8-2020

Using Video Modeling to Teach Staff How to Implement Preference Assessments

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USING VIDEO MODELING TO TEACH STAFF HOW TO IMPLEMENT PREFERENCE ASSESSMENTS

By

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A creative project submitted in partial fulfillment of the requirements for the degree

of

MASTER OF EDUCATION

in

Special Education

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UTAH STATE UNIVERSITY
Logan, UT

2019

ABSTRACT

Using Video Modeling to Teach Staff How to Implement Preference Assessments

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Identification of reinforcers through preference assessments for individuals with disabilities is an important task because it increases the probability of skill development, including academic tasks, self-help skills, social skills, and behavior modification. Teachers of students with disabilities often experience problems with training paraprofessionals to implement preference assessments using written instructions alone. In this study, researchers will investigate whether video modeling will be more effective than written instruction to staff to implement preference assessments. Participants will include three to five paraprofessionals in a classroom setting with no previous behavior analysis training on preference assessments and three to five students in a special education classroom. The target behavior will involve conducting preference assessments as measured by percentage of steps implemented correctly. If results determine that the video modeling intervention is successful, this will add to our understanding of video modeling and its use for staff training.

Introduction

Video modeling has been defined by Collins, et al. (2009) as a video model demonstrating correct implementation of an intervention or task. Video modeling has been used to teach staff how to implement problem solving strategies in human service settings (Collins, Higbee, & Salzberg, 2009). In this study, video modeling was shown to have been more effective than written instructions to train staff. Given its popularity throughout society, video modeling may hold promise in teaching a variety of skills to learners and to identify individual choices.

Preference assessments can identify potential reinforcers for individuals with disabilities (Weldy, Rapp, & Capocasa, 2014). Identification of reinforcers for individuals with disabilities is an important task because it increases the probability of skill development, including academic tasks, self-help skills, social skills, and behavior modification (Weldy et al, 2014). The preference assessment shown to be the most time efficient, accurate, and that can be given in a natural setting was developed by Carr, Nicolson, and Higbee, (2000). It is the brief multiple stimulus without replacement preference assessment or brief MSWO preference assessment. Weldy et al. (2014) stated that implementation of stimulus preference assessments is an important skill in which to train staff who work with this population. In this study, staff were trained using video modeling in a group setting in the absence of a supervisor.

Hansard and Kazemi (2018) trained undergraduate psychology students with little to no experience to perform preference assessments using video modeling in a clinical setting. The researchers found that individuals with no experience working as behavior technicians could reach mastery in performing the steps of a preference assessment with only video training. Researchers also found that preference assessments could be taught without a trainer present.

Clients in this study were sim-clients and not actual clients and it was conducted in a clinical setting using a two-way mirror. Clinical settings are environments specially designed to develop skills or improve behaviors of individuals with developmental disabilities. These controlled settings often consist of clinicians working in specially designed cubicles with individual clients. Hansard and Kazemi went on to state that future research should evaluate various client populations. Video modeling research needs to be extended to include training of paraprofessionals in classroom settings in order to identify potential reinforcers.

Literature Review

In researching preference assessments and video modeling, I conducted a search of the literature to identify relevant studies. I searched ERIC through the EBSCO Host database using the Utah State University online library. Using the search term *preference assessments* the search yielded 2,387 results. I searched for articles that included video modeling in the title and found Hansard and Kazemi (2018). Using the term *training staff using video modeling* the search yielded eight results. I looked for articles that included preference assessments and found Weldy et al. (2014). My advising professor gave me an article on July 3, 2018, about video modeling by Collins et al. (2009). He also gave me a thesis project on January 26, 2019, about using video modeling to train staff to conduct preference assessments by Merkley (2014). I will review these articles in order to describe how these two technologies, preference assessment and video modeling, may be combined.

Collins et al. (2009) "investigated the effects of video modeling" on "staff in a group home for adults with developmental disabilities" to see if they could correctly implement steps in a problem-solving intervention. Six staff members from a community residential program, five

males and one female, participated in this study. Participants had a high school education, but no formal training in behavior analysis.

Participants had access to standard employee training on the problem-solving steps (role playing, question and answer session, verbal instructions) from their residential manager and they also had access to written instructions describing the process prior to participation in the study. The experimental design used was a nonconcurrent multiple baseline design with two sets of three participants. During baseline, participants had access to written instruction and role play with a researcher who gave scripted responses to questions. There was no prompting or feedback. During treatment, participants were first shown a video model prior to the role play, and the same scripted responses were used to answer questions. In both the baseline and treatment phase, participants were asked to solve a novel problem and to problem solve with an actual client (Collins et al., 2009).

Data were taken on the number of problem-solving steps correctly implemented out of seven total steps. The steps did not have to be in the same order to be scored as correct (Collins et al., 2009).

Results of the study (Collins et al., 2009) indicated that percentage of correct implementation increased from a mean of 38% correct at baseline, to a mean of 91% correct after video modeling. Researchers stated that video modeling could potentially help address the issues of increasing staff performance, cost, and time.

Hansard and Kazemi (2018) trained participants to implement a preference assessment using a video model instead of using the video model to implement steps correct for a problem-solving intervention as Collins et al. (2009) did. Researchers used a self-instruction package

including text, pictures, diagrams of enhanced written instructions, video models, a voice-over, and prompts for the participant to practice. They wanted to evaluate the efficacy of the video training package for participants who had little or no experience in conducting preference assessments or who had no immediate professional contingencies.

Participants included four female undergraduate psychology students who were between the ages of 23 and 27 years. They had no experience with behavior analysis training and were not employed as behavior analysis technicians. There were two rooms in the clinical setting: one for training materials and one for conducting the preference assessment after training. A researcher was the simulated client and followed a script. Measurement was calculated on number of trials correct divided by total number of trials multiplied by 100 to gain a percentage. The experimental design used was a nonconcurrent multiple-baseline. During baseline, participants were given written instructions to study for 30 min and the instructions were still available during the implementation of the preference assessment. During the video training phase, participants had 30 minutes to view the training video before implementing the preference assessment with no interaction from researchers (Hansard & Kazemi, 2018).

Results of the study (Hansard & Kazemi, 2018) showed that the mean percentage correct across participants during baseline was 7%. After video modeling training, the mean percentage correct across participants increased to 95%. Results demonstrated that individuals with no experience working as behavior analysis technicians could be given video training, with no additional training or performance feedback, and reach mastery.

A limitation to the study (Hansard & Kazemi. 2018) was that all preference assessments were given to a sim-client (i.e., an individual playing the role of a client) with scripted responses.

Researchers stated that future research could include whether the skills learned could be generalized to various client populations in applied settings.

Weldy et al. (2014) also used video modeling to see if participants could implement a preference assessment, but did so in a group setting as opposed to individually and used staff with experience as opposed to participants with no experience as Hansard and Kazemi (2018) had done. But, Weldy et al. (2014) conducted their research to consist of the video modeling in the absence of a supervisor as Hansard and Kazemi (2018) had done.

Participants included nine staff members, seven women and two men, that were employed at a behavior analysis clinic. Seven of the participants had a bachelor's degree. The participants were divided into two groups and none of them had experience giving a preference assessment before the study. Sessions were conducted in a clinical setting (Weldy et al., 2014).

The single-case design was a multiple probe design across preference assessments. The task analysis consisted of 11 steps with tasks scored on percentage of steps implemented correctly. Groups were taught how to conduct a preference assessment, and for baseline, were asked to conduct one with only materials provided. No questions were answered or feedback provided. For the video training, four 30-min sessions were provided and all group members were trained together. All clients who were given the preference assessment were trained graduate students (Weldy et al., 2014).

Results showed that all participants obtained 90% of steps correct after the first or second video viewing. The time taken to correctly implement a preference assessment after video modeling was 30 min for all but two participants. Two other participants required 60 min to correctly implement a preference assessment, (i.e., two video-modeling presentations). Results

indicated that staff could be taught via video modeling to implement preference assessments in a group setting and participants did not need to rehearse steps between video training and implementation of preference assessments. The training also required a limited amount of time, which can be beneficial to trainers in applied settings with limited time to train staff with no experience. Limitations included that this training may not be adequate for staff that have less experience or education and researchers suggested that future research include training of staff that has been newly hired or staff with less experience. Researchers also suggested that future research could include generalizing the training to include different clients in different settings (Weldy et al., 2014).

Merkley (2014) used video modeling to see if participants could correctly implement steps of a preference assessment, but in a preschool setting instead of a clinical setting. Participants included seven female paraprofessionals between the ages of 22 and 60 years old. All participants had a high school education and four had some college experience, but not in special education. The experimental design was a multiple baseline across participants.

During baseline, participants were given 20 min to review written instructions with no other instructions, then they conducted a preference assessment within 15 min. During treatment, participants had 10 min to review written instructions, watched a video model, and then conducted a preference assessment. Data were taken as in baseline (Merkley, 2014).

Results showed that three participants reached criteria during baseline and were not given the treatment phase. The other four participants had a mean percentage of 61% during baseline and 94% following treatment (Merkley, 2014).

Purpose Statement

Collins et al. (2009) found that video modeling could save time and money and that it could be successful in training staff with little or no behavior training. Results of the other reviewed studies (Hansard & Kazemi, 2018; Weldy et al., 2014) reinforced this finding. The purpose of this study is to extend research to include stakeholders in an applied setting as Hansard and Kazemi (2018) recommended and to include paraprofessionals (i.e., human service agency staff without behavior analysis training) as Merkley (2014) did. Additional research is needed to determine an effective and efficient approach to teach paraprofessionals to perform preference assessments via video modeling in classroom settings.

Research Question

Can video modeling be used to teach paraprofessionals in a classroom setting how to effectively conduct preference assessments as measured by percentage of steps correct?

Method

Participants

Three female paraprofessionals between the ages of 44 and 55 y with no background in behavior analysis participated. All adult participants have experience working with students with disabilities in a special education elementary classroom and their experience ranges from 6 mo to 7 years. All adult participants were familiar with the use of reinforcers, but none had been taught to identify reinforcers by using a preference assessment of any kind. All adult participants have a high school education, no college experience in behavior analysis, and only “on the job” training (Merkley, 2014). Three child participants in a special education classroom between the ages of 9 and 12 y participated in the study.

Setting

The study took place in an empty classroom adjacent to a life skills classroom in an elementary school in northwestern United States. The classroom provides special education services to fourth, fifth and sixth graders between the ages of 9 and 12 y. The study took place during a typical work session during the school day with several groups of students working throughout the life skills classroom. Training sessions were in the adjacent empty classroom with a table, chair and device to watch a video. Baseline and intervention sessions took place in the same adjacent classroom with the same table, chair, work materials, and reinforcers needed for the preference assessment.

Consent

As this study looked at common instructional practices, a letter of information approved by the school district was given to participants. The letter indicated the purpose of the study and described the training. Participants also were informed that they were not required to participate and could withdrawal without penalty (Merkley, 2014).

A letter of information approved by the school district was sent home with students to inform parents of the research on staff members' skill acquisition of the preference assessment would be taking place in the classroom and that no data would be kept on their child (Merkley, 2014).

Dependent Variables

Participants' performance was measured based on percentage of steps implemented correctly in sequence of a brief MSWO preference assessment (Higbee, 2009) by the researcher (outlined below). This includes the number of steps correctly performed divided by the total

steps required. Data were also collected on participants' ability to accurately fill out the brief MSWO preference assessment data sheet (Merkley, 2014).

Response Measurement

Data were taken on the percentage of steps correctly followed of the task analyzed steps developed by Merkley (2014) from Carr et al. (2000). Steps were as follows:

1. Lay out five stimuli in a row on the table in front of the student (0.7 m from one another and 0.7 from the student participant).
2. Tell the student to "pick one" and wait five s.
3. If the student touches a stimulus, remove all other stimuli immediately.
4. Let the student interact with chosen stimulus for 15 s.
5. After 15 s, remove stimulus from student by saying "all done".
6. If using edibles, allow the student to consume the chosen stimulus.
7. Record the student's choice on the datasheet by writing the number the stimulus was chosen (i.e. first one chosen write 1, second item chosen write 2).
8. Once data is marked, present the unchosen stimuli in front of the student making sure to rotate stimuli to the left.
9. Repeat steps two through eight until all the stimuli have been sampled.
10. Repeat the entire sequence (Steps one through nine) two more times for a total of 15 trials
11. If the student approaches more than one stimulus, block him or her by holding down or moving the items out of reach.
12. Represent the trial. If the student makes one selection, continue steps two through eight.

13. If the student again reaches for multiple stimuli, block him or her by holding down or moving the stimuli out of reach, indicate on datasheet that multiple stimuli were chosen, and end trial.
14. If the student does not approach a stimulus after five s, remove all stimuli and prompt student to engage with each stimuli separately.
15. Repeat trial. If the student makes one selection, continue with steps two through eight.
16. If after representing student still does not choose a stimulus after five s, remove all stimuli, mark datasheet by marking all remaining stimuli as not selected, and end trial.
17. Once all 15 trials have been completed, add up the three numbers associated with each stimulus by when they were chosen.
18. Write this number in the appropriate location on the datasheet.
19. These numbers indicate how preferred an item is. The lowest number is the most preferred item, while the highest number is the least preferred item. (See appendix 1 for datasheet.)

Each skill was listed on a datasheet and data was collected on if the behavior occurred or not using a + or -. If the skill was not applicable, it was not included in the overall total of responses used to calculate the percentage correct (Merkley, 2014).

Independent Variable

The independent variable (IV) was a video modeling presentation on how to conduct a brief MSWO preference assessment presented to the participants after baseline data was taken. The intervention phase was measured after the IV was introduced. The video showed an example of a brief MSWO preference assessment being given. The video also included directions on how to fill out the data sheet and calculate results (Merkley, 2014).

Interobserver Agreement (IOA)

Interobserver agreement (IOA) included having a second trained data collector take data on 30% of the total sessions to compare observations of the participant's performance on % correct. All sessions were videotaped and the observers used the footage to collect data. IOA was calculated by determining number of agreements between observers divided by agreements plus disagreements and expressed as a percentage. The student researcher monitored IOA and ensured that observers agreed on at least 85% of observations. This was done by having an initial meeting where the data collection method was discussed, and then a second meeting was required to address additional questions that arose as the sessions were completed.

Treatment Integrity

Treatment integrity was measured by the researcher observing the participants watching the video to ensure it happened and ensuring that no questions were answered by the researcher. Participants were instructed not to talk about the study to each other. The student researcher ensured that 100% of steps were followed. Maintenance of the participant's performance over time was not able be measured 2 weeks after treatment to ensure that the preference assessment can still be implemented at a high level of percentage of steps implemented correctly due to the research being ended before all participants received the intervention phase.

Experimental Design

The experimental design is a multiple baseline design consisting of baseline and intervention phases measured by percentage of steps implemented correctly of a brief MSWO preference assessment. Participants were run concurrently to minimize carryover effects.

Procedures

Baseline. All sessions were videotaped by the researcher using a cell phone. Videos were then uploaded to a password protected computer and uploaded to Box (storage system used by USU) to maintain confidentiality. Data were taken by the researchers from the taped videos of participants. Procedures for a brief MSWO preference assessment are outlined above in the Response Measurement section. For baseline, participants were given a copy of these instructions and were given 10 min or until they were done to read over the instructions and gather materials for the brief MSWO preference assessment. In subsequent sessions, participants had 2 min or until they are done to read over instructions. After time allotted to read instructions, the student researcher asked that participants give a student the brief MSWO preference assessment and take data on the results using the preference assessment data sheet. (See appendix 1.) The student researcher took data on steps implemented correctly by the participant.

Intervention. For the intervention phase, the researcher gave the participants access to the written instructions and then asked that participants individually watch a video of correct implementation of the brief MSWO preference assessment. The video model was the same as was used in Merkley (2014). The video was less than 10 min. Following the video, the participant gave a student the brief MSWO preference assessment and took data on the results. No further information was given to the participants. The researcher took data on steps implemented correctly by the participant from the video recorded from each session. The researcher used the same data sheet as used in baseline.

Results

Baseline

For baseline, IOA was collected for 30% of all sessions. Participant 1 had an average of 90% agreement (range 89%- 96%). Participant 2 had an average of 88% agreement (range 85%- 93%). Participant 3 had an average of 91% agreement (range 86%- 95%). The participants implemented an average of 56% (range 9%- 78%) of steps correctly after reading the written instructions and performing a brief MSWO preference assessment.

Intervention

During the intervention phase of the experiment, Participant 1 scored 77% of steps implemented correctly (range 72%-81%) on sessions 6-10 after watching the video model. This was not as high as anticipated so feedback was given prior to session 11 because Participant 1 focused more on certain steps of the preference assessment during baseline and then focused on others during the intervention. After feedback, Participant 1 scored 95% of steps implemented correctly. Although it is impossible to say with certainty, if I had been able to continue sessions, I anticipate that Participant 1 would have continued to score in the high 90% range. I also anticipate that Participants 2 and 3 would have scored higher during the intervention phase than baseline after watching the video model if sessions were able to continue.

Maintenance

The researcher anticipates that participant's scores would have been maintained at a higher level than baseline after a 2-week follow up if sessions were able to be continued.

Discussion

Anticipated major findings, if sessions were able to continue, include that video modeling would have been more successful than written instructions to teach paraprofessionals how to implement steps of a preference assessment. Data for Participant 1 showed that the steps for implementing a preference assessment can be learned through video modeling and minimal feedback in a classroom setting by paraprofessionals with no behavior analysis training. Research findings would have extended previous findings in a clinical setting by expanding the effects of video modeling to a classroom setting.

Limitations to this study include not being able to complete the intervention sessions for all participants. Another limitation included that although all participants refrained from talking to each other throughout the project, they all worked together daily and it was difficult for them not to talk to each other. They also saw each other choose items for the preference assessment because they were gathering items from the classroom where they were all working. It may have been better to choose participants that did not work together on a daily basis. One other thing that was confusing to participants was that the data sheet given to participants contained multiple sections to take data on multiple preference assessments. Participants seemed to want to fill out every section for one preference assessment. In the future, the researcher may consider giving a data sheet containing only one section for taking data to be less confusing.

I learned that even with video modeling, some direct feedback may be required. However, it took very little time. The feedback that was given took about two to three minutes. This would save teachers time to be able to play a video model to teach staff, and only have to give minimal feedback if needed. Even though the project was not completed, it did start to show that video modeling could be a successful way to train staff.

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Appendix 1

Brief MSWO Preference Assessment Data Sheet

Student: _____ Assessed by: _____

Date: _____ Time: _____

Stimulus Items	Rank by Trial 1	2	3	Sum of 1, 2, and 3	Overall Rank (list smallest sum first)
New Item					

Student: _____ Assessed by: _____

Date: _____ Time: _____

Stimulus Items	Rank by Trial 1	2	3	Sum of 1, 2, and 3	Overall Rank (list smallest sum first)
New Item					

Figure 1

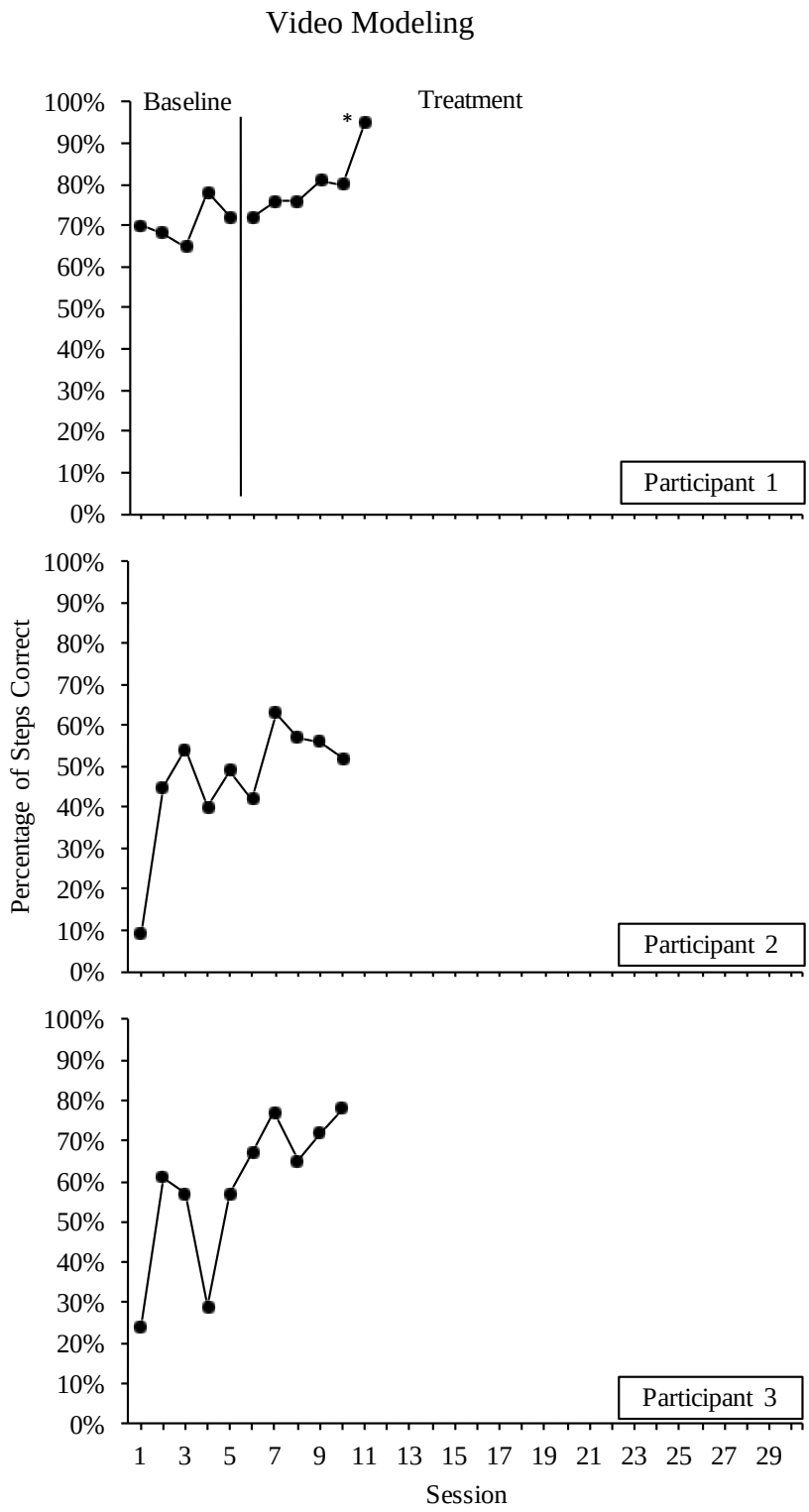

Figure 1: Data of participants
*Feedback given