3)
- Did not restate expectation when client did not initiate within 5s (4)

End of Block: Block 16

Start of Block: Block 17

17 Categorize clip as correct or indicate error

- Correct (1)
- No behavior specific praise provided (2)
- Provided access to high-p activity too soon (3)
- Did not use exact instruction phrase "First ____, Then ____" (4)
18
Categorize clip as correct or indicate error

- Correct (1)
- Did not restate expectation within 5s (2)
- Did not provide HIGH levels of behavior specific praise (3)
- Did not use exact phrase (First, Then) (4)

19
Categorize clip as correct or indicate error

- Correct (1)
- Did not provide LOW-MEDIUM levels of behavior specific praise (2)
- Provided access to high-p activity too soon (3)
- Did not specify length to high-p activity (4)

60
20
Categorize clip as correct or indicate error

○ Correct (1)

○ Did not use exact phrase (2)

○ Did not provide the correct levels of behavior specific praise (3)

○ Provided the prompt too soon (4)

End of Block: Block 20

Start of Block: Block 21

21
Categorize clip as correct or indicate error

○ Correct (1)

○ Did not point to first, then pictures (2)

○ Provided access to high-p activity for too long (3)

○ Did not provide HIGH levels of behavior specific praise (4)

End of Block: Block 21