The Effects of Video Prompting for Activities of Daily Living With Preschool Students
With Significant Intellectual and Developmental Disabilities

Thesis

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Abstract

Individuals with intellectual and developmental disabilities (IDD) often need to be explicitly taught activities of daily living (ADLs) that will lead to a more independent lifestyle. Research indicates that the earlier interventions begin, the bigger impact they may have on the individual. Video prompting is one way that has been shown to be effective in teaching individuals with IDD ADLs. This study used a multiple probe across tasks design to determine whether two preschoolers with IDD would acquire ADLs with video prompting. Imitation skills were also assessed to determine if skill acquisition using video prompting was impacted by imitation skills. Results indicate that video prompting with error correction was successful in teaching one participant ADLs. The second participant did not acquire the skills with video prompting and error correction alone. When vivo teaching was implemented, minor increases were made, but mastery was not reached with the second participant. Results of the imitation assessment show that the participant who acquired ADLs with video prompting had a high level of imitation skills prior to the intervention. The student who did not acquire the skills had a low level of imitation skills. This indicates that imitation could be a possible indicator of the effectiveness of video prompting as an intervention for individuals with IDD. The paper will discuss further procedures of generalization, limitations, and areas for future research.
Dedicated to each and every family and child with special needs. You are my passion, drive, and inspiration to embrace the true joy of life.
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CHAPTER 1
INTRODUCTION

Students with intellectual and developmental disabilities (IDD) are often diagnosed before age 5 (Palfrey, Singer, Walker, & Butler, 1987). Early intervention, especially during the preschool years, is important to reduce the high risk of adverse neurodevelopmental outcomes, improve academic outcomes, and lead to higher employment and income levels (Roberts et al., 2007). The early years in a child’s life offer a unique window of opportunity to alter their developmental trajectories; therefore, intensive early intervention is critical to maximizing outcomes (Guralnick, 2005). The earlier and more intensive the intervention, the more beneficial it may be to the individual (Woods & Wetherby, 2003). Harris and Handleman (2000) state that intervention provided before age 3 could potentially have a much greater impact than if provided after the age 5.

To illustrate the impact of early intervention, Blane and Borden (2008) presented a case of a child diagnosed with autism at the age of 20 months and who began intensive behavioral treatment by the time he was 25 months old. As he was being taught, they saw a gradual increase in his tendency to engage in more typical behaviors to communicate (e.g., picture exchange system, following verbal directions and pointing, eye contact) rather than the atypical behaviors associated with autism (e.g., challenging behaviors and
repetitive movements). Their case offers an example of a student who, with the addition of intensive early intervention, was able to remain on the trajectory of a general education placement with minimal need for special education services.

Likewise, Rogers (1996) reviewed six studies that examined comprehensive early intervention programs for young children with autism. She found that the studies reported significant acceleration of developmental rates, resulting in significant IQ and language gains, improved social behaviors, and decreased symptoms of autism in the treated children. Although of the early childhood research focuses on individuals with autism, it is likely that early intervention strategies could be effective for young children diagnosed with a variety of disabilities, including IDD.

Despite early intervention, individuals with IDD will experience deficits in development and long-term outcomes throughout their lives (Newman, Wagner, Cameto, Knokey, & Shaver, 2010). Activities of daily living (ADLs) are one example of a category where an individual’s independence can be impacted (Jacobson & Ackerman, 1990). ADLs are skills that are performed in order to go through a person’s every day life and ADLs include self-care skills (e.g., bathing, grooming, dressing), cleaning, cooking, work, and leisure skills. Individuals with IDD are less likely to care for themselves independently and more likely to rely on caregivers, which could lead to learned helplessness that hinders their ability to gain independence and self-determination (Cannella, O’Reilly, & Lancioni, 2005; Cannella-Malone et al., 2011). In a review on video-based instruction, Gardner and Wolfe (2013) argued that teaching ADLs to
students with IDD that increase independence should be a priority in their educational programs.

One potential tool for teaching ADLs may be video-based instruction (VBI) (e.g., video modeling, video prompting), which has been shown to be effective in teaching individuals with disabilities (Banda, Dogoe, & Matuszny, 2011; Bellini, & Akullian, 2007; Domire, & Wolfe, 2014; Gardner & Wolfe, 2013). Gardner and Wolfe (2013) define video modeling as “an instructional technique in which individuals view a short video model performing a sequence of steps making up a target skill or behavior and then are directed to perform the steps viewed” (p. 74). Video modeling has been used to effectively teach a wide range of skills to individuals with IDD of all ages (D’Ateno, Mangiapanello & Taylor, 2003; Hine & Wolery, 2006; Shipley-Benamou, Lutzker & Taubman, 2002; Shrestha, Anderson & Moore, 2012). The majority of these studies taught young children communication and play skills, but a few focused on ADLs. For example, Boudreau and D’Entremont (2010) improved the pretend play skills of two preschoolers with autism. They measured the number of modeled actions, un-modeled actions, and scripted and unscripted verbalizations, using video modeling with toy veterinary and construction sets. The intervention was effective for both participants. Shipley-Benamou et al. (2002) taught daily living skills to three 5 year olds with autism. Two of the participants acquired three skills and one participant learned two skills. Five total tasks were used (i.e., mailing a letter, setting the table, pet care [fish or cat] and squeezing orange juice). Task selection for each participant was based on the family’s requests.
Gardner and Wolfe (2013) define video prompting as breaking a skill into short segments or steps, then immediately after viewing each step giving the student the opportunity to practice that step before continuing to the next step. Video prompting has been shown to be more effective than video modeling for individuals with severe disabilities (Cannella-Malone et al., 2011). For example, Cannella-Malone et al. (2011) worked with seven individuals with severe intellectual disabilities to teach them ADLs using video prompting and video modeling. For six of the participants, video prompting was the most effective. Neither procedure was effective for the seventh participant, though in vivo instruction eventually led to skill acquisition. All participants learned to wash dishes and do a load of laundry. It is suggested that the shorter videos combined with the attention span of individuals with severe disabilities, and the individual skills in each segment may create less of a demand than video modeling for the individual to remember. Video prompting has been shown to be effective in teaching individuals with mild to severe disabilities a range of skills (Johnson, Blood, Freeman & Simmons, 2013; Sigafoos et al., 2007). Video prompting procedures have primarily been used with teenage to older individuals and focused on ADLs to increase independence. For example, Goodson, Sigafoos, O’Reilly, Cannella, and Lancioni (2007) used a video-based error correction procedure to teach four men between the ages of 33 and 36 with autism and intellectual disabilities to set the table. One participant was successful with video prompting alone. The other three participants reached mastery when error correction procedures were introduced. In another example, Graves, Collins, Schuster, and Kleinert (2005) worked with three individuals with moderate disabilities between the
ages of 16 and 20. The video prompting procedure with a constant time delay was successful for all three participants in teaching them to cook ramen noodles and “mac in minutes”. Bereznak, Ayres, Mechling, and Alexander (2012) used video self-prompting to teach three teenagers with autism how to use a washing machine, make noodles, and use a copy machine. Two of the three students also learned to operate the video prompts on the iPhone independently. The third student did not learn to manipulate the iPhone independently due to physical limitations.

Students’ ability to imitate from a model seems to be one of the underlining assumptions of video based instruction. When an individual watches the video, they are then supposed to do what they saw on the video; imitate the action. With imitation being a key part of learning with VBI, imitation is a relevant skill to assess when researching VBI as well. However, imitation is not always discussed in studies that use VBI. Imitation is an important skill that comes naturally to typically developing children (Vanvuchelen & Vochten, 2011). Both Hine and Wolery (2006) and Shipley-Benamou et al. (2002) noted that prior to the intervention, all participants could imitate a model, but there was no further mention of imitation skills. Rayner (2010) implemented video modeling with a 12-year-old boy with autism to improve task completion of daily living skills. Prior to the intervention, the participant’s imitation skills were assessed using an observation-based assessment delivered through video. The results indicated that the participant correctly imitated 63% of the acts overall. These data were used to suggest that the participant was a good candidate for a video modeling intervention. The participant was successful in improving unpacking and packing his backpack, but he was
not as successful when using the intervention for brushing his teeth. At the conclusion of
the study, there was no further mention of imitation or what part it may have played in
this intervention.

At this time, it is difficult to determine the effect that imitation has on the
outcome of learning skills through VBI. There is a lack of research that provides detailed
information prior to intervention about the participants’ imitation skills, and there is even
less follow up information provided after the intervention. It is possible that imitation is
not regularly assessed due to a lack of age appropriate imitation assessments. There are a
limited number of assessments that look at imitation and those assessments are typically
g geared toward the younger population.

Video modeling has clearly been used as an intervention to target younger
children with disabilities while focusing on communication and play skills. Video
prompting has been explored and successfully implemented many times with teenagers
through adults who have multiple disabilities targeting a variety of daily living skills.
However, there is a gap in the research teaching daily living skills using video prompting
procedures to preschool-age individuals with disabilities. Therefore, the purpose of this
study was to determine whether preschoolers with IDD would learn ADLs with video
prompting. Additionally, imitation skills were assessed to determine if skill acquisition
using video prompting was impacted by imitation skills.
CHAPTER TWO

METHODS

Participants

Two children participated in this study. In order to participate, students had to (a) be between 24 and 60 months old at the beginning of the study, (b) be identified as having a developmental disability, and (c) have parental consent. Two participants were selected from an early childhood education center that specializes in the education of children between the ages of 12 months and 6 years with developmental disabilities. Typically developing peers between the ages of 2 and 4 years also attended the education center. The center focuses their programs around individualized, evidence-based activities. They aim to advance the development of children with and without disabilities.

Julia was a 4 and-a-half year old girl diagnosed with Prader-Willi Syndrome, intrauterine growth restriction (IUGR), and chronic lung disease. She also had a history of seizure activity. Julia spoke in words, phrases, and some sentences, but her pronunciation was difficult to understand without using contextual cues. On the Preschool Language Scale-5 (PLS-5) (Zimmerman, Steiner, & Pond, 2011). Julia’s total score was 84. The total language development score is equivalent to a 2 year 11 month old child. According to the Vineland-II Adaptive Behavior Scales (Sparrow, Cicchetti, &
Balla, 2005). Julia’s adaptive behavior composite score was 74, which is considered moderately low.

Max was a 3 year and 4 months old boy diagnosed with hypotonic quadriplegic cerebral palsy and a developmental delay. According to the PLS-5 (Zimmerman et al., 2011). Max had a total language score of 72. Max spoke in words or short 2 to 3 word phrases and often echoed words spoken to him. On the Adaptive Behavior Assessment System, 2nd edition (ABAS-II) (Sparrow et al., 2005). Max’s general adaptive composite score was 63, which is considered low. The average score is 100. Max just began walking at the beginning of this study.

**Materials and Setting**

The materials needed for this intervention across all tasks were a timer, an iPad, the inPromptu app and reinforcers that were individual to each participant. For toothbrushing the materials included a step stool, toothbrush, toothpaste, and a toothbrush holder. For hand washing the materials needed were hand towels, a push-top hand soap dispenser, and a step stool. For setting the table the materials included a step stool, two children’s size plates, two adult dinner plates, two adult forks, two adult spoons, one child’s size spoon, one child’s size fork, and three small plastic cups. For washing the dishes the materials included one small plastic cup, a small sponge, a small squeezable container of liquid dish soap, and a dish drying rack.

The intervention took place in the homes of each participant. Julia’s intervention took place in the kitchen of her home. Her kitchen was average size with typical kitchen appliances (e.g., refrigerator, table, chairs, stove, microwave, cabinets, shelves). The sink
used for washing dishes had a single tub with the drying rack sitting on the counter to the right of the sink. A stepstool was positioned in front of the sink for Julia. The table used for setting the table was a small sized kitchen table surrounded by three chairs and one side against the wall. Max’s intervention took place in a bathroom and the living room of his home. The bathroom was small with a toilet, sink, mirror, and cabinet. A stepstool was also placed in the bathroom for Max to reach the sink. The living room where Max put on his coat was large, with two couches, three lounge chairs, a T.V., and a variety of toys, games, and a child’s sized lounge chair.

Generalization took place in Julia’s new home. The kitchen was a large open style kitchen with typical appliances. The materials (dishes, soap, stool, etc.) used were the same from her old house. The kitchen table was now opened up, had three chairs and a bench placed around the table and you could walk all the way around the table. Instead of using the drying rack, the top rack of the dishwasher was used. The top rack was placed to the right of the sink, pulled out to just below counter height.

**Dependent Variables and Data Collection**

The imitation skills of each participant were evaluated with an assessment based on the protocol of the Preschool Imitation and Praxis Scale (PIPS) (Vanvuchelen, Roeyers, & De Weerdt, 2011a). The PIPS incorporates three different types of imitation; gestural, procedural and facial. Ten different tasks, that included a variety from each of the three types of imitation, were chosen from the PIPS assessment. The ten tasks were chosen at random, but covered each of the three types. Due to the full assessment not being available, a three-point scoring scale was created to determine a total imitation
score. A score of 0 was recorded if no imitation occurred. A score of one was recorded if a partial imitation, or part of the task was imitated. A score of two was recorded if the imitation was perfect. Specific score descriptions were listed next to each task.

The dependent variable in this study was the correct performance of the targeted skills for each participant. Each task was broken down into individual steps and a task analysis was created. Correct performance was defined as the percentage of task steps completed correctly. For each target skill, an observer reported steps completed correctly and incorrectly, and the percent correct was calculated by dividing the number of correct responses by the total steps and multiplying by 100. We collected data on the total duration of each session with a stopwatch and recorded it in minutes and seconds. We also counted the number of sessions to mastery for each participant from the time they entered intervention to the time they mastered the skill. Mastery was defined as three consecutive sessions at 100% correct with or without one viewing of the video prompt.

**Task and Video Development**

The video clips for each task were recorded prior to the intervention using similar materials to those during the intervention. The individual steps were filmed using the iPad. The clips were filmed from the perspective of a spectator, so the participants saw another child completing the steps of the task. A 7-year-old girl was used as the model in the video. At the beginning of each clip, a female voice stated what the girl was doing in that specific step. For example, for the first step of washing the dishes, the participant heard, “turn on the water,” and saw the girl turn on the water. Brushing teeth clips ranged in length from 3 to 13 s. Washing hands video clips ranged in length from 5 to 11 s. For
washing the dishes, clips ranged in length from 3 to 19 s. For setting the table, the clips ranged in length from 4 to 11 s. Task analyses of the individual tasks are listed in Appendix A.

**Interobserver Agreement and Procedural Integrity**

Interobserver agreement (IOA) data were collected for each participant during each task. We collected IOA for at least 30% of sessions for each phase for all tasks and participants. Observers were graduate students trained prior to the study. The observers were trained by collecting data on mock sessions, during which the observers collected data on individuals completing the tasks as if they were participants in the study. The graduate students needed to reach at least three sessions of 100% IOA with the experimenter during the mock sessions before they began collecting data for this study. The trained individuals were brought in to the participants’ homes to collect data. IOA was calculated per session by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100.

For Julia, during baseline for washing dishes, IOA was collected for 44% of the sessions with a mean of 94% (range: 92–100%). During intervention for washing dishes, IOA was collected for 35% of the sessions with a mean of 98% (range: 96–100%). During generalization for washing the dishes, IOA was collected for 33% of the sessions. For washing dishes, IOA was collected for 37% of all sessions combined with a mean of 97% (range: 92–100%). During baseline for setting the table, IOA was collected for 33% of the sessions with a mean of 100%. During intervention for setting the table, IOA was collected for 32% of the sessions with a mean of 97% (range: 85–100%). During
generalization for setting the table, IOA was collected for 33% of the sessions. For setting the table, IOA was collected for 31% of all sessions combined with a mean of 97% (range: 85–100%).

For Max, during baseline of washing hands, IOA was collected for 43% of the sessions with a mean of 95% (range: 88–100%). During intervention for washing hands, IOA was collected for 31% of the sessions with a mean of 93% (range 88%-100%). During live teaching sessions for washing hands, IOA was collected for 28% of the sessions with a mean of 100%. For washing hands, IOA was collected for 32% of all sessions combined with a mean of 95% (range: 88–100%). During baseline for brushing teeth, IOA was collected for 30% of the sessions with a mean of 92% (range: 88–100%). During intervention for brushing teeth, IOA was collected for 30% of the sessions with a mean of 88% (range: 82–94%). During live teaching sessions for brushing teeth, IOA was collected for 33% of the sessions with a mean of 85% (range: 82–88%). For brushing teeth, IOA was collected for 31% of all sessions combined with a mean of 89% (range: 82–100%). During baseline for putting on his coat, IOA was collected for 20% of sessions. The average was 83%.

Procedural integrity (PI) data were collected for at least 30% of sessions in each phase for all tasks and participants. Observers were graduate students trained prior to the experiment with the same procedures as the training for collecting IOA. The procedures for the experimenter to follow were listed in order and checked off by the observer as performed correctly or incorrectly. Procedural integrity was calculated per session by
dividing the number of steps completed correctly by the total number of steps and multiplying by 100.

For Julia, during baseline of washing dishes, PI was collected for 33% of the sessions with a mean of 97% (range: 96–100%). During intervention of washing dishes, PI was collected for 35% of the sessions with a mean of 99% (range: 93–100%). During generalization, PI was collected for 33% of the sessions. For washing dishes, PI was collected for 30% of all sessions combined with a mean of 98% (range: 93–100%). For Julia, during baseline of setting the table, PI was collected for 30% of the sessions with a mean of 100%. During intervention of setting the table, PI was collected for 36% of the sessions with a mean of 98% (range: 93–100%). During generalization for setting the table, PI was collected for 30% of the sessions. For setting the table, PI was collected for 34% of all sessions combined with a mean of 98% (range: 93–100%). For Max, during baseline of washing hands, PI was collected for 43% of the sessions with a mean of 100%. During intervention of washing hands, PI was collected for 31% of the sessions with a mean of 99% (range: 97–100%). During live teaching sessions of washing hands, PI was collected for 14% of the sessions. For washing hands, PI was collected for 29% of all sessions combined with a mean of 99% (range: 97–100%). For Max, during baseline of brushing teeth, PI was collected for 30% of the sessions with a mean of 98% (range: 95–100%). During intervention of brushing teeth, PI was collected for 30% of the sessions with a mean of 99%. During live teaching sessions of brushing teeth, PI was collected for 33% of the sessions with a mean of 100%. For brushing teeth, PI was collected for 31% of all sessions combined with a mean of 99% (range: 95–100%).
Social Validity

Social validity was measured in three different areas by asking whether the procedures were socially valid, whether the intervention was meaningful to the participant, and whether the community, family, and other individuals involved saw the intervention as important and significant for the individual. Involving the parents directly in the decision making process for their children is likely to be more meaningful to the family. By involving the parents in selecting the tasks targeted for intervention, we can conclude that the tasks chosen were important in the daily life of the individual. Parents and teachers were interviewed prior to the intervention to determine the specific tasks for each participant. They were asked a variety of questions that centered on the topic of daily living skills and increasing the independence of the participant in both the school and home settings. In addition to involving the parents and teachers, developmentally appropriate daily living skills were determined by correlating the child’s age to the Ohio Early Learning and Development Standards (ELDS, 2012) for children between the ages of birth and 5 years. These are standards that determine what children of typical development should be doing by a given age. Specific tasks were chosen based on a combination of the parent and teacher interviews and what was developmentally appropriate for a typically developing child of the same age.

Social validity was measured by giving the parents a questionnaire following the experimental process. The questions were answered by circling a number that correlated with a scale. Circling a 1 indicated that they “strongly disagreed” with the statement, and
circling a 5 indicated that they “strongly agreed” with the statement. The questionnaire is listed in Appendix B.

**Experimental Design**

A multiple probe across tasks design (Gast, 2010) was used to demonstrate experimental control in this study. Participants moved into the intervention phase from the baseline phase after we collected at least three consecutive data points showing a stable or decreasing trend. When the first task in intervention showed an increasing trend, a second task was moved to the intervention phase. Once mastery was reached, the task was put into maintenance.

**Procedures**

**Preference assessment.** The Reinforcement Assessment for Individuals with Severe Disabilities (RAISD) (Fisher, Piazza, Bowman, & Amari, 1996) was used in parent and teacher interviews to guide questions and conversation about potential reinforcers for the participants. The RAISD can be found in Appendix C. An informal preference assessment was conducted with each participant prior to beginning intervention. The preference assessment was conducted by allowing the participants access to a variety of objects identified through the RAISD and observing which they attended to most often.

**Imitation assessment.** Each participant was given the PIPS assessment prior to and after intervention. The procedures were followed as described in Vanvuchelen et al. (2011b). Ten different tasks were chosen from the PIPS assessment and presented in a standardized way (see Appendix D). The experimenter gained the participant’s attention
by calling his or her name. Only the verbal instruction “(Name), you do this too” was given (Vanvuchelen et al., 2011b). The experimenter then recorded the participant’s response using a three-point scale. A 0 indicated no correct movements were made, 1 indicated a partially correct movement was made, and a score of 2 indicated the movement was imitated perfectly.

**Baseline.** During baseline, we used a multiple opportunity method (Cooper, Heron, & Heward, 2007) to determine which steps of each task the participants were performing. A timer was started right before the initial $S^D$ was given to measure the duration of the session. The participants were brought to the task, and they were asked to complete a given task (e.g., “Brush your teeth”). The instruction of what to do was specific to each task. If the participant initiated the first step correctly within 3 s, he or she was allowed to continue. If the participant did not begin within 3 s, performed a step incorrectly, or initiated a step that could not functionally be performed in that order (i.e. brushing their teeth before putting toothpaste on the brush), the experimenter blocked the response and blocked the participants’ eyes. The experimenter completed that step of the task, unblocked the participant’s eyes, and then asked the participant to “keep going”. After completion of the task, each participant was given non-contingent access to a pre-determined reinforcer based on the preference assessment and parent interviews.

**Video prompting with error correction.** During intervention, video prompting with error correction was implemented. The participant was brought to the setting and positioned in front of the materials for the task. A timer was started to measure duration of the session. The iPad was held in front of the participant’s eyes at a comfortable level
by the experimenter. The experimenter then said, “Watch this,” and showed the video of the first step of the task. When the clip ended, the experimenter said, “Now you do it”. If the student engaged in play behavior, the experimenter intervened with the appropriate prompt in order for the student to complete the step. If the participant responded correctly, the experimenter moved on to the video clip of the next step. If the participant did not start the step within 3 s, or began the step incorrectly, the experimenter blocked the incorrect response and said, “Not quite right, watch it again,” and played the video a second time. If a correct response did not follow the second viewing, the experimenter modeled the step, saying, “Here, watch me” and repeated the vocal prompt from the video while completing the step. If the participant did not emit a correct response following the model, two more consecutive sessions of a model were implemented on a step-by-step basis. If a correct response did not occur after three sessions of modeling, a most-to-least prompting hierarchy was implemented. A full physical prompt was used first. As the experimenter guided the participant hand over hand, she also repeated the same verbal instructions given on the video. After three sessions with a full physical prompt, the prompt was reduced to a partial physical prompt at the elbow. The experimenter again repeated the verbal instruction from the video prompt while guiding the participant at the elbow to complete the task correctly. After three sessions of a partial physical prompt at the elbow, the prompt was reduced to a gesture. When providing a gesture prompt, the experimenter pointed to the item used to start the step and repeated the verbal instructions from the video prompt.
Once the prompt had been faded, if the participant made an error, a full physical prompt was implemented immediately to ensure success and correct performance. For the next session, the prompt level was moved up one level. For example, if the participant was on a gesture prompt, initiated an incorrect response, the response was blocked and a full physical prompt was used to ensure the correct completion of the step. During the next session, the hierarchy started at a partial elbow prompt and continued the same procedures to fade the prompt. Prompts were implemented on a step-by-step basis. It was possible to have different steps on different levels of the prompting hierarchy. After the task was completed, the timer was stopped and duration was recorded. The participant was thanked and given access to their reinforcer.

**Additional procedures.** Prior to the start of session 23 for setting the table with Julia, a teaching session was implemented. The teaching session was a brief 3–5 minute lesson on correct fork placement using prompting, praise, and corrective feedback. Julia is left handed, so discussion of using her left hand that she uses for writing was discussed to help her make a connection to the left side where the fork goes.

**In vivo instruction.** In vivo sessions were only used with Max. The procedures followed were similar to the most-to-least with 2 s delay as described in Libby, Weiss, Bancroft, & Ahearn (2008). Verbal instructions paired with a gesture prompt were given for each step. A 2 s delay was then given. If the participant started to perform an incorrect response, or did not respond at all, the experimenter blocked the response and immediately gave a full physical prompt for the student to perform the step correctly. The prompting hierarchy was most to least, starting with a full physical then moving to a
partial elbow. Two consecutive correct responses at the given prompt level were needed before reducing the prompting level. If a step was at a partial elbow prompt, and the participant responded incorrectly, a full physical prompt was implemented immediately. The prompt was then moved up to a full physical prompt for the following session on a step-by-step basis.

**Return to baseline**

One session, returning to baseline procedures was implemented for Julia after she reached mastery criteria. This was done to determine if she would maintain the skill in the generalization setting without video prompting.

**Generalization**

After a return to baseline session with Julia, both tasks were put into the generalization phase. A new setting was used for generalization because Julia’s family moved to a new house. Washing dishes occurred in a different kitchen, with the same dishes. Instead of using the drying rack used during intervention, the top rack of the dishwasher was used to place the dishes after rinsing. For setting the table, the same table was used, but it was now extended and in an open area where you could walk all the way around the table. A bench was added on the fourth side of the table. During intervention, one side of the table was against a wall.
CHAPTER 3

RESULTS

Imitation Assessments

On the initial assessment, Julia scored a total of 16 out of 20 points for 80% correct. The post assessment she scored 17 out of 20 points for 85% correct. She scored at least one point on each question. This indicates that Julia had a high level of imitation skills prior to the intervention, with a slight increase after the intervention.

On the initial assessment, Max scored a total of 6 out of 20 points for 30% correct. The post assessment he scored 8 out of 20 for 40%. He scored 0 points for 4 or 5 out of the 10 total questions for the pre and post test respectively. This indicates that Max had a low level of imitation skills prior to the intervention and that his imitation skills increased slightly after the intervention.

Intervention

Julia. Results for Julia are shown in Figure 1. During baseline for setting the table, Julia did not perform any steps correctly. When the intervention was implemented, three sessions of modeling and two sessions of full physical prompting were used before Julia correctly performed any steps. In session eight, Julia demonstrated a significant increase, performing 77% of the steps correctly. Julia continued her progress, ranging
Figure 1 Percentage of task analysis steps performed correctly.
between 62% and 92%, developing a slowly decreasing trend. After analyzing the data, it was evident that Julia was consistently missing the steps for placing the fork on the left side of the plate. Prior to the start of session 23, a teaching session was implemented. After the first teaching session, the data increased from 62% to 77% correct. During the next day of a teaching session, Julia reached 100% correct. There was a slight decrease to 85% for four sessions. Julia then reached mastery criteria at 100% for three consecutive sessions. Prior to starting the generalization phase, a return to baseline session was implemented. Julia performed 77% of the steps independently correct without video prompting. During generalization, she increased to 92% correct for two of the three sessions.

During baseline for washing the dishes, data ranged from 5% to 20% correct. Julia performed 20% of the steps correctly for the first session, then showed a decrease to 5%. When probe sessions were implemented, baseline steadied out at 20% for three consecutive sessions. When the intervention was implemented, there was an immediate and significant increase to 72% correct. An increasing trend continued to 96%, followed by a decreasing trend for two sessions. In four of the last five sessions, Julia reached 100%. The last three sessions were consecutive, reaching the set mastery criteria.

Prior to starting the generalization phase, a return to baseline session was implemented. Julia performed 64% of the steps independently correct without video prompting. During generalization, she increased to 92%, then a slight decrease to 88%, finishing the last session at 100%.
Max. Results for Max are shown in Figure 2. During baseline for washing hands, the data ranged from 0% to 13% correct. When the intervention was implemented, data increased during session 9 to 25%. Data continued to be variable with a generally flat trend (range: 0%–38% steps correct). After session 25, the intervention was switched to live teaching. At the second session of live teaching, there was a significant increase to 63% correct. This increase was followed by a downward trend for the next two sessions at 25% and 13% correct. An increasing trend up to 63% was achieved after three more sessions. The final session was at 50% correct, starting a downward trend.

During baseline for brushing teeth, there was a range from 5% to 29% correct. After an initial decreasing trend, data were steady around 24% prior to intervention. When the intervention was implemented, a slight increase in the data to 41% correct was seen. Responding continued to be variable, decreasing to 18% and then increasing to 35%. After session 28, the intervention was switched to live teaching. There was an increase to 41% correct for three sessions then a continued increase to 53% in session 32. The data decreased to 41%, with the final session increasing to 47% correct.

During baseline for putting on his coat, Max performed 17% correct one time, with all other sessions being 0% correct. Due to video prompting not being successful for the previous two tasks, this task was put straight into in vivo teaching. Data remained at 0% correct after two session of in vivo teaching.
Figure 2 Percentage of task analysis steps performed correctly.
Social Validity

We interviewed parents prior to beginning intervention. During the interviews, parents gave input on skills that they would like their children to learn. Parents approved all skills prior to collecting baseline data. The RAISD (Fisher et al., 1996) was used to guide conversation in order to determine reinforcers individual to each participant. During the study, we regularly communicated with the parents about their child’s progress. We also interviewed each participant’s teacher for suggestions on tasks that could be bridged from home to school. The teacher gave insight on how the students performed in the classroom setting. The teacher was consulted throughout the intervention and provided updates.

At the conclusion of the intervention, the parents completed a survey. The results of the surveys indicate that both parents were very pleased with the overall intervention. Julia’s mom gave ratings of a 5 for every answer. She also stated, “it has been great to see Julia increase her independence and learn about all the skills she already possessed”. She said “Julia is now more willing, interested and eager to help around the house”. Julia’s mom also felt that it increased her self-confidence because Julia is very proud of herself after helping with chores, as are both of her parents. Max’s dad gave ratings of 4’s and 5’s. He chose a 4 when the question discussed the overall effectiveness of the intervention and aiding in increasing his child’s independence. Max’s dad was very interested in creating the actual videos and how he could improve them to be individualized specifically for Max. He was interested in continuing similar interventions.
to see if Max could learn to differentiate between the iPad for leisure and the iPad for prompts to work. A positive relationship with both participants was built as well. When I arrived at their homes, both Max and Julia were excited to do their tasks, greeting me and ready to participate.
CHAPTER 4

DISCUSSION

In this study, we worked with two preschoolers with intellectual and developmental disabilities to teach them daily living skills through video prompting. Video prompting with error correction was successful in teaching one participant daily living skills. The second participant did not acquire the skills with video prompting and error correction alone. Live teaching was implemented and slight increases were made, but data continued to show high variability to the completion of the intervention.

This study extends the current literature by adding more evidence that video prompting can be an effective intervention to teach daily living skills across a range of age and ability levels. More specifically, it adds to the literature by evaluating if video prompting may be effective with a younger age range of individuals (i.e., preschool children). More research needs to be done in order to determine the appropriateness of this application.

This study also sought to examine how imitation skills impact skill acquisition using video prompting. There is little evidence evaluating prerequisite skills that would indicate an individual is or is not a good candidate for video prompting. Given that video prompting provides the student with a visual model of each step paired with a verbal prompt, an individual’s imitation skills could potentially affect the efficacy of video
prompting. Results of the imitation assessment we conducted indicate that it is possible
that the level of imitation skills may have an effect on a child’s ability to learn through
video prompting. Julia had a high level of imitation skills prior to the intervention and
acquired the daily living skills through video prompting with error correction. Max had
very low imitation skills prior to the intervention, and video prompting with error
correction alone was unsuccessful for him. It is possible that the age of the participants
played a roll in their imitation skills. The participants were approximately one year apart,
Julia being older. “Typically developing children have an imitative repertoire within the
first year of life” (Brown, Brown, & Poulson, 2008, p. 200). The imitation skills allow
the children to learn new skills as they grow without being directly taught (Brown et al.,
2008). Julia is likely further along developmentally, which could positively affect both
her imitation skills and her ability to acquire skills through video prompting.

During the last two weeks of intervention, Julia began inviting mom and her baby
sister in to the kitchen to watch her. She then explained the process to them. Julia said,
“Look mom, first I watch and then I do what they do.” This is a clear indication that Julia
understood that she was expected to imitate the model; whereas Max would view
passively as if he was watching something meant for entertainment.

Along with imitation skills being more developed in older children, there are
other skills that come naturally with development and could have an effect on the child
acquiring the skills through video prompting. Receptive communication and attending for
example. Receptive communication is important when the child is watching the video,
but also when the experimenter is explaining the intervention and interacting with the
child (Johnston, Reichle, Feeley, & Jones, 2012). Likewise, in order to be successful with video prompting, the child must attend to the videos. Although the length of each individual clip may vary, being able to watch and focus on the clip is an important skill that likely improves with age and development.

**Julia.** Julia did not show an immediate increase when the intervention began with the first task of setting the table. This could be due to video prompting being new to her, and she was learning what exactly she was supposed to do. After three sessions of modeling and two full physical prompts, Julia made a significant increase. Julia made an immediate and significant increase during the first session of intervention for the second task of washing the dishes. It is possible that Julia’s familiarity with the video prompting procedure resulted in faster acquisition.

Julia’s data showed high variability throughout the study. There are several potential sources of that variability. Julia often displayed reactivity to the second observer. She would stare, wave, and try to get his attention. Julia’s mother reported she was particularly sensitive to setting events such as time of day, amount of sleep, and medical issues, that all could have played a role during the intervention. According to reports from Julia’s mom, during session 26, Julia was experiencing some medical issues, which potentially had an effect that caused her to be more agitated and defiant than usual.

A slight decreasing trend became evident. After analyzing the data, a teaching session was implemented in order to practice putting the fork on the left side of the plate with the tines facing up. After reaching 100% during session 25, the second observer was
present, which could be a possible explanation for the decrease in performance to 85% correct.

Another potential source of variability was that Julia enjoyed playing in the water when it was time to wash the dishes. Faulty stimulus control, overgeneralization, and automatic reinforcement could be factors (Cooper et al., 2007). For example, when rinsing the soap out of the cup, the video demonstrates that she is to fill up the cup and dump it out. The instructions say, “Rinse out the inside and outside of the cup”. The video shows the child filling and dumping the cup more than once. It is possible that it was unclear to Julia the specific number of times that this should be done. There were sessions where Julia would continue to fill the cup and dump it repeatedly, and sessions that she would try to dump the water out in the drying rack to play. It is appropriate that a child her age would enjoy playing in the water more than washing dishes. In fact, water play is a common activity offered in students’ free choice time in many preschools.

This procedure could also potentially lead to prompt dependence without a systematic fading or time delay procedure in place. On multiple occasions, Julia would independently begin a step and then stop herself, look at the experimenter or point to the iPad, and wait for the experimenter to respond. When the video was played, she would then complete the step. Systematically fading the video prompts and chunking segments together could avoid this. By chunking video segments together, Julia would view a longer clip and then complete multiple steps together. Eventually the task could be chunked to just one video, then the video itself could be faded out as well.
Only two tasks were chosen for Julia. This was due to the fact that a total of 11 different tasks were discussed with the parents and tried out during baseline. Julia performed at least 50% of the steps independently with no instruction or prompting with nine of the tasks during baseline.

**Max.** Max did not acquire activities of daily living through video prompting. In vivo teaching was implemented and slight increases were made. Data still showed high rates of variability. Max concluded the intervention with 50% correct for washing hands, 47% correct for brushing teeth and 0% for putting on his coat during the last sessions.

This study sought to investigate whether video prompting was an effective intervention with preschool-age students with disabilities. Max may be an example of how developmental age can affect the appropriateness of the intervention. The younger the child is, the shorter the attention span tends to be (Berk, 1997). Attending to the videos was difficult for Max. There were times that he would appear to watch the video, but it is possible that he was not differentiating between watching videos for prompts and watching videos for recreation. Therefore, Max was not connecting that what he was watching, he needed to perform. Max is very familiar with the iPad and enjoys playing games and music on his personal iPad for leisure time.

Max also engaged in a lot of play activity (e.g., making faces and screaming in the mirror, attempting to touch the iPad, and splashing in the water). The level of play could be a reflection of his young age and developmental stage. Max’s short attention span could also be reflective of his developmental stage. Max’s initial results of the imitation assessment were significantly lower than Julia’s. This could be an indication not only that
imitation may be an appropriate prerequisite skill, but that determining a set of prerequisite skills is an important task in itself.

**Limitations**

One limitation in this study is that it took several trials to find tasks appropriate for Julia that she could not already perform. Due to working through nine different tasks, a considerable amount of time was taken at the beginning of the study. This did not allow time at the end of the study for a maintenance phase. A second limitation is that there was weaker experimental control. In order to show strong experimental control for Julia, a third task was needed. A third limitation is that no PI and a lower percentage of overall IOA was collected for Max during the putting on his coat task. This was due to time and scheduling conflicts towards the end of the study. The length of time Max needed during intervention along with implementing in vivo teaching also contributed to this limitation.

**Implications for Practice**

The video prompting procedures could be a valuable intervention both in classrooms and the home environment. In a classroom with multiple teachers and paraprofessionals, the use of the videos would ensure a standardized procedure that all children are being taught the skills consistently from trial to trial. It is also a consistent way to track the prompting levels being used. By tracking the level of prompting, and systematically fading the prompts, it will likely decrease the child’s tendency to develop learned helplessness (Johnston et al., 2012).

One challenge we encountered with this study was determining daily living skills appropriate for children to learn and the level of independence a typically developing
child would perform the task with at that age. With children of preschool age, it is very likely that they will be engaging in activities of daily living with the help of an adult. In order to make the skills and independence level match that of typically developing children, it would be socially acceptable to work with a parent. It may be difficult for practitioners to create video prompting task analyses for a cooperative activity for a child to participate in with their parent. Additionally, if a practitioner did want to train parents to use this in their homes, they should emphasize that independence is a key element. We consistently observed in the home that parents tended to preempt their child’s independence by completing many of the steps for them.

Practitioners should be aware that individual steps may be more challenging for students than others. For example, a slight decreasing trend became evident during Julia’s task of setting the table. After analyzing the data, a teaching session was implemented in order to practice putting the fork on the left side of the plate with the tines facing up. This pattern was only evident with one participant. If a student plateaus short of 100% of steps correct or develops a downward trend, practitioners should consider analyzing the errors for a common pattern and adding a teaching session if a specific step is presenting a challenge. In that analysis, practitioners should be aware that although the task analysis was written in a specific way, it was often possible for the student to perform the steps out of order, as long as they were functionally correct. For example, it would be ok to wash the bowl before the plate, but not ok to wash the plate before putting soap on the sponge.
Along with targeted teaching sessions, specific errors may be caused by how the instructions are presented. We also discovered that some of our steps and videos were more ambiguous than originally thought. It is important to make the steps as concrete as possible. Rinsing the bowl on the inside and outside was not defined as to how many times does that participant need to fill up the bowl and dump it out. Because children this age have a tendency to play in water, it is important to look ahead and find places they may play during the task. Adding in explicit instructions to help avoid playing would be beneficial.

Likewise, practitioners should consider how students are typically interacting with the environment before introducing video prompting. Identifying and modifying items or areas that students typically associate with independent play may avoid distraction. For example, if tasks are presented in a bathroom, or area with a mirror, consider covering it up. As the study went on, Max’s interest in making faces in the mirror increased and distracted him from the task. If the mirror was covered from the beginning this could potentially have been avoided. Covering the mirror would then be systematically faded out, by making the covering smaller and smaller.

Finally, we tried a total of 11 different tasks for Julia: brushing teeth, getting dressed, putting in a dresser, folding clothes, folding towels, making a bed, brushing her hair, drying dishes, making a snack, washing the dishes, and setting the table. If a list of independent skills would have been determined, time would have been saved during the baseline process. Trying 11 different tasks for a 4.5-year-old child also shines light on the issue of skills that are developmentally appropriate to teach a child that age. It was
important to choose skills that were not beyond the developmental level of a typical child her age. It is unreasonable to teach a child a task that a typically developing young child would not be independently completing. Discovering that Julia could perform nine tasks with an independent level of 50% or greater was surprising, yet positive information for the parents to hear. Using video prompting at home could also be a systematic way to help the parents fade their tendency to over-prompt their child or complete a task for them.

Implications for Future Research

There are many future directions for research that can be taken from this study. Future studies should explore imitation skills as a prerequisite for video prompting interventions. It is likely that the level of imitation skills could be a good indicator as to if a video prompting intervention will be successful. Given that research has deficits in literature, analysis of several possible prerequisites (e.g., joint attention, receptive vocabulary) would be topics for further research.

Future research should also include more preschoolers with intellectual and developmental disabilities learning activities of daily living. It is possible that this intervention is more appropriate for older preschool students (e.g., 4 or 5 year olds such as Julia). Determining a better measure for age equivalence would also be beneficial. With young children, it is difficult to determine their developmental level. Although a child may be chronologically 3 years old, developmentally he or she may be much younger.
In replicating this study for the future, it is important to take into account the level of play that children this age engage in. I would suggest planning ahead and setting up specific criteria to try to deter playing until the end of the task. If the task involves water, it could be beneficial to let the children have a short time to play in the water before and after the task. This way they may be less likely to play during.

**Conclusion**

In conclusion, this study indicates that video prompting for preschool age students with intellectual and developmental disabilities shows potential, but more replication including demonstrations of experimental control is needed. Overall, this study was valuable to both the participants and their families. It shed light for Julia’s parents on the independence that she already possessed with a variety of skills. The families were very cooperative and engaged in communicating session times and asking questions throughout the entire process. Using video prompting with this age group has the potential to increase independence and teach children new skills as they grow and develop. If the skills are not directly acquired with video prompting at this age, it is possible that continued work and exposure to using an iPad for prompting, could lead to acquiring skills through video prompting as he or she develops.
APPENDIX A

TASK ANALYSES
<table>
<thead>
<tr>
<th><strong>(Brush your teeth)</strong></th>
<th><strong>(Wash your hands)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Choose a toothbrush</td>
<td>1. Turn on water</td>
</tr>
<tr>
<td>2. Turn on water</td>
<td>2. Get hands wet</td>
</tr>
<tr>
<td>3. Put toothbrush under the water</td>
<td>3. Put soap on hands</td>
</tr>
<tr>
<td>4. Turn off water</td>
<td>4. Rub hands together</td>
</tr>
<tr>
<td>5. Put toothbrush on the counter</td>
<td>5. Rinse your hands off under the water</td>
</tr>
<tr>
<td>6. Pick up the toothpaste</td>
<td>6. Turn off the water</td>
</tr>
<tr>
<td>7. Open the toothpaste</td>
<td>7. Pick up towel and dry your hands on the towel</td>
</tr>
<tr>
<td>8. Squeeze enough toothpaste on the toothbrush to cover brush</td>
<td>8. Put towel back on counter</td>
</tr>
<tr>
<td>9. Close toothpaste</td>
<td></td>
</tr>
<tr>
<td>10. Put toothpaste away</td>
<td></td>
</tr>
<tr>
<td>11. Pick up toothbrush</td>
<td></td>
</tr>
<tr>
<td>12. Brush top teeth for the entire time I sing</td>
<td></td>
</tr>
<tr>
<td>13. Brush bottom teeth for the entire time I sing</td>
<td></td>
</tr>
<tr>
<td>14. Turn on water</td>
<td></td>
</tr>
<tr>
<td>15. Put brush under water to wash off toothpaste</td>
<td></td>
</tr>
<tr>
<td>16. Turn off water</td>
<td></td>
</tr>
<tr>
<td>17. Put toothbrush away</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>(Set the table)</strong></th>
<th><strong>(Wash the dishes)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Put Mom’s plate on the table in front of a chair</td>
<td>1. Turn on the water</td>
</tr>
<tr>
<td>2. Put Dad’s plate on the table in front of a chair</td>
<td>2. Pick up the sponge and get it wet</td>
</tr>
<tr>
<td>3. Put your plate on the table in front of a chair</td>
<td>3. Turn off the water</td>
</tr>
<tr>
<td>4. Put a cup at the top of Mom’s plate</td>
<td>4. Get the bottle of soap</td>
</tr>
<tr>
<td>5. Put a cup at the top of Dad’s plate</td>
<td>5. Open the soap</td>
</tr>
<tr>
<td>6. Put a cup at the top of your plate</td>
<td>6. Put a small dot of soap on the sponge</td>
</tr>
<tr>
<td>7. Put a fork on the left side of Mom’s plate</td>
<td>7. Close the soap</td>
</tr>
<tr>
<td>8. Put a fork on the left side of Dad’s plate</td>
<td>8. Put the soap away</td>
</tr>
<tr>
<td>9. Put your fork on the left side of your plate</td>
<td>9. Pick up the plate, wash the front and the back of the plate</td>
</tr>
<tr>
<td>10. Put a spoon on the right side of Mom’s plate</td>
<td>10. Put the plate back in the sink</td>
</tr>
<tr>
<td>11. Put a spoon on the right side of Dad’s plate</td>
<td>11. Pick up the cup, wash the inside and outside of the cup</td>
</tr>
<tr>
<td>12. Put your spoon on the right side of your plate</td>
<td>12. Put the cup back in the sink</td>
</tr>
<tr>
<td>13. Push in the chair</td>
<td>13. Pick up the bowl, wash the inside and outside of the bowl</td>
</tr>
<tr>
<td></td>
<td>14. Put the bowl back in the sink</td>
</tr>
<tr>
<td></td>
<td>15. Squeeze out the sponge</td>
</tr>
<tr>
<td></td>
<td>16. Place the sponge back on the sink</td>
</tr>
<tr>
<td></td>
<td>17. Turn on the water</td>
</tr>
<tr>
<td></td>
<td>18. Pick up the plate, rinse the front and back of the plate</td>
</tr>
<tr>
<td></td>
<td>19. Place the plate on the drying rack</td>
</tr>
<tr>
<td></td>
<td>20. Pick up the cup, rinse the inside and outside of the cup</td>
</tr>
<tr>
<td></td>
<td>21. Place the cup on the drying rack</td>
</tr>
<tr>
<td></td>
<td>22. Pick up the bowl, rinse the inside and outside of the bowl</td>
</tr>
<tr>
<td></td>
<td>23. Place the bowl on the drying rack</td>
</tr>
<tr>
<td></td>
<td>24. Turn off the water</td>
</tr>
<tr>
<td></td>
<td>25. Dry your hands on the towel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>(Put on your coat)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stand in front of your coat</td>
<td></td>
</tr>
<tr>
<td>2. Turn around</td>
<td></td>
</tr>
<tr>
<td>3. Reach behind and put one arm in your coat</td>
<td></td>
</tr>
<tr>
<td>4. Pull goat up on your shoulder with your other hand</td>
<td></td>
</tr>
<tr>
<td>5. Reach your other arm behind and put in the arm hole</td>
<td></td>
</tr>
<tr>
<td>6. Pull coat up on shoulders</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

SOCIAL VALIDITY SURVEY
Parent Questionnaire on Social Validity of Video Prompting

Please indicate the extent to which you agree or disagree with the following statements regarding the process and intervention of using video prompting. Circle the number that most closely reflects your personal opinion. Your input is highly valued. Thank you.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Overall, I believe that video prompting was an effective intervention in helping my child to learn daily living skills.

   1   2   3   4   5

2. I feel that my opinion in determining appropriate tasks was valued.

   1   2   3   4   5

3. I was well informed of the process throughout the intervention.

   1   2   3   4   5

4. I feel that the intervention aided in increasing my child’s independence.

   1   2   3   4   5

5. I am satisfied overall with the intervention process.

   1   2   3   4   5

6. I am interested in learning more information on how video prompting could have a positive impact on my child.

   1   2   3   4   5
APENDIX C

REINFORCEMENT ASSESSMENT FOR INDIVIDUALS WITH SEVERE DISABILITIES

(RAISD)
Reinforcement Assessment for Individuals with Severe Disabilities (RAISD)

Student’s Name: [Blank]

Date: [Blank]

Recorder: [Blank]

The purpose of this structured interview is to get as much specific information as possible from the informants (e.g., teacher, parent, caregiver) as to what they believe would be useful reinforcers for the student. Therefore, this survey asks about categories of stimuli (e.g., visual, auditory, etc.). After the informant has generated a list of preferred stimuli, ask additional probe questions to get more specific information on the student’s preferences and the stimulus conditions under which the object or activity is most preferred (e.g., What specific TV shows are his favorite? What does she do when she plays with a mirror? Does she prefer to do this alone or with another person?)

We would like to get some information on _______’s preferences for different items and activities.

1. Some children really enjoy looking at things such as a mirror, bright lights, shiny objects, spinning objects, TV, etc. What are the things you think _______ most likes to watch?

Response(s) to probe questions:

2. Some children really enjoy different sounds such as listening to music, car sounds, whistles, beeps, sirens, clapping, people singing, etc. What are the things you think _________ most likes to listen to?

Response(s) to probe questions:

3. Some children really enjoy different smells such as perfume, flowers, coffee, pine trees, etc.
3. What are the things you think _______ most likes to smell?

Response(s) to probe questions:

4. Some children really enjoy certain food or snacks such as ice cream, pizza, juice, graham crackers, McDonald’s hamburgers, etc. What are the things you think _________ most likes to eat?

Response(s) to probe questions:

5. Some children really enjoy physical play or movement such as being tickled, wrestling, running, dancing, swinging, being pulled on a scooter board, etc. What activities like this do you think _________ most enjoys?

Response(s) to probe questions:

6. Some children really enjoy touching things of different temperatures, cold things like snow or an ice pack, or warm things like a hand warmer or a cup containing hot tea or coffee. What activities like this do you think _________ most enjoys?

Response(s) to probe questions:

7. Some children really enjoy feeling different sensations such as splashing water in a sink, a vibrator against the skin, or the feel of air blown on the face from a fan. What activities like this do you think _________ most enjoys?

Response(s) to probe questions:

8. Some children really enjoy it when others give them attention such as a hug, a pat on the back, clapping, saying “Good job”, etc. What forms of attention do you think _________ most enjoys?

Response(s) to probe questions:
9. Some children really enjoy certain toys or objects such as puzzles, toy cars, balloons, comic books, flashlight, bubbles, etc. What are _________’s favorite toys or objects?

Response(s) to probe questions:

10. What are some other items or activities that _________ really enjoys?

Response(s) to probe questions:

After completion of the survey, select all the stimuli, which could be presented or withdrawn contingent on target behaviors during a session or classroom activity (e.g., a toy could be presented or withdrawn, a walk in the park could not). Write down all of the specific information about each selected stimulus on a 3” x 5” index card (e.g., likes a female adult to read him the ‘Three Little Pigs’ story.) Then have the informant(s) select the 16 stimuli and rank order them using the cards. Finally, list the ranked stimuli below.

1. ____________________________ 9. ____________________________
2. ____________________________ 10. ____________________________
3. ____________________________ 11. ____________________________
4. ____________________________ 12. ____________________________
5. ____________________________ 13. ____________________________
6. ____________________________ 14. ____________________________
7. ____________________________ 15. ____________________________
8. ____________________________ 16. ____________________________

Notes:
APPENDIX D

IMITATION ASSESSMENT
<table>
<thead>
<tr>
<th>Question Number</th>
<th>Type</th>
<th>Task description</th>
<th>Score description</th>
<th>Actual Score</th>
</tr>
</thead>
</table>
| 1               | P    | "___, You do this too"  
Put a wooden block on top of your head | 2: the child puts the block on top of his/her head  
1: the child puts the block on another part of the head instead of the top, e.g., the nose  
0: the child manipulates the block without touching the head with the block | 2 perfect  
1 partial  
0 No |
| 2               | P    | "___, You do this too"  
Knock down a tower of wooden blocks with your elbow | 2: the child knocks down the tower of blocks using the arm  
1: the child knocks down the tower of blocks using the hand(s)  
0: the child manipulates the blocks without knocking down the tower | 2 perfect  
1 partial  
0 No |
| 3               | P    | "___, You do this too"  
Open the box, take a block out of it, put it on the table, close the box | 2: the child opens the box, takes the block out of it, puts it on the table, closes the box  
1: the child executes the sequence incompletely  
0: the child manipulates the objects without any resemblance to the target sequence | 2 perfect  
1 partial  
0 No |
| 4               | G    | "___, You do this too"  
Performs the gesture to “wave goodbye” | 2: the child performs a gesture to wave goodbye  
1: the child makes some other movement or motion that is incomplete  
0: the child does not make a movement that resembles a wave in any way | 2 perfect  
1 partial  
0 No |
| 5               | G    | "___, You do this too"  
Performs the gesture to “beckon with the index finger” | 2: the child performs the gesture to beckon with index finger  
1: the child makes a movement other a beckon with index finger  
0: the child does not make a movement that resembles a beckon in any way | 2 perfect  
1 partial  
0 No |
| 6               | G    | "___, You do this too"  
Place one fist on top of the other | 2: the child places one fist on top of the other  
1: the child only makes a fist, or two fists but does not put them on top of each other, or performs a similar but incomplete movement  
0: the child does not make a movement that resembles the task in any way | 2 perfect  
1 partial  
0 No |
| 7               | P    | "___, You do this too"  
Turn a cup upside-down and play drums on it with two spoons | 2: the child turns the cup and plays drums on it with two spoons  
1: the child plays drums on the cup without turning it upside-down or turns the cup upside-down without playing the drums  
0: the child manipulates the cup and spoons in a conventional way (e.g. stirring) | 2 perfect  
1 partial  
0 No |
| 8               | P    | "___, You do this too"  
Remove the cap of a doll and put a shoe on the head of the doll | 2: the child removes the cap of the doll and puts a shoe on the head of the doll  
1: the child removes the cap of the doll without putting the shoe on the doll’s head or puts the shoe on the doll’s head without removing the cap  
0: the child manipulates the doll and shoe in a conventional way (e.g. putting the shoe on the feet of the doll) | 2 perfect  
1 partial  
0 No |
| 9               | F    | "___, You do this too"  
Shake the head, eyes closed to say “no”, with an expression of disapproval | 2: the child shakes head, closes eyes with an expression of disapproval  
1: the child performs only a part or similar movement that is relevant to the task  
0: the child does not make a movement that resembles the task in any way | 2 perfect  
1 partial  
0 No |
| 10              | F    | "___, You do this too"  
Nod quickly with your head and show an expression of happiness | 2: the child nods quickly and shows and expression of happiness  
1: the child performs only a part or similar movement  
0: the child does not make a movement that resembles the task in any way | 2 perfect  
1 partial  
0 No |

**TOTAL SCORE:**
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