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Teaching Conversation Skills to Adults with Developmental Disabilities
Using a Video-Based Intervention Package

Kaitlyn Rayne Osborne

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

Teaching Conversation Skills to Adults with Developmental Disabilities Using a Video-Based Intervention Package

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Master of Science

Social skills deficits may hinder learning, terminate relationships, and impede employment. Individuals with autism and intellectual disability are often characterized with difficulties in social judgement, emotions, and interpersonal relationships, all of which can lead to disruptive and aggressive behaviors. Explicit instruction, video modeling, and video feedback are research-based practices that have been used to teach conversation skills to individuals, particularly children with developmental disabilities and social impairments. This study examined the effects of explicit instruction combined with video modeling and video feedback in teaching six adults ages 18-20 with autism and intellectual disability skills for initiating a conversation. A multiple baseline across dyads design was used to teach these skills in a post-high school transition program. The dependent variable was the number of correct conversation initiation responses. The independent variable was an intervention package that included explicit verbal instruction with interspersed video modeling clips, followed by video feedback. All six participants acquired the skills and were able to initiate a conversation, and five participants maintained these skills over time, demonstrating them without the intervention. Implications for practitioners are described as well as suggestions for future research.

Keywords: social skills, adults, disabilities, autism, video modeling, video feedback, direct instruction

ACKNOWLEDGEMENTS

This project would not be completed without the help and brilliance from Ryan Kellems. Thanks for letting me change my thesis last minute and for coming up with the idea to finish this project as my own. Considerable thanks should be given to all the undergraduate students that acted as research assistants to help create videos, collect data, and everything else. Brynn, Kalee, Mai, Mikaela, and Maggie, your names should be here, too.

Thanks also to Dawn Rowe for sharing her lesson plan scripts with our team. Thank you also Christian Sabey for using your magic to create a beautiful graph and for calculating Tau-U's. You saved me a lot of time. Thank you, teachers at ATEC, for letting me come to school every day to work with your students which are now my own students because I work there.

Thank you also Blake and Terisa for being okay with whatever I was doing. You were wonderful committee members, even though the first project didn't work out.

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DESCRIPTION OF THESIS STRUCTURE

The work '*Teaching Conversation Skills to Adults with Developmental Disabilities Using a Video-Based Intervention Package*' is written in a hybrid format. The hybrid format combines university thesis requirements with modern journal publication configuration. Figures and tables are found within the main article after the reference list. The literature review is included in Appendix A. Consent forms are listed in Appendix B, and Appendix C includes instruments used excluding videos.

Introduction

Competent social interaction requires increasingly complex skills but affects so many facets of life, especially for individuals with social impairments and disabilities. Intellectual Disability (ID) is often associated with difficulties in social judgement, emotions, and interpersonal relationships, all of which can lead to disruptive and aggressive behaviors (American Psychiatric Association [APA], 2013). Individuals with Autism Spectrum Disorder (ASD) frequently demonstrate inappropriate attempts to gain attention that are also aggressive or disruptive (APA, 2013). In a report from the National Longitudinal Transition Study-2 (Wagner et al., 2003), youth with disabilities are more likely to be reported by parents to never make friends easily, join groups of their own accord, or be confident in social situations as compared to typically developing peers. These social skills deficits may hinder learning and lead to social isolation, poor adult psychosocial functioning, and negative health consequences (APA, 2013).

Social Skills Indicators

Although individuals with ASD or ID commonly have limitations in social communication, they desire friendships (Jobe & White, 2007). Unfortunately, challenges with social skills can negatively impact the quantity and quality of those relationships, leading to increased loneliness (Jobe & White, 2007). Social reclusiveness has been linked to aggressive, confrontational, and self-destructive behavior in children and adults (Monahan & Booth-LaForce, 2016). Positive relationships with peers can be a gauge of cognitive and emotional development, supporting adaptive behaviors that are essential for individuals to live a happy and meaningful life, which involves relationships, community engagement, and employment (Carter, Sisco, Chung, & Stanton-Chapman, 2010; Monahan & Booth-LaForce, 2016).

Research has established that competence in social exchanges is a major component of academic success, school engagement, and employment (Kindermann, 2007). In a study completed by Ju, Shang, and Pacha (2012), social skills were ranked among the top five most important skill areas among employers. Youth with little to no difficulty communicating with others were found to be three to four times more likely to be employed after school than those with lower communication skills (Carter, Austin, & Trainor, 2012). Henry and Lucca (2004) also found effective social skills as a facilitator to meaningful employment.

For some individuals with disabilities, deficits in social functioning negatively impact social adjustments and relationships (Hsiao, Tseng, Huang, & Gau, 2013). The deficits in interpersonal communication skills typical of individuals with ASD or ID make initiating and maintaining a conversation particularly difficult (APA, 2013). One study found that individuals with ASD have a low likelihood of engaging in listener-oriented conversation (Lake, Humphreys, & Cardy, 2011). Similarly, individuals with ID exhibit impairments in social skills that affect their communication across communication partners (Carter et al., 2010).

Tantam (2003) has reported that these communication deficits do not subside as individuals get older but can deteriorate further during adolescence with the increased complexity of the students' social environment. If individuals with social difficulties do not receive support, communication deficits may limit functioning in daily life activities across home, school, community, and work environments. Furthermore, youth with disabilities are perceived as disadvantaged when applying for employment because they often lack soft skills necessary in the work place (Lindsay et al., 2014). Creating effective socially valid techniques to teach social skills to adults with disabilities is imperative to their success and inclusion in all aspects of daily life.

Explicit Instruction

Explicit or direct instruction was identified as an effective strategy to teach individuals with disabilities (Marchand-Martella, Kinder, & Kubina, 2005; Swanson, 1999; White, 1988). Direct instruction is teaching strategy that uses clear, unambiguous language to maximize student responding and achieve understanding (Kinder & Carnine, 1991). The direct instruction model incorporates principles of reinforcement and assessment. Learning targets are broken down into small components via task analysis, and rules are taught simply and explicitly. Another important feature of direct instruction includes a brisk pacing of questions and error correction procedures.

Direct instruction has been used to teach and improve receptive and expressive language skills to individuals with developmental delay (Waldron-Soler et al., 2002). In a study, the effects of a direct instruction program were examined on the social adjustment abilities of children. With teacher-directed instruction, where students respond to teacher instructions, questions, and cues, a statistically significant and meaningful effect on social skills, problem behaviors, and academic competence was seen among individuals with disabilities.

In another study, Banda and Hart (2010) used direct instruction to increase peer-to-peer interactions of two elementary students with ASD. The participants and a peer were trained to initiate and respond to one another. Results indicated increased socializations in both participants.

Kroeger, Schultz, and Newsom (2007) compared group-delivered social skills programs for 25 young children with ASD. Using direct instruction and naturalistic teaching participants were taught play and social skills. Researchers found that direct instruction was effective in

teaching prosocial behavior but that greater gains were made with direct teaching rather than naturalist teaching.

Direct instruction has been shown to be effective in teaching social skills to individuals with disabilities, however, few studies have examined its effect on adolescents or adults with ASD or ID. Furthermore, while children with disabilities can acquire a wide variety of social skills through direct instruction, these skills may fail to generalize or be maintained (Weiss & Harris, 2001). Video-based instruction is one area identified by research that may help facilitate learning without the prompt dependence of an instructor.

Video Modeling

Video Modeling (VM) is one evidence-based practice that is effective in teaching students with disabilities. With VM, an individual learns a new skill by watching a video of someone else demonstrating the behavior. After watching the video, the student is then prompted to imitate the task (Kellems & Edwards, 2016; Van Laarhoven, Kraus, Karpman, Nizzi, & Valentino, 2010). Previous studies have used VM to increase the use of language and communication skills to improve social initiations and interactions (Bellini & Akullian, 2007; Rayner, Denholm, & Sigafos, 2009).

While several studies have examined the effects of VM on teaching social skills to children with disabilities such as ASD (Reichow & Volkmar, 2010), little research has studied adolescents or adults as the primary population. For example, of the 66 intervention studies examined in Reichow and Volkmar's (2010) meta-analysis of social skills interventions for individuals with autism, only three considered adolescents or adults as the target population. To help correct this deficit, Rayner et al. (2009) suggested that further research be conducted to

determine which salient components of VM interventions are most effective for the adult population.

Although research focused on teaching adults has been limited, recently VM has been a component of different intervention packages for teaching specific aspects of conversation skills to adolescents with disabilities. For example, O’Handley, Radley, and Whipple (2015) found that VM was effective in increasing eye contact during conversation for six males between the ages of 16 and 19 with ID and/or ASD. Additionally, O’Handley, Ford, Radley, Helbig, and Wimberly (2016) examined the effectiveness of the Superheroes Social Skills intervention program (Jenson et al., 2011), which includes VM, in teaching four adolescent males the social skills of expressing wants and needs, initiating conversation, and taking turns. Though originally designed for children, this intervention was effective in improving these skills for adolescent participants (O’Handley et al., 2016). As limited research has examined effectiveness of VM intervention packages with adult populations (Rayner et al., 2009), further study in this area is necessary.

VM alone may not be successful in eliciting desired changes in behavior (Reichow & Volkmar, 2010). The successful Superheroes Social Skills intervention package incorporates components such as animated videos, role playing, and behavioral skills training. The inclusion of these elements has increased the difficulty of differentiating the extent to which individual components such as VM were beneficial (O’Handley et al., 2016). The success of this program for increasing social skills competencies may have been due the combination of VM with the other strategies (Shukla-Mehta, Miller, & Callahan, 2010). Thus, incorporating VM with other intervention strategies in the present intervention package may increase its overall effectiveness.

Video Feedback

Video feedback (VFB) involves filming the participant's performance and having the participant watch the video with an instructor, evaluate the behavior, and look for areas for improvement (Mainoe & Miranda, 2006). To date, limited research has examined the effectiveness of VFB in teaching social skills. As with VM, current VFB studies have used only young children as participants; thus, the need is apparent for research in adult populations (Mainoe & Miranda, 2006; Thiemann & Goldstein, 2001).

Although few studies to date have been conducted using VFB, the method has shown promise. Mainoe and Miranda (2006) used VM with VFB to teach appropriate social language during play activities with peers to a five-year-old boy with ASD. VFB plus prompting was incorporated when the child was fixated with the toy cars presented in one of the three play activities. While the child did increase his social language after the addition of VFB, it was impossible to tell whether it was the VFB or prompting alone that had been most effective (Mainoe & Miranda, 2006). Therefore, while video results involving feedback interventions are encouraging, further study is needed to examine specific effectiveness.

Purpose of the Study

The purpose of the present study was to explore and develop evidence-based interventions to teach conversation skills to adults with disabilities in order to improve their social effectiveness. This study incorporated VM and VFB strategies to determine whether using these strategies together would help adults with disabilities to initiate conversations successfully.

Two research questions guided the study:

1. What are the effects of combining explicit instruction with video modeling and video feedback in teaching adults with disabilities to initiate a conversation?

2. How socially valid is an intervention package consisting of explicit instruction, video modeling, and video feedback for teaching adults with developmental disabilities to initiate a conversation?

Method

Participants

The six individuals participating in the study were all on an active IEP while attending a transition program for students ages 18-21 in a western, suburban school district. Ranging in age from 18 to 20, all had been diagnosed with either ID or ASD. Participants were referred by their teachers based on whether they met study criteria and would potentially benefit from the skills taught. Criteria for participants included (a) being on an active IEP, (b) having adequate expressive and receptive verbal ability without the use of a communication device, (c) speaking and understanding the English language, and (d) being able to attend visually and cognitively to the videos. Participant information is found in Table 1, including the standard scores for communication and social skills sections of assessments previously given.

<Insert Table 1 here>

Procedures involving experiments on human subjects were conducted in accord with the ethical standards of the Institutional Review Board (IRB). Participant and parent or guardian consent were obtained prior to the beginning of the study. Participants were given pseudonyms to protect confidentiality.

Setting

The study took place at an 18-21 transition program in a large school district in western US. Depending on availability, one of four different rooms in the school was used for data collection: a conference room, the cafeteria, a small library, and a mock apartment. Settings

were always quiet and undisturbed. Participants were brought to each setting in randomized and alternating dyads to converse. Multiple seating options were available in each setting at a table either next to or across from a communicative partner. Participants were able to choose their individual seat.

At least two researchers were always present during the sessions. One researcher led instruction and sat near the participants, collecting data on only one participant's initiations. Another researcher sat at the opposite end of the table or room, collecting initiation data on the second participant. The second researcher was not involved in instruction or presentation of the intervention package. This individual's only role during the session was to collect data on the second participant.

Tasks, Materials, and Equipment

Initiating a conversation was selected for instruction because it is a fundamental component of social interaction (Kavale & Mostert, 2004). Videos were developed for each of the discrete components within the target task (e.g., being an arm's length away, vocalizing loudly enough to be heard, demonstrating nonverbal cues, and waiting for a response). Two researchers acted as the models in the videos, selected for familiarity with the task and similarity in age and appearance to the participants. Prior to beginning baseline data collection, the model was filmed performing the task exactly as the students would be taught and asked to do it. Using these videos as a reference, a task analysis was developed, outlining every step of the targeted skill. Data collection sheets were developed based on the task analysis. The same researcher again video recorded the task, using the task analysis as a script to ensure every step was accurately included in each intervention video. Table 3 identifies the steps in the task analysis.

The videos were edited with iMovie® and uploaded into the VideoTote app (The Prevention Group, 2012). The video modeling examples were delivered via a second-generation iPad Mini™, supported at an angle landscape style by an OtterBox Defender Case for iPad Mini™ during instruction.

Intervention

Participants were designated as one through six, with numbers drawn from a cup at random, and placed as different dyads during baseline, intervention, and maintenance phases. Although conversation partners were randomized and alternated throughout all phases of the study, a participant who had moved into intervention was no longer paired with one who was still in baseline. Students were paired only with partners in the same stage of the study to prevent carryover effects. The intervention consisted of three components: explicit instruction, video modeling, and video feedback.

Explicit instruction. The direct instruction lessons were initially developed using principles of instructional design (e.g., model-lead-test format) to allow sufficient scaffolding of information to help the teacher organize and activate knowledge, while sustaining high engagement (Coyne, Kame'enui, & Carnine, 2011). They were validated by outside special education experts to ensure content accuracy. Each lesson began with explicit verbal instruction by the researchers, outlining and explaining specific steps to be used in starting an appropriate conversation (see Table 2). These initial scripts were then enhanced by adding video modeling examples, guided practice, and video feedback, in accordance with accepted techniques.

Video modeling. Five video clips were interspersed throughout instruction, one to illustrate each of the discrete social skills involved in starting a conversation, including both examples and non-examples; the five totaled 31 seconds. Between video segments, researchers

verbally and physically emphasized parts of the video that participants would later be asked to perform. For example, the researcher might point while saying, “Notice how she is looking up right there. He is making eye contact!” During non-example videos, researchers emphasized inappropriate demonstrations of the target task. For example, the researcher might point and say, “Look at her body language. Notice how she is uncomfortable because her partner is too close and too loud.”

Explicit instruction, continued. Following the model-lead-test format of direct instruction, guided practice was conducted. In guided practice, participants were asked to apply with a partner what they had seen in the videos about having a conversation. Researchers prompted this practice as appropriate based on each participant’s skill levels following a least to most prompting hierarchy. Some students needed verbal and even physical prompting to complete each of the five steps in the task analysis. Others required minimal or no prompting.

Video feedback. Once students reached 100% accuracy in guided practice, they would move on to independent practice, during which they would practice the skills with their partner, as in guided practice, but without any help or prompting from researchers. During this interaction, researchers would video record the participants on an additional iPad. Following independent practice, participants were shown the recording of their interaction and given feedback on their performance. Researchers highlighted and praised correct steps completed and emphasized areas for improvement. Students with 80% or above accuracy were praised and encouraged for specific steps they had completed well. Students with a score below 80% were asked to practice again the specific aspect(s) that had given them difficulty. Following this additional practice, the session was complete, and students were asked to return to their regular class.

Data Collection

Data were collected simultaneously with or immediately following a participant's demonstration or non-demonstration of a conversation. Using a data collection sheet that laid out the task analysis for initiating a conversation, a researcher recorded data on the dependent variable: the number of steps the participant completed correctly, noting correct and incorrect independent responses. Table 3 lists steps in the task analysis. As each session required two communication partners, two researchers were present—one collecting data on each participant.

Procedures

As the randomized dyads conversed, researchers collected data on a hard copy data collection sheet to be recorded, graphed, and analyzed. After one or two data points had been collected for a dyad, a probe was given to all other dyads to confirm the baseline prior to a subsequent dyad moving to the intervention phase. The researchers collected data only for the initiations among participants; they did not record any conversation initiations made to researchers.

During baseline, researchers selected a pair of students and began with the following explanation: "We need your help. Can you come with us?" Participants were brought individually from their respective classrooms and led to one of the four areas of instruction. If the participants asked questions, researchers were to reply, "We can't answer questions right now, but we can talk about it later," or "We will be in this room. Remember, I'm not allowed to talk to you while we're in this room." If the two students did not initiate in one minute, researchers dismissed them by saying, "Thanks. We have what we need, and we will do this again another time. You can go back to class." Baseline procedures were designed without

prompting so that conversations would be spontaneous. Some participants did attempt to initiate conversation with their partners as seen in Figure 1.

Intervention procedures began with researchers starting a video recording of the session to later review for interobserver agreement. The camera was in a far corner of the room, out of the way of participants and instruction. As participants were brought to a designated instructional area, an explanation was offered: “We need your help. We’re going to have a lesson. Can you come with us?” Researchers would begin the session using the explicit instruction lesson plan for initiating a conversation, playing the designated video modeling clip as appropriate on an instructional iPad.

As part of the lesson and following direct instruction procedures, participants were guided to practice starting a conversation with each other with the support of the researchers as necessary. Once students had correctly completed the steps for initiation a conversation with at least 80% accuracy, they were prompted to start another conversation on their own. This conversation was video recorded by a researcher. Data were collected either simultaneously or immediately following the independent attempt to initiate a conversation.

Following independent practice and adhering to VFB procedures, the researcher played back the video recording for participants to view. Specific praise was given to participants who correctly demonstrated the conversation skill. Specific feedback was also offered if participants did not demonstrate all components of the conversation skill. If participants had reached criterion independently, they were released to go back to their regular classroom. If participants did not, they were prompted to have another conversation with each other.

Maintenance phase followed the same procedures as baseline. No instruction, videos, or directions were provided to participants other than the statement, “We need your help. Can you

come with us?” Participants were scored if they spontaneously initiated a conversation with their partner. If the students did not initiate within one minute, they were dismissed, and data collection was recorded as zero percentage of steps completed correctly.

Design

The researchers used a multiple baseline across dyads design to determine the effects of the intervention package on conversations initiated among students with disabilities (Cooper, Heron, & Heward, 2007). They paired participants randomly for each baseline session to ensure that partnerships were always different. After baseline data collection, they assigned participants randomly to create new dyads. Because all participants’ baseline scores were equivalent, researchers randomly selected one dyad to begin the intervention phase. Once the first group demonstrated skill acquisition, a stable baseline was collected on the second dyad, and a probe was conducted on the third. To demonstrate task mastery, each participant had to complete at least 80% of the five steps correctly for each session three times. To prevent participants who had received the intervention from teaching the target skills to those participants still in baseline, the researchers did not co-mingle participants in different phases. However, a participant who had received the intervention could be paired with any of the other participants in subsequent intervention sessions.

To optimize generalization, four different researchers rotated leading instruction in four different settings within the school. Communication partners were also alternated to help promote generalization among participants.

Interobserver Agreement and Procedural Fidelity

To discern interobserver agreement, additional researchers scored video recordings of 30% of the sessions. Interobserver agreement was calculated as 93.03%, by dividing the number of agreements by the total number of agreements plus disagreements and multiplying by 100.

The mean agreement during baseline and maintenance conditions was 94.15%, and the mean agreement during intervention conditions was 90.83%. Mean agreement was calculated for individual students across conditions: Spencer, 90.00%; Audrey, 100.00%; Nicolas, 90.00%; Monica, 100.00%; Chandler, 88.33%; and William, 93.33%.

To maintain procedural reliability, during all sessions of all phases the researchers followed a checklist outlining each step required to implement the intervention as designed. Checklists ensured that the same setting, equipment, and materials were used for each participant for every session. Some specific checklist items included manipulating the room so that participants would be likely to face each other and ensuring researchers were always in the designated areas of the room. The checklist specified that only one minute of waiting time was available for participants to start a conversation. To calculate the procedural reliability level during all the intervention sessions, the number of correctly completed steps was divided by the total number of steps and multiplied by 100. The data collected from the procedural reliability checklist was 100% across all participants and settings. Table 4 outlines the fidelity checklist.

Results

The purpose of this study was to measure effects of a video modeling intervention package on the conversation skills of adults ages 18-21 with ASD or ID. Figure 1 presents data representing the participants' performances. The graphs are set up in a multiple baseline across dyads, with each panel representing one participant and each dyad representing one leg of the

multiple baselines. A description of each graph is included below, along with Tau-U effect size estimates to supplement the visual analysis of the graphic data.

Participant Performance

The first leg in the multiple baseline was the dyad consisting of Spencer and Monica. During baseline, Spencer demonstrated none of the steps for initiating a conversation during the first two sessions, increasing to under 40% of the steps for the third session and returning to 0% for the final three baseline attempts. When introduced to the intervention, Spencer completed 100% of the conversation initiation steps during each session. The change in Spencer's behavior from baseline to intervention demonstrates an immediate change in the level, trend, and variability of the data. These data produced a Tau-U effect size estimate of 1.00, suggesting a large effect size. In one maintenance session Spencer demonstrated 100% of the steps, affirming the initial durability of the intervention effects.

In baseline Monica's behavior was highly variable, with two data points at zero, one at 80%, and three more at 0%. When the intervention began, Monica completed no conversation initiation steps during the first two sessions, but in the third session she demonstrated 100% of steps and continued to do so for the remainder of the intervention sessions, with the exception of the ninth session, when her performance dropped to 40%. Researchers noted extraneous variables which could account for the significant one-time drop in her performance. Monica's data demonstrated a change in level and variability, although the effect of the intervention was delayed. These data produced a Tau-U effect size of 0.95, suggesting a large effect size. In maintenance, Monica again completed 100% of the steps, indicating the initial durability of the intervention effect.

The second dyad was comprised of Audrey and William. In baseline, Audrey completed none of the conversation initiation steps in any of the nine sessions, suggesting a very low and stable pattern. When exposed to the intervention, Audrey immediately performed 100% of the steps across all treatment sessions. This change demonstrated an immediate increase in level, suggesting that the intervention was immediately and maximally effective. These data yielded a Tau-U effect size estimate of 1.00, suggesting a large effect size. This level of attainment continued into the maintenance phase.

In baseline, William demonstrated none of the conversation initiation steps across all seven sessions in which he participated, demonstrating a low and stable baseline. William began the intervention phase demonstrating 80% of the initiation steps, then vacillated between 80% and 100% of steps for the remainder of this phase. William's behavior demonstrated an immediate and pronounced increase in level. In the treatment phase, William's performance became more variable but remained well above baseline levels. These data yielded a Tau-U effect size estimate of 1.00, a large effect size. The effect of the intervention held for one maintenance session, indicating the initial durability of the intervention effect.

The last leg of the multiple baseline included Nicolas and Chandler. In the baseline phase, Nicolas demonstrated none of the steps of the conversation initiation skill across five sessions, a low and stable pattern of performance. When Nicolas began the intervention, his performance immediately advanced to 100%. His execution remained variable throughout the treatment session but ended at 100% across three sessions. These data produced a Tau-U effect size estimate of 0.92, suggesting a large effect size. In the maintenance phase, Nicolas' performance dropped to zero across three sessions, indicating a lack of durability of the intervention.

In baseline, Chandler demonstrated the same pattern as Nicolas. When he received the intervention, Chandler performed 100% of the steps across three sessions, then he completed between 80 and 100% of steps for the remainder of the treatment sessions. These data demonstrate an immediate change in level and a slight increase in variability. The Tau-U effect size estimate was 1.00, suggesting a large effect size. In maintenance, Chandler completed none of the steps for two sessions, but achieved 80% on the third maintenance session.

Across all dyads, an effect was apparent three times, suggesting a functional relation between the video modeling instructional package and improved conversation skill performance for the participants in this study. Additionally, the weighted Tau-U effect size estimate for the intervention was 0.93, suggesting a large effect size. Taken together, these data suggest that the VM package intervention was effective for increasing the conversation skills of individuals with either ID or ASD.

Social Validity

To measure the social validity of the study, researchers administered to each of the participants a verbal questionnaire with eight open ended questions and two yes/no questions. When asked what they thought of the lessons, half of the participants reported that they liked them. Three of the six enjoyed interacting with their partners during the practice part of the lesson and reported that this interaction was their favorite part of each session. Two participants stated they did not like the parts when researchers were describing how to have a conversation and explaining the conversation steps.

Overall, participants said that they enjoyed watching videos on the iPad during the lessons, and some thought they were funny. Participants especially enjoyed watching themselves during the video feedback as part of the intervention. Most participants felt that the video

examples helped them learn how to start a conversation. Only one participant reported a conversation skill level that remained the same.

Most of the participants stated that they would like to watch more videos teaching them how to do things. Students provided ideas of topics they would be interested in for future video-based instruction lessons, including everyday school skills and job skills. Additionally, most students expressed interest in learning more specific conversation skills, such as showing affection, talking on the phone, and staying on topic.

Discussion

This study investigated the use of an intervention package that included explicit instruction, video modeling, and video feedback to teach conversation skills to six adults with ASD and ID. The results demonstrate that the intervention package was effective, as all six participants acquired the conversation skill and five out of six participants maintained their ability to initiate a conversation after the intervention was withdrawn.

All subjects participating in the study had difficulty with communication skills. The researchers hypothesized that this common weakness may have made it even more challenging for them to initiate conversation with each other than it would have been if the partners had been typically developing peers. Participants' abilities to initiate might have been greater had their partners not also lacked communication skills. This additional level of difficulty strengthens the results of the study.

Limitations

During some baseline sessions, participants initiated conversations with research assistants, which were not recorded in the percentages since baseline procedures were defined to record only attempts at initiation with the participant's designated communication partner. Thus,

many participants demonstrated the skill of initiating a conversation with a similar-age peer, although their score was 0 with the partner who had a communication disability. This may have resulted in unrealistic baseline percentages.

Another limitation to the study was the shortage of maintenance data collected. Due to individual schedules and the end of school year, more maintenance sessions were not conducted. Although five out of six participants maintained conversation levels once the intervention was removed, it cannot be said if participants maintained these skills over time.

Implications for Future Research

Competent social skills can increase access to academic success, meaningful relationships, and fulfilling employment. A combined intervention packaged was successful in teaching six adults with ASD and ID to initiate a conversation with a peer. From this study those who teach adults with disabilities can learn the effectiveness of teaching social skills using explicit instruction, video modeling, and video feedback. However, more research is necessary to identify a combined instructional approach as evidence-based.

Future replications may be more socially valid if practitioners include primarily video instruction rather than explicit instruction. Further studies might benefit from identifying salient components of social skills instruction to adults with ID or ASD using VM and VFB. Researchers also suggest monitoring the quality of conversations in future replications, as some participants may have only echoed initiation examples seen and heard in the videos.

Conclusion

This study explored the effects of an intervention packaged consisting of explicit instruction, VM, and VFB to teach conversation skills to adults with developmental disabilities to improve their conversation initiation ability. Researchers also identified the social validity of

using these strategies as an intervention package to teach the conversation skill. Results indicate a functional relationship between the intervention package and the participants' social initiation skills, and five out of six participants maintained their ability to initiate a conversation after the intervention was withdrawn. Social validity responses indicate that participants enjoyed watching the videos of models and especially enjoyed watching the videos of themselves. Most participants also enjoyed the explicit instruction component of the intervention.

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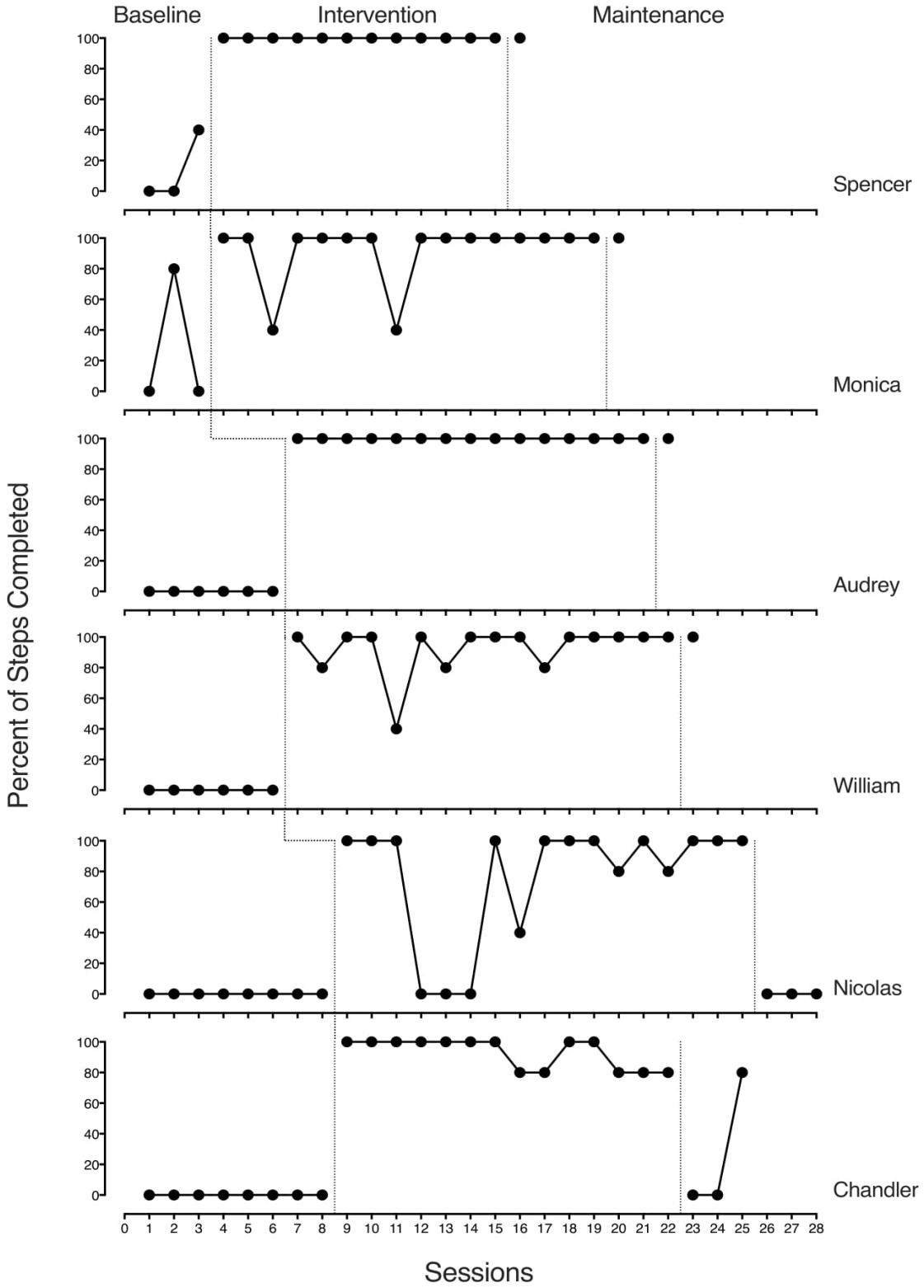


Table 1

Participant Information

Participant	Gender	Age (yrs.)	Primary disability	IQ	Assessment	Communication	Social
Spencer	Male	19	Intellectual disability	50 ^a	Vineland-II	59	67
Audrey	Female	19	Autism	71 ^b	*GADS	N/A	14
Nicolas	Male	20	Autism	54 ^c	*GARS	13	10
Monica	Female	19	Intellectual disability	N/A	Vineland-II	61	63
Chandler	Male	19	Intellectual disability	40 ^d	Vineland-II	65	66
William	Male	18	Intellectual disability	40 ^d	Vineland-II	48	57

Note. Communication and social are reported as standard scores.

*No other testing information available.

^aWechsler Adult Intelligence Scales, 4th edition, ^bWoodcock Johnson Tests of Cognitive Abilities, 3rd edition, ^cStanford-Binet Intelligence Scales, 4th edition, ^dStanford-Binet Intelligence Scales, 5th edition.

Table 2

Rules for Initiating a Conversation

Rule	Description
Rule 1	Don't be too close or too far away from the person you are talking to.
Rule 2	Decide what you are going to talk about.
Rule 3	Get your listener's attention with words and without words.
Rule 4	Speak loud enough for your listener to hear you without yelling.
Rule 5	Wait for a response.

Table 3

Task Analysis of Targeted Skill

Step	Task
1	Stands or sits at least an arm's length away
2	Makes verbal initiation
3	Speaks loudly enough for partner to hear
4	Makes nonverbal initiation
5	Waits for response (3 seconds)

Table 4

Treatment Fidelity Checklist

Step	Task
1	Start and stop video before and after participants' data collection
2	Ensure camera has reliable battery and available storage
3	Manipulate room so participants face each other
4	Baseline: When pulling participants out of classroom, say, "We need your help. Can you come with us?" Intervention: When pulling participants out of classroom, say, "We need your help. Can you come with us?"
5	Be sure both recorders have stopwatch ready and started as soon as prompt to have conversation is given
6	Lap the time on the stopwatch once the conversation begins
7	Position yourself in the appropriate areas of the room during the session
8	During guided and direct instruction, pause video and discuss until participants show mastery
9	If participants do not begin a conversation after one minute, end the session
10	Video record session and play back; provide feedback and praise
11	If participants did have a conversation, say "Great! Let's go back to class."
12	If participants did not initiate, collect data again
13	If camera battery is low, bring camera home at the end of the day and return to whoever is going the next day

APPENDIX A

Review of Literature

Competent social interaction requires increasingly complex skills but affects so many facets of life, especially for individuals with social impairments and disabilities. Intellectual Disability (ID) is often associated with difficulties in social judgement, emotions, and interpersonal relationships, all of which can lead to disruptive and aggressive behaviors (American Psychiatric Association, 2013). Individuals with Autism Spectrum Disorder (ASD) frequently demonstrate inappropriate attempts to gain attention that are also aggressive or disruptive (American Psychiatric Association, 2013). In a report from the National Longitudinal Transition Study-2 (Wagner et al., 2003), youth with disabilities are more likely to be reported by parents to never make friends easily, join groups of their own accord, or be confident in social situations as compared to typically developing peers. These social skills deficits may hinder learning and lead to social isolation, poor adult psychosocial functioning, and negative health consequences (American Psychiatric Association, 2013).

In a recent study, Monahan and Booth-LaForce (2016) examined the effects of relationships on the behavior of children. The authors identified that more positive and fewer negative interactions with others were linked to more prosocial behavior; whereas, fewer positive interactions were associated with aggression and withdrawal. The authors suggest that quality friendship can protect and promote the development of competent social skills and that future research should identify evidence-based strategies to train children and adolescents on appropriate interactions and relationships.

Social competence can also increase the likelihood of paid employment. In a study completed by Ju, Shang, and Pacha (2012) social skills were ranked among the top five most

important skill areas among employers. Youth with little to no difficulty communicating with others were found to be three to four times more likely to be employed after school than those with lower communication skills (Carter, Austin, & Trainor, 2012). Henry and Lucca (2004) also found effective social skills as a facilitator to meaningful employment.

Carter, Sisco, Chung, and Stanton-Chapman (2010) linked social interaction to emotional well-being, success in school, and over-all quality of life and evaluated intervention strategies used to improve peer interaction outcomes of individuals with disabilities. Upon review, the authors identified 20 distinct educational practices used to teach social skills to individuals with ID and ASD. Their research identified student-focused instructional strategies, peer-focused practices, and support-focused approaches. Further research was suggested to help identify salient components of these intervention packages.

Direct instruction was identified as an effective strategy to teach individuals with disabilities (Marchand-Martella, Kinder, & Kubina, 2005). Direct instruction has also been used to teach and improve receptive and expressive language skills to individuals with developmental delay (Waldron-Soler et al., 2002). Although children with disabilities can acquire a wide variety of social skills through direct instruction, these skills may fail to generalize or be maintained (Weiss & Harris, 2001). Video-based instruction is one area identified by research that may help facilitate learning without the prompt dependence of an instructor.

Video Modeling (VM) is an evidence-based strategy that has been used to teach social skills to individuals with disabilities (Laver & Wilkes-Gillan, 2018). During VM, a learner watches a video of a model performing a desired task and then is asked to do what was performed in the video (Van Laarhoven, Kraus, Karpman, Nizzi, & Valentino, 2010). In a meta-analysis conducted by Bellini and Akullian (2007), VM and Video-Self Modeling (VSM; where

an individual watches a video of themselves performing the target behavior) were identified as effective intervention strategies for addressing social and communication skills, behavioral functioning, and functional skills in children and adolescents with ASD. Additionally, Bellini and Akullian found that skills acquired via VM and VSM are maintained over time and transferred across persons and settings.

For example, Nikopoulos and Keenan (2007) examined the effects of VM to teach social initiation and other behaviors to three children with ASD. Results demonstrated a functional relation between the VM and social initiation skills. All children increased in performance after the VM intervention, and behavior changes were generalized and maintained.

In another study, MacDonald, Clark, Garrigan, and Vangala (2005) used VM to teach children with ASD to engage in reciprocal play with non-disabled peers. Scripted play scenarios were filmed and shown to the participants before play. Results indicated that both typically developing peers and children with ASD ability to engage in reciprocal play increased immediately and maintained over time. Unscripted verbalizations also increased as a result of the VM procedure.

Few studies have identified VM as an effective treatment for adolescents and adults with disabilities. Of the 66 social skills interventions examined by Reichow and Volkmar (2010), only three included and focused on participants older than age 13, highlighting the need for studies examining interventions for adolescents and adults, especially individuals with lower functioning levels. Furthermore, while VM was shown to be an evidence-based practice for school-aged children, it was also suggested that VM may not be as powerful itself to elicit changes in behavior and other strategies should be incorporated to the intervention to obtain desired

behavioral outcomes. Reviewers also encouraged more research on the use of visual techniques to teach social skills to older individuals with ASD.

Similarly, Shukla-Mehta, Miller, and Callahan (2010) evaluated video-based instruction on social and communication skills training for children with ASD. Of the 23 studies reviewed, 19 studies combined video instruction with additional instructional strategies. Intervention packages incorporated instructional prompts, reinforcers, social stories, self-management, computerized instruction, or a combination of strategies. The authors suggested that the use of instructional prompts and error correction procedures appeared to be more effective to promote acquisition, maintenance, and generalization of social skills, and in some studies, the addition of reinforcement and feedback were necessary to intervention and participant success. Reviewers demonstrated further research was needed to identify the effectiveness of VM or VSM alone for producing behavior change in individuals with ASD.

For example, an intervention packaged using VM and social stories to increase eye contact of adolescents with ID and ASD was evaluated (O'Handley, Radley, & Whipple, 2015). Using a multiple baseline design across participants, differential effects of social stories, VM, and a combination of the two strategies were assessed. Results indicated a moderate increase in eye contact using social stories, a strong intervention effect using VM alone, and a minimal additive effect when combining the two. However, researchers suggested considering VM alone as an effective and resource-efficient intervention strategy to teach social skills.

Moreover, VM alone was not sufficient for teaching older adolescents conversation skills (O'Handley et al., 2015). In this study, four adolescents with ID participated in a 3-week Superheroes Social Skills intervention (Jenson et al., 2011), a program that combines behavioral skills training and VM. The study taught the skills expressing wants and needs, conversation, and

turn taking. Researchers were unable to determine which aspects of the intervention were most effective, for they used VM, behavior skills training, social stories, self-monitoring, and contingent reinforcement as intervention components. Overall, a combined approach was found to be beneficial in teaching adolescents with ID social skills.

Video Feedback (VFB) is an extension of VM which allows learners to discuss the behaviors seen in the video after watching and is suggested to provide individuals with more accurate feedback about their behavior than verbal comments (Booth & Fairbank, 1984). VFB is another promising practice that has been used to teach social initiations and interactions to individuals with disabilities.

The effects of VM and VFB were evaluated on the peer-directed social language skills of a five-year-old with ASD (Maione & Mirenda, 2006). Participants engaged in three play activities: Play Doh, Chevron Cars, and Caillou's Tree House. Results demonstrated that VM was effective in increasing socialization in two out of three play activities, but VM and VFB, in addition to prompting, were required to demonstrate a stable rate of increase in social language across all activities. Furthermore, socializations were generalized, but authors suggest additional research be conducted to identify specific techniques to promote generalization.

Kern-Dunlap et al. (1992), evaluated an intervention packaged designed to lower levels of undesirable social interactions and increase desired initiations with peers of five elementary students with Emotional and Behavior Disorder (EBD). The intervention included VFB, self-evaluation, and delayed feedback and reinforcement. During the VFB sessions intervention, participants were asked to identify if they themselves had demonstrated appropriate peer interaction as they play board games. Participants were also asked to provide suggestions for alternative behavior if they demonstrated undesirable behavior in the video footage, and

reinforcement was provided for appropriate behavior during previous sessions. Results of the study demonstrated efficacy of a VFB package for increasing appropriate peer interactions of elementary students with EBD.

Similarly, O'Reilly et al. (2005), provided reinforcement for identifying appropriate pro-social behavior during VFB sessions. Findings revealed an immediate and positive effect on social behavior that were maintained for up to four months. Results suggested that VFB may be a strategy to increase social interaction of children with EBD, but further research was encouraged.

VFB was also used to evaluate the effects of self-monitoring on the frequency of social initiations for three elementary students with ASD in an inclusion setting (Deitchman, Reeve, Reeve, & Progar, 2010). Results demonstrated an increase in initiation when VFB was introduced. These initiations also generalized to other settings and when VFB was faded for two of three participants.

Thiemann and Goldstein (2001), used a VFB intervention package to teach five students with ASD social communication with non-disabled peers. Treatment included social stories, text cues, and pictures of social skills in addition to the video evaluations. Data demonstrated an increase in social interaction after self-evaluation using VFB, supporting the efficacy of VFB to teach social skills to children with disabilities.

State and Kern (2012) compared social interaction interventions on an adolescent with ASD. VFB was compared to in vivo self-monitoring procedures on appropriate and inappropriate interactions with teachers, peers, and parents. Results indicated a slight reduction in inappropriate social behaviors with VFB procedures, but larger reductions occurred during in vivo self-monitoring when the participant used a vibrating watch that went off every minute. Social validity data indicated high participant satisfaction with both interventions, but more

research is needed to identify VFB as an effective intervention to teach adolescents with disabilities social skills.

VFB has also been used to teach adults with disabilities social skills. Barnes used VFB to increase eye contact during job interviews for transition age adults with ASD. In this study, participants were given job listing information and asked ten interview questions. Interviews were filmed and reviewed for eye contact. Participants were successful in demonstrating the target task if they engaged in eye contact for more than 50% of the session. Results indicated VFB as an effective and socially valid intervention to increase the percentage of time three adult participants with ASD engaged in eye contact during mock interviews.

Because VM and VFB have successful in teaching social skills to children with a variety of disabilities, it is hypothesized that a VM and VFB intervention package may be effective in teaching social initiation skills to adults with ID and ASD. Further research is needed to identify if and which salient component of a video-based intervention package is effective in increasing initiation among adults with these disabilities and if a video-based treatment is socially valid among this population.

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APPENDIX B

Consent Forms

Consent for Students over 18

Introduction

My name is Ryan Kellems, PhD, I work at Brigham Young University. I am conducting a study about how videos can be used to teach different skills with an iPad. I am inviting you to take part in the research because you could benefit from learning skills from an iPad.

Procedures

The research will take place at your school or job, and will take place over 8 weeks as we collect data. Someone will be observing you performing different skills. Each session should take less than an hour.

If you decide you want to be part of the study, here's what will happen:

- We will verify your eligibility for special education services by reviewing your IEP (Individualized Education Plan) and any additional psychological assessment information (such as but not limited to IQ, adaptive behavior and academic achievement) through the school.
- We will ask you to do something that you might not know how to do. It's okay if you can't, we just want you to try.
- We will show you a video telling you how to do what we're asking you. Just watch the video and listen to what it says. Then we'll ask you to do what the video showed you. All of this will probably take about an hour. We'll come back a few times and you'll watch the video and then do what the person in the video does.
- You will be recorded if you provide permission.

Can anything bad happen to me?

You might get embarrassed or nervous when we watch you do what the video says. If you don't want to do what we ask you, tell us and you can stop.

Can anything good happen to me?

We hope that we will be able to teach you how to do the skill you watch from the video.

Will anyone know I am in the study?

We won't tell anyone you took part in this study. When we are done with the study, we will write a report about what we learned. We won't use your name in the report.

Compensation

You will not be given anything for taking part in the study.

What if I do not want to do this?

You don't have to be in this study. It's up to you. If you say yes now, but change your mind later, that's okay too. All you have to do is tell us.

Questions about the Research

Please direct any further questions about the study to Ryan Kellems at 801-422-6674 or rkellems@byu.edu. Questions about your rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu. You have been given a copy of this consent form to keep.

Participation

Participation in this research study is voluntary. You are free to decline to participate in this research study. You may stop participating at any point without affecting your standing in school.

Participants Name: _____



Signature: _____

Date: _____



Parental Permission for a Minor

Introduction

Your child is invited to participate in a research study conducted by Ryan Kellems, PhD an Assistant Professor of Special Education at Brigham Young University. Ryan hopes to learn if an iPad can be used to teach transition skills to young adults with disabilities. Your child was selected as a possible participant in this study because they could potentially benefit from using an iPad.

Procedures

If your child participates, the investigator will request verification of your child's qualification for special education service by reviewing their IEP (Individualized Education Plan) and any additional psychological assessment information (such as but not limited to IQ, adaptive behavior and academic achievement) through the school.

Pre Assessment

An informal pre-assessment will take place to identify what tasks will be taught. The pre-assessment will consist of the researcher talking with the participant, teacher and parent. The pre-assessment will consist of an informal discussion to determine what tasks or skills the participant may need assistance in learning. During the pre-assessment process the researcher will observe each student during the performance of the routine and collect data regarding the completion of tasks in the routine. After the target tasks are selected baseline data will be collected.

Baseline

Baseline observations will occur for two weeks with three observations per week. Baseline observations will consist of the researcher observing the participant performing various daily living tasks. These observations may be recorded if consent is first obtained from the participant.

Intervention

The intervention will consist of your child watching a video of someone successfully completing the identified task on an iPad and then copying what they see. The research will take place in the setting where the task would normally be performed (if the task is cooking spaghetti then the task would be filmed in the kitchen used by student in the school. This is also where the intervention would be delivered). Observations of the intervention will occur for two weeks with three observations per week; maintenance observations will occur 3 weeks after the last intervention observation occurs; two observations will take place to record maintenance results. The total time of observations will occur for 8 weeks. The investigator will provide instruction on the intervention three times per week during the intervention phase. The observations may be video taped and for the researchers to review. The videos will only be used for purposes consented to on the video consent document.

Risks

	Institutional Review Board
	12-10-2015 1-6-2017 Approved Expires

If you agree for your child to participate in this study, there may be some slight anxiety. The anxiety would occur when the researcher observes your child. Preparation on how to use the iPad should minimize the risks associated with the intervention.

Benefits

Your child could benefit from participating in study by having improved daily living skills and completing more activities independently. This may be something they will be able to use as they prepare to live independently. However, Ryan cannot guarantee that you or your child will personally receive any benefits from this research.

Compensation

There will be no compensation for participation in this project.

Confidentiality

Any information that is obtained in connection with this study and that can be identified with your child will remain confidential and will be disclosed only with your permission. Your child's identity will be kept confidential. Your child's name will not be associated in any way with the information collected about your child or with the research findings from this study. The researcher(s) will use a study number or a pseudonym instead of your child's name. The researchers will not share information about your child unless required by law or unless you give written permission. This information will be used by the investigator for a period of two years from the study's start date. Your permission indicates that this information will be kept open to the investigator for that time period, but your child's name and any identifying information will not be shared or distributed through this study.

Participation

Your child's participation is voluntary. Your decision whether or not to let your child participate will not affect your relationship with the Provo school district. If you decide to allow your child to participate please fill out the consent to participate form, you are free to withdraw your consent and discontinue your child's participation at any time without penalty.

Questions about the Research

If you have any questions, please feel free to contact Ryan Kellems, PhD, (801) 422-6674, 237-C MCKB, Brigham Young University, Provo UT 84602. Questions about your child's rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.

If you do not wish for your child to participate in the study please write no on this form and then sign and return the form. You may also contact Ryan Kellems directly at (801) 422- 6674 to let him know you do not want your student to participate.

Child's Name:



Parent Name: _____

Signature: _____ Date: _____



Consent for Students over 18 (Without Guardianship)

A young adult over the age of 18 you are the guardian of is invited to participate in a research study conducted by Ryan Kellems, PhD, an Assistant Professor of Special Education at Brigham Young University. Ryan hopes to learn if an iPad can be used to teach transition skills to young adults with disabilities. They were selected as a possible participant in this study because they could potentially benefit from using an iPad.

If they participate, the investigator will request verification of their qualification for special education service by reviewing their IEP (Individualized Education Plan) and any additional psychological assessment information (such as but not limited to IQ, adaptive behavior and academic achievement) through the school. An informal pre-assessment will take place to identify what tasks will be taught. The pre-assessment will consist of the researcher talking with the participant, teacher and parent. The pre-assessment will consist of an informal discussion to determine what tasks or skills the participant may need assistance in learning. During the pre-assessment process the researcher will observe each student during the performance of the routine and collect data regarding the completion of tasks in the routine. After the target tasks are selected baseline data will be collected. Baseline observations will occur for two weeks with three observations per week. Baseline observations will consist of the researcher observing the participant performing various daily living tasks. These observations may be recorded if consent is first obtained from the participant. The intervention will consist of the individual watching a video of someone successfully completing the identified task on an iPad and then copying what they see. The research will take place in the setting where the task would normally be performed (if the task is cooking spaghetti then the task would be filmed in the kitchen used by student in the school. This is also where the intervention would be delivered). Observations of the intervention will occur for two weeks with three observations per week; maintenance observations will occur 3 weeks after the last intervention observation occurs; two observations will take place to record maintenance results. The total time of observations will occur for 8 weeks. The investigator will provide instruction on the intervention three times per week during the intervention phase. The observations may be video taped and for the researchers to review. The videos will only be used for purposes consented to on the video consent document. If you agree for them to participate in this study, there may be some slight anxiety. The anxiety would occur when the researcher observes them. Preparation on how to use the iPad should minimize the risks associated with the intervention.

They could benefit from participating in study by having improved daily living skills and completing more activities independently. This may be something they will be able to use as they prepare to live independently. However, Ryan cannot guarantee that you or the participant will personally receive any benefits from this research.

Any information that is obtained in connection with this study and that can be identified with their information will remain confidential and will be disclosed only with your permission. Their identity will be kept confidential. Their name will not be associated in



any way with the information collected about them or with the research findings from this study. The researcher(s) will use a study number or a pseudonym instead of your their name. The researchers will not share information about them unless required by law or unless you give written permission. This information will be used by the investigator for a period of two years from the study's start date. Your permission indicates that this information will be kept open to the investigator for that time period, but their name and any identifying information will not be shared or distributed through this study.

Their participation is voluntary. Your decision whether or not to let them participate will not affect your relationship with the Provo school district. If you decide to allow them to participate please fill out the consent to participate form, you are free to withdraw your consent and discontinue their participation at any time without penalty.

If you have any questions, please feel free to contact Ryan Kellems, PhD, (801) 422-6674, 237-C MCKB, Brigham Young University, Provo UT 84602. Questions about their rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.

If you do not wish for them to participate in the study please write no on this form and then sign and return the form. You may also contact Ryan Kellems directly at (801) 422-6674 to let him know you do not want your student to participate.

Name of Individual: _____

Signature: _____ Date: _____



ORAL CONSENT for Social Validity Data Collection

Hi, my name is _____. I am a student at Brigham Young University and I am doing a research study with Dr. Ryan Kellems about using iPads to teach you various skills such as cooking to see if this can help individuals with disabilities acquire new skills. Would it be okay with you if I used the information we talk about in my study? This is completely voluntary and you may say no if you do not want this information used in the study. If you agree and we start talking and you decide you no longer want to do this, we can stop at any time. If it is okay with you, I might want to use direct quotes from you, but these would only be cited as from a person (or if person has a specific label or title, it might be used). There is no expected risk to you for helping me with this study. There are no expected benefits to you either. Do you still want to talk with me? (If yes, go ahead and talk and you may take notes if you want. If no, you may still talk with the person, but you may not use any information they give you as part of your research study.)



Parental Notification

Your child is invited to participate in a research study conducted by Dr. Ryan Kellems, an Assistant Professor of Special Education at Brigham Young University. I hope to learn if an iPad can be used to teach transition skills to young adults with disabilities. Your child was selected as a possible participant in this study because they could potentially benefit from using an iPad.

If your child participates, the investigator will request verification of your child's qualification for special education service from their IEP (Individualized Education Plan) through the school. Then, the investigator will observe your child performing various daily living tasks such as cooking. Baseline observations will occur for two weeks with three observations per week. Baseline observations will consist of the researcher observing the participant performing various daily living tasks. These observations may be recorded if consent is first obtained from the participant. The intervention will consist of your child watching a video on an iPad and then copying what they see. Observations of the intervention will occur for two weeks with three observations per week; maintenance observations will occur 3 weeks after the last intervention observation occurs; two observations will take place to record maintenance results. The total time of observations will occur for 8 weeks. The investigator will provide instruction on the intervention three times per week during the intervention phase. The observations may be video taped and for the researchers to review. Only the researchers will have access to the video recordings. If you agree for your child to participate in this study, there may be some slight anxiety. The anxiety would occur when the researcher observes your child. Preparation how to use the iPad should minimize the risks associated with the intervention.

Your child could benefit from participating in study by having improved daily living skills and completing more activities independently. This may be something they will be able to use as they prepare to live independently. However, I cannot guarantee that you or your child will personally receive any benefits from this research.

Any information that is obtained in connection with this study and that can be identified with your child will remain confidential and will be disclosed only with your permission. Your child's identity will be kept confidential. Your child's name will not be associated in any way with the information collected about your child or with the research findings from this study. The researcher(s) will use a study number or a pseudonym instead of your child's name. The researchers will not share information about your child unless required by law or unless you give written permission. This information will be used by the investigator for a period of two years from the study's start date. Your permission indicates that this information will be kept open to the investigator for that time period, but your child's name and any identifying information will not be shared or distributed through this study.



Your child's participation is voluntary. Your decision whether or not to let your child participate will not affect your relationship with the Provo school district. If you decide to allow your child to participate please fill out the consent to participate form, you are free to withdraw your consent and discontinue your child's participation at any time without penalty.

If you have any questions, please feel free to contact Dr. Ryan Kellems (801) 422-6674, 237-C MCKB, Brigham Young University, Provo UT 84602. Questions about your child's rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.

If you do not wish for your child to participate in the study please write no on this form and then sign and return the form. You may also contact Dr. Kellems directly at (801) 422- 6674 to let him know you do not want your student to participate.

Ryan Kellems, Ph.D.
Assistant Professor
Counseling Psychology & Special Education
Brigham Young University
rkellems@byu.edu
(801) 422-6674



Teacher Recruitment Script

My name is Ryan Kellems, PhD, I work at Brigham Young University. I am conducting a study about how videos can be used to teach different skills with an iPad. I am inviting you to invite some of your students to take part in the research because they could benefit from learning skills from an iPad. To be eligible to participate in the study your students may be either male or female aged 14-26. The participants need to have a psychological diagnosis that qualifies them for services under the Individuals with Disabilities Education Act (IDEA). In addition to qualifying for Special Education Services I am looking for students that have the potential to benefit from the study. The research will take place at the school or at the students job. The research will take place over 8 weeks as we collect data. Someone will be observing the student performing different skills. Each session should take less than an hour. If you decide you want a student part of the study, here's what will happen:

-We will ask you to contact the parents to obtain consent unless the student is over the age of 18 and can provide consent for themselves

If the students chooses to participate, the investigator will request verification of their qualification for special education service from their IEP (Individualized Education Plan) through the school. An informal pre-assessment will take place to identify what tasks will be taught. The pre-assessment will consist of the researcher talking with the participant, teacher and parent. The pre-assessment will consist of an informal discussion to determine what tasks or skills the participant may need assistance in learning. During the pre-assessment process the researcher will observe each student during the performance of the routine and collect data regarding the completion of tasks in the routine. After the target tasks are selected baseline data will be collected. Baseline observations will occur for two weeks with three observations per week. Baseline observations will consist of the researcher observing the participant performing various daily living tasks. These observations may be recorded if consent is first obtained from the participant. The intervention will consist of the individual watching a video of someone successfully completing the identified task on an iPad and then copying what they see. The research will take place in the setting where the task would normally be performed (if the task is cooking spaghetti then the task would be filmed in the kitchen used by student in the school. This is also where the intervention would be delivered). Observations of the intervention will occur for two weeks with three observations per week; maintenance observations will occur 3 weeks after the last intervention observation occurs; two observations will take place to record maintenance results. The total time of observations will occur for 8 weeks. The investigator will provide instruction on the intervention three times per week during the intervention phase. The observations may be video taped and for the researchers to review. The videos will only be used for purposes consented to on the video consent document. If you agree for them to participate in this study, there may be some slight anxiety. The anxiety would occur when the researcher observes them. Preparation on how to use the iPad should minimize the risks associated with the intervention. The process may be video recorded if the participant provides consent.



Study Information

You are invited to participate in a research study conducted by Ryan Kellems, PhD, an Assistant Professor of Special Education at Brigham Young University. Ryan hopes to learn if an iPad can be used to teach transition skills to young adults with disabilities. You were selected as a possible participant in this study because you could potentially benefit from using an iPad to learn transition related skills. .

If you participate, the investigator will request verification of your qualification for special education service from your IEP (Individualized Education Plan) and any additional psychological assessment information (such as but not limited to IQ, adaptive behavior and academic achievement) through the school. After determining your eligibility An informal pre-assessment will take place to identify what tasks will be taught. The pre-assessment will consist of the researcher talking with you, the teacher and possibly your parent. The pre-assessment will consist of an informal discussion to determine what tasks or skills you may need assistance in learning. During the pre-assessment process the researcher will observe you during the performance of the identified tasks and collect data regarding the completion of the tasks. After the target tasks are selected baseline data will be collected. Baseline observations will occur for two weeks with three observations per week. Baseline observations will consist of the researcher observing you performing the identified tasks. These observations may be recorded with your permission. The intervention will consist of you watching a video of someone successfully completing the identified task on an iPad and then you copying the video. The research will take place in the setting where the task would normally be performed (if the task is cooking spaghetti then the task would be filmed in the kitchen. This is also where the intervention would be delivered). Observations of the intervention will occur for two weeks with three observations per week; maintenance observations will occur 3 weeks after the last intervention observation occurs; two observations will take place to record maintenance results. The total time of observations will occur for 8 weeks. The investigator will provide instruction on the intervention three times per week during the intervention phase. The observations may be video taped and for the researchers to review. The videos will only be used for purposes consented to on the video consent document. If you agree to participate in this study, there may be some slight anxiety. The anxiety would occur when the researcher observes you completing the task. Preparation on how to use the iPad should minimize the risks associated with the intervention.

Potential benefits to you are that you could improve your daily living skills and complete more activities independently. This may be something you will be able to use as you prepare to live independently. However, Ryan cannot guarantee that you will personally receive any benefits from this research.

Any information that is obtained in connection with this study and that can be identified with your information will remain confidential and will be disclosed only with your permission. Your identity will be kept confidential. Your name will not be associated in any way with the information collected about you or with the research findings from this



study. The researcher(s) will use a study number or a pseudonym instead of your name. The researchers will not share information unless required by law or unless you give written permission. This information will be used by the investigator for a period of two years from the study's start date. Your permission indicates that this information will be kept open to the investigator for that time period, but your name and any identifying information will not be shared or distributed through this study.

Your participation is voluntary.

If you have any questions, please feel free to contact Ryan Kellems, PhD, (801) 422-6674, 237-C MCKB, Brigham Young University, Provo UT 84602. Questions about their rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.



Youth Assent (15-17 years old or for students who are not their own guardian)

What is this study about?

My name is Ryan Kellems. I am from Brigham Young University. I would like to invite you to take part in a research study. Your parent(s) or your guardian know we are talking with you about the study. This form will tell you about the study to help you decide whether or not you want to be in it.

In this study, we want to learn about how we can help you learn skills by watching videos on an iPad.

What am I being asked to do?

If you decide to be in the study, we will ask you to perform a skill that you might not know how to do—it's okay if you don't know it, because later, we will ask you to watch a video teaching you how to do that task. This will take about an hour, and we will come back a few times to watch you complete the task.

What are the benefits to me for taking part in the study?

If you choose to take part in this study, you will learn new skills that are important for you to learn.

Can anything bad happen if I am in this study?

There are not a lot of risks involved in this study, but you might get embarrassed or feel nervous about doing the tasks in front of me or the other people who might observe. If you feel uncomfortable, you can stop and choose not to participate.

Who will know that I am in the study?

We won't tell anybody that you are in this study and everything you tell us and do will be private. Your parent may know that you took part in the study, but we won't tell them anything you said or did, either. When we tell other people or write articles about what we learned in the study, we won't include your name or that of anyone else who took part in the study.

Do I have to be in the study?

No, you don't. The choice is up to you. No one will get angry or upset if you don't want to do this. You can change your mind anytime if you decide you don't want to be in the study anymore.

What if I have questions?

If you have questions at any time, you can ask us and you can talk to your parents about the study. We will give you a copy of this form to keep. If you want to ask us questions about the study, contact Ryan Kellems at 801-422-6674 or rkellems@byu.edu.

Before you say yes to be in this study what questions do you have about the study?

If you want to be in this study, please sign and print your name.

Name (Printed): _____ Signature _____ Date: _____

Ages 15-17



Video Release Form

As part of this project, Ryan Kellems, Phd, will be making video recordings of you (or your child) during your participation in the research. Please indicate what uses of this video you are willing to permit, by initialing next to the uses you agree to and signing at the end. This choice is completely up to you. I will only use the video in the ways that you agree to for a period of three years. In any use of the video, you (or your child) will not be identified by name.

- _____ Video can be studied by the research team for use in the research project.
- _____ Video can be used for scientific publications.
- _____ Video can be shown at scientific conferences or meetings.
- _____ Video can be shown in classrooms to (elementary/middle/high school/college) students.
- _____ Video can be shown in public presentations to non-scientific groups.
- _____ Video can be used on television or the audio portion can be used on radio.
- _____ Video can be posted to a website (i.e. YouTube)

I have read the above descriptions and give my express written consent for the use of the video as indicated by my initials above.

Name (Printed): _____ Signature _____ Date: _____



APPENDIX C

Instruments

Initiation Data Collection Sheet

Participant: _____

Date					
Communicative Partner					
Communicative Partner's Gender					
Time to Initiate (m:ss)					
1. Stand or sit at least an arm's length away					
2. Verbal					
Greeting					
Partner's name					
Open-ended question					
Compliment					
Open-ended phrase					
Other					
3. Loud enough for partner to hear					
4. Nonverbal					
Tap on shoulder					
Wave					
Smile					
Look at the person					
Eye-contact					
Handshake					

Hug					
Body Language					
Other					
5. Wait for response (3 seconds)					
Guided Practice or Intervention:					
Percentage (%):					
Notes:					

Treatment Fidelity Checklist

	Start and stop video before and after participants data collection
	Ensure camera has good battery and available storage
	Manipulate room so participants face each other
	<p>Baseline When pulling participants out of classroom, say, “We need your help. We’re going to go hang out for a bit. Can you come with me?”</p> <p>Intervention When pulling participants out of classroom, say, “We need your help. We’re going to go have our lesson. Can you come with me?”</p>
	Both recorders have stopwatch ready and started as soon as prompt to have conversation is given
	Lap the time on the stopwatch once the conversation begins
	<p>Position yourself in the right corners of the room during the session</p> <p>*If not in conference room, position yourself away from the participants after entering the room</p>
	Guided and direct instruction, pausing video and discussing- don’t move on until mastered
	If participants do not begin a conversation after one minute, end the session.
	Video record session and play back, provide feedback and praise
	If participants did have a conversation, say great, let’s go back to class
	If participants did not initiate, data collect again
	If camera battery is low, bring home at the end of the day and return to whoever is going the next day

Initiating a Conversation Direct Instruction Lesson Plan

Introduction

Let's get started with our lesson. Today we are going to talk about starting a conversation with another person. Why is it important to know how to start a conversation?

Wait for student response

Student Response Example: *So we can have friends; Let's us get to know people better; So we can have better relationships.*

There are a few conversation rules you must learn. You first stand or sit about one arm's length away from the person you are talking to, next decide what you are going to talk about, then you get your listener's attention with words and without words, make sure to use a voice loud enough for the person to hear you without yelling, and last, wait for a response.

What are we learning about today?

Wait for students to attend

Student Response Example: *Conversations.*

Are you ready to begin?

Rule One

The first rule is to stand or sit one arm's length away from the person you are talking with. This means don't be too close to their face, but be close enough that the person can see you and hear you well. This is a video example of someone sitting an arm's length away from their talking partner.

Show video modeling clip

What is the first rule?

Praise for correct response

Student Response Example: *Be an arm's length away.*

If incorrect, prompt how far away should you be when you're talking to someone

Can you show me an example of sitting an appropriate distance?

Wait for student response

Student Response Example: **Holds arm out between themselves and communication partner**

What about when someone doesn't sit an appropriate distance? How does that make you feel?

Wait for student response

Student Response Example: *It makes me uncomfortable.*

Specific praise or *Prompt students "It makes people uncomfortable; It's too close"

Good, so we want to make sure we sit an appropriate distance from someone when we have a conversation with them.

Rule Two

The second rule is to decide what you are going to talk about. What you talk about is up to you.

It can be about the news, work, school, or whatever you choose. Be careful not to get too personal at first. What kind of things can you think of to talk about?

Student Response Example: *My interests, my family, my jobsite*

Specific praise for correct responses. For incorrect responses, give examples of what you could talk about

Rule Three

Once you have decided on a conversation topic it is time for rule number three, get the listener's attention. There are two things you need to do to get a person's attention. First get your listener's attention with words. Use greetings such as "Hello", or if you know the person's name, you can call them by name. Other things you can say include asking a question such as, "How are you?" You could even give the person a compliment. Let's watch a video with more examples of getting someone's attention.

Play video modeling clip

What are some other ways you can get someone's attention?

Wait for student response

Praise correct response. For incorrect response, say, "Let's re-watch the video to get some more ideas."

Rule Four

While you are getting someone's attention with words, don't forget rule number four, make sure you speak loud enough for the person to hear you without yelling.

Demonstrate examples and nonexamples: whisper, shout, and then reinforce normal volume

Next, you need to also try to get someone's attention without words. When you are trying to get someone's attention without words you are using body movements. For example, you can stand near someone or wave to them to get their attention. You can make eye contact and smile or tap them on their shoulder to get their attention. Let's watch some more video examples of getting someone's attention with body movements

Video

*Check understanding * What are some other body movements we can use to get the listener's attention?

Wait for student response

Praise correct responses

For incorrect responses, allow students to watch the video again. Demonstrate appropriate examples again, practice the examples together

Rule Five

The last rule for starting a conversation is to wait for a response to see if someone is listening. This also gives them time to think of something to say. After you say something, you need to make sure the person is listening, so you wait. You should wait three seconds. Let's count to three together.

Count to three aloud with student

That's about how long you should wait for someone to respond.

How long do we wait for a response?

Wait for student response

Praise correct response. If incorrect response, prompt count one two three

Those are the rules for starting a conversation. Let's review. The five rules for initiating a conversation are to (1) Don't be too close or too far away from the person you are talking to, (2) Decide what to talk about, (3) get your listener's attention with words and without words, (4) speak loud enough for your listener to hear you without yelling, and (5) wait for a response.

Can you tell me the rules for starting a conversation?

Wait for student response

Praise for correct response. Provide partial verbal prompts if incorrect responses are given

We are going to end the lesson by watching videos examples of someone starting a conversation.

Notice how they use all the rules for starting a conversation.

Show video clip sequence of initiating a conversation

Guided Practice

Now try having a conversation with your partner.

The first rule is making sure you're not too close and sitting an arm's length away

Then decide what to say. Now try getting your listener's attention using words and body movements.

Make sure you're loud enough, or good job at being loud enough for your partner to hear.

Remember to use body movements like looking at the person.

Good, now wait for a response.

[End of Lesson]

Independent Practice

Now you guys are going to try and start a conversation without my help. We're going to film you guys trying to have a conversation, and then we'll go back and watch it to see how it went.

Data collect and film, then review video and give feedback/praise

If 80%: end lesson, students return to class.

If <80%: say, “Okay we’re going to try one more time. Try practicing what we just went over with the video of you.”

Data collect and students return to class

Participant Social Validity Questionnaire

Participant _____

Please answer these questions about the videos you watched. You can choose to write your answers or say them out loud.

1. What did you think about lessons?

2. What part of the lesson did you like the most?

3. What part of the lesson did you like the least?

4. What did you think about the videos in the lesson?

5. Did you like watching the videos of yourself at the end?

6. Do you feel like the videos helped you learn how to start a conversation?

7. What would you changed about the lesson?

8. Would you like watching more videos showing you how to do things?

9. What would you like to learn using videos?

10. Who have you told about using the iPad at school?