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# RATE OF SKILL ACQUISITION BETWEEN VIDEO MODELING AND DIRECT INSTRUCTIONS USING PREFERRED TASK WITH ADULTS WITH MILD DEVELOPMENTAL DISABILITIES

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by

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A treatment was evaluated between video and direct instruction was more effective with adults with developmental disabilities. A multi-element design was used to observe the effectiveness of video modeling versus direct instruction. The following study evaluated the rate of skill acquisition between video modeling and direct instruction with preferred task. The results demonstrated that all three participants acquired video modeling at a faster rate than direct instruction.

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# CHAPTER 1

## INTRODUCTION

Several studies of human subjects are available within the sciences regarding the acquisition of skills. Video modeling has been observed and studied in various types of environment. Modeling or observational learning was introduced by Albert Banduras as part of his seminal work on social learning theory (Bellini, 2007). "Video modeling is a technique that involves demonstration of desired behaviors through video representation of the behavior (Bellini, 2007)." In everyday life, most behaviors that are learned are usually through the influence of examples (Bandura, 1989). For example, a human does not commit a terrible crime to experience prison. The direct experience of prison does not have to be physically obtained to understand that committing a crime may produce these consequences. The human virtually learns vicariously through acquaintances, media, or research. “Man’s capacity to learn by observation enables him to acquire large, integrated units of behavior by example without having to build up the patterns gradually by tedious trial and error” (Bandura, 1989).

Numerous studies (Bandura, 1962, 1965a: Bandura and Walters, 1963a) explained how the reinforcer consequences may have several behavioral effects on the observer (Bandura, 1965). Topographical responses, response consequences, and observation of another human behavior may have an effect on the observer” (Bandura, 1965).

Wilson (1985) observed children and how the imitation/modeling learning process was constructed by utilizing copying and matching responses to learn different behaviors (Wilson, 1985). Imitation method and trial and error methods were observed in this study with 26 preschoolers. Incidental cues were also observed in the absence of models. Imitation method was more effective with preschool children versus utilizing a trial and error method (Wilson, 1985).

Skills that were arbitrarily obtained with individuals with video training have been observed with computer–based video instruction (CBVI). CBVI was utilized for suturing and knot tying teaching to a large group of medical students (Xeroulis, Park, Moulton, Reznick, LeBlanc, &Dubrowski, 2007). Provision of no prior technical criteria, video training demonstrated a base for video basic skills training for individuals that have no prior knowledge of the task for suturing and knot tying (Xeroulis et al., 2007). The study method design was a randomized 4 arm study consisting of one control group. Each participant was provided a practice trial to verify the skill of suturing and knot-tying. The four arms of the teaching method consisted of a no additional intervention, self-study with computer–based video instruction CBVI, expert feedback during practice trials, and expert feedback after practice trials (Xeroulis et al., 2007). The study illustrated the use of CBVI and the cost-effectiveness of its use in comparison to expert feedback, the control group, and self-study during this experiment. The study also demonstrated the effectiveness of how video computer learning allowed the student to progress at their own pace (Xeroulis et al., 2007). This study overall demonstrated how a novice individual with no prior training to suturing or knot-tying knowledge could benefit with less time to train and minimum finances to learn a task.

Choi (2005) utilized context-based and video instruction to investigated comprehension and retention (Choi & Johnson, 2005). The 16 students that participated in the study where in the master's program at a large university in the Midwestern United States. The 16 students that participated were lecturers, staff, faculty, or administrators at a nearby community college. The research purpose of the study investigated whether video–based instruction can affect learning and motivation by comparing the learner's perception of both video-based instruction and text-based instruction in an online context–based learning situation (Choi & Johnson, 2005). "Results of the study found that the retention rate for video-based learning was obtained easier than contextual base learning and was concurrent with prior research (Baggett, 1984)," (Choi& Johnson, 2005). This study illustrated the validity of video-based learning in comparison to contextual learning with individuals that where higher functioning, and further demonstrated that video base learning was acquired faster than conceptual learning (Choi & Johnson, 2005).

Studies observing individuals with developmental disabilities have provided evidence of video instruction an effective teaching tool (Sturmey, 2003). Sturmey (2003) reviewed four different research procedures that incorporated individuals with developmental disabilities. The first research review involved a study that was conducted to increase imaginative play in children with autism (McClannahan & Krantz, 1993). Four children that were diagnosed with autism participated in the study. All four participants demonstrated problem behavior that included aggression to others, tantrums, disruption, elopement (McClannahan & Krantz, 1993). A multiple baseline design across participants was utilized to teach imaginative play behaviors that were demonstrated with adult models. What researchers discovered in the study was an important programming concept of non-social stimuli with prompted pictorial schedules to teach appropriate play with children with developmental disabilities (McClannahan & Krantz, 1993). The second study by Charlotte-Christy & Daneshvar (2003) was reviewed in Sturmey(2003). This study observed video modeling to teach perspective taking with children with autism (Charlotte-Christy & Daneshvar, 2003). Charlotte-Christy & Daneshvar (2003) observed three different groups of children, one was children with autism, the second group was children with Down Syndrome, and the third group was young typically developing children (Charlotte-Christy & Daneshvar 2003). The aim of this study was for the children to pass the "Sally-Anne task" (close transfer task) and (distant transfer task) scenarios. Charlotte-Christy & Daneshvar

(2003) concluded video modeling through perspective taking can be taught with children with developmental disabilities (Charlotte-Christy & Daneshvar, 2003). The third study by Kinney, Vedora, & Stromer (2003)illustrated video technology to teach generative spelling to a child with autism. This study utilized video modeling and video reinforcement to engage with the child to develop a way to spell simple words (Kinney et al., 2003). Kinney et al. discovered that combining video rewards and video modeling to teach simple spelling skills could benefit children with autism spectrum disorder's (Kinney et al., 2003). This study contributes to the current literature by illustrating the usefulness and generalization of video modeling as well as video reinforcement. The fourth study, Ayres (2005) evaluated video self-monitoring with children with autism disorder (Ayres & Langone, 2005). This study wanted to increase social interaction with peers through video self-monitoring. Four preschool children with a diagnosis of autism participated in this study. The skills taught to the children were how to start and engage in social interaction with peers. The study illustrated that video self-monitoring a positive effect on social interaction with children diagnosed with autism. This study further demonstrated the effects and the use of technology to teach a population of lower functioning individuals. Results from this investigation demonstrated the percentage of task completed during the video prompting instruction increased three participates acquisition criteria (Ayres & Langone, 2005).

Some studies took a different approach to compare the effectiveness of video modeling in comparison to in vivo modeling Charlotte-Christy, & Freeman (2000). Five children with autism participated in this study ranging in ages 7 to 11 years old. Each of the tasks were randomly assigned accordingly and within range of each participant repertoire. Familiar adults close to the participants were utilized, peers were not used as models in the study (Charlotte-Christy, 2000). A multiple baseline across children design was used. The results of this research suggested that video modeling was an effective and accurate procedure for teaching children with autism (Charlotte-Christy, 2000). Children's behaviors generalized during the presentation of video-modeling while in vivo-modeling did not. The research also demonstrated the cost-effectiveness for training demonstrating 635 minutes for in vivo modeling versus 170 minutes for video modeling (Charlotte-Christy, 2000).

Other researchers examined the effects of video-modeling interaction on social initiation and play behaviors on individuals with autism (Nikopoulos & Keenan, 2004). Three children with autism aged 7 to 9 years old participated in the study. A multiple baseline across subject design was utilized in this research. In the video modeling condition, there was a four-step condition contingency. In each condition participants viewed a 35 second video tape. If social initiation response occurred within the first 25 seconds, the child was transferred to the next condition (Nikopoulos & Keenan, 2004). The video presentation in the intervention phase increased social initiation play skills for children with autism. This study illustrated the effects of video presentation of children with autism.

A different approach with context-based and video instruction was investigated to observe comprehension and retention (Choi & Johnson, 2005). The purpose of the study was to investigate a constructive approach to context-based video instruction for enhancing learning with 16 students enrolled in an online master's degree program (Choi & Johnson, 2005). The researchers collected data utilizing two Likert scale questionnaires and one open-ended questionnaire that was created by the researchers to measure retention of material (Choi & Johnson, 2005). "A Likert scale is a psychometric scale that has multiple categories from which respondents choose to indicate their opinions, attitudes, or feelings about a particular issue" (Turner, 1993). This study illustrated a difference between contextual reading and video instruction. Video instruction demonstrated a greater retention rate with the students that were involved in the study (Choi & Johnson, 2005).

A different approach observed daily living skills utilizing video prompting. In 2006, Cannella-Malone, et al. compared the affects video prompting to video modeling to teach daily living skills. Six adults living in a community based group home participated in the study (Cannella-Malone, Sigafoos, O'Reilly, de la Cruz, Edrisinha, & Lancioni, 2006). The intervention sought to teach how to set a table and to put groceries away with six individuals with developmental disabilities while comparing video modeling and video prompting. Video prompting intervention consisted of 10 separate video clips that were presented individually to all six participants. Video modeling intervention consisted of one video clip of all 10 separate videos completed from beginning to end (Cannella-Malone et al., 2006). "The study combined a multiple-probe across subjects with an alternating treatment design (Cannella-Malone et al., 2006)." The research advances video modeling and prompting to compare which procedure is more effective for training. The conclusion of data demonstrated that video prompting was more effective than video modeling for teaching daily skills. Other variables might have also effected results in the study. (Cannella-Malone et al., 2006) presented possible limitations with experimental design that were bias towards video prompting as well as participant preference towards video prompting (Cannella-Malone et al., 2006).

An everyday meal preparation skills to make a peanut butter and jelly sandwich was evaluated via video modeling (Rehfeldt, Dahman, Young, Cherry & Davis 2003). This study sought to confirm and measure new skills with individuals with developmental disabilities as well as generalize response chains after observing video models (Rehfeldt et al., 2003). Video prompting consisted of the participant to view a video for 2.5 min modeling the task. If distracted, participants where prompted to the video and where praised for good attending (Rehfeldt et al., 2003). Generalization probes were conducted one day following the participants meeting proficiency criterion. The results of this study concluded that video modeling was an effective teaching mechanism for simple meal preparation with adults with moderate disabilities.

The purpose of this study was to compare the rate of skill acquisition of video modeling with direct instruction and to generalize across settings with individuals with mild disabilities. A favorable outcome from prior research, hypothesize that rate of video modeling would be required at a faster rate than direct instruction.

# CHAPTER 2

# METHOD

## Participants

Three individuals with mild intellectual disabilities enrolled in a day training program participated in the study. The three participants worked at a facility in southern Illinois, five days a week. All the participants have been attending and working at this facility for more than five years. The three participants were moderately functional, ranging from the ages of 21 to 65 years of age.

Carl was a 44-year-old male with mild intellectual disability, and OCD. Carl had an IQ of 54. At the time of the study, Carl was taking 10mg Abilify, 80mg Geodon, Benadryl, and 10mg of Luvox in the day time and 50mg at night. He could have a basic work conversation with peers and staff. His job at day training was handing out everyone's lunch and cleaning off the tables and chairs after lunch.

Dale was a 28-year-old male with mild developmental disability, cerebral palsy, and epilepsy. Dale had an Inventory for Client and Agency Planning (ICAP) score of 71 (his IQ was not on file). The ICAP is a behavior comprehensive structured instrument that identify skills, adaptability and functions to recommend assistance to allow the individuals to live as independently (Bruininks, 1986). At the time of the study, Dale was not taking any psychotropic medications. He worked on the work floor at day training building boxes and sorting paper. Dale was able to hold moderate rote conversations with staff, for example, he could recall what he had for dinner the night prior and what he had for lunch.

Jim was a 54-year-old male with moderate developmental disability and Down Syndrome. Jim had an IQ of 52. At the time of the study, Jim was not on any psychotropic medications. Jim suffered from some hearing loss but was able to communicate well when spoken to in a tone that was above normal. Jim worked on the janitorial staff after lunch and before the facility closed. Jim was able to have detailed conversations about baseball games and scores. For example, when asked, "Who was playing tonight, he would respond the Cubs and Padres. Jim was also particular about his schedule and calendar events for the upcoming week. For example, he would know his scheduled outings for the following week to schedule training with this study. All three participants showed interest during the preference assessment interviews.

All three participants worked in different areas of the facility. All three males worked in different classrooms within two different buildings and had little to no interaction with one another. Each participant took part in handing out lunches, janitorial services, sorting papers, and shredding. Staff at the day training program explained that most of the clients were requesting more independence with preparing their own food at home and requested to learn new tasks.

**Staff Model.** During direct instruction, a 38-year-old male served as the staff model for all participants. The staff model was a master’s student in a Behavior Analysis program. During video modeling, the same male student served as the presenter during the video training. The staff model did not work with or directly supervise participants at the facility.

**Setting**

All sessions where conducted on site at the facility in the central kitchen. Each session lasted no longer than 30 minutes conducted twice a day, three times per week, for two weeks. Observation and training sessions occurred in the morning at 9:00am and afternoon at 1:00pm after lunch time. The area consisted of a basic kitchen area consisting of a sink, cabinets, two large tables, a lounge couch, and five chairs. For generalization sessions, a different facility at the same work site was used to conduct trials.

**Materials**

During all sessions, observers utilized a pen, paper, and clipboard to collect and track data. All observation sessions consisted of tracking task analysis sheets. Materials for the task of making a tea included an iPad for video observation, a 12-cup coffee maker, tea bags, sugar packets, water, a coffee cup, kitchen towel, and a spoon. Materials for the task to set up the table included a iPad for video, dinner plate, salad bowl, napkins, water cup, coffee cup, dinner fork, knife, and table spoon. The materials used for the task to boil eggs included iPad for video, microwave, microwavable bowl, water, salt, and kitchen towel. Materials were set up in the kitchen 20 minutes prior to each experimental session. Once the session was completed, all materials were cleaned and prepped for the next session. All materials that were required for the experiment are listed in Table 1, Table 2, and Table 3.

**Variables, Response Measures and Interobserver Agreement**

The experimental task for boiling eggs, making tea, and setting the table all consisted of a 20-step task analyses shown in Appendices A, B and C, respectively. The task analysis was established based on procedures conducted by the staff model. The dependent measures were the percentage of correct steps completed in the task analysis with video modeling and direct instruction. The task within the task analyses was scored correctly when and only when the participant completed the task correctly without any prompt from the researcher. If the researcher had to prompt the participant within five seconds of no response of the next step, the task was score as incorrect.

Interobserver agreement (IOA) was measured during all experimental phases for 30% of the sessions. One observer collected data throughout the experiment. The second observer collected data 30% of the time during the entire experiment. Two graduate students where trained on the task analysis and the operational definition of correct and non-correct responses. The data collecting technique increased the reliability of data that involved the two independent observers. The data was calculated by taking the number of agreements between the two independent observers and dividing by the total number of agreements plus disagreements.

For baseline conditions, the mean interobserver agreement for Carl was 30%. During the direct instruction intervention, interobserver agreement for Carl was 42%. The video modeling intervention, interobserver agreement for Carl was 68%. For baseline conditions, the mean interobserver agreement for Dale was 37%. During the direct instruction egg intervention, interobserver agreement for Dale was 81%. The video modeling setting the table intervention, interobserver agreement for Jim was 28%. For baseline conditions, the mean interobserver agreement for Jim was 78%.

Treatment integrity checklist was utilized in all phases during the experiment. The integrity checklist is shown in Appendix D. Treatment integrity was calculated by dividing the correct steps on the checklist by the number of correct plus incorrect steps, and then dividing by 100 for a percentage of agreement. For Carl, interventions direct instruction and video modeling were 100%. For Dale, interventions direct instruction and video modeling were 100%. For Jim, interventions direct instruction and video modeling were 100%.

**Design**

A multiple-baseline and multi-element design was used to observe the effects of direct instruction and video modeling. A multiple-baseline design is used for examining performance of interventions phases across different baselines (Kazdin, 2011).A multi–element design utilizes the implementation of two or more interventions within the same phase (Kazdin, 2011). The purpose for using a multiple-baseline design was to show that behavior change when and only when an intervention is applied.The rationale usage of a multi-element design is to demonstrate a human can perform differently within different phases of the same stimulus condition (Kazdin, 2011). After the baseline phase was completed, two different interventions were implemented within the same phase to illustrate and objectively reflect the differences in performance between the different stimulus conditions. The two conditions were counterbalanced with in the intervention. Video modeling and direct instruction where the two conditions implemented. Baseline sessions were conducted up to the third session to collect raw data and to prevent the participant from learning the skill through maturation. The order of the conditions were randomized and counterbalanced throughout the experiment. Both conditions continued until one condition reached 90%. The condition that did not reach 90%, received the other intervention until criterion was reached. This design allowed for rapid instruction between two different interventions (video and direct instruction) simultaneously. Baseline data was collected during the first week of the study. Rationally, this was to ensure that the clients did not learn procedures ahead of time to interact with one another to discuss the project. The two intervention procedures were implemented separately during the same trial. Utilizing a multi-element treatment design allowed for accurate identification of which procedure worked better for the participants. Each participant utilized the same kitchen and utensils during every trial, and each trial was conducted strategically during the participant’s leisure time to increase internal validity within the study.

**Preference Assessment.** Preference assessment was conducted with all three clients individually with staff. This assessment consisted of general questions on ideas and topics the clients were interested in learning. The preference assessment questionnaire is shown in Appendix E. Once the researcher identified what the clients wanted to learn, the researcher verified with their direct care staff the skill level of each participant to conduct the study.

**Baseline**. During baseline phase, participants were given individual task to complete. All subjects participated in the baseline condition. Each participant received all the supplies to complete the task. The abilities to complete the task where observed in baseline phase using a Multiple-opportunity method (Cooper, Heron, &Heward, 2007). If the participants did not complete the current step or conducted a step out of order within five seconds, the experimenter completed the step and set the next step to be completed by the participant (Cooper et al., 2007). Each step that was completed incorrectly or out of order, was scored as incorrect, correct steps were scored as correct. The participants did not receive corrective feedback or encouragement during the baseline phase.

During this phase, two participants stated to the experimenter after the task was completed, "I don't like to eat eggs." Other comments were presented with-in session consisting of, "is it time yet, and what’s next?" During this time, the experimenter did not respond to any of the participant’s comments and waited until the time was up or redirected the participants with hand gestures if they were out of sequence with procedures.

**Intervention.** Two intervention sessions were conducted in random order and was counterbalanced throughout the study. Video modeling and direct instruction were provided to each client separately. Each client received instructions to either watch the video or to observe direct instruction of the task(s) to complete. Following their performance, the subjects and the opportunity to complete each task on their own for 15 minutes. Once the video or direct instruction was completed, the researcher instructed the participant to complete the task for 15 minutes. At the end of the 15 minutes the researcher provided positive praise comments no matter the score. All sessions ended when a participant performed all of the steps with 90% accuracy for three consecutive sessions

**Video modeling procedure**

**Video Modeling for making tea.** The Participant was provided the video on the task they would perform. The video showed the researcher making tea according to the task analysis script. Once the video is completed, the researcher informed theparticipant to complete the task. No feedback was given during the phase. Video instructionended at 80% accuracy through a multi-elementdesign.

**Video Modeling for boiling eggs.** The participant was provided the video on the task they would perform. The video showed the researcher boiling eggs according to the task analysis script. Once the video is completed, the researcher informed the participant to complete the task. No feedback was given during the phase. Video instruction ended at 80% accuracy through a multi-element design.

**Video Modeling for setting the table.** The Participant was provided the video on the task theywould perform. The video showed the researcher setting the table according to the task analysis script. Once the video is completed, the researcher informed the participant to complete the task. No feedback was given during the phase. Video instruction ended at 80% accuracy through a multi-element design.

**Direct instruction procedure.** The participant was provided direct instruction on the task according to the task analysis. Next, the researcher informed the participant that instructions will be provided one time. Once the direct instruction where completed, the researcher informed the participant to complete the task. No feedback will be given during the phase. Direct instruction ended at 80% accuracy through a multi-element design.

The following is a script to be read to the participants by way of video modeling:

The participant was directed to observe task that was by video. The researcher read a script: “1) You are now going to observe a video of the researcher making tea. 2) This video will direct you and explain how to make tea. 3) You will be allowed 15 minutes to conduct the task once the video is completed. 4) I will correct you if you have trouble with a step. 5) I will provide no feedback until the project is completed. Do you have any questions?”

The participant was directed to observe task that was by video. The researcher read a script: “1) You are now going to observe a video of the researcher (boiling eggs). 2) This video will direct you and explain how to boil eggs. 3) You will be allowed 15 minutes to conduct the task once the video is completed. 4) I will correct you if you have trouble with a step. 5) I will provide no feedback until the project is completed. Do you have any questions?”

The participant was directed to observe task that was by video. The researcher read a script: “1) You are now going to observe a video of the researcher (setting the table). 2) This video will direct you and explain how to set the table. 3) You will be allowed 15 minutes to conduct the task once the video is completed. 4) I will correct you if you have trouble with a step. 5) I will provide no feedback until the project is completed. Do you have any questions?"

Direct instruction

The participant was directed to observe the task the researcher was about demonstrate. The researcher read a script: “1) you are now going to observe me (making tea). 2) These instructions will direct you and explain how to make tea. 3) You will be allowed 15 minutes to conduct the task once the instruction is completed. 4) I will correct you if you have trouble with a step. 5) I will provide no feedback until the project is completed. Do you have any questions?"

The participant was directed to observe the task the researcher was about demonstrate. The researcher read a script: "1) you are now going to observe me (boiling eggs). 2) These instructions will direct you and explain how to boil eggs. 3) You will be allowed 15 minutes to conduct the task once the instruction is completed. 4) I will correct you if you have trouble with a step. 5) I will provide no feedback until the project is completed. Do you have any questions?"

The participant was directed to observe the task the researcher was about demonstrate. The researcher read a script: "1) you are now going to observe me (setting the table). 2) These instructions will direct you and explain how to set the table. 3) You will be allowed 15 minutes to conduct the task once the instruction is completed. 4) I will correct you if you have trouble with a step. 5) I will provide no feedback until the project is completed. Do you have any questions?"

# CHAPTER 3

# RESULTS

The results show the percentage of correct response in accordance to the task analysis for baseline and intervention conditions.

## Carl

**Baseline.** As shown in Figure 1. top, Carl data illustrated a mean of 42% with a range of 25% to 60% of correct responding. During the Baseline phase Carl's data illustrated an upward trend for boiling eggs. After the first session, he stated he does not eat eggs. Which was opposite of his request of items to learn how to prepare. The data for table setting was 0% for the first two sessions. When Carl was prompt to “set the table,” the practitioner waited 5 seconds for every step in the task analysis. A second session was conducted to verify the first session results. No third session was performed for setting the table.

**Intervention.** As shown in Figure 1. top, Carl demonstrated a mean percentage 68% during boiling eggs with a range of 55% to 85% of correct responding. The setting the table sessions, a mean percentage 81% with a range of 60% to 95%.

## Jim

**Baseline.** Jim data illustrated a mean of 28% with a range of 0% to 50% of correct responding. During the Baseline phase Jim data illustrated an upward trend for making tea. During multiple sessions, Jim asked the examiner “what do I do next” multiple times. When sessions were completed for the day, Jim wanted to know what he was training on next. The information was not provided to Jim so he would not go home and practice. The mean data for table setting was 28% with a range of 0% to 50%.

**Intervention**. Jim demonstrated a mean percentage 50% during making tea with a range of 50% to 55% of correct responding. The setting the table sessions, a mean percentage 78% with a range of 55% to 90%.

**Dale**

**Baseline.** Dale data illustrated a mean of 37% with a range of 20% to 60% of correct responding. During the Baseline phase Dales data illustrated an upward trend for boiling eggs. After the first session, he stated, “I don't like the way eggs smell.” Dale also wanted to learn how to boil eggs during the interview session. The data for table setting was 0% for the first two sessions. When Dale was prompt to “set the table,” the practitioner waited 5 seconds for every step in the task analysis. A second session was conducted to verify the first session results. No third session was performed for setting the table.

**Intervention.** Dale demonstrated a mean percentage 68% during boiling eggs with a range of 55% to 85% of correct responding. The setting the table sessions, a mean percentage 81% with a range of 60% to 95%.

# CHAPTER 4

## DISCUSSION

Video modeling interventions provides a brief look into skills acquisition. Video modeling as well as other various video instructions, may involve sibling's adults as models and peers. The current study illustrated there is a clear distinction that video modeling is more effective then direct instruction with all three participants. The purpose of this study was to compare the rate of skill acquisition of video modeling with direct instruction and to generalize across settings with individuals with mild disabilities. During direct and indirect interviews, all three participants wanted to learn how to make tea, boil eggs, and learn how to set a table. The findings in this study extend the current literature that video modeling may be more effective for individuals than direct instruction (Charlop et al., 2003; Choi, 2005; Xeroulis et al., 2007).

During the onset of the study, two participants stated they were not interested or they do not eat eggs. This observation raises critical questions with interviews with individuals with mental disabilities. Observational learning was still more effective with video modeling. The current investigation provides multiple opportunities for future research. A comparison of skill acquisition with generalized video modeling verses non-generalized video modeling.

The teaching strategy were very simplistic but very effective in various ways. A consideration must be taken into account when utilizing video modeling. It must be stated that video modeling could possibly be a fraction of cost for direct instruction. While being less time cumbersome, new skills can also be reviewed by any facility multiple times, as well as provide refresher courses for staff. This could be beneficial to facilities where group instructions are required as well as individualized refreshers for staff as well as clients. Another notable strength with video modeling is the flexibility. Having relatively small increments of time for training is conducive for training of any facility

The results were particular interesting. The generalization of video instruction also demonstrated individuals with disabilities can observe instructions within a different area and still generalize procedures. The results are also significant for extending the teaching arbitrary skills (Xeroulis et al., 2007). The skill that were observed were new skills for the participants that were socially valid for their surroundings. Acquisition and retention of skills still require more in-depth inquiry. The human behavior of skill acquisition in terms of video instruction still needs future review.

Results of the study demonstrate the rate of skill acquisition video-modeling can enhance learning with adults with mild disabilities. In the first graph, Carl demonstrated some knowledge with direct instruction during baseline, but during the intervention phase maintain the same percentage level of 60% correct responses. During video modeling procedures, Carl had no skill set to complete the setting the table task. The participate also mentioned during baseline sessions that he does not know how to set the table and was very prompt dependent for the entire session.

During the intervention session, the participant increased correct responses to 50% during the first session and mastered criteria of 90% after two consecutive sessions. In the second graph, Dale demonstrated a gradual increase during baseline of correct responses for boiling eggs. During video modeling procedures, Dale demonstrated zero responses for correct task for setting the table for the baseline phase. During the intervention phase, direct instruction to boiling egg still demonstrated and upward trend, while intervention phase had a 60% level increase with an overall 95% criterion change. In graph three, Jim Data demonstrated a gradual increase in every session during baseline. This phenomenon in the data may have been attributed to the multi opportunity procedure. The abilities to complete the task where observed in baseline phase using a Multiple-opportunity method (Cooper et al., 2007). If the participants did not complete the current step or conducted a step out of order within five seconds, the experimenter completed the step and set the next step to be completed by the participant (Cooper et al., 2007). During intervention phase, Jim demonstrated a slight increase of 20% correct responses. Video modeling demonstrated a 50% increase of correct responses for the task analysis.

During the course of research some limitations did come present themselves. First, direct interviews are very accessible but two of the participants change their response from their initial interview one what they preferred to learn. Researchers must be mindful when working with individuals with mild disabilities as well as the reliability of direct or in direct interviews. Second limitation, during the trials managing time was complicated for the participants. For example, looking at the clock during a two-minute wait period for items to cool off when the microwave was done. Future research should take into accountability of a timer/ stopwatch so that participant can track the time. A third limitation what is preferred task. Preference of task did not have an effect on the skill acquisition, but if the items were preferred skill acquisition percentage might have increased at a larger rate. Future research should look into the difference between video modeling with preferred and non-preferred items.

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Table 1

Materials needed for boiling eggs

| Items |
| --- |
| Microwave |
| Microwave bowl |
| Water |
| Eggs |
| Cooking towel |

Note. All Materials were required for the session

Table 2

Materials needed for making tea

| Items |
|---|
| Coffee pot |
| Water |
| Tea bag |
| Sugar |
| Spoon |
| Coffee cup |
| Cooking towel |

Note. All Materials were required for the session

Table 3

Materials needed for preparing a table

| Items |
| --- |
| Napkins |
| Spoon |
| Forks |
| Butter Knife |
| Dinner Plate |
| Bowl |
| Drinking cup |
| Coffee Cup |

Note. All Materials were required for the session

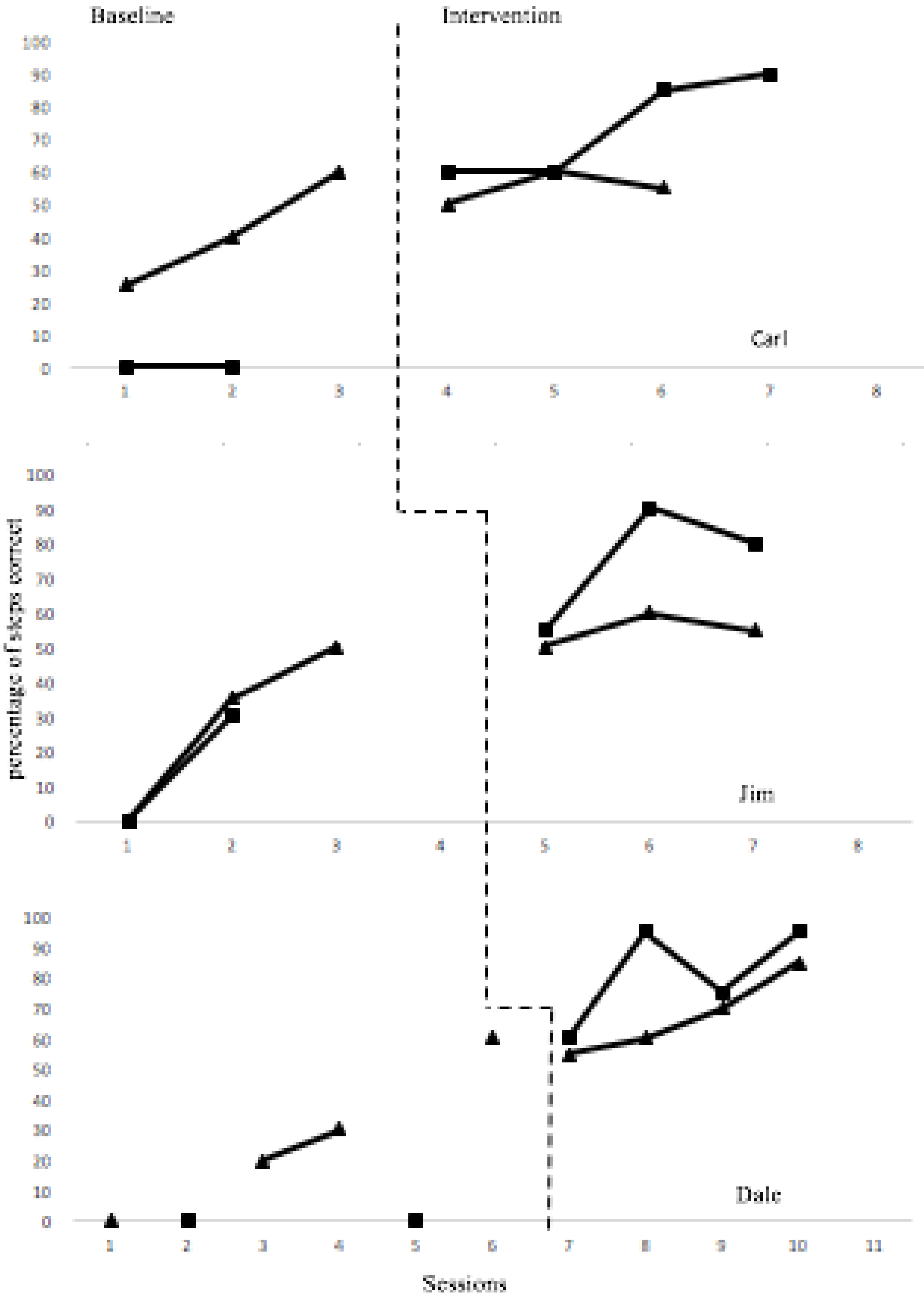


Figure 1. Displays the percentage of correct steps of Carl, Jim, and Dale across baseline and intervention phases.

APPENDICES

# Appendix A

Task Analysis for (Boiling Eggs)

1. Wash hands with soap and water for minimum of 10 sec
2. Open the cabinet door above the sink
3. Pull microwave bowl out and fill with water half way
4. Open refrigerator door
5. Pull 2 eggs out of the refrigerator
6. Sit the eggs in the bowl of water
7. Grab the salt shaker from the table
8. Sprinkle some salt in the bowl of water and eggs
9. Grab the bowl with both hands
10. Put the bowl of eggs in the microwave
11. Close the microwave door
12. Turn the microwave on 8 minutes
13. Press the start button on the microwave
14. When timer is up, let eggs sit in microwave for 2 minutes
15. Grab the bowl with cooking rag out of the microwave
16. Place bowl in sink and turn cold water on the eggs
17. Let water run on top of the eggs for two minute
18. After two minutes, remove the shells off the eggs
19. Rinse the eggs off
20. Turn water off

Appendix B

Task Analysis for (Preparing Tea)

1. Wash hands with soap and water for minimum of 10 sec
2. Open the cabinet door where the cups are located
3. Pull out a coffee cup
4. Place the coffee cup on the table
5. Pull out a tea bag from the cabinet
6. Place tea bag on the table next to the coffee cup
7. Pull out a pack of sugar from the cabinet
8. Place pack of sugar on the table next to the coffee cup
9. Open the cabinet drawer next to the sink and get a spoon
10. Place the spoon on the table
11. Turn on the faucet water
12. Grab the coffee pot and place it under the running water
13. Fill the coffee pot to the six cups of water line
14. Pour the water from the pot into the coffee machine
15. Put the coffee empty pot on the machine
16. Plug in the coffee machine into the outlet
17. Push the on button on the coffee machine
18. Place the tea bag and sugar in the cup
19. Grab kitchen rag and grab the pot by the handle
20. Pour the hot water from the coffee pot into the cup and stir tea

# Appendix C

Task Analysis of (Setting the Table)

1. Wash hands with soap and water for minimum of 10 sec
2. Open cabinet door where the plates are located
3. Pull one plate out of the cabinet
4. Sit the plate on the table in front of the chair
5. Pull soup bowl out of the cabinet
6. Sit the bowl directly on top of the plate
7. Pull drinking cup out of the cabinet
8. Sit the cup to the top right of the plate
9. Pull the coffee cup out of the cabinet
10. Sit the coffee cup to the right of the drinking cup
11. Close the cabinet door
12. Open kitchen drawer next to the sink
13. Pull the spoon out of the drawer
14. Sit spoon to the right of the plate on the table
15. Pull the fork out of the drawer
16. Sit fork to the left of the plate on the table
17. Pull butter knife out of the drawer
18. Sit the butter knife between the spoon and the plate on the table
19. Grab a paper towel
20. Place the paper towel to the left of the fork on the table

# Appendix D

Procedure check list

1. Did experimenter follow the methods outlined in the procedures?
2. Did the experimenter follow correct prompting procedures?
3. Did experimenter refrain from feedback during all phases?
4. Did the experimenter use multiple opportunity methods during procedures?
5. Did the experimenter arrange for the next step of the task?

# Appendix E

Preference assessment

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1. Are you allowed to prepare food at your home?
2. What type of food items would you like to learn how to make?
3. Would you be able to make these meals at home on your own?
4. If you cannot make these mails it home, is there someone that can help you prepare the food?

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Research Paper Title:
Rate of Skill Acquisition between Video Modeling and Direct Instructions using Preferred Task with Adults with Mild Developmental Disabilities

Major Professor: Dr. Ruth Anne Rehfeldt