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THE EFFECTS OF A TREATMENT PACKAGE COMBINING CONTINGENCY
CONTRACTS AND VIDEO PROMPTS ON SOCIAL SKILLS IN STUDENTS
WITH INTELLECTUAL DISABILITIES AND AUTISM

by

Breana Broadhead Fausett

A thesis submitted in partial fulfillment of
the requirements for the degree

of

MASTER OF SCIENCE

in

Special Education

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2014

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ABSTRACT

The Effects of a Treatment Package Combining Contingency Contracts
and Video Prompts on Social Skills in Students with
Intellectual Disabilities and Autism

by

Breana Broadhead Fausett, Master of Science

Utah State University, 2014

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Department: Special Education and Rehabilitation

Many students with intellectual disabilities and autism struggle to have meaningful social interactions with their peers. The purpose of this study is to examine the effects of the intervention of filming the creation of a contingency contract and using that video to prompt elementary-aged students with disabilities to engage in appropriate social behavior. The participants in this study are four elementary-aged students with intellectual disabilities and autism who have target social skills deficits. The targeted social skills were greeting peers, initiating conversations, and asking peers to play. The use of contingency contracts, contingency contracts plus structured review, and contingency contracts plus video prompting was evaluated using a multiple baseline across participants design. Each participant had a baseline of zero and after treatment increased the frequency of social skills from one to three instances. Data collected

showed both the interventions of contingency contracts plus structured review and contingency contracts plus video prompting were similarly effective at increasing social skills.

(45 pages)

PUBLIC ABSTRACT

The Effects of a Treatment Package Combining Contingency Contracts
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Many students with intellectual disabilities and autism struggle to have meaningful social interactions with their peers. Research shows that using video modeling can increase social skills in students with disabilities, but it has never been studied in comparison to or in combination with “IF....THEN...” behavior contracts. The purpose of this study is to examine the effects of video prompts on elementary-aged students with disabilities to increase appropriate social interactions with their peers through filming the creation of an “IF....THEN...”contract. The participants are four elementary-aged students with intellectual disabilities and autism who have target social skills deficits. The targeted social skills were: greeting peers, initiating conversations, and asking peers to play. The use of “IF....THEN...” contracts, contracts plus structured review, and contracts plus video prompting was evaluated. Each participant had a baseline of zero and after treatment increased the frequency of social skills from one to three instances. Data collected showed both the interventions of “IF....THEN....” contracts plus structured review and contracts plus video prompting were similarly

effective at increasing social skills. Treatment had lasting effects in three of the participants when it was completely phased out.

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INTRODUCTION

Social skills are necessary in order to interact with the people around you.

Children typically acquire social skills by observing their families and peers (Avcioglu, 2012). To the concern of parents and teachers, children with significant disabilities do not always acquire social skills the same way their non-disabled peers do. Oftentimes, social skills need to be systematically taught for children with significant disabilities. Social skills and the development of relationships in childhood are extremely important and can predict community participation, long-term life success, and quality of life (Smith & Wallace, 2011). Children with significant disabilities need to acquire appropriate social skills in order to improve their quality of life.

Lillvist (2010) studied the social interactions of preschool students with and without disabilities. She found that typically developing children were more verbal with other children compared to their peers with disabilities. Children with disabilities showed fewer positive emotions and scored lower on the social-emotional warmth index than their typically developing peers. Furthermore, Carman (2012) also described that students with disabilities struggle with interpreting non-verbal cues, and have reduced empathy. Being able to interact with peers and develop relationships are skills that need to be taught to students with disabilities.

To teach social skills or appropriate behaviors, teachers need to employ an arsenal of interventions. Each student is different with their own unique needs, which makes a “one intervention fits all” strategy highly unlikely to serve the needs of all students. One way to address behavior is to implement interventions before the behavior has occurred. These are antecedent based interventions. Antecedent based interventions are well

established and have proven to effectively develop desirable behaviors (Cooper, Heron, & Heward, 2007).

One example of an antecedent intervention is a contingency contract (Cooper et al., 2007). Contingency contracts are designed to give a delayed reward for a specific behavior. There are three major parts to a contingency contract: (a) task or behavior, (b) reward, and (c) progress monitoring. Contingency contracts can be successful because they provide a clear if-then statement and students are able to obtain reinforcement. Using contingency contracts can be very effective in increasing a desired behavior (Cooper et al., 2007).

Another effective antecedent intervention for increasing desired behaviors is video prompting (Buggey, 2007). Video prompting can also be called video-based intervention, or video modeling. Video prompting involves videotaping a desired behavior and then playing the video to an individual targeted for intervention. Video prompts can be recorded using smart phones, iPods, iPads, and Flip video cameras and the videos can be discreetly viewed using the same devices. With the technology available, video prompting can be an easily implemented and effective behavior intervention (Krantz, MacDuff, Wadstrom, & McClannahan, 1991).

LITERATURE REVIEW

A literature review was used to determine, based on the research, how effective the interventions of contingency contracting and video prompting are. The research was also examined to study the populations, behaviors, and settings in which each intervention has been successfully used. I used the EBSCOhost and Google Scholar search engines. In EBSCOhost the search terms were “social skills,” “disabilities,” “antecedent based interventions,” “contingency contracts,” “video prompting,” and “special education.” Articles were excluded if they were not experimental studies of contingency contracts or video prompting to increase appropriate behavior, the wrong age group, or did not relate to disabilities or special education. The following 4 studies were the most relevant to the current research.

Cantrell, Cantrell, Huddleston, and Woolridge (1969) described one of the first uses of contingency contracts as a behavior modification tool in a public school setting. The participants in this study were public school children aged 6 to 17 years old. The targeted behavior of the participants varied greatly from elopement, off-task, aggression, non-compliance, to achievement motivation. The researchers defined their dependent variable as problem behavior. The independent variable was a contingency contract developed by defining the problem behaviors for each individual student, identifying reinforcers, and communicating with parents at home and teachers at school to monitor the participants’ progress. The participants earned points for engaging in certain behaviors and points could then be exchanged for reinforcers.

To measure the effects of the contingency contract intervention, the researchers looked at each participant’s ideal behavioral objective and measured it accordingly. The

result of using a contingency contract for one participant was measured by comparing academic grades before and after intervention. The participant's grades improved in three out of the six subjects he was taking. Another participant, who did not like to go to school, was attending school without resistance on the eighth day of intervention.

The researchers were able to show that contingency contracts were effective within a school and on a variety of behavior problems. In addition, they found contingency contracts to be time-efficient and cost effective. The researchers also described that the fading procedures for using contingency contracts were natural, the school year ended, and participant driven because participants often gave clues when to cease the program which can lead to better self-management. The positive effects found in this study were also found in the following study.

Ruth (1996) studied the effects of contingency contracts and goal setting on reducing problem behavior in students with disabilities. The participants in the study included 43 students who were receiving special education services and classified as having emotional disturbance, learning disability, or other health impairment. Each of the participants was in a public elementary school's self-contained classroom that had an average of eight students. The study took place within the participants' classrooms.

The independent variable in the study was a contingency contract containing five components: a main goal for the intervention, target behavior, recording, feedback, and reward contingency. The dependent variables varied greatly, but the purpose of this intervention was to decrease the problem behaviors of hitting, fighting, inappropriate language, leaving one's seat, elopement, and arguing. Decreases in problem behavior

were measured by the percentage of days that the participants were able to obtain their reward chosen for their behavior contract.

No baseline data were recorded which is problematic for the validity of the study, but the results showed that 75% of the students followed the stipulations of their contracts and earned their rewards after the intervention was implemented. This high success rate suggested that the contingency contracts and goal setting may have been effective in decreasing problem behavior. The study also suggested that using contingency contracts with students who have severe behavior issues may be effective in reducing problem behaviors. Contingency contracts may be an effective antecedent intervention, but, as stated before, one intervention does not always work for every student. The following study will examine another antecedent intervention and its ability to reduce problem behaviors.

Video prompting is another antecedent intervention. Esveldt, Dawson, and Forness (1974) were some of the first researchers to examine the effects of video prompting on problem behavior. The researchers sought to decrease problem behavior by comparing different interventions that involved video prompting. The participants were three 10-year-old boys from a self-contained special education elementary classroom with less than 12 students in it. All of the participants had a history of non-attentive and disruptive behavior defined as being out of one's seat, negative interactions with teachers and peers, hostile or disruptive behavior, and off-task. Two of the participants received treatment while data were taken on the third participant without treatment to control for confounding variables within the classroom. The research took place in the participants' classroom.

Data were collected through a one-way mirror on the dependent variables of inappropriate behavior and appropriate behavior. The independent variable involved five phases. The first phase was baseline where no treatment was given. The second phase consisted of a discussion between the participants and researcher, who was also the teacher, about behavior in class. The discussions lasted less than 10 min for each participant who received treatment. During phase three the researcher told the participants that they would be videotaped throughout the day. In phase four the students watched a video that featured them engaging in appropriate and inappropriate behavior. The videos were less than 10 min and the participants were given a chance to ask questions at the end, but no commentary was made by the researcher. The final phase involved the students watching their videos while discussing what they saw with the researcher.

During baseline, Participant 1 showed appropriate behavior during 42% of the intervals and Participant 2 showed appropriate behavior in 49%. Each phase increased the percentage of appropriate behaviors, but the final phase, which involved viewing the video and discussing what was seen, increased appropriate behavior to 90% for Participant 1 and 75% for Participant 2. Based on the data, the researchers were able to show a relation between increased appropriate behavior and viewing and discussing videotapes of the participants in the classroom environment. They described the method as “catching the child in the act” (p. 454 Esveldt et al., 1974). The researchers mention that future research on other children who may not be as attentive to videos and social perspective as the ones in this study, would improve this line of research. The next study

used video modeling with students who have more significant disabilities and found similar positive results.

Cihak, Fahrenkrog, Ayres, and Smith (2010) studied the effects of using video prompts, viewed using an iPod, to improve transitional behavior in students with autism. Each participant was an elementary school aged student with autism who had difficulties with transitions. The study took place in the general education setting in the participants' neighborhood schools. The researchers used a video camera and the iMove movie-creating software to create the videos.

The dependent variable varied across participants but included aggression, elopement, and sitting on the floor. Ten daily transitions were chosen for each student to complete independently and any instance of the targeted inappropriate behavior that required adult intervention was considered an assisted transition. Event recording was used to determine the number of independent transitions.

The researchers used an ABAB experimental design. The independent variable in the study was viewing a video on the iPod that depicted the participant appropriately transitioning. The video was used to prompt the students to successfully complete each transition. After the student watched the video of him or herself transitioning, they were then prompted to line up and engage in the transition. In baseline, the participants independently transitioned an average of 7% of the time. During the video prompt stage, the average of independent transitions increased to 77%. When the video prompt was withdrawn, decreasing rates of independent transitions were observed. When the video prompt was reinstated, the number of independent transitions increased to 88%. A 9-week maintenance check, which was conducted after the videos had been faded and the

students no longer viewed them before transitioning, showed that the students continued to transition independently at high levels. Problem behaviors associated with transitions were nonexistent at the end of the study.

The study showed how effective video prompting was in aiding transitions. One key ingredient this study points out about video prompting was that it was socially acceptable and unobtrusive. There was very little prompting needed from the teacher, which made the intervention less noticeable to classroom peers. iPods were a socially acceptable device and were discreet. The participants liked to watch themselves on the video too, and very little lecturing/language was needed to teach the participants how to successfully transition. The use of video prompting was successful in reducing problem behavior during transitions.

Purpose Statement and Research Questions

Contingency contracts have been shown to be an effective intervention because they provide students with a clear target behavior that will earn rewards that they have chosen (Cantrell et al., 1969; Ruth, 1996). Video prompting has also been shown to be an effective antecedent intervention by providing the participants with a visual cue (Cihak et al., 2010; Esveldt et al., 1974). Both interventions have been shown to be effective with students who have disabilities. However, the use of a treatment package featuring contingency contracts combined with a video prompt has not been evaluated. The purpose of this study is to examine the effectiveness of the intervention of filming the creation of a contingency contract and using that video to prompt elementary aged students with disabilities to engage in appropriate social behaviors with adults and peers.

The study will address two research questions:

1. Will an intervention package including video prompting and contingency contracting improve social skills in elementary aged students with intellectual disabilities and autism versus social skills when contingency contracts are used without video prompting?
2. What is the relative effectiveness of (a) contingency contract with structured review, and (b) contingency contract with a video prompt, for improving student social skills in elementary aged students with intellectual disabilities and autism?

METHOD

Participants and Setting

Four students with intellectual disabilities and autism participated in this study. All of the participants attended a public elementary school in the western part of the U.S. and were placed in a self-contained special education classroom for a large part of their school day. The participants included one female and three males in second through fifth grade. Three of the participants are classified as having an intellectual disability based on scores two standard deviations below average on the Stanford Binet Intelligence Test and Vineland Adaptive Behavioral Scale. One participant is classified as having autism based on scores obtained from the GARS Autism Rating Scale and Vineland Adaptive Behavioral Scale. Based on classroom and home observations these participants lacked important social skills. Data obtained by the classroom teacher and Speech Language Pathologist showed that the participants needed several prompts to engage in a variety of appropriate social behaviors. Target social skills were determined immediately prior to the study based on the participants' current IEP goals and social behavior needs. A checklist created by Speech Language Pathologists in the school district was also used to provide guidelines for the most important social skills for students in self-contained classroom settings.

The target social skill for Participant 1 was asking someone to play. This participant was observed to play by himself at recess, running back and forth on the perimeter of the playground. His parent added that outside of school, this participant

would say hi to other children and then would follow them around not really being included. Asking peers to play using the phrase “Hi, do you want to play?” was targeted.

Participant 2’s mother had concerns about his best friend that he tried to emulate. She wanted him to branch out and make new friends. Observing this student at recess, he followed his best friend and imitated everything he did; the good and bad. One of the Speech Language Pathologist’s targets for this student was to greet peers. This same target – greeting peers and asking if they want to play – was used for this study to help him meet his goals and meet new friends.

Participant 3’s target social skill was also greeting peers. He spent most of recess sitting on the bench. Oftentimes, when he was greeted, he wouldn’t acknowledge the peer. His parents observed this same behavior quite frequently, and wanted him to provide some sort of feedback to his peers, so that they would continue to interact with him. Greeting peers is a target social skill on the participant’s IEP.

The final participant had demonstrated a variety of social skills at recess. She would greet her peers and play with them. She was making more and more friends this year than in the past. However, it was observed that she would greet her same age peers and then struggle to continue the interaction. She was observed to play with much younger children. The target social skill for this participant was to start a conversation with peers using the phrases, “how are you?” and “what are you doing?”

The study took place in the participants’ kindergarten through sixth grade self-contained special education classroom and outside on the school playground. The classroom is rather large with three kidney shaped tables, four rectangular tables, 13 student desks, and a time-out room. Throughout the day students were coming and going,

but there were usually 13 students, one teacher, and four paraprofessionals present in the room. The treatment sessions of creating the contingency contract took place at one of the participants' desks with one participant at a time and the teacher. Video prompting and structured review took place between the lunchroom and playground. Data collection took place on the participants' playground. The playground had two jungle gyms and a large field. The classroom teacher, two paraprofessionals, and three recess supervisors were the adults present on the playground. Second and fifth graders were on the playground for the first 15 min of data collection. First and fourth graders were on the playground for the second 15 min of data collection, providing grade level peers for each participant. Approximately 160 students were on the playground during data collection.

Dependent Variable and Response Measurement

The dependent variable was social skills. Social skills were defined differently for each participant depending on their areas of need. Afternoon recess, which was approximately 30 min, proved to provide the best opportunity for social interactions. Data for each participant was collected during his or her 30 min afternoon recess.

The researcher, who is the teacher, conducted training sessions and was the primary data collector. One classroom paraprofessional was also trained in collecting data. The researcher trained the paraprofessional to record data by reviewing the definition of each social skill to be observed, practicing examples and non-examples, and collecting data while being observed by the researcher. Data were recorded using a frequency recording method. The data collector carried a clipboard, and tallied all the

instances of the targeted social skill in one session. Social skills were analyzed by counting the number of the social skill occurrences.

Interobserver Agreement (IOA)

Interobserver agreement (IOA) was recorded on 32% of the sessions and across all of the phases. The researcher and one classroom paraprofessional took data simultaneously using the same data sheet and materials. IOA was calculated by comparing the frequency of occurrences per session. For each session, the percent agreement was computed as the smaller count divided by the larger count multiplied by 100% for each participant. The percentages were then added together and divided by four to get a total percentage for the day. The range of the percent agreement was 80% to 100%. The overall average of sessions agreed on was 93%. The small range and large average show that the data is reliable.

Treatment Integrity

In order to avoid confounding variables, treatment integrity was measured to ensure the application of the independent variable was accurate and consistent. As seen in Appendix A, a checklist was created for each phase listing the implementation steps for the independent variable. A classroom paraprofessional, one who did not take interobserver data, recorded data on the proper implementation of the steps on the checklist. Treatment integrity was collected on 32% of the sessions across all of the conditions. A percentage score was calculated by dividing the number of steps implemented correctly by the total number of steps and multiplying by 100% for each

participant. The day was averaged out by adding the treatment integrity for each participant and dividing by four. The treatment integrity for this study was 97%.

Experimental Design

The experimental design was a multiple baseline across participants design (Cooper et al., 2007). The experiment included three treatments to evaluate the effects of (a) contingency contracts, (b) contingency contracts plus structured review of the contract, and (c) filming the creation of the contingency contract and using it as a video prompt, on social skills. This design was selected because it could show which treatment was the most effective at modifying behavior and whether or not either treatment was more effective than baseline. Multiple treatment interference (i.e., an order effect) was a concern because it could have resulted in confounding variables associated with the effects of one treatment on the participants' behavior being influenced by the effects of another treatment. To gain greater understanding of possible order effects, half of the participants received treatment 1 first, while the other half of participants received treatment 2 first.

Procedures

Baseline

Baseline was conducted for each participant at the beginning of the experiment. The baseline phase involved recording the frequency of the targeted social skills exhibited. No intervention was in place during this time. However, since the beginning of the school year, each student had participated in a week-long lesson that involved role

playing, games, discussion, and homework for a targeted social skill. The social skills of greeting peers, and asking peers to play had been taught three months prior to data collection. The social skill of starting conversations with peers had been taught one month prior to data collection. The lessons were twice a week for 45 min. The participants knew the steps for each social skill, but had not generalized it to the playground setting.

No rewards were given for social skills during baseline. The participant with the most stable baseline received treatment first. Steady-state responding was obtained in baseline before the treatment was applied.

Contingency Contracts

After baseline, the participants received the treatment of contingency contracts as seen in Appendix B. The contingency contract was created at the beginning of the day. The student was told the specific social skill they needed to engage in and the criteria for earning a reward. The student pointed to a picture or stated the reward they wanted to earn as seen in Table 1. Rewards were determined based on checklists from parents, preference assessments, and observations from the teacher. The treatment session ended with the student and teacher signing the contract. In this phase the contract was created 3 hours before data collection. During data collection, if the participant demonstrated the social skill, he or she was rewarded upon returning to the classroom. As the students returned to the classroom, they either moved to their reward or the teacher directed them to it. If they chose an activity (playing the iPad), they had 5 min with their reward while the rest of the class transitioned from a bathroom break to a large group lesson. The

Table 1

Contingency Contract Creation Script

<u>Teacher Says/Does</u>	<u>Participant Says/Does</u>
1. Shows student the contract.	
2. "Let's make a deal."	
3. "IF you (say hi to someone)....."	
4. "THEN you get a reward!"	
5. "What reward would you like to earn?"	Points to or says reward
6. "Show me how you (say hi to someone)."	Demonstrates skill
7. Verbal praise	
8. "Remember IF you.....THEN you get....."	
9. Sign contract	Sign contract

participants received the same reward no matter how many times they engaged in the targeted skill.

Contingency Contracts with Structured Review

One of the treatments was contingency contracts with structured review. The participant and researcher created a contract at the beginning of the school day as described above. The contract was then reviewed immediately prior to the data collection period as seen in Table 2. The structured review consisted of the teacher modeling and the student mimicking what the social skills look like and role playing examples of each (i.e. "watch me greet someone."). The model and lead were removed as the student showed independent targeted social interactions. As in the contingency contract condition, rewards were given immediately after recess and the same amount of reward was given no matter the number of times the social skill was demonstrated.

Contingency Contracts with Video Prompts

The other treatment was contingency contracts with video prompts. The

Table 2

Contingency Contract Plus Structured Review Script

<u>Teacher Says/Does</u>	<u>Participant Says/Does</u>
1. Shows student the contract	
2. “Let’s look at the deal.”	
“IF you (say hi to someone).....	
THEN you will get a (reward)!”	
3. “Let’s practice what that looks like.”	
“Watch me.” MODEL	Watches
4. Follow the steps for (greetings)	
“Do this with me.” LEAD	Follows steps with teacher
5. Guides student through steps	
“I want to see you do this by yourself.”	Demonstrates social skill
Monitor	
6. Verbal praise	
7. “Remember if you do this you	
get a reward!”	
8. Sign contract	
*The steps in non-bold were faded in a later phase	

researcher and participant created a contract (as described above) and recorded this process using an Apple iPad at the beginning of the school day. The video showed the participant choosing a reward, signing the contract, and demonstrating the skill. The video was less than 5 min and was viewed immediately prior to data collection after the participants finished lunch. Before viewing the video, the researcher said, “Let’s watch the contract we made.” Using the iPad to view it, the video was used as a prompt. During the video, there was no commentary by the researcher. After viewing the video the IF....THEN.....statement was repeated. If the participant demonstrated that social skill, he or she was rewarded as soon as recess was over and they had returned to the classroom as described in the contingency contract phase.

Fading

Once the participants met the criteria of one social skill interaction per 30 min session across three consecutive sessions, fading began. The criteria was based on baseline data, the reachable number of social skills for each participant was one. The criterion was never adjusted for Participant 1, who would ask a peer to play, because he would continue to play with the peer throughout recess. That was preferred to him asking several people and not playing with anyone for very long. Participant 4 would start a conversation with a peer and then play with them, making one response appropriate. Participant 2 and 3 were saying hi to peers and this was never increased because they were also encouraged to play. In the first step of fading, the structured review or video prompt was removed. The students still signed the contract and earned a reward for following the stipulations. The second step of fading – removal of the contract – was implemented after another three sessions. This second step of fading returned each participant to baseline conditions except they were still able to earn rewards when they demonstrated the skill. After recess the researcher would say, “I saw you (greet peers) you may choose a reward.” The participant would then choose a reward.

Data Analysis

The two research questions were addressed by analyzing the frequency of target social skills in each session. The researcher compared the data from each treatment to see which produced a higher level of targeted social skills. Data were presented in the form of a graph.

RESULTS

Prior to data collection, the researcher anticipated that using a contingency contract would slightly increase social skills in all the participants. It was anticipated that both the treatments of structured review and video prompts would further increase the frequency of targeted social skills by each of the participants. The added review was predicted to be more effective than the contract alone. The treatment of a contingency contract plus video prompt was expected to produce the highest number of social skills.

Results are shown in Figure 1. It was determined that contingency contracts alone did not increase the frequency of targeted social skills in participants 1 and 2. For each participant, the last four data points in this phase were zero. The contingency contract phase produced variable results for Participant 3 with a frequency ranging from 0 to 2. Contingency contracts did have an effect on this participant increasing social skills to at least one occurrence during 10 of the 13 days of data collected in this phase. Steady state responding was not obtained in the contingency contract phase for this participant. Contingency contracts increased Participant 4's social interactions from 0 to 1. Overall, the initial contingency contract phase did not have too much of an effect on the first two participants. However, this was anticipated because there was a 3-hour delay between the time when the participants created the contingency contracts and the time that the data was collected. The slight increase in social skills for the other two participants was unexpected in this phase.

After the contingency contract phase, two participants received contingency contracts plus structured review first, while the other two participants received contingency contracts plus video prompts. In the contingency contract plus structured

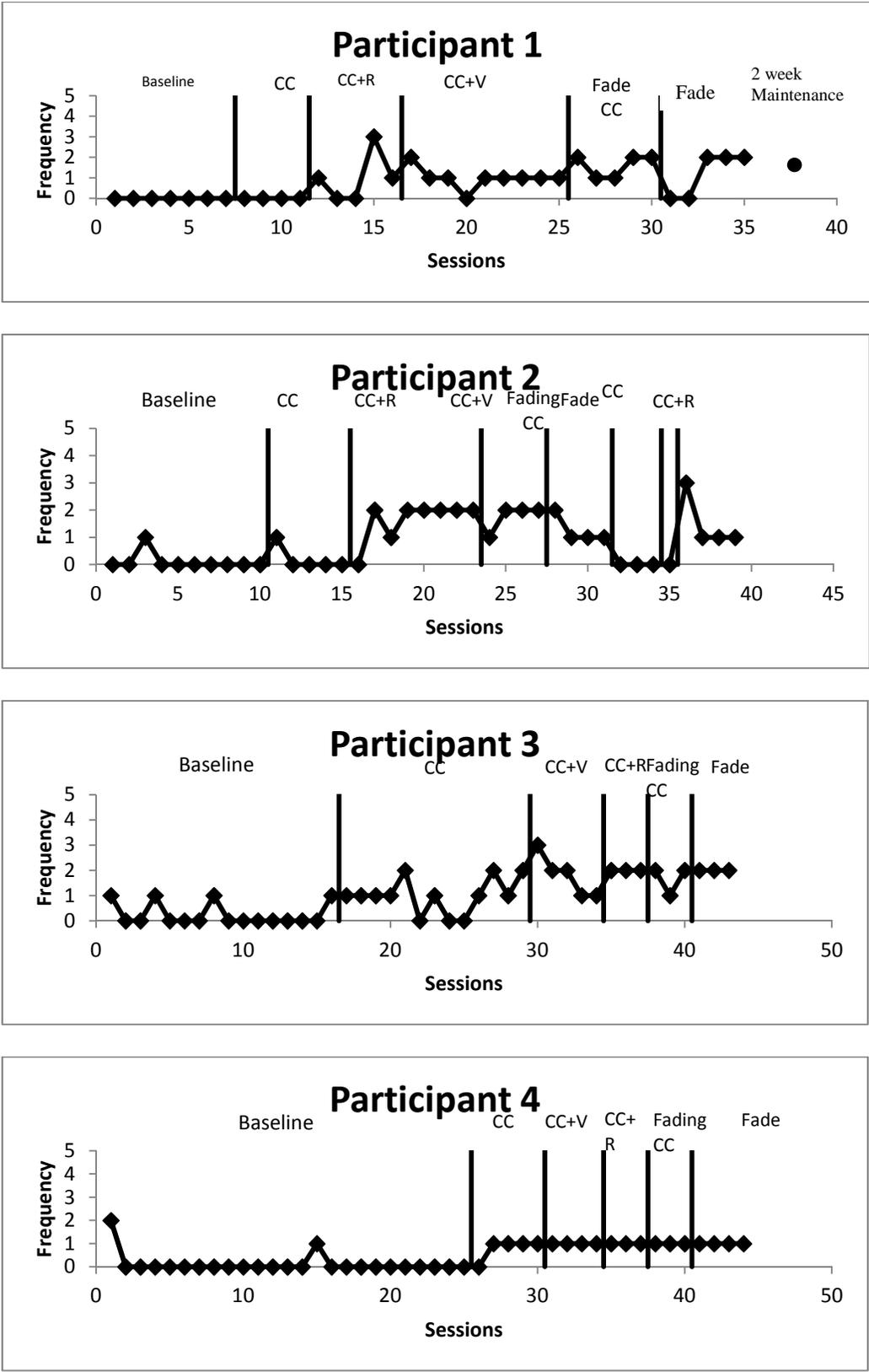


Figure 1. Data on the frequency of targeted social skills per session for four participants.

review phase, Participant 1 reached his highest frequency of social skills. His data varied between 0 and 3 with an upward trend. In contingency contracts plus video prompts, he stabilized at one instance per session. Participant 2 had responded almost exactly the same in both the structured review and video prompts phases. He stabilized at a frequency of two social skills per session. Participant 3 initially increased social skill instances to three when the contingency contract plus video was first introduced. His data had a downward trend throughout the video phase and steady state responding was not obtained in this phase. Contingency contracts plus review were introduced in the next phase and responding stabilized at two instances per session. Participant 4 had steady state responding at one instance across all treatment phases with no variability. Based on the data, the frequency of social skills was impacted by the treatment phases, but not by one treatment more than the other.

In the first step of the fading phase, Participant 1 maintained the frequency of social skills between one and two instances. As the treatment was completely faded, the frequency dropped to zero for two data sessions and then increased and stabilized at two. A maintenance data point was taken for Participant 1 two weeks after the treatment was completely faded and he continued to demonstrate two instances of the targeted social skill. Steady-state responding at two for Participant 1 was due to the fact that for the first 15 min of recess two grades were playing on the playground, and the last 15 min the two grades left and two new grades replaced them. He would ask someone to play the first 15 min and after they went inside he would find a new peer to ask to play. Participant 2 had a downward trend in the first step of fading. His frequency decreased from two instances to one. When the treatment was completely faded, Participant 2 no longer demonstrated

the targeted social skill. He was returned to the contingency contract phase to try to re-create the positive effects of the treatment. Once reinstated, the participant continued to show zero instances of social skills. The treatment was upped to the contingency contract plus review phase and instances of social skills returned to initially three and then stabilized at one. He ended the study in this phase continuing to receive treatment. When the treatment was faded for Participant 3, he continued to maintain steady state responding at two instances of his targeted social skill for each step of fading. Participant 4 stabilized at one instance through each fading step. Participant 4's steady state at one could be due to the fact that her same age peers were at recess the first 15 min of data collection. Participant 4 would start a conversation and play with a peer for the whole time they were outside. After her same-age peers went inside, she didn't start conversations with the younger students on the playground. For three of the participants, the treatment had lasting effects after it was faded.

DISCUSSION

Given the results, it can be concluded that the participants in this study increased the frequency of their targeted social skills in the treatment phases. All of the participants had baselines of zero and increased in the treatment phases. Contingency contracts without any sort of prompting were effective for Participant 3. Participant 3 was different from the other participants in that he remembered the contingency contracts. He would come to school in the morning ready to choose a reward remembering that we created the contingency contract at the beginning of the school day. His memory made it so that the extra prompting was not needed. Contingency contracts plus video prompting did not prove to be any more effective than other treatments. Each participant showed somewhat similar responding between the two treatment phases. When the treatment was faded, results decreased for Participant 2 possibly because the social interactions themselves were not sufficiently reinforcing and without the prompt or review immediately before data collection, he had forgotten. For Participant 2, treatment could have been faded in smaller steps to help him maintain the number of times he greeted peers. Fading could have started with removing the full review to just a verbal reminder from the teacher. To try to introduce self-prompting, another fading step could have been the researcher asking the participant, "What are you supposed to remember to do this recess?" as his verbal reminder. The other three participants maintained social skill interactions for at least three days of steady state responding.

Results demonstrated that combining the behavior change interventions of contingency contracts with video prompts can be an effective strategy for teaching social skills. Each participant seemed to really like the interventions as well, which is important

to consider when creating intervention plans. The participants would walk into the classroom in the morning and tell the teacher what they would like to earn and were ready to complete the contract. Participant 2 cried when the contingency contract was faded from his treatment. He calmed down after it was explained that he could still earn rewards for saying hi to his peers. Each participant readily participated in structured review or video prompting with no protesting even though these occurred immediately prior to recess. These responses from the participants to the treatment were more positive than was expected.

One implication that can be drawn from the results is that contingency contracts were an effective intervention tool for students with intellectual disabilities and autism when used immediately before the targeted time for intervention and when paired with structured review or video prompts. Another implication is that video prompts and contingency contracts could be combined as an intervention to help increase a variety of appropriate social behaviors. For teachers in special education classrooms, this could be a useful tool especially when working students who rarely engage in important social skills that will help them function not only in their school setting but in their home and community as well. Contingency contracts and video prompts proved to each increase the frequency of social skills. The technologies available in classrooms, such as, iPads, iPods, or Flip cameras, and the easy access to contingency contract materials make the addition of video prompts or contingency contracts to an intervention very plausible and easily executed.

Though there are possible benefits to this study, there are some limitations as well. One limitation is that there could have been a carryover effect from the first

treatment to the second treatment. In an attempt to make any carry over effect obvious, two of the participants began with the video prompt treatment while the other two participants received the structured review treatment first. In doing this, it was hoped that the effects of each treatment without the influence of another treatment would be clear. Participant 1 and 2 had increased frequencies of social skills after the first treatment of contingency contracts plus structured review was added. Participant 3 and 4 also had an increase of social skill frequencies when their first treatment of contingency contracts plus video prompts was added. This helped to show that each treatment increased the frequency of targeted social skills without a carryover effect. Another limitation is that there were other ways the students could have been learning the social skills besides the interventions described. Verbal praise was given every time the participants demonstrated the social skill when creating the contract with the teacher. The consequences received after recess could have been the most motivating factor, rather than the review or video prompts.

Along with the possible limitations, there were some unexpected results in this study. Each treatment was anticipated to be effective, but video prompting was expected to increase the frequency of social skills more than the other treatments. The frequency of social skills increased from baseline, but structured review and video prompting seemed to be equally effective. This has provided helpful information, making it clear that video prompts were not necessary to enhance the effects of the contingency contract with review. Another unexpected result was that the frequency of social skills was not maintained once the treatment was completely faded in Participant 2. One reason could be that this particular participant is very shy and has other personality traits that hold him

back from social interactions. He also needed a reminder because the 3 hour delay was difficult for him. The researcher was vigilant for any other extenuating circumstances that would affect the data. Participant 3 has a seizure disorder, so days that he had a seizure before data collection were not counted. No other unexpected results were observed.

Future research should be conducted to evaluate the effects of adding video prompts and structured review to teach different types of social skills or appropriate behavior. Teaching alternative behaviors to compete with inappropriate behaviors could be taught using this system. Students who do not have intellectual disabilities or autism could be participants in further research on the topic. The study focuses on students who spend most of their day in a special education classroom, so future research could evaluate the effects of this type of treatment for special education students in a general education classroom. The effects of video prompting and structured review could be evaluated on students with different types of behaviors or behavior functions. Different recording measures could be used in future research. This study focused on a frequency count, but measuring the duration of the social interactions would also provide useful feedback. Completely fading external reinforcers was not evaluated in this study, but it is a crucial part to any intervention to make reinforcement more natural and to sustain and generalize behaviors. Providing a study with faded external reinforcers in the future would be valuable. This study used an iPad to view the video, but further research could evaluate different modes of technology and even more discreet devices.

There are many ways to implement video prompting because of the new, user friendly technology accessible to everyone. Video prompting's use is supported by many

studies and future research should consider its use in combined treatment packages where it is so readily available. It is hoped that this study will be able to add to the evidence on video prompting and help teachers to improve social skills teaching strategies. Improved social skills lesson plans provide students with better ways to communicate, and can improve students' lives. Enhanced social skills allow these students to fully access their educational, communal, and home environments.

REFERENCES

- Avcioglu, H. (2012). The effectiveness of the instructional programs based on self-management strategies in acquisition of social skills by the children with intellectual disabilities. *Educational Sciences: Theory and Practice, 12*(1), 345-351.
- Buggey, T. (2007). A picture is worth....video self-modeling applications at school and home. *Journal of Positive Behavior Interventions, 9*, 151-158.
- Cantrell, R. P., Cantrell, M. L., Huddleston, C. M., & Wooldridge, R. L. (1969). Contingency contracting with school problems. *Journal of Applied Behavior Analysis, 2*, 215-220. doi: 10.1901/jaba.1969.2-215
- Carman, S. J. (2012). Children who experience difficulties with learning: Mother and child perceptions of social competence. *Australian Occupational Therapy Journal, 59*(5), 339-346.
- Cihak, D., Fahrenkrog, C., Ayres, K. M., & Smith, C. (2010). The use of video modeling via a video iPod and system of least to most prompts to improve transitional behaviors for students with autism spectrum disorders in the general education classroom. *Journal of Positive Behavior Interventions, 12*, 103-115.
- Cooper, J. O., Heron, T. E., & Heward, W. L. (2007) *Applied behavior analysis*. Upper Saddle River, NJ: Pearson Education.
- Esveldt, K. C., Dawson, P. C., & Forness, S. R. (1974). Effect of videotape feedback on children's classroom behavior. *The Journal of Educational Research, 67*, 453-456.

- Krantz, P. J., MacDuff, G. S., Wadstrom, O., & McClannahan, L. E. (1991). Using video with developmentally disabled learners. In P. W. Dorwick (Ed.), *Practical guide to using video in the behavioral sciences* (pp. 256-266). Oxford, England: John Wiley.
- Lillvist, A. (2010) Observations of social competence of children in need of special support based on traditional disability categories versus a functional approach. *Early Child Development and Care, 180*(9), 1129-1142, DOI: 10.1080/03004430902830297
- Ruth, W. J. (1996). Goal setting and behavior contracting for students with emotional and behavioral difficulties: Analysis of daily, weekly, and total goal attainment. *Psychology in the Schools, 33*, 153-158.
- Smith, T. J., & Wallace, S. (2011). Social skills of children in the U.S. with comorbid learning disabilities and AD/HD. *International Journal of Special Education, 26*(3), 238-247.

APPENDICES

Appendix A
Treatment Integrity Checklists

Date: _____

Initials _____

Treatment Integrity Checklist *Contingency Contracts*

- _____ Created at the beginning of the school day
- _____ Clear “IF” statement
- _____ Clear “THEN” statement
- _____ Participant chooses reward
- _____ Demonstration of social skill by participant
- _____ Criteria for earning reward stated verbally
- _____ Teacher and participant sign contract

Date: _____

Initials

Treatment Integrity Checklist *Contingency Contract w/Review*

- _____ Contract created at the beginning of the school day
- _____ Clear "IF" statement
- _____ Clear "THEN" statement
- _____ Participant chooses reward
- _____ Demonstration of social skill by participant (may need a model)
- _____ Criteria for earning reward stated verbally
- _____ Teacher and participant sign contract

- _____ Reviewed immediately prior to data collection
- _____ Verbally state "IF," "THEN," statements
- _____ Student demonstrates targeted social skill w/researcher
- _____ Criteria for earning reward stated verbally

Date: _____

Initials

Treatment Integrity Checklist *Video Prompting*

- _____ Contract created at the beginning of the school day
- _____ Records process of creating contingency contract (beginning of school day)
- _____ Clear "IF" statement
- _____ Clear "THEN" statement
- _____ Participant chooses reward
- _____ Demonstration of social skill by participant (may need a model)
- _____ Criteria for earning reward stated verbally
- _____ Teacher and participant sign contract

- _____ Show video immediately prior to data collection
- _____ Criteria for earning reward stated verbally

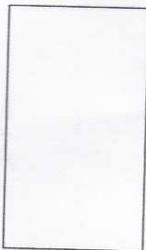
Appendix B

Contingency Contracts

IF... I start a conversation, THEN... I get

<p>iPad</p> 	<p>toys</p> 	<p>snack</p> 
<p>early store</p> 	<p>candy</p> 	<p>coloring</p> 
<p>nap</p> 	<p>computer</p> 	<p>listen to music</p> 
<p>hug</p> 	<p>puzzle</p> 	

IF... I say "hi" to other kids, THEN... I get



iPad 	early store 	candy 	coloring 
toys 	nap 	computer 	listen to music 
snack 	hug 	puzzle 	

IF... I ask someone to play, THEN... I get

iPad 	early store 	candy 	coloring 
toys 	nap 	computer 	listen to music 
snack 	hug 	puzzle 	