



MSU Graduate Theses

Fall 2015

The Effect of a Social Skills Package on Initiations, Responses, and Turn-Taking in Young Children with Autism

Mary Elizabeth Ortman

As with any intellectual project, the content and views expressed in this thesis may be considered objectionable by some readers. However, this student-scholar's work has been judged to have academic value by the student's thesis committee members trained in the discipline. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

Follow this and additional works at: <https://bearworks.missouristate.edu/theses>



Part of the [Special Education and Teaching Commons](#)

Recommended Citation

Ortman, Mary Elizabeth, "The Effect of a Social Skills Package on Initiations, Responses, and Turn-Taking in Young Children with Autism" (2015). *MSU Graduate Theses*. 1555.

<https://bearworks.missouristate.edu/theses/1555>

This article or document was made available through BearWorks, the institutional repository of Missouri State University. The work contained in it may be protected by copyright and require permission of the copyright holder for reuse or redistribution.

For more information, please contact BearWorks@library.missouristate.edu.

**THE EFFECT OF A SOCIAL SKILLS PACKAGE ON INITIATIONS,
RESPONSES, AND TURN-TAKING IN YOUNG
CHILDREN WITH AUTISM**

A Masters Thesis

Presented to

The Graduate College of
Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree
Masters of Science in Education, Special Education

By

Mary Elizabeth Ortman

December 2015

Copyright © 2015 by Mary Elizabeth Ortman

THE EFFECT OF A SOCIAL SKILLS PACKAGE ON INITIATIONS, RESPONSES, AND TURN-TAKING IN YOUNG CHILDREN WITH AUTISM

Counseling, Leadership, and Special Education

Missouri State University, December 2015

Master of Science in Education

Mary Elizabeth Ortman

ABSTRACT

The current study was completed in the Spring of 2015 in an elementary special education classroom. This single-subject ABAB withdrawal design utilized a social skills curriculum, self-monitoring, and video-modeling to increase the initiations, responses, turns-taken, and total duration involved in social play in two first grade males with autism. Limitations included time constraints and the setting of a busy classroom. During 15-minute data sessions, participant one's initiations increased from a mean frequency of 2 during A1 to 28 during B2, responses increased from a mean frequency of 3 to 26, turn-taking increased from a mean frequency of 10 to 29, and duration engaged in a social interaction increased from a mean of 4 minutes and 19 seconds to 14 minutes and 5 seconds. Participant two's initiations increased from a mean frequency of 4 to 24, responses increased from a mean frequency of 5 to 21, turn-taking increased from a mean frequency of 7 to 23, and duration increased from a mean of 3 minutes and 45 seconds to 14 minutes and 16 seconds. It is recommended that future research utilize parent-delivered social skills training programs, lower functioning participants, siblings as peer-trainers, generalization probes, and component analysis.

KEYWORDS: autism spectrum disorder, evidence-based practices, social skills, video self-modeling, self-monitoring, token economy

This abstract is approved as to form and content

Dr. Linda Garrison-Kane
Chairperson, Advisory Committee
Missouri State University

**THE EFFECT OF A SOCIAL SKILLS PACKAGE ON INITIATIONS,
RESPONSES, AND TURN-TAKING IN YOUNG
CHILDREN WITH AUTISM**

By
Mary Elizabeth Ortman

A Masters Thesis
Submitted to the Graduate College
Of Missouri State University
In Partial Fulfillment of the Requirements
For the Degree of Master of Science in Education, Special Education

December 2015

Approved:

Dr. Linda Garrison-Kane

Dr. Megan Boyle

Michael Goeringer, MS Ed.

Dr. David Goodwin

Dr. Julie Masterson, PhD: Dean, Graduate College

ACKNOWLEDGEMENTS

I wish to express my gratefulness to all of my committee members, especially to my advisor throughout my program, Dr. Garrison-Kane. All of the advice that I have received while completing my Master's degree over the past three years has given me the extra confidence and focus that I sometimes needed. I wish to thank the members of my cohort for all of the memories that we made while in classes, presenting at conferences, and leaning on each other through this process. You four are friends that I will always remember with a smile on my face as I think back on this experience that we went through together. I would like to thank Alex Beckman, who was my reliability partner through this study. Thank you for giving up so many hours to watch video after video, and provide me with honest and helpful feedback. I would finally like to thank my family, and my wonderful husband, Frank. I cannot thank you enough for the constant support that you provided me with as I chased this dream.

TABLE OF CONTENTS

Introduction.....	1
Rationale of the Study.....	3
Purpose of the Study.....	4
Research Questions.....	4
Research Hypothesis.....	5
Research Design.....	5
Significance of the Study.....	7
Assumptions.....	7
Limitations.....	8
Definition of Terms.....	8
Literature Review.....	9
Autism Spectrum Disorders.....	9
Evidence-Based Practices.....	11
Applied Behavior Analysis.....	11
Social Skills.....	12
Video-Modeling.....	14
Self-Monitoring.....	17
Summary.....	18
Methods.....	19
Site of the Study.....	19
Participants.....	20
Peer Models.....	21
Ethical Considerations.....	22
Interobserver Agreement.....	22
Data Collection Procedures.....	23
Consumer Satisfaction Survey.....	28
Peer Rankings.....	29
Instrumentation.....	30
Role of the Researcher.....	30
Results.....	32
Participant One.....	32
Participant Two.....	36
Matching.....	40
Inter-Observer Reliability.....	41
Discussion.....	43
Research Questions.....	44
Anecdotal Data.....	48
Limitations.....	50

Future Research	51
Summary	53
References.....	55
Appendices.....	58
Appendix A. Parent Permission Forms.....	58
Appendix B. Principal Permission Form	63
Appendix C. Human Subjects IRB Approval	66
Appendix D. District Approval to Conduct Research Letter	69
Appendix E. Reinforcement Inventory	70
Appendix F. Student Self-Monitoring Sheets	79
Appendix G. Modified Unpublished Juniper Gardens Curriculum	80
Appendix H. Teacher Consumer Satisfaction Survey	88
Appendix I. Peer Ranking Form	89
Appendix J. Frequency Data Collection Sheet	90
Appendix K. Duration Data Collection Sheet.....	91

LIST OF FIGURES

Figure 1. Eddie's Frequency of Initiations	34
Figure 2. Eddie's Frequency of Responses.....	34
Figure 3. Eddie's Frequency of Turn Taking.....	35
Figure 4. Eddie's Duration.....	35
Figure 5. Clay's Frequency of Initiations	38
Figure 6. Clay's Frequency of Responses.....	39
Figure 7. Clay's Frequency of Turn Taking	39
Figure 8. Clay's Duration	40

LIST OF TABLES

Table 1. Eddie's Peer Ranking Results.....	36
Table 2. Clay's Peer Ranking Results.....	40
Table 3. Inter-Observer Reliability for Eddie	41
Table 4. Inter-Observer Reliability for Clay	42

INTRODUCTION

Autism is a neurological disorder that is manifested primarily by a deficit within the individuals' social-emotional behaviors. According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V)*, there are five main criterion that an individual must meet to be diagnosed with Autism Spectrum Disorder. The first of four criteria includes persistent deficits in social communication and interaction across multiple contexts, deficits in social-emotional reciprocity; deficits in nonverbal communication behaviors used for social interaction; or deficits in developing, maintaining, and understanding relationships appropriate to developmental level. The second criteria include: restricted, repetitive patterns of behavior, interests, or activities which may include stereotyped or repetitive motor movements, use of objects, or speech; excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change; highly restricted, fixated interests that are abnormal in intensity or focus; or hyper- or hypo- reactivity to sensory input or unusual interests in sensory aspects of the environment. The third and fourth criteria state that these symptoms (criteria A and B) must be present in the early developmental period, and together limit and impair the individual's every day functioning (American Psychiatric Association, 2014).

All individuals who are diagnosed with autism must meet these five established criteria, whether that person is school-aged or younger. Since autism is a neurological disorder that is manifested in childhood, it is important to understand what specific deficits are, and how they are manifested socially.

Due to the social communication deficits that children with autism display, their daily lives are affected in multiple ways, many of which can be observed and assessed through the child's play behaviors. When a child with autism exhibits a deficit in specific social skills, it is important that a social skills curriculum or intervention which targets the specific deficit be used. Licciardello, Harchik, and Luiselli (2008), conducted a multiple baseline across participants study, which implemented a social skills intervention to improve social initiations and responses in four children with autism. The intervention consisted of preteaching, prompting, and praise/reward for social initiations and responses. All four participants' social initiations and responses increased in this study.

Another example of identifying and improving social deficits in children with autism can in which specific play behaviors were addressed were assessed by Kroeger, Schultz and Newsome (2007). A social skills intervention paired with video modeling was implemented to increase simple and complex motor imitation, parallel play, ball play, turn-taking, seeking of play partners, partner pretend play, and appropriate use of play stations in young children with autism (Kroeger, Schultz, & Newsom, 2007). These studies demonstrated how social skills were taught during daily life situations with consideration of how a child's play behaviors were manifested.

Given the magnitude of the social-communication deficit that students with autism experience, it is imperative that teachers, therapists, and other professionals who work with children with autism utilize Evidence-Based Practices (EBPs) when addressing the social deficits associated with autism (What

Works Clearinghouse, 2013). Two evidence-based practices that appear to increase specific social skills deficits in children with autism are video-modeling and self-monitoring (Hitchcock, Dowrick, & Prater, 2003; Odom, et. al, 2003; Coyle & Cole, 2004; Apple, Billingsley, & Schwartz, 2005; Bellini & Adullian, 2007; Delano, 2007; Boutot & Myles, 2011). These two research-based strategies will be employed in this study.

Rationale for the Study

The social behaviors in individuals with autism can be noted by the individual's executive dysfunctioning, which can impair their daily functioning in multiple ways. Executive functioning refers to "brain-based skills that begin to develop in the first years of life" (Griffith, Pennington, Wehner, & Rogers, 1999, p. 817). According to Zager, Wehmeyer, & Simpson (2012), executive functioning effects an individual's inhibition, cognitive flexibility, or set-shifting, working memory, and planning (p. 208). These deficits are manifested in children with autism in social situations, when the child problem solves through a social situation to produce multiple problems and solutions for a given scenario (Zager, Wehmeyer, & Simpson, 2012). Many social responses in children with autism are negatively impacted by the lack of executive functioning.

Another social deficit in children with autism includes theory of mind. Theory of mind relates to the comprehension and understanding of another person's point of view, which is applicable in social situations with peers (Zager, Wehmeyer, & Simpson, 2012). Theory of mind deficits are manifested in children with autism and social situations and it effects one's ability to predict

others' behavior, understanding others' emotions based on behavioral cues, expressive language, and abstract language understanding when in social situations.

Due to the social-communicative deficits that children with autism display during social situations, children must be explicitly taught how to initiate, respond to, and interact with others during social situations. Specific social skills that can be taught to improve the social responses in these children can include “playing cooperatively with others, initiating and responding social bids, sharing, and engaging in age-appropriate conversations” (Zager, Wehmeyer, & Simpson, 2012, p. 211). These specific behaviors were taught to two elementary age students with autism selected for this study.

Purpose of the Study

The purpose of this study was to examine the effectiveness of two evidence-based strategies, video-modeling and self-monitoring, combined with a social skills curriculum (unpublished curriculum, Juniper Gardens Children's Project, University of Kansas) with three elementary-age students diagnosed with autism spectrum disorder.

Research Questions

1. To what extent does direct instruction, video-modeling, and self-monitoring increase social initiations in young children with social communicative deficits?
2. To what extent does direct instruction, video-modeling, and self-monitoring increase social responding in young children with social communicative deficits?

3. To what extent does direct instruction, video-modeling, and self-monitoring increase social turn-taking in young student with social communicative deficits?
4. To what extent does direct instruction, video-modeling, and self-monitoring effect social initiations, social responding, and social turn-taking in young students with social communicative deficits in the general education setting?
5. How does a social intervention package including direct instruction, video-modeling, and self-monitoring effect peer rankings of young students with social communicative deficits?
6. How does a social intervention package including direct instruction, video-modeling, and self-monitoring increase the total duration of social play in young students with social communicative deficits?

Research Hypothesis

It was hypothesized that the implementation of video-modeling paired with self-monitoring and social skills instruction would result in an increase in positive social behavior in the study participants.

Research Design

This was a single-subject, ABAB design study. The dependent variables of the study were initiating, responding, and turn-taking. This study met the most fundamental aspect of single-subject designs (continuous assessment), with data being taken between 4-5 days a week. Continuous assessment is important because it allows the researcher to examine the stability and pattern of behavior prior to implementing a given intervention (Kazdin, 2011). Regardless of the phase of the study, data must be stable before moving on to the next phase of the study.

An ABAB withdrawal design was used due to the alternating baseline and intervention phases. The baseline phase (A1) serves the functions of (1) describing

current behavior with current conditions, and (2) predicting future behavior if current conditions were to continue (Kazdin, 2011). In an ABAB research design, five data points are collected per phase to establish a trend and stabilize data. After a minimum five data points and once baseline levels of an observed behavior are stabilized, an intervention is implemented.

If the observed behavior changes once the intervention phase (B1) begins, a successful intervention is suggested. There must be little variation in the data, and behavior must remain at a stable rate throughout the intervention phase before the intervention is withdrawn and baseline conditions are reestablished. Baseline conditions are reestablished in the return to baseline phase (A2), and rates of behavior are expected to return to levels similar to those in the initial baseline phase (A1). A function of this phase is to predict the first prediction of what behavior would look like, had conditions remained the same as in the initial baseline phase. This function is specific only to the A2 phase of the study.

After five data points in the A2 phase of the study, the intervention conditions are put back into place for the fourth and final phase of the study, the return to intervention phase (B2). Similarly to the specific function of the A2 phase, the B2 phase tests the prediction of what the rates of behavior would be if the conditions in the B1 phase of the study continued.

Overall, there are at least five data points in each phase (A1, B1, A2, B2) of the study. This is to ensure a trend is established, and to describe, predict, and test what rates of behavior would be in the given conditions. An important advantage to ABAB designs is that threats to validity are much more implausible. This is due to the behavior shifting

when (and only when) the intervention is put into place. It can be understood that if a behavior increases during the B1 phase, returns to baseline levels during the A2 phase, and then again increases during the B2 phase, the intervention was the reason for the behavior change (Kazdin, 2011).

Significance of the Study

This applied study had the potential to increase social behaviors for each participant in their educational setting. By increasing initiations, responding, and turn-taking, the participants could engage in specific social skill behaviors more frequently and more independently.

Self-monitoring and video-modeling are identified as research-based strategies in the area of autism, but more research is needed when these strategies are paired with a structured social skills curriculum to increase social responding within the classroom (Hitchcock, Dowrick, & Prater, 2003; Odom, et. al, 2003; Coyle & Cole, 2004; Apple, Billingsley, & Schwartz, 2005; Bellini & Adullian, 2007; Delano, 2007; Boutot & Myles, 2011). Results of this study will be presented in special education conferences to inform the results to professionals who also work with students diagnosed with autism.

Assumptions

1. It was assumed that the students would be attentive and on-task during the social skills lesson during the intervention phase.
2. It was assumed that the students would not physically harm themselves or others while interacting with the preferred activities.

3. It was assumed that the students would be reinforced by seeing themselves on video during the self-monitoring/ video-modeling portion of the intervention.
4. It was assumed that the students were not punished by a particular student being in the room at the same time.

Limitations

1. The timeline of the study was a limitation, as the study was conducted during the spring semester while standardized testing and Spring Break were out of the control of the researcher.
2. Both participants had the possibility of being negatively influenced by setting events prior to them coming to school for the day. Those setting events were out of the control of the researcher, although the participants' parents often let the researcher know of any outstanding setting events that happened earlier in the morning.

Definition of Terms

1. Self-Monitoring: A strategy used to teach a child to monitor their own behavior, or enhance the performance of an existing skill (Boutot & Miles, 2011, p. 217).
2. Social Initiation: (a) Verbal statements by the participant directed toward peers in the playroom with the participant's head facing the peer or (b) independent verbal statements accompanied by the manipulation of a stimulus (e.g., asking a peer to play in the ball pit while holding a ball) (Boudreau & Harvey, 2013).
3. Social Response: Any verbal or physical behavior that immediately follows an initiation from a peer and is acceptable (Licciardello, Harchik, & Luiselli, 2008).
4. Turn-Taking: Mutual attention among parties involved in a conversation (Maroni, Gnisci, & Pontecorvo, 2008).

LITERATURE REVIEW

Autism Spectrum Disorders

According to the most recent Diagnostic and Statistical Manual of Mental Disorders, the criteria for someone to be diagnosed with autism include “(A) Persistent deficits in social communication and social interaction across multiple contexts; (B) Restricted, repetitive patterns of behavior, interests, or activities; (C) Symptoms must be present in the early developmental period; (D) Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning, and (E) the disturbances are not better explained by intellectual disability or global developmental delay.” Autism is in its core a communication and social disorder.

As with other spectrum disorders, individuals diagnosed with an Autism Spectrum Disorder are naturally incredibly different from one another. This makes for an extremely diverse population of individuals, although diagnosed with the same disorder. Language and functioning level are two ways that people within this population differ greatly (Zager, Wehmeyer & Simpson, 2012). Some individuals are able to produce sentences of great length which can include words far above the expected level, while others must communicate the basic needs in life (i.e. hungry, thirsty, need to use the restroom, etc.) through their behaviors, no matter how bizarre. All of these behaviors are specific to the individual with autism, and cannot be generalized to the entire population of those with severe autism. However, these deficits are rooted in an individual’s theory of mind and executive functioning skills.

Theory of mind relates to one’s skills of “comprehending and assessing others’ behavior based on making correct interpretations and judgments about their internal

mental states, including beliefs, perceptions, knowledge and perspectives, emotions, and goals.” (Zager, Wehmeyer, & Simpson, 2012, p. 210). Theory of mind deficits effect individuals with autism in the areas of (1) social interaction, relationship, and cooperation skills; (2) self-management and personal responsibility skills; and (3) school and academic social skills (Zager, Wehmeyer, & Simpson, 2012, p. 211). This can be manifested by the person not understanding why someone would be upset about a pet dying because death is part of the circle of life (in a higher-functioning person), or by a different person with autism not understanding or being able to initiate or maintain eye-contact with others.

Executive functioning includes cognitive and self-regulatory processes, including, “inhibition, cognitive flexibility or set-shifting, working memory, and planning” (Zager, Wehmeyer, & Simpson, 2012, p. 210). These deficits can be manifested by individuals with autism by the person not being able to shift from one reading station to the next, if the first station is not 100% completed yet, or by a different person with autism not realizing that in order to have a specific outfit that they like to wear for a special occasions (school pictures, an interview, etc.), the clothes that make up that outfit need to be found, washed, dried, and possibly pressed before they are able to be worn appropriately.

Although all individuals must be provided individualized support to be as successful as possible, this is especially true with individuals who are diagnosed with autism due to the specific deficits being manifested in different ways among different individuals. It is not only considered best practices to use evidence-based practices with

this population, but is a requirement of IDEA (U.S. Department of Education) that the most effective, evidence-based practices be used with individuals with disabilities.

Evidence-Based Practices

According to the U.S. Department of Education's IDEA regulations, evidence-based practices (also referred to as scientifically based research) are practices that have been rigorously researched and have proven to be reliable and valid. The U.S. Department of Education describes evidence-based practices as including supporting research that have been proven through experiment or observation, involve demanding data analysis which support the hypothesis, used measurement or observation procedures which have proven to provide the researchers with valid and reliable information when tested across researchers, are described in such a way that replication with similar results is possible to an outside researcher, and have been accepted by a peer-reviewed article after going through extensive review. In order for a given practice or intervention strategy to be considered "evidence-based practice," it must meet all of the previous criteria.

Applied Behavior Analysis

In Baer, Wolf, & Risley's monumental 1968 article, *Some Current Dimensions of Applied Behavior Analysis*, applied behavior analysis is described in a way that has played a large part in how research is applied in the educational setting. Baer, Wolf, & Risley discuss applied behavior analysis as a way of analyzing an individual's behavior based on the application of a specific technique, then evaluating whether the technique applied made a positive impact on the individual's specific behavior. The authors also

describe the difference between applied research and basic research as applied research looking at specific behaviors to help an individual improve in a specific area of life.

Applied research will most likely take place in social settings because of the importance to an individual's "real" life. Ultimately, applied behavior analysis is more of a research technique and a way of applying research rather than a specific intervention or teaching strategy.

Social Skills

Many social skills training programs have been used in the hopes of increasing appropriate social behavior in students with autism (Rao, Beidel, & Murray, 2008). The implementation of social skills interventions is important to help facilitate the development of students' with autism, when considering the social skill deficits that individuals with autism very often exhibit. These deficits can include difficulty looking others in the eye, using facial expressions, knowing how close to stand to others, knowing how to start, keep going, or end a conversation, and knowing how to respond to others (Boutot & Myles, 2011, p. 7).

Some social skills interventions that can help improve these deficits with children with autism can include community activities, peer interaction, parent education, social scripts, and school-based interventions, among others (Rao, Beidel, & Murray, 2008). Although the vast amount of interventions allows professionals to individualize the interventions according to the person with autism, there are some limitations to having so many interventions, as identified by Rao, Beidel, & Murray (2008). These limitations include not having a common definition of social skills, not enough group designs, too-

small sample sizes, not enough blinded observer ratings, generalization probes, or follow-up assessments.

Rao, Beidel, & Murray (2008), also identified some focuses for future researchers to take into consideration. Future researchers need to focus on documenting the specific deficits of the participants in the studies. Considering how diverse individuals with autism are from one another, social skills programs need to be tailored for specific deficits, and documenting those deficits can aid in this in future research. The majority of social skills training programs focuses on young children with autism- there needs to be more research on the effectiveness on given interventions with individuals who have high- functioning autism. Third, social skills programs should focus more on generalization outside of the setting in which the intervention was used. Many professionals work with individuals with autism, so it is important that more research be conducted on manualized social skills training programs. This needs to be focused on settings other than a clinic, home, or school. In order for individuals with autism to be as successful as possible in community settings, more research needs to be conducted in those community settings.

Anxiety- related concerns are common among individuals with autism, especially in school-age children and adolescents (Zager, Wehmeyer, & Simpson, 2012, p. 30). Specific anxiety-related behaviors include phobias, compulsive-like behavior patterns, intensive rituals, social anxiety, and intolerance for changes in daily and environmental routines (Zager, Wehmeyer, & Simpson, 2012, p. 30). Some research has suggested a link between social skill deficits and anxiety in children and youth with autism (Bellini, 2004). This link implies that if professionals address social deficits when these

individuals are young, their anxiety may decrease when they are adolescents or adults (Bellini, 2004).

A multi-component intervention was implemented to increase the social initiation and social responses of four young children with autism (Licciardello, Harchik, & Luiselli, 2008). In this study, four children with autism who attended a public elementary school were taught how to initiate and respond to social situations, through a three-component intervention. The intervention consisted of pre-teaching, prompting, and praising the participants immediately before their recess period, daily. When at recess, the participants were given positive verbal praise from the research team when they engaged in a social initiation or social response. In all four participants, social responses were more common than social initiations. Also in all four participants, initiations and responses both increased throughout the course of the study (Licciardello, Harchik, & Luiselli, 2008).

Video Modeling

There is a plethora of data supporting the use of video-modeling in many different settings, with many students with disabilities (Hitchcock, Dowrick, & Prater, 2003; Bellini & Adullian, 2007; Delano, 2007) and video modeling has been used to increase initiations (Nikopoulos & Keenan, 2003; Nikopoulos & Keenan, 2004), showing sympathy, appreciation, and disapproval (Gena, Couloura, & Kymissis, 2005), and compliment-giving (Apple, Billingsley, & Schwartz, 2005). Several meta-analyses have been conducted concerning video modeling techniques with students with autism.

Delano (2007) conducted a meta-analysis which included nineteen studies. Studies were included in this meta-analysis if they were peer-reviewed, experimental research where an independent and dependent variable were described, participants were diagnosed with an autism spectrum disorder, the independent variable was a video modeling technique, and if the videos were individualized to the participants used. All studies included happened to use single-subject designs, and most of the studies (seventeen) used a multiple baseline design. No studies included measured treatment fidelity. Delano found that all of the studies suggest video modeling as a successful intervention strategy; however, future research should focus on video modeling paired with another evidence-based practice. Delano also found that the overwhelming majority of video modeling studies focus on students who are under the age of twelve, and have no more than four participants.

In Hitchcock, Dowrick, & Prater's (2003) meta-analysis of video modeling interventions, eighteen out of two hundred studies were chosen after considering their inclusion criteria. All of the independent variables needed to include video-modeling, participants needed to be between the ages of three and eighteen, settings needed to be school-based, and the studies needed to describe dependent variables including quantitative, behavioral skills, or academic performance. Results show video-modeling used for disruptive behavior, compliant classroom behavior, language responses, quality of peer relationships, adaptive behaviors, mathematic skills, and reading fluency. Independent variables in all studies included not only video modeling, but a vast range including role-play, behavior practice, peer modeling, and discrimination training. Four of the studies used other interventions with the video modeling deliberately. All studies

showed an increase in desired behaviors. The authors discuss the use for video modeling with students with diverse and individualized needs, due to the ease of individualizing videos. Authors also note the immediate positive change in behavior in most of the participants in the studies used. Future research should include other interventions with video modeling to have a possible greater effect (Hitchcock, Dowrick, & Prater, 2003).

A direct teaching method was used to increase pro-social behaviors in 4, 5, and 6 year olds diagnosed with autism (Kroeger, Schultz, & Newsom, 2007). The direct teaching method included showing a group of children a video model of a peer engaging in a targeted behavior, which included simple and complex motor imitation, parallel play, ball play, taking turns, seeking play partner, partner pretend play, and appropriate use of play stations. A play activity group engaged in unstructured play while the direct teaching group were shown the video models. After the video model was played for the direct teaching group, the participants then had between eight and ten chances to engage in the same target behavior that the video focused on. When participants engaged in the behavior appropriately, they were provided intermittent reinforcement through praise and edibles, to increase the probability of engaging in the behavior in the future. Although both the direct teaching and the play activity group made statistically significant gains in the initiating, responding, and interacting behaviors, the direct teaching group made dramatically larger gains than the play activity group in all areas. Results indicate that both unstructured play as well as video modeling of a peer engaging in a specific behavior can improve and foster the pro-social development of a child with autism, although the later may achieve greater gains overall.

Self-Monitoring

Self-monitoring is a strategy that is considered to be effective for students with autism (Odom, et. all, 2003; Boutot & Myles, 2011; Zager, Wehmeyer, & Simpson, 2012). Self-monitoring can help individuals with autism increase their social skills (Licciardello, Harchik, & Luiselli, 2008), and positive academic behavior (Coyle & Cole, 2004). Self-monitoring is defined by Odom and colleagues (2014) as “instruction focusing on learners discriminating between appropriate and inappropriate behaviors, accurately monitoring and recording their own behaviors, and rewarding themselves for behaving appropriately” (Odom, et. al., 2014, p. 21).

A self-monitoring program was used to improve the academic engagement, non-targeted problem behavior, productivity, and accuracy of nine elementary students who were disengaged during academic instruction. Participants included those who were and were not diagnosed with a disability. One of the participants, John, was diagnosed with high functioning autism, and was eleven years old during the time of the study. Researchers used a multiple baseline across students design, during independent seatwork. Participants were given a training session to teach them how to use the specific strategy (ACT-REACT) and procedure when self-monitoring. The intervention allowed students to choose the timing device they would use, and individualized self-monitoring, including the academic goal and performance goal found on the self-monitoring sheet. Results indicate a successful intervention, with all nine participants increasing their academic accuracy and productivity rates (Rock, 2005).

Self-monitoring has been paired with video modeling to produce an increase in on-task behavior in a student with autism (Coyle & Cole, 2004). Researchers used single-

subject design to implement video modeling with the participants as the video models (video self-modeling) to increase the on-task behavior of three elementary aged children in the public school setting. Participants were reinforced with praise and edibles during the training and data sessions. Results indicate a successful intervention, with mean off-task behavior decreasing dramatically between the initial baseline phase to the intervention follow-up (generalization) phase. Implications of this study suggest that video modeling when paired with self-monitoring can be a very successful intervention for young student with autism (Coyle & Cole, 2004).

Summary

In order for individuals with autism to receive the best instruction and make the most gains in social and academic areas, evidence-based practices need to be used (Simpson, 2005; Zager, Wehmeyer, & Simpson, 2012; and Odom, et. al., 2014). Much research has been conducted to determine what interventions should yield the most promising results for individuals with autism. This research has supported the use of video modeling and self-monitoring with increasing the social skills of individuals with autism in the classroom setting (Hitchcock, Dowrick, & Prater, 2003; Bellini & Adullian, 2007; Delano, 2007; Rao, Beidel, & Murray, 2008; and Boutot & Myles, 2011). When used together, these two interventions may increase the pro-social behavior of individuals with autism even more then when used independently (Hitchcock, Dowrick, & Prater, 2003; Licciardello, Harchik, & Luiselli, 2008).

METHODS

The purpose of this study was to examine the effect of a social skills curriculum paired with video-modeling and self-monitoring on the initiations, responses, and turn-taking behavior in elementary students with social communicative deficits. The specifics of the study will be discussed under each of the applicable headings in this chapter.

Site of the Study

The study was conducted in a kindergarten through fifth-grade special education, cross-categorical resource room. In addition to the two participants and two peer models, there was one para-educator, one first-grader, one kindergartner, and, at times, two second-graders in the classroom during the time of the study.

The classroom was in a K-8, Title 1 School in a low-income part of Southwestern Missouri. 92% of the school's students (K-8) qualified for a free and reduced lunch. Kindergarten, first, and second grade students at the school received breakfast and lunch, along with two snacks daily. All other grades at the school received breakfast, lunch, and one snack daily. The school was identified as a Focus school, which indicates the students were lower-achieving than most students in the state of Missouri, according to standardized testing (MAP, and Performance Series). As part of being a Focus school, it was the school's third and final year of implementing a required School Improvement Plan, to aid in improving students' testing scores through increased school-wide resources.

Demographic information for the elementary side of the school was obtained from the district's website. At the time of the study, 0.7% of students enrolled were Asian/ Pacific, 10.2% Black, 3.7% Hispanic/ Latino, 3.5% Multi-Race; 0% Native American, and 81.9% White. 87.6% of students enrolled qualified for a free and reduced lunch, compared to 54.6% of all students enrolled in the district. The district percentage of students who qualified for free and reduced lunch had been on a steady incline in the ten years prior to the current study, with 39.3% qualifying ten years prior to the study taking place. Attendance rates for this elementary school were at 94.47% in the year previous to the study taking place, compared to the district total of 94.65%, and district elementary total of 95.20%.

Participants

This study included two male participants, both of whom had a diagnosis of autism. Both of the participants were selected based upon diagnoses, parent permission, and social skills deficits. Both participants were in first grade at the time of the study, and were in the same general education classroom. Prior to data collection the Verbal Behavior Milestones Assessment and Placement Program (VM-MAPP) was completed by the teacher-researcher on each participant to determine their general level of functioning in the following areas: Mand, Tact, Independent Play, Social Behavior/ Social Play, and Classroom Routines/ Group Skills (Sundberg, 2008).

Participant one was referred to as "Eddie" throughout the study for confidentiality purposes. Eddie was receiving a total of 330 minutes per week of special education services, which included resource, language therapy, speech therapy, and occupational

therapy time. Eddie had been identified as a student with an educational diagnoses of autism since he was at the district's early childhood center, where he initially started receiving special education services. At the time of the study, Eddie had never received any specialized outside therapy (i.e. behavioral therapy, occupational therapy, social skills groups, etc.). On the VB-MAPP, Eddie was assessed to be at a Level 2 for Tact, Independent Play, and Classroom Routines/ Group Skills. He was assessed to be at a Level 1 for Mand, and Social Behavior/ Social Play.

Participant two was referred to as "Clay" throughout the study for confidentiality purposes. Clay was receiving a total of 330 minutes per week of special education services, which included resource, language therapy, and occupational therapy time. Clay had been identified as a student with an educational diagnoses of autism since he was at the district's early childhood center, where he initially started receiving special education services. At the time of the study, Clay had never received any specialized outside therapy (i.e. behavioral therapy, occupational therapy, social skills groups, etc.). On the VB-MAPP, Clay was assessed to be at a Level 2 for Mand, Tact, and Classroom Routines/ Group Skills. He was assessed to be at a Level 1 for Independent Play and Social Behavior/ Social Play.

Peer Models

Two seven-year old males from the participants' general education first-grade classroom were selected based upon the students' positive school-wide behavior, high attendance percentage, teacher recommendations, administrative recommendations,

parent approval, and academic achievement. Both peer models agreed to be peer models prior to data collection, and remained peer models throughout the entirety of the study.

Ethical Considerations

All participants' and peer models' parents provided written permission for their child to participate in this study (see Appendix A for the Parent Permission forms). Permission was also obtained from the building principal (see Appendix B for Principal Permission form). The study was approved by the University Institution Review Board prior to the study beginning (see Appendix C for IRB Approval form). The study was also approved by the participating district's Operations Department prior to the study beginning (see Appendix D for District Approval Letter). Participants were given pseudonyms, and all identifying information about the participants was kept confidential. The teacher-researcher stored all information in a locked room.

Prior to any permission slips being sent out, the teacher-researcher obtained permission from the Missouri State University Institutional Research Board (IRB), as well as permission from the participating district. This is to ensure that the study did no harm to the participants, and was for the safety of both the participants and of the teacher-researcher.

Interobserver Agreement

Interobserver agreement (reliability) sessions were conducted for 40% of data days of each phase, across all phases of the study. Interobserver agreement was completed for a minimum of 40% of data days in each phase, and for at least 40% of total

data days. When collecting interobserver agreement, the investigator and reliability partner met once a week to review 20% of sessions, as well as multiple times in the months following the conclusion of the study to review an additional 20% of sessions. At the time of the study, the reliability partner was a graduate student who was finishing her Master's in Special Education. The reliability partner had extensive experience collecting data via video recording.

Data Collection Procedures

Data was collected over the course of the 2014-2015 school year, during the third and fourth quarter. The time of day and subject being taught during data collection remained consistent throughout the study. Video-modeling, social skills lessons and self-monitoring took place from 9:30 am – 10:00 am per data day. All data sessions were video recorded for fidelity of treatment and reliability. A fidelity of treatment checklist was collected across all phases of the study to ensure the independent variable was implemented consistently across intervention phases, and baseline conditions were replicated in the return to baseline phase.

Prior to any data collection, a reinforcement inventory was completed with each participant to identify reinforcers, and what could be used as a built-in reinforcer on the participants' self-monitoring forms (see Appendix E for Reinforcement Inventory; see Appendix F for Self-Monitoring forms). The same reinforcement inventory was completed with each peer model to aid in identifying possible reinforcers.

The peer models were first given the reinforcement inventory, then were trained by the teacher-researcher on how to initiate, respond-to and take turns with the

participants during the time when they were to practice being a good friend. Peer model training took two days, and lasted approximately 20 minutes per day. Once peer models were trained, the initial baseline phase began.

Baseline (A1). During the baseline phase of the study (A1), the para-educator brought all four students (two participants and two peer models) to the special education room as the teacher-educator set up the video recording devices. As the students entered the room, they were told that they had fifteen minutes to practice being a good friend. On the table in the special education room there were two teacher-selected games that all students knew how to play, were reinforcing, and provided many opportunities for interaction. The teacher-researcher set the classroom visual timer for fifteen-minutes, then either worked with other students or worked on paperwork on the other side of the room. If a student approached the teacher-researcher or para-educator for help with a social situation, they were told, “You can solve that problem.” The teacher-researcher and para-educator only intervened with the four students if the students were not being safe while playing, or if one of the students was hurt. The teacher-researcher used a tablet and laptop to video-record each fifteen-minute data session, when the students were to practice being a good friend.

Intervention (B1). After the baseline phase (six data points), participants were taught how to self-monitor using a previously-recorded (baseline) video-recording, and personalized self-monitoring sheets with reinforcing items included on the forms (see Appendix F for self-monitoring sheets). On the first day of training, the teacher-researcher modeled and provided instruction on how to self-monitor for the students using a video recording and one of the students’ self-monitoring sheets. The students

practiced self-monitoring by watching a three-minute portion of a baseline video recording, and recording whether or not they initiated (asked a friend to play), responded (answered friends), and took turns, by circling either “Yes” or “No” under the corresponding picture. The participants were also required to identify when they saw themselves engage in each of the target behaviors throughout the video, to ensure understanding of each behavior. The teacher-researcher watched the videos and monitored along with each participant, and each participant was required to match the teacher-researcher to ensure understanding of the desired behavior. Error correction was given as needed by the investigator pointing out where the participant did not match with self-monitoring, and the investigator and participant watching the video again. This continued until each participant was able to accurately self-monitor independently. Participants were required to match the teacher-researcher with 100% accuracy to ensure mastery of the self-monitoring.

Each day of intervention, the para-educator brought all four students to the special education room as the teacher-educator set up the materials for the upcoming social skills lesson and video recording devices. The students then entered the room and sat down at the table where the teacher-researcher was sitting. At the beginning of the social skills period, the teacher taught a social skills lesson (modified from unpublished Juniper Gardens curriculum) to all four students (see Appendix G). The first lesson was called *Asking Friends to Play* that correlated to the first dependent variable (initiations), and was taught for six consecutive data days. The second lesson was called *Answering our Friends* that correlated to the second dependent variable (responding), and was taught for

the next six data days. The third and final lesson was called *Taking Turns* that correlated to the third dependent variable (turn-taking), and was taught for the next seven data days.

Prior to each lesson, a visual aid corresponding to the lesson was displayed in the classroom and easily visible to the participants, and a visual timer was set for 15-minutes. During each lesson, the teacher provided the students with a definition of the target social skill, demonstrated the target skill, and provided two examples and two non-examples. The teacher then practiced the social skill with each student twice, and gave students two opportunities to practice the skill with each other. The students then each gave one good example of the target skill, and had one opportunity to role-play the skill in front of the group. Throughout the lesson, the teacher provided each student with feedback, behavior-specific praise, and referred to the students by their name.

Immediately after the lesson, all four students were told that they had 15-minutes to practice being a good friend, and were prompted to use the skill that was taught during the lesson. This 15-minute session was video recorded for data collection purposes, and served as an opportunity for the participant to engage in the target behavior. The preferred activity was selected based on the reinforcement inventories that were conducted prior to the baseline. After the fifteen-minute data session, peer models were thanked and dismissed back to their general education classes. Participants then watched the first two minutes of the video and self-monitored their engagement in the target behavior. The teacher-researcher also monitored the student's engagement in each dependent variable using the self-monitoring forms, and the participant had to match the teacher-researcher's marks for that session at 100% matching accuracy. If the participant and teacher-researcher did not match at 100%, the self-monitoring session was repeated

until there was a 100% match. The teacher-researcher also provided error correction and retaught the target behaviors if there was not a 100% match. Once the participants self-monitored with 100% matching accuracy, they were given behavior specific praise, thanked for their hard work, and dismissed back to class. Prior to the next data session, the researcher watched the entire fifteen minute video of the participant interacting in the preferred activity, and recorded the frequency of each target behavior, as well as the total duration of each student being engaged in a social situation.

On the nineteenth day of data collection (data day thirteen in the intervention phase), the teacher-researcher introduced a token economy during the time that the students were to practice being a good friend. The token economy was introduced to increase the participants' and peer models' engagement and interest, and stabilize frequency data which was previously inconsistent. Tokens had built-in reinforcing pictures and corresponding positive sayings for each participant and peer model (i.e. a picture of Lebron James with "Slam Dunk!" immediately above the picture). Each student had their own tokens to correspond to their individual interests (Lebron James, Wild Kratts, Teenage Mutant Ninja Turtles, and Mickey Mouse). Immediately after the social skills lesson, the teacher-researcher told the students that they were going to have the opportunity to earn tokens for engaging in the target behaviors of the social skills lessons (asking to play, responding, and taking turns). Students were required to earn a minimum of thirty-five tokens to have access to reinforcement. Each student choose what they wanted to work for before the data session began. Reinforcement most often included computer time, item from the treasure chest, watching an animusic video on youtube, drawing on the whiteboards, and lunch with the teacher. During the time the

students were to practice being a good friend, the teacher-researcher kept track of each individuals' tokens by placing the correct token in the student's cup, and providing each student with behavior-specific praise. Immediately after the fifteen-minute data session with the students earning tokens for positive social behavior, the students and teacher-researcher counted each students' tokens. If the student met the previously determined requirement for reinforcement (thirty-five tokens), reinforcement was provided before students were dismissed back to class.

Each data session including social skills training and self-monitoring was approximately thirty minutes, and data sessions including social skills training, self-monitoring, and the token economy were approximately forty-five minutes.

The intervention phase (B1) of the study lasted for nineteen total data days. After nineteen data days in the intervention phase, data was considered stable and baseline conditions were reinstated for five data days, for the return to baseline phase. Once data was stable and taken for at least five days, the return to intervention phase (B2) was implemented. During the return to intervention phase, all conditions that were met during the initial intervention phase (B1) were reintroduced, and the token economy continued with a requirement of thirty-five tokens for access to reinforcement. A fidelity of treatment checklist was used in all phases of the study to ensure consistency.

Consumer Satisfaction Survey

The participants' general education teacher was asked to complete a survey which rated the participants' social initiations, social responses, and turn-taking skills, both before and after the intervention being implemented (Appendix H).

A peer ranking form was also given to the peers' and participants' general education classmates on the first and last day of the study with three questions on them; (1) Who are the top three people you like to play with at recess from your class? (2) Who are the top three people you like to have over to your house from your class? (3) Who are your top three best friends in your class? Upon conclusion of the study, participants also participated in an informal interview with the teacher-researcher, which was video-recorded.

Peer Rankings

The participants' peers from their general education classroom completed a peer-ranking form (see Appendix I) on each participant prior to the study beginning and on the final day of the study. Both participants and peers were in their classrooms with their peers at this time and completed a peer ranking form along with their peers. Each peer ranking form had three questions on it, and the peers were instructed by the general education teacher to write down the first name and last initial of their top three friends for each question. Question one was: Who are the top three people you like to play with at recess from your class? Question two was: Who are the top three people you like to have over to your house from your class? Question three was: Who are your top three best friends in your class? During the pre-intervention survey, 21 students from the general education class completed the survey, and during the post-intervention survey, 18 students completed the survey.

Instrumentation

Data collection for this study included a frequency count of the participants' initiations, responses, and turn-taking, as well as the duration of the total time engaged in a social situation. This was completed with the aid of a video recorder, frequency data sheet, and duration data sheet (see Appendix J for frequency data sheet, and Appendix K for duration data sheet). An increase in participants' frequency of social initiations, turn-taking and social responses, and duration of total time engaged in a social situation indicates a successful intervention.

Role of the Researcher

The researcher had the role of the participants' special education teacher at the time of the study. The researcher was responsible for selecting participants, teaching the social skills lesson, video-recording each data collection session, providing self-monitoring sheets, and maintaining confidentiality throughout the entire study. The researcher also had the responsibility of communicating appropriately with parents and administration when necessary without compromising the data. The researcher organized and conducted reliability sessions with a graduate student who served as the reliability partner for this study. This reliability partner had extensive data collection training and practice with the researcher, including conducting reliability checks with the teacher-researcher on four previous studies, a Bachelor's degree in Special Education, and was in the process of completing requirements for a Master's degree in Special Education (autism) at the time of the present study. The researcher was responsible for ensuring reliability was taken on a timely and consistent basis throughout the study. All data

collected during each phase for each participant was reviewed and approved by the principle investigator of the study.

RESULTS

Participant One

Eddie's social interactions (including initiations, responses, turn-taking, and total duration socially interacting with a peer) were video-recorded during every data day immediately after the target social skill lesson, and assessed within 24 hours of the video recording. Across the six baseline data days, Eddie had a mean frequency of 2 initiations (Figure 1), 3 responses (Figure 2), and 10 turns taken (Figure 3). Eddie had a mean duration of 4 minutes and 19 seconds of interaction with a peer during the six baseline sessions (Figure 4).

Eddie was given the Child Reinforcement Survey Schedule to help identify potential reinforcers. Based upon this indirect assessment, and the teacher's anecdotal notes, computer time, lunch with the teacher, Legos, Smart Board activities, Netflix, and coloring were identified as potential reinforcers.

Eddie attended three self-monitoring training sessions in which he was taught by the investigator what to look for in the video recording (initiations, responses and turn-taking), watched a 2- minute baseline video, and self-monitored whether or not he had initiated, responded, and took a turn in the 2-minute video. Training sessions occurred for three days in the same environment (special education classroom) as all data sessions, and at the same time as all data sessions throughout the study. In each training session, the teacher modeled the process, then Eddie was assisted in the process, and at the end of the training session Eddie self-monitored independently. At the end of the third training

session, Eddie matched his self-monitoring accuracy (initiations, responses, and turn-taking) with the teacher with 100% accuracy.

Across all nineteen data sessions in intervention, Eddie had a mean frequency of 20 initiations, 25 responses, and 20 turns taken, along with a mean duration of 10 minutes and 28 seconds of social interaction with a peer.

After nineteen data sessions in intervention, the intervention was withdrawn for five consecutive data sessions. Across these five data sessions in the withdrawal phase, Eddie had a mean frequency of 1 initiation, 2 responses, and 0 turns taken. Eddie's mean duration of social interaction with a peer decreased to 0 minutes and 17 seconds.

The intervention was reinstated after the five data sessions in withdrawal, which data suggests a functional relationship between the dependent variables and the intervention. Across the eleven data sessions in return to intervention, Eddie's means increased to a frequency of 28 initiations, 26 responses, and 29 turns taken. Mean duration interacting with a peer increased to 14 minutes and 5 seconds.

Eddie increased from 0% of peers ranking him for Question 1 on the pre-intervention form to 5% of peers ranking him as first on the post-intervention form for question 2. For question 3, Eddie decreased from 5% of peers ranking him second on the pre-intervention form to 0% of peers ranking him second on the post-intervention form, but increased from 0% to 10% of peers ranking him as first on the same question.

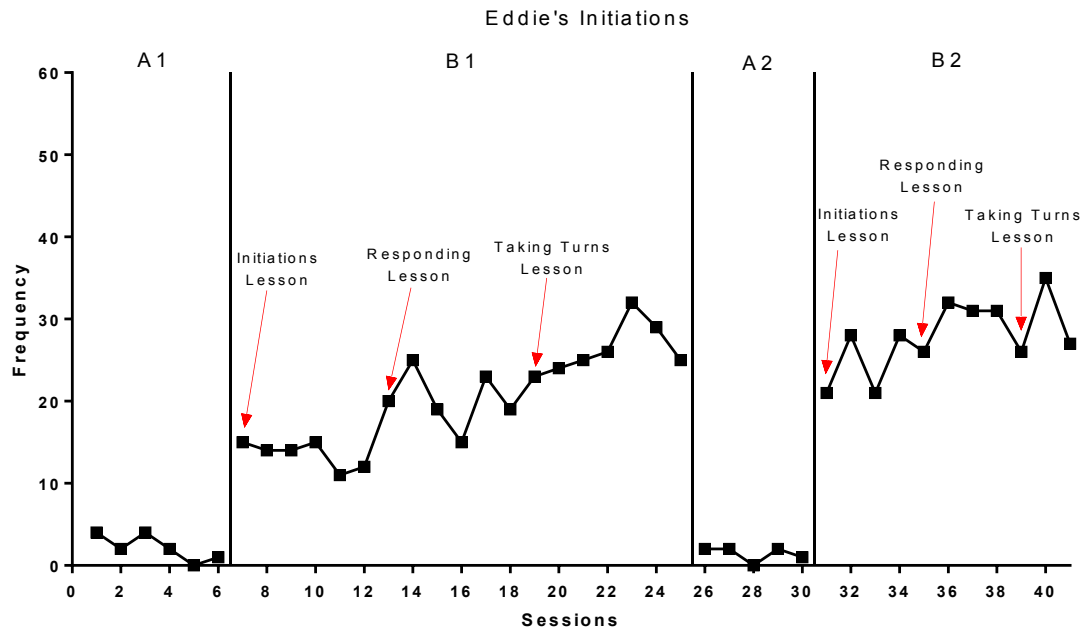


Figure 1. Eddie's frequency of initiations

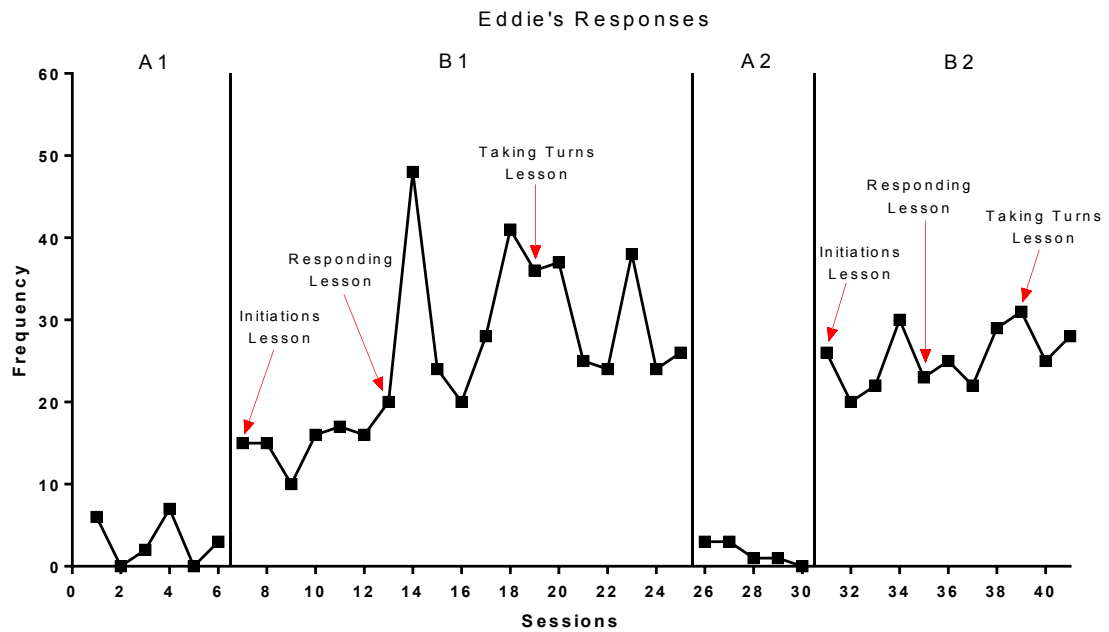


Figure 2. Eddie's frequency of responses

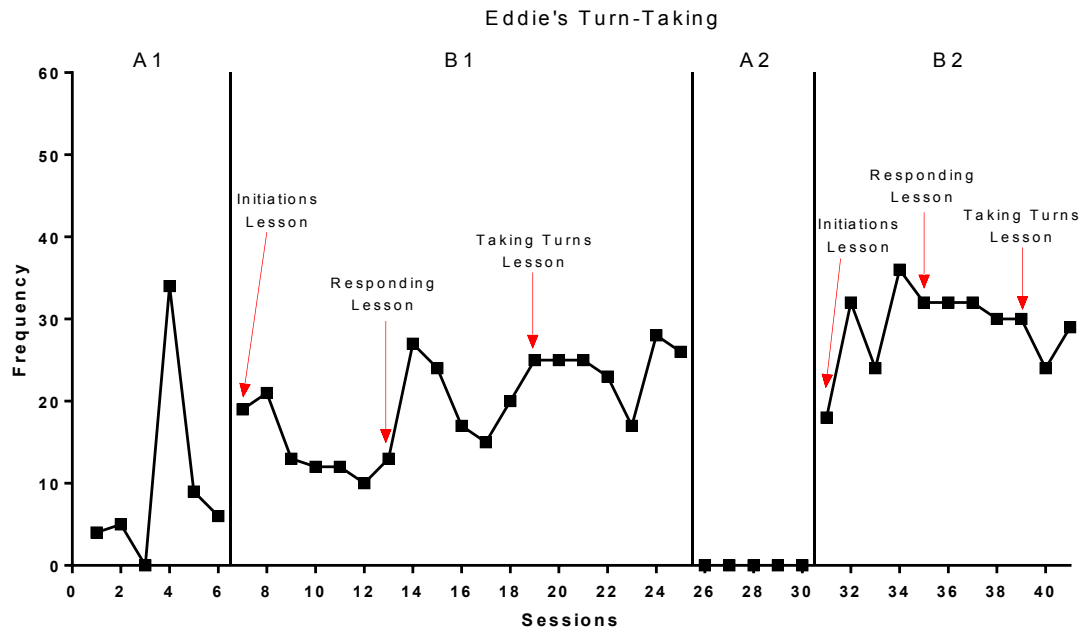


Figure 3. Eddie's frequency of turn-taking

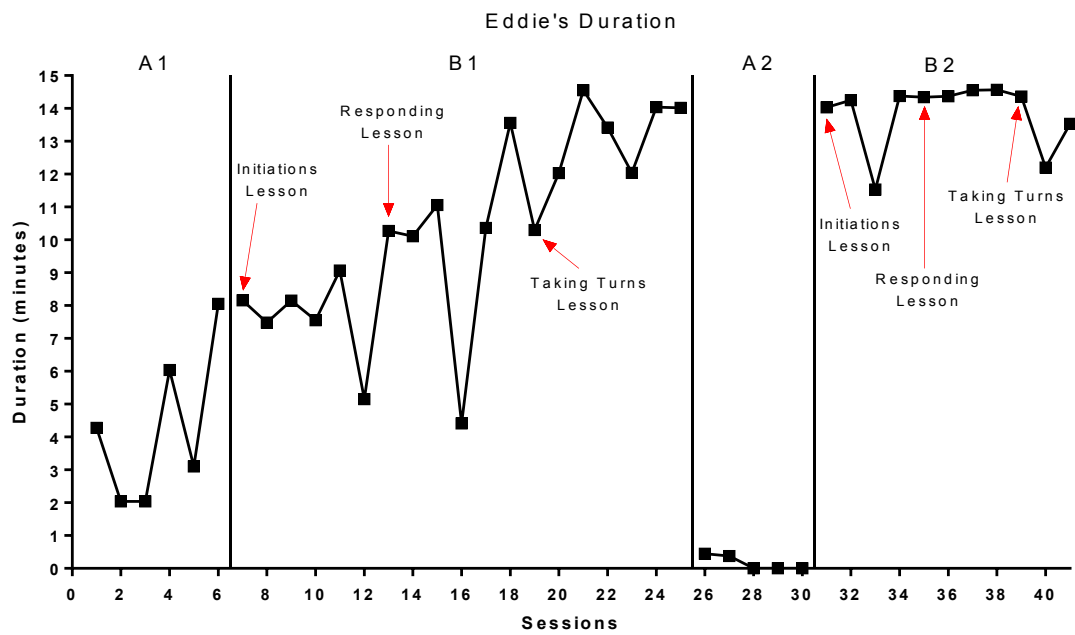


Figure 4. Eddie's duration

Table 1. Eddie's Peer Ranking Results

Ranking	Question 1		Question2		Question 3	
	Pre	Post	Pre	Post	Pre	Post
1 st	0%	0%	0%	5%	0%	10%
2 nd	0%	0%	0%	0%	5%	0%
3 rd	0%	0%	0%	0%	0%	0%

Participant Two

Clay's social interactions (including initiations, responses, turn-taking, and total duration socially interacting with a peer) were video-recorded during every data day immediately after the target social skill lesson, and assessed within 24 hours of the video recording. Across the six baseline data days, Clay had a mean frequency of 4 initiations (Figure 5), 5 responses (Figure 6), and 7 turns taken (Figure 7). Clay had a mean duration of 3 minutes and 45 seconds of interaction with a peer during the six baseline sessions (Figure 8).

Clay was given the Child Reinforcement Survey Schedule to help identify potential reinforcers. Based upon this indirect assessment, and the teacher's anecdotal notes, computer time, lunch with the teacher, PBS Kids, treasure chest items, and Animusic on YouTube were identified as potential reinforcers.

Clay attended three self-monitoring training sessions in which he was taught what to look for in the video recording (initiations, responses and turn-taking), watched a 2-minute baseline video, and self-monitored whether or not he had initiated, responded, and

took a turn in the 2-minute video. Training sessions occurred for three days in the same environment (special education classroom) as all data sessions, and at the same time as all data sessions throughout the study. In each training session, the teacher modeled the process, then Clay was assisted in the process, and at the end of the training session Clay self-monitored independently. At the end of the third training session, Eddie matched his self-monitoring accuracy (initiations, responses, and turn-taking) with the teacher with 100% accuracy.

Across all nineteen data sessions in intervention, Clay had a mean frequency of 19 initiations, 19 responses, and 25 turns taken, along with a mean duration of 11 minutes and 34 seconds of social interaction with a peer.

After nineteen data sessions in intervention, the intervention was withdrawn for five consecutive data sessions. Across these five data sessions in the withdrawal phase, Clay had a mean frequency of 4 initiations, 1 response, and 3 turns taken. Eddie's mean duration of social interaction with a peer decreased to 1 minute and 34 seconds.

The intervention was reinstated after the five data sessions in withdrawal, which data suggests a functional relationship between the dependent variables and the intervention. Across the eleven data sessions in return to intervention, Clay's means increased to a frequency of 24 initiations, 21 responses, and 23 turns taken. Mean duration interacting with a peer increased to 14 minutes and 16 seconds.

Clay increased from 0% of peers ranking him as third on question 1 for the pre-intervention form to 1% of peers ranking him third on the post-intervention form. For question 2, Clay increased from 5% of peers ranking him third on the pre-intervention form to 8% of peers ranking him third on the post-intervention form. On the same

question, Clay decreased from 5% to 0% of peers ranking him second from the pre-form to the post-intervention form. For question 3, Clay increased from 0% to 1% of peers ranking him as third from the pre-intervention form to the post-intervention form.

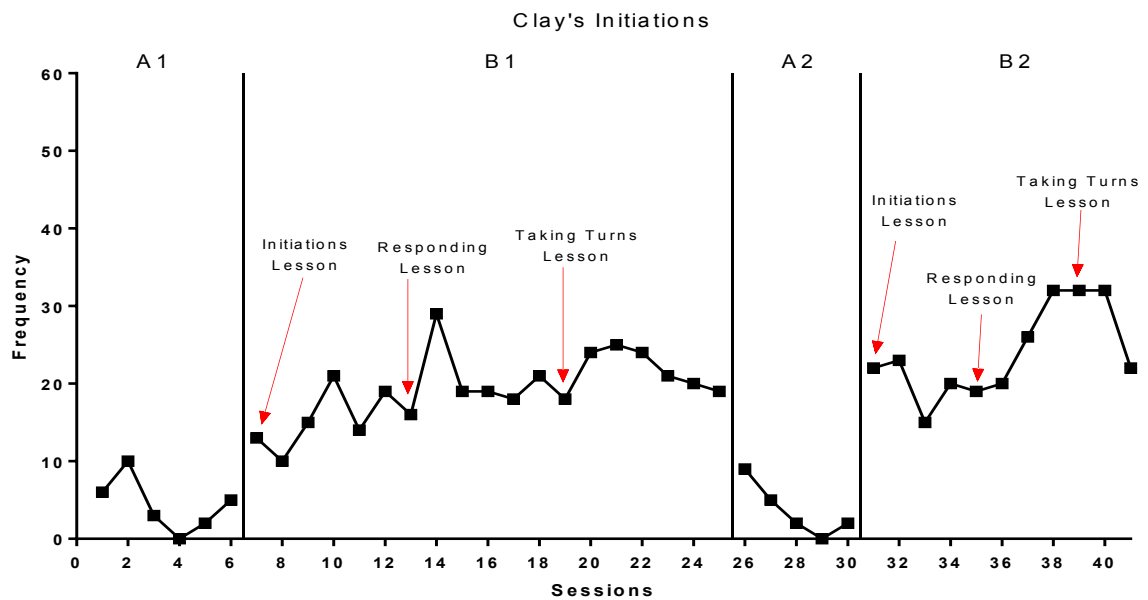


Figure 5. Clay's frequency of initiations

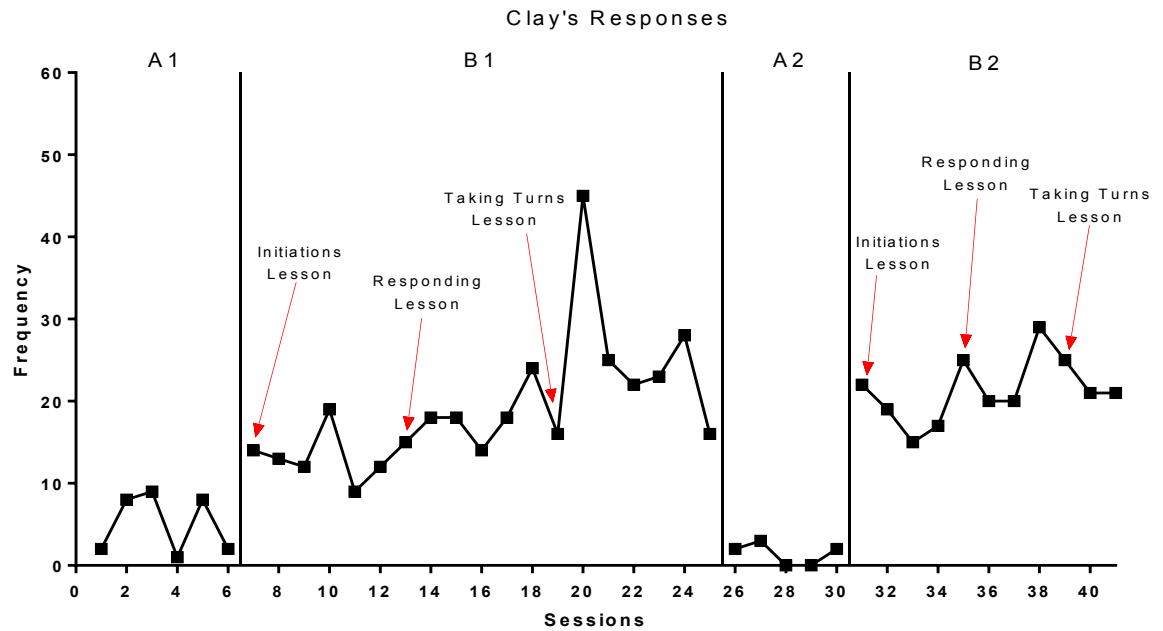


Figure 6. Clay's frequency of responses

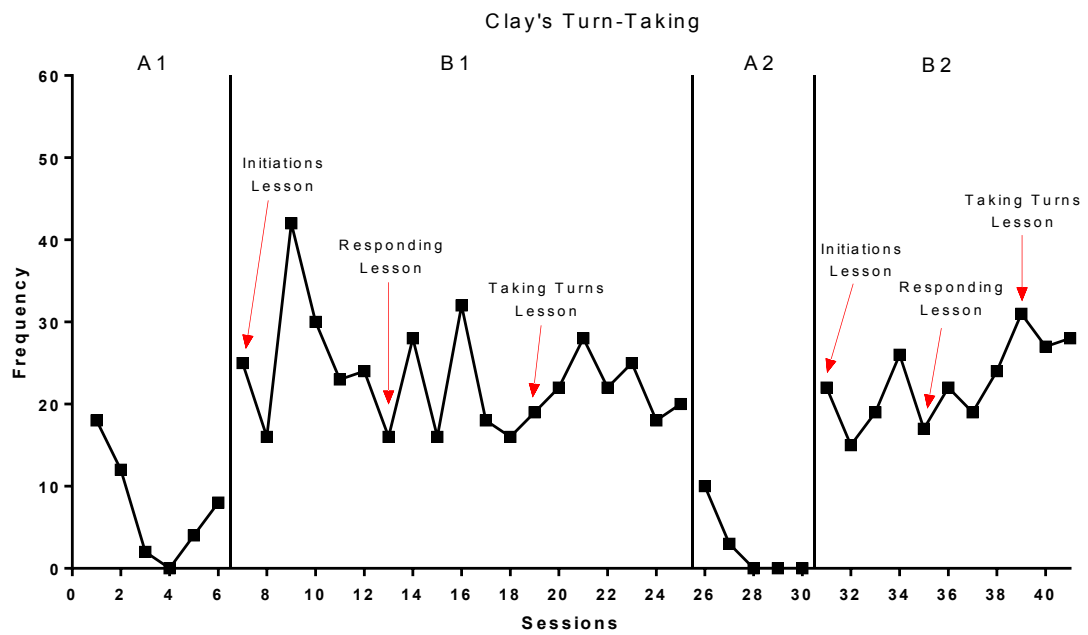


Figure 7. Clay's frequency of turn-taking

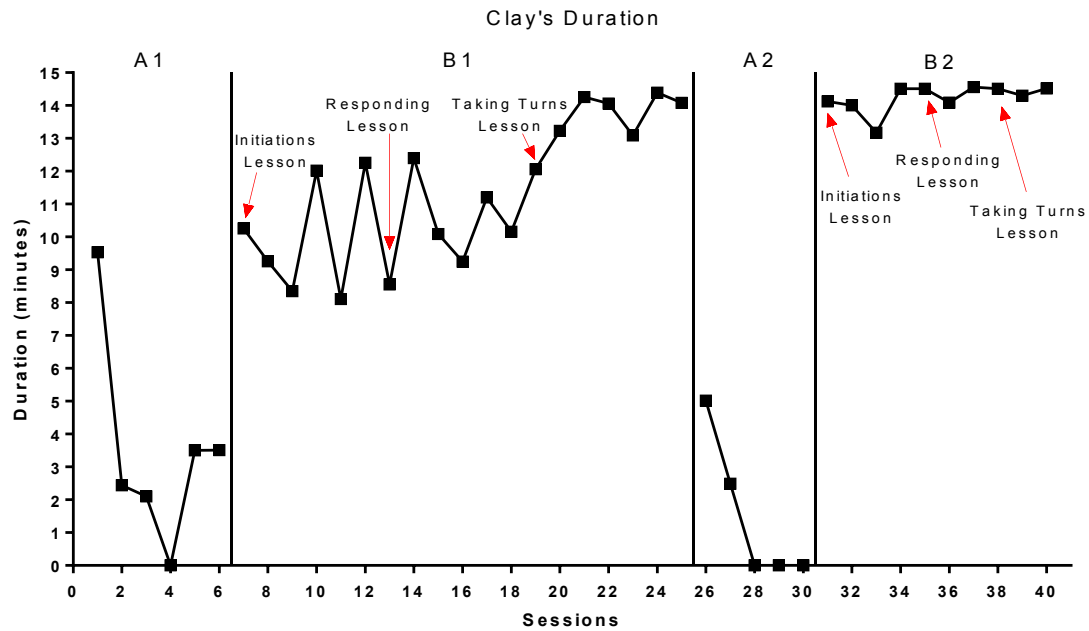


Figure 8. Clay's duration

Table 2. Clay's Peer Ranking Results

Ranking	Question 1		Question2		Question 3	
	Pre	Post	Pre	Post	Pre	Post
1 st	0%	0%	0%	0%	0%	0%
2 nd	0%	0%	5%	0%	0%	0%
3 rd	0%	1%	5%	8%	0%	1%

Matching

During all intervention and return to intervention data sessions, both Eddie and Clay were required to match the teacher with 100% accuracy on their self-monitoring

forms. Both participants met this requirement on the first attempt across all 30 data sessions in an intervention phase (B1 and B2).

Inter-observer Reliability

Inter-observer reliability was taken for at least 40% of data sessions in each phase of this study. Inter-observer reliability for Eddie was taken for 48% of all data sessions (Table 1). Inter-observer reliability for Eddie was 99% for baseline, 99% for intervention, 100% for withdrawal, and 99% for return to intervention.

Table 3. Inter-Observer Reliability Percentages for Eddie over the four phases of the study

Dependent Variable	A1	B1	A2	B2
Initiations	97%	98%	100%	99%
Responding	100%	98%	100%	100%
Turn-Taking	99%	99%	100%	98%
Duration	98%	100%	100%	100%
Mean per Phase	99%	99%	100%	99%

Inter-observer reliability for Clay was taken for 48% of all data sessions (Table 2). Inter-observer reliability was 100% for baseline, 99% for intervention, 100% for withdrawal, and 100% for return to intervention.

Table 4. Inter-Observer Reliability Percentages for Clay over the four phases of the study

Dependent Variable	A1	B1	A2	B2
Initiations	100%	99%	100%	100%
Responding	100%	99%	100%	100%
Turn-Taking	99%	97%	100%	100%
Duration	100%	100%	100%	100%
Mean per Phase	100%	99%	100%	100%

DISCUSSION

The purpose of this study was to examine the effectiveness of an intervention package (including a social skills curriculum, video-modeling, self-monitoring, and a token economy) on the pro-social behavior of two first-grade students with autism. This chapter will compare previous literature with the current study, discuss anecdotal data, study limitations, future research, and conclude with a summary of the study's implications.

A plethora of research have investigated interventions to improve social skills in individuals with autism. Rao, Beidel, and Murray (2008) define social skills as “specific behaviors that result in positive social interaction...both verbal and nonverbal behaviors necessary for effective interpersonal communication”. Three specific social skills that have been identified as central areas that impact interaction with others include social initiations, social responses, and social comprehension (Matson, 2011; Zager, Wehmeyer, & Simpson, 2012; Boutot & Myles, 2011). The dependent variables that were selected for the current study included social initiations, social responses, turn-taking, and total duration socially engaged with a peer. These four specific dependent variables were selected after careful consideration of each participants' social deficits, and also with consideration of what previous research suggested future research target.

Many studies that include participants who have autism focus on increasing social competence in their subjects. The current study is similar to many other studies which include individuals with autism, when considering the dependent variables and intervention implemented. Owen-DeSchryver, Carr, Cale, and Blackeley-Smith's 2008

study implemented a peer training intervention to increase initiations and responses similar to the current study. Both had a purpose of increasing social initiations and responses in individuals with autism by using a peer-training intervention.

Another study that focused on increasing social competence in young children with autism was Licciardello, Harchik, and Luiselli's 2008 study. In this study, a multicomponent social skills intervention was introduced to improve the social skills of three boys and one girl with autism in an elementary school. This study had a similar setting and similar dependent variables as the current study being discussed. During a designated play time, social initiations and social responses were measured using 10-second partial interval recording. The intervention consisted of researchers preteaching, prompting, and praising/rewarding specific social skills, similar to the current study. Results from this study are similar to results of the current study, which both suggest using a multicomponent intervention as a successful means of improving social initiating and social responding in elementary-aged children with autism.

Research Questions

The first three research questions from the present study focus on the relationship between an intervention package and social initiations, responses, and turn-taking during play time. One study which examined this same relationship implemented a Video Self-Modelled Social Story (VSM Social Story) in the home environment with a 3-year old boy with Autism (Litras, Moor, & Anderson, 2010). In this 2010 study, the frequency of greetings, making invitations to play, and contingent responding were measured. Similar to the present study, verbal/communicative behavior, and social engagement/interaction

were measured as a naturally coexisting dependent variable. In both studies, immediate increases in the dependent variables indicate a functional relationship between the intervention package and target behaviors. Two primary differences between these two studies are the age of the participant and the environment. While the 2010 study suggests video self-modelling as a successful intervention with a three-year old male in the home environment, the current study being considered suggests video-self modelling as a successful intervention with two 7-year olds in the school environment.

The first research question was: to what extent does direct instruction, video-modeling, and self-monitoring increase social initiations in young children with social communicative deficits? From the initial baseline to the final intervention phase of the study, Eddie's mean initiation frequency increased from 2 to a mean of 28. Clay's mean initiation frequency increased from a mean of 4 to a mean of 24 from initial baseline to the final intervention phase. Both participants' initiation results indicate a functional relationship between the intervention and social initiations.

The second research question was: to what extent does direct instruction, video-modeling, and self-monitoring increase social responding in young children with social communicative deficits? From the initial baseline to the final intervention phase of the study, Eddie's mean response frequency increased from 3 to a mean of 26. Clay's mean initiation frequency increased from a mean of 4 to a mean of 24 from initial baseline to the final intervention phase. Both participants' initiation results indicate a functional relationship between the intervention and social responses.

The third research question was: to what extent does direct instruction, video-modeling, and self-monitoring increase social turn-taking in young student with social

communicative deficits? From the initial baseline to the final intervention phase of the study, Eddie's mean turn-taking frequency increased from 9 to a mean of 29. Clay's mean turn-taking frequency increased from a mean of 7 to a mean of 23 from initial baseline to the final intervention phase. Both participants' initiation results indicate a functional relationship between the intervention and turn-taking.

The fourth research question was: to what extent does direct instruction, video-modeling, and self-monitoring effect social initiations, social responding, and social turn-taking in young students with social communicative deficits in the general education setting? To address this research question, the investigator asked the participants' general education teacher to complete a Likert-scale survey on each participant on the first and last day of the study. Questions on this survey were direct related to the first three research questions. The teacher was asked how they would rate the child's ability to initiate with peers during free time, respond to peers during free time, take turns with peers during free time, and the child's overall social skills when interacting with peers. Eddie improved in ranking for all four questions asked, and Clay improved in all but the second question, where he was ranked as "sometimes" both before and after the intervention.

The fifth research question was: how does a social intervention package including direct instruction, video-modeling, and self-monitoring effect peer rankings of young students with social communicative deficits? To address this research question, the investigator had all of the students in the participants' and peers' general education classroom (including both participants and peers) complete a three-question survey. The first question was: who are the top three people you like to play with at recess from your

class? The second question was: who are the top three people you like to have over to your house from your class? The third question was: who are your top three best friends in your class? These questions were developed by the investigator to find out how the peers ranked with the typical peers in their classroom, according to the peers that they spend the most time around during a typical school day. On all three questions, Eddie improved in ranking, although not more than 10%. On all three questions, Clay also improved in ranking, although not more than 3%. Although both participants increased in peer-ranking, a clear functional relationship cannot be determined. With the low percentage of increase in peer ranking, the investigator cannot tell whether the intervention was the cause of the increase, or whether peer rankings would have naturally increased throughout the school year as peers became more familiar with each other.

The sixth research question was: how does a social intervention package including direct instruction, video-modeling, and self-monitoring increase the total duration of social play in young students with social communicative deficits? Eddie's mean duration of social interaction with a peer increased from a mean of 4 minutes and 19 seconds per 15-minute data session to a mean of 14 minutes and 5 seconds per 15-minute data session from initial baseline to the final intervention phase. From the initial baseline to the final intervention phase of the study, Clay's mean duration of social interaction with a peer increased from 3 minutes and 45 seconds per 15-minute data session to a mean of 14 minutes and 16 seconds per 15-minute data session. Both participants' initiation results indicate a functional relationship between the intervention and total social duration interacting with typical peers during play time.

Anecdotal Data

In order to keep track of insightful comments and actions of both participants and peers that were not video-recorded and occurred outside of the sessions, the investigator kept an electronic research journal daily.

Participant One. At the beginning of the study, Eddie did not refer to his peers as friends, but as his classmates. He would often engage in parallel play or would play by himself while watching his peers during free time or recess. On the seventh day of the intervention, Eddie asked the investigator if he could go get his friends from class before they started practicing being a good friend. This was the first time throughout the study that Eddie referred to the peers as “friends” rather than classmates. For the remainder of the study, Eddie referred to Clay and the peer participants as his friends.

On the third day of the return to intervention phase, Eddie’s grandmother mentioned what she noticed at home on the previous day about Eddie’s progress to the investigator during a conversation after school. The grandmother told the investigator that when she asked him what he did at school that day, he said that he was learning how to be a better friend. When she asked him for more information, he also mentioned that he was getting better at playing with his friends, and he got to earn eating lunch with his friends in the investigator’s room when he did a good job playing with his friends.

Participant Two. At the beginning of the study, Clay referred to Eddie and the peer participants as “the other kids”. Once Eddie started referring to the group as his friends, Clay also started calling Eddie and the both participants his “friends group”. During the initial intervention phase (sessions 1-7), Clay choose to pick an item from the treasure chest as his reward for the day after he self-monitored the target behaviors. On

day eight of the initial intervention phase, Clay asked the investigator if he could pick an item for both himself and the peer that he interacted with during the data session. The investigator told him that he could just pick one thing out, and that the peer had already had his reward of Zumba on the SmartBoard, when Clay began to cry and become upset with the investigator. After a few minutes, Clay explained to the investigator that he was upset with her because she would not let him get something for his new friend. The next day, Clay chose to do the same thing that the peer was doing, so they could enjoy their reward together. The peer chose to do Zumba on the SmartBoard, so Clay joined him. This was the first time that Clay chose to do something with another student as his reward instead of getting himself an item from the treasure chest, and he did not chose an item from the treasure chest for the rest of the study.

On the eleventh day of the initial intervention phase of the study, all four students had a conversation on their way down to the investigator's classroom about which reward they wanted to earn. When the participants and peers entered the classroom, they told the investigator that they wanted to earn eating lunch in her classroom with their "friends group". The investigator asked if everyone wanted to earn this, and everyone was in agreement. Although daily token totals for each participant and peer were recorded daily, it is noted in the investigator's anecdotal notes that each participant and peer earned double what the token requirement for reinforcement was on this data session specifically.

Limitations

Although this study increased the target social behaviors of the participants, several limitations were contacted throughout the process of implementing the study. The most influential limitation of this study was the naturally occurring time constraints. This study took place during the spring semester of the 2014-2015 school year, which presented a natural final day of data collection as the last day of school. This is also when state-mandated testing occurs, as well as several district-required days off. This limited the investigator's ability to mirror the amount of sessions in the return to intervention (B2) phase of the study to the initial intervention (B1) phase of the study, which is ideal for ABAB withdrawal design studies.

Time constraints also limited the investigator's ability to determine which component of the intervention package had the biggest impact on the participants' pro-social behavior. A component analysis could have been conducted had the investigator had additional sessions with the participants.

The third limitation that time constraints provided were the lack of generalization probes. The next step in the study would have been for the investigator to probe the participants' generalization of initiations, responses, turn-taking, and duration of time socially engaged.

Another limitation of this study was the nature of the classroom in which the study occurred. It was sometimes necessary for the investigator to discontinue a session in order to fulfill unforeseen issues with another student in a different classroom. When this would happen, participants would be instructed to return to their general education classrooms, and were thanked for their patience. When this was the case, the investigator

did not resume the discontinued session, but rather started a new session the next possible day.

A final limitation of this study was the experience of the investigator. Although the investigator had previously conducted five ABAB design studies, this was the first that included dependent variables focusing on social skills, and was the first time the investigator implemented video-modeling, peer mentoring, and a token economy. Even though the investigator took steps to overcome this limitation, the more experience an individual has with a given task, the smoother things typically go.

Future Research

Considering the increased prevalence rates for autism and changing criteria in just the past decade, it is essential for educators and professionals working with individuals with autism to continue to examine, replicate, and publish research for the benefit of the community which surrounds autism. Many previous studies that include individuals with autism focus on increasing one of the most obvious deficits in individuals with autism-social skills. Due to a lack of established evidence-based practices for children with autism who are 9 years old and younger, Reichow and Volkmar (2010) suggest that future research include the implementation of social skills groups. It is also suggested that future research examine social skills programs that include parent-delivered social skills training programs, lower-functioning participants, siblings as peer-trainers, and multiple levels of measurement (Reichow & Volkmar, 2010).

Bellini, Peters, Benner, and Hopf (2007) suggest future research in the area of social skills interventions that take place in a school setting focus on the social validity

and efficacy of given social skills interventions, and examine what specific factors lead to the most beneficial outcomes. White, Keonig, and Scahill (2007) also recommend that future research concentrate on utilizing adequate measurement of social skills, larger sample sizes, and increasing generalization with learned social skills.

Findings of the current study support the implementation of the given intervention package to increase initiations, responses, turn-taking, and duration of social interaction in first-graders diagnosed with autism. However, in order to increase knowledge regarding evidence-based practices, more research will always be necessary. In the area of autism, the current study focused on two first-graders with autism. More research would be required with upper elementary, middle school, and high school students to support the use of a similar intervention with students in those grades and settings.

Based on the current study, one cannot definitively say that this intervention would increase pro-social behaviors for all first-graders with autism. However, with clear increases in target behavior during intervention phases, there was ultimately a strong functional relationship between the intervention implemented and the dependent variables. Participants in the current study were functioning at a level that allowed them to participate and progress in a regular education room for the majority of their school day. Published research in these settings is required to support the use of a similar intervention with students whose functioning level requires a self-contained or district-program room to be successful.

If the current study were to be replicated in a similar classroom setting with first-graders, it is recommended that the investigator set up generalization probes throughout all phases of the study. These generalization probes should include both typical peers and

different environments, although not at the same time. It is also recommended that participants take part in the peer-selecting process to ensure that participants are interacting with peers who are well preferred for those participants as well as other peers. A final recommendation is for the investigator to complete a year-long study rather than a semester-long study. This would allow for the investigators to complete an intervention and return to intervention phase that mirror each other, spend more time per phase on each target behavior, and complete a component analysis while accounting for district and state mandated days off and testing days.

Summary

This study adds to previous research that has aimed at improving the social skills of young children with autism who display poor social competence. The current study supports the use of social skills intervention packages to improve important social skills in children with autism. Multiple evidence-based practices that were combined into the intervention package included video-modeling, self-monitoring, a social skills curriculum, a token economy, and peer mentoring. Results indicate a functional relationship between the social skills intervention package used and social initiations, social responses, turn-taking, and total duration involved in a social situation. Considering the time limitations this study contacted, future research would benefit by including generalization probes with different environments and people throughout each phase of the study. Beginning a study at the beginning of the school year rather than mid-way through the school year would benefit future researchers' ability to complete a component analysis of the social skills intervention package. Replication is required in

order to strengthen the evidence to support the use of this specific social skills intervention package as a reliable intervention to increase the social competence of young children with autism.

REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Apple, A. L., Billingsley, F., & Schwartz, I. S. (2005). Effects of video modeling alone and with self-management on compliment-giving behaviors of children with high-functioning ASD. *Journal of Positive Behavior Interventions*, 7(1), 33-46.
- Bellini, S. (2004). Social skill deficits and anxiety in high-functioning adolescents with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 19(2), 78-86.
- Bellini, S., & Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. *Exceptional Children*, 73(3), 264-287.
- Boudreau, J., & Harvey, M. T. (2013). Increasing recreational initiations for children who have ASD using video self modeling. *Education and Treatment of Children*, 36(1).
- Boutot, E. A., & Myles, B. S. (2011). *Autism spectrum disorders: Foundations, characteristics, and effective strategies* (pp. 7, 217). Boston, MA: Pearson.
- Coyle, C., & Cole, P. (2004). A videotaped self-modelling and self-monitoring treatment program to decrease off-task behaviour in children with autism. *Journal of Intellectual and Developmental Disability*, 29(1), 3-15.
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational research: competencies for analysis and applications* (10th ed., pp. 507-520). Upper Saddle River, NJ: Pearson.
- Gena, A., Couloura, S., & Kymissis, E. (2005). Modifying the affective behavior of preschoolers with autism using in-vivo or video modeling and reinforcement contingencies. *Journal of Autism and Developmental Disorders*, 35(5), 545-556.
- Hitchcock, C. H., Dowrick, P. W., & Prater, M. A. (2003). Video self-modeling intervention in school-based settings. *Remedial and Special Education*, 24(1), 36-45.
- Kazdin, A. E. (2011). *Single-case Research Designs: Methods for clinical and applied setting* (2nd ed.). N.p.: Oxford University Press.

- Kroeger, K. A., Schultz, J. R., & Newsom, C. (2007). A comparison of two group-delivered social skills programs for young children with autism. *Journal of Autism and Developmental Disorders*, 37, 808-817.
- Licciardello, C. C., Harchik, A. E., & Luiselli, J. K. (2008). Social skills intervention for children with autism during interactive play at a public elementary school. *Education and Treatment of Children*, 31(1), 27-37.
- Litras, S., Moore, D. W., & Anderson, A. (2010). Using video self-modelled social stories to teach social skills to a young child with autism. *Autism Research and Treatment*, 2010, 1-9.
- Maione, L., & Mirenda, P. (2006). Effects of video modeling and video feedback on peer-directed social language skills of a child with autism. *Journal of Positive Behavior Interventions*, 8(2), 106-118.
- Maroni, B., Gnisci, A., & Pontecorvo, C. (2008). Turn-taking in classroom: Overlapping, interruptions and pauses in primary school. *European Journal of Psychology of Education*, 23(1), 59-76.
- Matson, J. L. (Ed.). (2009). *Applied behavior analysis for children with autism spectrum disorders* (p. 131). New York, NY: Springer.
- Nikopoulos, C. K., & Keenan, M. (2003). Promoting social initiation in children with autism using video modeling. *Behavioral Interventions*, 18, 87-108.
- Nikopoulos, C. K., & Keenan, M. (2004). Effects of video modeling on social initiations by children with autism. *Journal of Applied Behavior Analysis*, 37(1), 93-96.
- Odom, S. L., Brown, W. H., Frey, T., Karasu, N., Smith-Canter, L. L., & Strain, P. S. (2003). Evidence-based practices for young children with autism: Contributions for single-subject design. *Focus on Autism and Other Developmental Disabilities*, 18(2), 166-175.
- Owen-DeSchryver, J. S., Carr, E. G., Cale, S. I., & Blakeley-Smith, A. (2008, March). Promoting social interactions between students with autism spectrum disorders and their peers in inclusive school settings. *Focus on Autism and Other Developmental Disabilities*, 23(1), 15-28.
- Rao, P. A., Beidel, D. C., & Murray, M. J. (2008). Social skills interventions for children with Asperger's syndrome or high-functioning autism: A review and recommendations. *Journal of Autism and Developmental Disorders*, 38, 353-361.
- Reichow, B., & Volkmar, F. R. (2010). Social skills interventions for individuals with autism: Evaluation for evidence-based practices within a best evidence synthesis framework. *Journal of Autism and Developmental Disorders*, 40, 149-166.

- Rock, M. L. (2005). Use of strategic self-monitoring to enhance academic engagement, productivity, and accuracy of students with and without exceptionalities. *Journal of Positive Behavior Interventions*, 7(1), 3-17.
- Sancho, K., Sidener, T. M., Reeve, S. A., & Sidener, D. W. (2010). Two variations of video modeling interventions for teaching play skills to children with autism. *Education and Treatment of Children*, 33(3), 421-442.
- Simpson, R. L. (2005). Evidence-based practices and students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 20(3), 140-149.
- Sundberg, M. L. (2008). VB-MAPP: *Verbal behavior milestones assessment and placement program* (2nd ed.). Concord, CA: AVB Press.
- Wong, C., Odom, S. L., Hume, K., Cox, A. W., Fettig, A., Kucharczyk, S., ...Schultz, T. R. (2013). *Evidence-based practices for children, youth, and young adults with Autism Spectrum Disorder*. Chapel Hill: The University of Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group.
- Zager, D., Wehmeyer, M. L., & Simpson, R. L. (2012). *Educating students with autism spectrum disorders: Research-based principles and practices* (pp. 208-211). New York, NY: Routledge.

APPENDICES

Appendix A. Parent Permission Forms

PARENT CONSENT for PARTICIPANT

Dear Parent,

Missouri State University supports the practice of protection for human participants taking part in our research. A teacher in your child's school is researching an intervention to increase the pro-social behavior of students at your child's school. The following information is provided for you to decide whether you wish your child to participate in the participant portion of the study. You may refuse to sign this form and not have your child participate in this study. You should be aware that even if you agree to participate, you are free to withdraw your child from the study at any time. If you do withdraw from this study, it will not affect our relationship with the school, the services it may provide to you or your child, or Missouri State University.

What is the purpose of this study?

The purpose of this study is to improve the positive social behavior of elementary students who are diagnosed with autism. Your child has been nominated by his/ her special education teacher as a candidate for a participant in the present study. We are requesting permission to improve the social behavior in your child.

What are the behavioral assessments?

Assessment for behavior includes teacher rating scales and interviews, behavior and academic records (including academic assessments and IEPs), and observations of positive social behaviors. The observations are conducted by school staff with assistance from the Missouri State University staff.

What are the pro-social interventions?

The pro-social interventions are based on best practices, and includes the following:

1. Training Sessions: Participants will be taught specifically how to engage in specific positive social behavior.
2. Video Modeling Procedures: Participants will be video recorded engaging in positive social behavior with other participants. Videos will be used to help participants engage in positive social behavior.
3. Data Sessions: Participants will be given the opportunity to interact in the classroom for 15 minutes per session. These 15-minute sessions will be recorded, and a portion will be watched by the participant and the teacher-researcher together. While watching, the participant and teacher-researcher will identify and evaluate the positive social behavior that took place in the video recording.

What are the benefits of your child participating in this study?

All students who participate in the study may benefit from the training and intervention. We expect to see more positive social behaviors during peer-to-peer interactions throughout the study. Your child's participation is voluntary and you are free to withdraw at any time without penalty. If you agree, the teacher-researcher will implement research-based strategies to help improve the positive social behavior of your child.

What are confidentiality procedures?

Missouri State University supports the practice of protection for human participants taking part in our research programs. Your permission allows a copy of all information obtained from assessment and interventions to be provided to the Missouri State University staff involved in this study. This information will be kept confidential in closed files at Missouri State University. All video recordings will be password protected and kept in a locked room. All school policies on confidentiality will be followed. Information from assessments or observations shared in verbal or written reports only to the school staff who assist your child. These persons will have the information available for parents to review.

If you agree to allow your child to participate, please sign the attached form and have your child return it to his/ her teacher. Should you desire any additional information or have questions, please call (417) 523- 3183, or contact your child's special education teacher.

Sincerely,

Mary Elizabeth Ortman

Dr. Garrison-Kane
Missouri State University Professor
(417) 836- 6960
LGKane@MissouriState.edu

PARTICIPANT CERTIFICATION:

If you agree to have your child participate in this study please sign where indicated, then return this page to your child's teacher. Keep the consent information for your records.

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study and use and disclosure of information about my child for the study.

I agree to allow my child to take part in this study. By my signature I affirm that I am the parent/ guardian of the child and that I have received a copy of this Consent and Authorization form. I understand this means he/ she may be observed and that information will be used to help the school and my child's teacher and support my child.

Assistance with positive social behavior support will be developed by the teacher-researcher with consultation from Missouri State University.

I also understand that my permission allows for video recorded observation of my child and sharing of school records with project staff.

Child's first and last name

Child's School

Print parent's name

Parent's signature

Date

With my signature I affirm that I have been given a copy of this consent form.

I understand that if I have any additional questions about my rights as a research participant, I may call (417) 523- 3183.

PARENT CONSENT for PEER MODEL

Dear Parent,

Missouri State University supports the practice of protection for human participants taking part in our research. A teacher in your child's school is researching an intervention to increase the pro-social behavior of students at your child's school. The following information is provided for you to decide whether you wish your child to participate in the peer modeling portion of the study. You may refuse to sign this form and not have your child participate in this study. You should be aware that even if you agree to participate, you are free to withdraw your child from the study at any time. If you do withdraw from this study, it will not affect our relationship with the school, the services it may provide to you or your child, or Missouri State University.

What is the purpose of this study?

The purpose of this study is to improve the positive social behavior of elementary students who are diagnosed with autism. Your child has been nominated by his/ her classroom teacher as a candidate for a peer model, because he/she engages in, and is a "Peer Model" for positive social behavior. We are requesting permission to improve the social behavior in others, by using your child as a peer model.

What are the behavioral assessments?

Assessment for behavior includes teacher rating scales and interviews, behavior and academic records (including academic assessments and IEPs), and observations of positive social behaviors. The observations are conducted by school staff with assistance from the Missouri State University staff.

What are the pro-social interventions?

The pro-social interventions are based on best practices, and includes the following:

1. Training Sessions: Peer models will be taught specifically how to be a positive social behavior model.
2. Video Modeling Procedures: Peer models will be video recorded engaging in positive social behavior with a peer with autism. Videos will be edited and will be used to help students with autism engage in positive social behavior.
3. Data Sessions: Participants and peer models will be given the opportunity to interact in the classroom for 15 minutes per session. These 15-minute sessions will be recorded, and a portion will be watched by the participant and the teacher-researcher together. While watching, the participant and teacher-researcher will identify and evaluate the positive social behavior that took place in the video recording.

What are the benefits of your child participating in this study?

All students who participate in the study may benefit from the training and intervention. We expect to see more positive social behaviors during peer-to-peer interactions throughout the study. Your child's participation is voluntary and you are free to withdraw at any time without penalty. If you agree, the teacher-researcher will train your child how to be a great positive social behavior model.

What are confidentiality procedures?

Missouri State University supports the practice of protection for human participants taking part in our research programs. Your permission allows a copy of all information obtained from assessment and interventions to be provided to the Missouri State University staff involved in this study. This information will be kept confidential in closed files at Missouri State University. All video recordings will be password protected and kept in a locked room. All school policies on confidentiality will be followed. Information from assessments or observations shared in verbal or written reports only to the school staff who assist your child. These persons will have the information available for parents to review.

If you agree to allow your child to participate, please sign the attached form and have your child return it to his/ her teacher. Should you desire any additional information or have questions, please call (417) 523- 3183, or contact your child's teacher.

Sincerely,

Mary Elizabeth Ortman

Dr. Garrison-Kane
Missouri State University Professor
(417) 836- 6960
LGKane@MissouriState.edu

PEER MODEL CERTIFICATION:

If you agree to have your child participate in this study please sign where indicated, then return this page to your child's teacher. Keep the consent information for your records.

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study and use and disclosure of information about my child for the study.

I agree to allow my child to take part in this study. By my signature I affirm that I am the parent/ guardian of the child and that I have received a copy of this Consent and Authorization form. I understand this means he/ she may be observed and that information will be used to help the school and my child's teacher and support my child. Assistance with positive social behavior support will be developed by the teacher-researcher with consultation from Missouri State University.

I also understand that my permission allows for video recorded observation of my child and sharing of school records with project staff.

Child's first and last name

Child's School

Print parent's name

Parent's signature

Date

With my signature I affirm that I have been given a copy of this consent form. I understand that if I have any additional questions about my rights as a research participant, I may call (417) 523- 3183.

Appendix B. Principal Permission Form

PRINCIPAL CONSENT

Dear Principal,

As part of my thesis project for my masters in special education in autism at Missouri State University, I plan to implement an intervention program to teach my students with autism how to engage in positive social behaviors.

What is the purpose of the project?

The purpose of this project is to develop and implement social skills, video modeling, and self-monitoring strategies for students with autism, to help increase their positive social behavior. These strategies are evidence-based practices, which research has shown to help increase the positive social behavior in students with autism. The intervention will not interfere with current IEPs and will only enhance the progress on IEP goals. The resulting information may be disseminated at regional and national behavior conferences such as the Midwest Symposium for Leadership in Behavior Disorders or Association for Behavior Analysis International Conference. This study is completed to meet thesis requirements for a master's degree in special education in autism.

What are the behavioral assessments?

Assessment for behavior includes teacher rating scales and interviews, and observations of student's positive social behavior. The observations are conducted by the teacher-researcher and school staff involved in the students.

What are the pro-social interventions?

The pro-social interventions are based on best practices, and includes the following:

1. Training Sessions: Participants will be taught specifically how to engage in positive social behavior model.
2. Video Modeling Procedures: Participants will be video recorded engaging in positive social behavior with a peer model. Videos will be edited and will be used to help participants engage in positive social behavior.
3. Data Sessions: Participants and peer models will be given the opportunity to interact in the classroom for 15 minutes per session. These 15-minute sessions will be recorded, and a portion will be watched by the participant and the teacher-researcher together. While watching, the participant and teacher-researcher will identify and evaluate the positive social behavior that took place in the video recording.

What are the benefits of your participation in the study?

All students who participate in the study may benefit from the training and intervention. We expect to see more positive social behaviors during peer-to-peer interactions throughout the study. All participant participation is voluntary and parents are free to withdraw their child from the study at any time without penalty. If you agree, the teacher-researcher will implement research-based strategies to help improve the positive social behavior of your students with autism.

Video Recording:

We may videotape samples of the classroom instruction and intervention for later review by the research and development team and for training purposes. This recording may be accessed by members of the research project to inform future collaboration. No personally identifying information will be disseminated. It will only be used to ensure the fidelity of treatment and efficacy of the study.

What are confidentiality procedures?

Your permission allows a copy of all information obtained from assessment and interventions to be provided to the Missouri State University staff involved in this study. This information will be kept confidential in closed files at Missouri State University with Dr. Garrison-Kane. An alias will be used for each student and no identifying information will be included. All school policies on confidentiality will be followed. Information from assessments or observations shared in verbal or written reports only to the school staff who assist each student. Parent permission will be granted through a separate permission form and will be provided access to all data and information collected upon request.

Should you desire any additional information or have questions, please contact Dr. Garrison-Kane at Missouri State University.

Sincerely,

Mary Elizabeth Ortman

Dr. Garrison-Kane
Missouri State University Professor
(417) 836- 6960
LGKane@MissouriState.edu

PRINCIPAL CERTIFICATION:

If you agree to have your school participate in this study please sign where indicated, then return this page to the teacher-researcher. Keep the consent information for your records.

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study and use and disclosure of information about my school for the study.

I agree to allow my school to take part in this study. By my signature I affirm that I am the principal of the school and that I have received a copy of this Consent and Authorization form. I understand this means my students may be observed and that information will be used to help the school. Assistance with positive social behavior support will be developed by the teacher-researcher with consultation from Missouri State University.

I also understand that my permission allows for video recorded observation of participants and sharing of school records with project staff.

Principal's first and last name

School

Principal's signature

Date

With my signature I affirm that I have been given a copy of this consent form. I understand that if I have any additional questions about my rights as a research participant, I may contact Dr. Garrison-Kane at (417) 836- 6960, or Mary Elizabeth Ortman.

Appendix C. Human Subject Institutional Review Board Application

1. Purpose

The purpose of this study is to examine the efficacy of video-modeling and self-monitoring in elementary students with an autism spectrum disorder. The three specific goals of this study include: To what extent does a social skills curriculum increase initiations, turn-taking, and initiations in a young student with autism; To what extent does self-monitoring increase initiations, responding, and turn-taking in a young student with autism; and to what extent does social skills training increase initiations, turn-taking, and responding in a young student with autism?

2. Research Protocol

This study will include three participants, two of which have a diagnosis of autism, the third having a primary diagnosis of Other Health Impaired. All three of the participants were chosen because they were previous and are current students of the teacher-researcher, and are currently receiving social skills instruction with the teacher-researcher, per the students' IEPs. Due to the teacher-researcher using her own students for this study, this a convenience sample. All three participants are males, and are in a social skills group in the teacher-researcher's resource room in an area elementary school. Participants will participate in the study from three to five days a week, for a maximum of thirty-two weeks. Procedures will take an estimated average of thirty minutes per data day.

Prior to any research being conducted, participants' guardians will be asked to sign a permission form, giving their children permission to take part in the study. The school's principal will also be asked to sign a permission form outlining the purpose and specifics of the study.

Data will be collected over the course of the 2014-2015 school year. The time of day and subject being taught during data collection will remain consistent throughout the study, taking place from 9:30 am – 10:00 am per data day. Data sessions will be video recorded for fidelity of treatment and reliability.

Prior to the data collection session, the participant will be given a social skills lesson on a target social skill. Social skills lessons will be taught in the following order: initiating ("Asking Friends to Play"), turn-taking, and responding ("Answering our Friends").

Immediately after the video is viewed, the participants will engage in a preferred activity together for fifteen minutes, which will also be video recorded for data collection purposes, and serve as an opportunity for the participant to engage in the target behavior. After the twenty-minute data session, the participants will watch a portion of the video-recording, and self-monitor their engagement in the target behavior by circling either "yes" or "no" on their self-check sheets. Prior to the next data session, the teacher-researcher will watch the full fifteen minute video of the participants interacting in the preferred activity, and record the frequency of the target behavior. Each data session from initial video watching to self-monitoring will take a maximum of thirty minutes.

The study will take place in a kindergarten through fifth grade special education cross-categorical resource room. The classroom is in a K-8, Title 1 School in a low-income part of Southwestern Missouri. 92% of the school's students (K-8) qualify for a free and reduced lunch. Kindergarten, first, and second grade students at the school receive breakfast and lunch, along with two snacks daily. All other grades at the school received breakfast, lunch, and one snack daily. The school is in its second year of being a Focus school, which indicates the students are of the lowest-achieving in the state of Missouri, according to standardized testing (MAP, and Performance Series). As part of being a Focus school, it is the school's third year of implementing a required School Improvement Plan to aid in improving students' testing scores through increased school-wide resources.

The classroom that the study will take place in has one teacher and one para-professional, who is shared with the other elementary special education teacher on the elementary side of the building. The teacher is in her second year of teaching, and serves twenty-two students throughout the school day. At the selected time of the study, there will be an additional two students in the classroom.

Data collection for this study will include momentary time sampling of every 5-seconds (attached), with the aid of a video recorder. If a positive change occurs, the student should demonstrate an increase in identified target behaviors, as measured by the data collection sheets (attached). The participants will use an individualized self-monitoring chart with built-in reinforcers (attached).

Resulting information will be shared with the participating district, and possibly in special education conferences or symposiums. If data collected is presented at conferences or symposiums, the teacher-researcher will represent Missouri State University, and will share the collected data with other professionals in the field of special education.

3. Benefits

All participants in the study may benefit from the training and intervention utilized. It is expected that an increase in the target pro-social behaviors (initiations, responding, or turn-taking) during peer-to-peer interactions throughout the study. These possible benefits have major implications for the participants throughout their life. Participants may be able to engage in more expected behavior later on in life, which can positively impact the quality of life for the participants.

4. Risks

There are no significant risks for the participants of this study. The largest risk is that the intervention would not increase the pro-social behavior of the participants, and their social behavior would remain the same.

5. Analysis of Risk

The potential benefits of the study greatly outweigh the potential risks of participants being a part of the study. There is a much higher likelihood of the intervention improving the social behavior of the participants, therefor increasing their quality of life, than there is of the intervention not improving their social behavior, and the social behavior remaining the same.

6. Procedures for Minimizing Risk

In addition to permission being collected from possible participants' guardians, participants will be given pseudonyms, and all identifying information about the participants will be kept confidential. If data is presented at a conference or symposium, pseudonyms will continue to be used, and no identifying information will be shared. The teacher-researcher will keep all information about the participants' information either on their person, or in a locked room, which the teacher-researcher will have the key to. The researcher will also request written consent from the participants' guardians to video record data sessions on the researcher's personal tablet, secured by a personal password.

7. Procedures for Obtaining Informed Consent

Before consent forms are sent home to the participants' guardians, consent from the building principal will be obtained. The study will be outlined to the school's administration, and consent will be obtained via the Principal Permission Slip (attached). Guardians of potential participants will be told that a permission slip will be sent home via the possible participants' backpacks, and guardians will be told to ask any relevant questions prior to signing the Participant Permission Slip (attached). Communication between the teacher-researcher and the participants' guardians will remain open throughout the study.

8. I hereby agree to conduct this study in accordance with the procedures set forth in my project description, to uphold the ethical guidelines as set forth in the Code of Federal Regulations 45 CFR 46, 45 CFR 160 and 164, and the Missouri State University HIPAA Policy, and to report to the IRB any outcomes or reactions to the experiment which were not anticipated in the risks description which might influence the IRBs decision to sustain approval of the project.

_____ Department Head/ Dean/ VP	_____ Date
_____ Principal Investigator (Faculty/ Staff)	_____ Date
_____ Other Investigator	_____ Date
_____ Other Investigator	_____ Date

Appendix D. District Approval to Conduct Research Letter



***Springfield Public Schools Exists For the
Academic Excellence of All Students***

To: M. E. Ortman
From: Dr. Cathy Galland
Date: October 14, 2014
Subject: Request to Conduct Research

Your request to conduct research proposal titled, *The Effect of Video Modeling, Self-Monitoring, and Peer Mentoring on Social Skills in Children with Autism*, submitted for consideration has been approved for Westport K-8 School. Please understand this letter constitutes district approval, but the final decision for participation rests with the building principal. You must also seek approval from the building principal before conducting your research.

Feel free to contact Dr. Cathy Galland if you have questions or need additional information.

Good Luck.

Dr. Cathy Galland
Facilitator of Operations, Secondary

Appendix E. Reinforcement Inventory

Supplement 1

Children's Reinforcement Survey Schedule

**Children's Reinforcement Survey Schedule
Part A**

Directions:
This is a list of many different things or activities. Explain how much you like each choice by making an "X" in the appropriate box.
If you dislike the choice, make an "X" in the box under *Dislike*:

Dislike	Like	Like Very Much
X		

If you like the choice, make an "X" in the box under *Like*:

Dislike	Like	Like Very Much
	X	

If the choice is something which you like very, very much, make an "X" in the box under *Like Very Much*:

Dislike	Like	Like Very Much
		X

	Dislike	Like	Like Very Much
1. Do you like candy?			
2. Do you like raisins?			
3. Do you like milk?			
4. Do you like stuffed toy animals?			
5. Do you like coloring?			
6. Do you like making things out of clay?			
7. Do you like listening to music?			
8. Do you like animal stories?			
9. Do you like playing on swings?			

10. Do you like kickball?			
11. Do you like going on field trips at school?			
12. Do you like being the teacher's helper?			
13. Do you like going to the library?			
14. Do you like people to tell you that you did a good job?			
15. Do you like your teacher to buy materials that you especially like?			
16. Do you like teaching things to other people?			
17. Do you like watching trucks, bulldozers, and tractors?			
18. Do you like to go shopping?			
19. Do you like to eat out in a restaurant?			
20. Do you like going to a circus or a fair?			
21. Do you like playing with dogs?			
22. Do you like to play with some children younger than you?			
23. Do you like to play with some special grown-ups?			
24. Do you like people to take care of you when you are sick?			
25. Do you like taking care of pet animals?			

(From "Children's reinforcement survey schedule" by J. R. Cautela and L. A. Brion-Meisels, 1979. *Psychological Reports*, 44, 327-338. Reprinted by permission.)

CRSS—Part B**Directions:**

This is a list of many different things or activities. Explain how much you like each choice by making an "X" in the appropriate box.

If you dislike the choice, make an "X" in the box under *Dislike*:

Dislike	Like	Like Very Much
X		

If you like the choice, make an "X" in the box under *Like*:

Dislike	Like	Like Very Much
	X	

If the choice is something which you like very, very much, make an "X" in the box under *Like Very Much*:

Dislike	Like	Like Very Much
		X

	Dislike	Like	Like Very Much
1. Do you like apples?			
2. Do you like breakfast cereals?			
3. Do you like fruit juice?			
4. Do you like to play with toy cars?			
5. Do you like painting?			
6. Do you like making things out of wood?			
7. Do you like to sing?			
8. Do you like cartoons and comic books?			
9. Do you like swimming?			
10. Do you like riding a bike?			

11. Do you like outdoor recess?			
12. Do you like to be the winner of a contest?			
13. Do you like arithmetic and working with numbers?			
14. Do you like being better than everyone else at something?			
15. Do you like saving your school papers to show to other people?			
16. Do you like your parents to ask you what you did in school today?			
17. Do you like to watch television?			
18. Do you like traveling to different, far-away places on vacation?			
19. Do you like to go to the movies?			
20. Do you like playing with cats?			
21. Do you like to go to the zoo?			
22. Do you like playing with some children older than you?			
23. Do you like being alone rather than being with other people?			
24. If your friend is sick, do you like to take some things to your friend's house to make your friend feel happier?			
25. Do you like someone to take care of you when you are scared?			

(From *Behavior Analysis Forms for Clinical Interventions* by J. R. Cautela, 1977. Champaign, IL: Research Press Co.)

CRSS—Part C

Directions:

This is a list of many different things or activities. Explain how much you like each choice by making an "X" in the appropriate box.

If you dislike the choice, make an "X" in the box under *Dislike*:

Dislike	Like	Like Very Much
X		

If you like the choice, make an "X" in the box under *Like*:

Dislike	Like	Like Very Much
	X	

If the choice is something which you like very, very much, make an "X" in the box under *Like Very Much*:

Dislike	Like	Like Very Much
		X

	Dislike	Like	Like Very Much
1. Do you like candy?			
2. Do you like fruit?			
3. Do you like cooking?			
4. Do you like to drink soda?			
5. Do you like to make models?			
6. Do you like to play with model cars and trains?			
7. Do you like to draw and paint?			
8. Do you like to do crafts?			
9. Do you like carpentry and woodworking?			
10. Do you like making things out of clay?			
11. Do you like working with motors?			
12. Would you like to have sports equipment of your own?			
13. Do you like to play on playground equipment?			

14. Do you like to go bike riding?			
15. Do you like to go swimming?			
16. Do you like to go skiing?			
17. Do you like hockey?			
18. Do you like baseball?			
19. Do you like football?			
20. Do you like basketball?			
21. Do you like kickball?			
22. Do you like camping?			
23. Do you like listening to music?			
24. Do you like singing?			
25. Do you like learning how to play musical instruments?			
26. Do you like cartoons and comic books?			
27. Do you like fairy tales?			
28. Do you like science fiction?			
29. Do you like mysteries?			
30. Do you like biographies (stories about people's lives)?			
31. Do you like having field trips at school?			
32. Do you like outdoor recess?			
33. Do you like puzzles?			
34. Do you like being a leader in your class, such as being a class officer?			
35. Do you like giving reports in front of the class?			
36. Do you like creative writing (making up stories or poems)?			

37. Do you like science?			
38. Do you like math?			
39. Do you like spelling?			
40. Do you like go-carts?			
41. Do you like mini-bikes?			
42. Do you like to sell things?			
43. Do you like to go shopping?			
44. Do you like to watch television?			
45. Do you like to go to different, far-away places on vacation?			
46. Do you like to eat out in a restaurant?			
47. Do you like to go to the movies?			
48. Would you like to go to a circus or a fair?			
49. Do you like playing with dogs?			
50. Do you like playing with cats?			
51. Do you like to go to the zoo?			
52. Do you like to play with some children younger than you?			
53. Do you like to play with some children older than you?			
54. Do you like to play with some special grown-ups?			
55. Do you like being alone rather than being with other people?			
56. Would you like to talk to a sports star you know about?			
57. Would you like to talk to a TV or movie star you have seen?			

58. Do you like going to parties?			
59. Do you like to stay overnight at a friend's house?			
60. Do you like earning money?			
61. Do you like it when your teacher buys materials that you especially like?			
62. Do you like to be praised for your good work?			
63. Do you like your parents to ask you what you did in school today?			
64. Do you like to be the winner of a contest?			
65. Do you like to have your teacher ask you to help?			
66. Do you like getting the right answer?			
67. Do you like to show your good work to other people?			
68. Do you feel good when you have just finished a project or job you had to do?			
69. Do you like it when all the other kids think you are terrific?			
70. Do you like taking care of pet animals?			
71. Do you like fixing broken things?			
72. Do you like having a birthday party and getting presents?			
73. If your friend is sick, do you like to take some things to your friend's house to make your friend feel happier?			
74. Do you like someone to take care of you when you are scared?			
75. If you are sick, do you like people to take care of you?			

76. What do you think is the best thing about you?

77. What do you daydream about?

78. What do you do for fun?

79. What would you like for your birthday?

80. Do you have any collections? _____ If so, what do you collect?



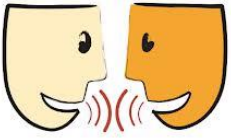
(From *Behavior Analysis Forms for Clinical Interventions* by J. R. Cautela, 1977. Champaign, IL: Research Press Co.)

Appendix F. Student Self-Monitoring Forms



Clayton's Self-Check Form



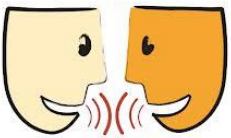


 <p>Ask to Play</p>	 <p>Take Turns</p>	 <p>Respond</p>
<p>Yes No</p>	<p>Yes No</p>	<p>Yes No</p>



Logan's Self-Check Form



 <p>Ask to Play</p>	 <p>Take Turns</p>	 <p>Respond</p>
<p>Yes No</p>	<p>Yes No</p>	<p>Yes No</p>

Appendix G. Modified Juniper Gardens Unpublished Curriculum



Social Skills Scripts
1

SOCIAL SKILLS TRAINING

The following scripts were developed for group training of young children in integrated settings. The scripts include materials from various curriculae available (e.g., Hops, Walker, & Greenwood, 1988; Jackson, Jackson, & Monroe, 1983), as well as new contents designed to meet the needs of young children with disabilities. The program has been used with small groups (4 children), and whole-class situations (20 to 25 students). Groups are usually arranged with 4 children at a table, with their own set of materials (toys, projects, or academic games). Typically both regular and special ed. teachers participate in the session; while one teaches the group, the other supervises and assists the children. Teaching sessions consist of 10 min. of group teaching, followed by 10 min. of play time/social activity. The skills included in this package are basic social skills: greetings, using names, asking friends to play, ^(initiations) demonstrations, giving instructions, answering, sharing, taking turns, asking for and offering help, praising and encouraging others, ^(responding?) conversing, compromising, and problem solving. Each script contains the skill descriptor, one or more key behaviors, teacher demonstrations (modeling), and examples for student practice. Following the scripted teaching the children play independently or engage in small group activities for 10 min., while the teachers monitor the groups and give feedback for their performance. Social skills instruction has shown increases in positive social interactions between young children (KG - 3rd grade), including those with disabilities.

Recommendations for the Implementation of Social Skills Training

- Before the training session:

1. Select the skill you will teach.
2. Select activities and play materials, academic games, etc.
3. Select monitoring and reinforcement system (e.g., stars, stickers, etc.).

- During the training session:

1. Arrange children in groups of 4, including one child with disabilities and 3 typical peers.
2. Distribute materials among groups.
3. Distribute feedback sheets among children.
4. Set timer for 10 minutes.
5. Teach one social skill at a time. The suggested teaching format is as follows:
 - a. Teacher says skill - Group repeats (choral).
 - b. Teacher says each component of the skill - Group repeats.
 - c. Teacher models skill with the children:
 - * Examples - Children respond if it was correct and why.
 - * Non-examples - Children respond if it was incorrect and why.
 - * Examples - Children respond if it was correct and why.
 - d. Children practice together - Teacher supervises groups and gives feedback.
 - e. Groups report examples (one each).
 - f. Teacher reviews skills and gives general feedback.
6. Tell the children they have 10 minutes to play with their friends (set the timer). Clarify the rules:
 - a. Stay in your group, be nice to your friends, and be polite.
 - b. Practice the skills that you just learned.
 - c. Make sure all the children in your group are playing.
7. Supervise groups. Give frequent verbal feedback:
 - a. Reinforce (both verbal and tangible: stickers, stars, etc.) correct use of the skills and compliance with all the rules.
 - b. Correct wrong use of the skills.
 - c. Help children when needed: clarify games, skills that have not been taught, behavior problems, etc.
8. When the time is over:
 - a. Collect feedback sheets and materials.
 - b. Review feedback sheets with the whole group.
 - c. Shortly review skills taught.

Recommendations for Using a Monitoring and Feedback System

Using a structured feedback system will help clarify what the children are expected to do during the social skills groups, and will also help manage their general behavior that is not addressed in the scripts.

1. Give each group a feedback sheet (see samples in Appendix). Some children may need an individual sheet.
2. Tell the children that stickers or stars can be earned by the group for following the rules (e.g., playing with each other) and for practicing the skills (e.g., using friends' names).
3. During play time, give verbal feedback to the children for their performance, and give stickers if they are:
 - a. Complying with all the rules, and
 - b. Practicing the skills.
4. Address other classroom management issues when needed, and include them in your feedback system (e.g., being quiet during teaching time, cleaning up fast, staying in their seats after the session, etc.).
5. MAKE YOUR RULES CLEAR.
6. BE CONSISTENT !!
7. Praise (coach) the children for using the skills at other times during the day.
8. Eventually teach the children to self-monitor their social behavior.

• SS/SCRIPT

They can ask you and you can tell them your name.
Who might need help in this group? (Minnie or Zachery)

Teacher Model (children participate in demonstration)

You can say "My name is Jenice. Hi Minnie."

Student Practice

Remember: Look at the person, tell the person your name, say Hi (group)

Now practice with someone in your group.
Practice again with someone else.

Asking friends to play

Definition To ask our friends to play you:

Look at the person, use their name, and ask them to play (group)
You can say, "Minnie, will you draw a picture?" (group)
"Tanisha, let's match the pictures" (group)
"Michael, let's say animal names" (group)
The person always answers their friend (group)

PRACTICE

Teacher Model (children participate in demonstration)

Examples: Minnie, Let's match the numbers (Wait for response)
Mrs. Watkins, do you want to look at the book? (Wait for response)

Non-examples: Put the cards over here!!! (What was wrong?)
Name cards (What was wrong?)
Let's play (What was wrong?)

Examples: Angela, do you want to do the puzzle? (Wait for response)
Anthony, let's do the number chart, OK? (Wait for response)

Student Role Play

Remember: look at the person, use their name, and ask them to play (group)
What does the friend always do? ("Answer" -- group)

Now practice with someone in your group.
Practice again with someone else.

Group Report

Ask one person from 2 to 3 groups to give their best example.

Answering our friends

Definition To answer your friends when they ask us to play, you:

Look at the person and answer nicely (group)

You can say: "Yes, let's play" (group)

or "OK that will be fun" (group)

or "Sure you can play" (group)

We always let our friends play (group — during our social groups)

PRACTICE

Teacher Model (children participate in demonstration)

Examples: Paul asks me to play memory. I say, "OK, I like that game!"
Minnie hands me a card. I say, "Good Minnie, you can play too!"

Non-examples: My friend says, "Say the animal names."
(I look away) (What was wrong?)

Minnie watches us play. She picks up a picture.
I say, "No Minnie, leave it here." (What was wrong?)

Examples: Angela asks me to do a puzzle. I say, "Oh, good."
My neighbor says, "Do you want to do numbers?" I say, "Sure thing!"

Student Role Play

Remember: When someone invites you to play or join in you:
Look at the person and answer nicely (group)

Now practice with someone in your group.
Practice again with someone else.

Group Report

Ask one person from 2 to 3 groups to give their best example.

Review & Feedback System

Today you will practice the 3 things we learned:

1. Saying hello & goodbye (group)
2. Using names (group)
3. Asking friends to play (group)

The teacher will watch the groups.

We will give stickers to the groups where EVERYONE is:

1. Practicing the social skills (group)
2. Following the rules: stay in your group, be nice to your friends, and be polite (group)

Keith, you can do this puzzle with us.

Student Practice

Remember: Look at the person and use their name. (group)
Tell them they can play. (group)
And share things with your friends. (group)

Now practice with someone in your group.
Practice again with someone else.

Group Report

Have groups give their best example of sharing.

Taking turns

Definition Another way we can play together is to take turns (group)
When you want to take turns, you:

Say, "You go first, I'll go second" (group)
Remember, look at the person and use their name.

Ask, "Who will go first?" (group)

Show them how to take turns (group)
"Turn 2 cards over to get a match, then its Rodney's turn."
Remember, always answer your friends.

PRACTICE

Teacher Model (children participate in demonstration)

Examples: Ben, you pick a card then its my turn.
Jenice, you can have the red marker first, then we'll trade.
April and Holly, who wants to go first?

Non-examples: I want to put all the puzzle pieces together. (What was wrong?)
Jenice, you sort the money. (What was wrong?)
Anthony, I'll draw the monster parts. (What was wrong?)

Examples: Rodney, you say the names of the animals and I'll say yes or no.
Keith, let's make a house. We'll take turns drawing.
Charleton, do you want to be first and I'll be second?

Student Practice

Remember: Look at the person, (group)
use their name, (group)
decide how to take turns, (group)
and answer your friends. (group)

Now practice with someone in your group.
Practice again with someone else.

Group Report

Ask groups to give their best examples of taking turns.

Answering our friends

Definition To answer your friends when they say how to take turns you:

Look at the person and answer nicely (group)
Agree with your friends (group)
You can say, "Yes, I'll be after you", or
"OK, we'll go: Rodney, Charleton, Anthony, Keith"

PRACTICE

Teacher Model (children participate in demonstration)

Examples: Minnie, you draw a happy face first, then me.
Minnie says, "OK Nakita!"

Rodney, I'll be first and you second.
OK, Anthony! This will be fun!

Holly, you use red, I'll use blue, and we'll switch.
GREAT IDEA!

Non-examples: Minnie watches us play. I take a turn, Minnie picks a card.
I say, "No, we're playing." (What was wrong?)

Ben says, "Rodney you draw ears and I'll make a tail."
"NO WAY!" (What was wrong?)

April says, "Let's take turns with the cards."
Holly says, "I don't want to!" (What was wrong?)

Appendix H. Teacher Consumer Satisfaction Survey

Student: _____

Date: _____

Dear Teacher,

Thank you for your continued support in our students' academic and social education. As you are aware, this child has been selected to be a participant in a social skills study for my thesis project, as part of my coursework for a Master's in Special Education. Please complete the survey below to help me get a better understanding of the child's current social skills from your perspective. Information received from this survey will be used strictly to compare the students' social skills from a pre-intervention to post-intervention viewpoint.

Please feel free to discuss any questions or concerns with me at your convenience. Thank you again for your support in this child's education.

Sincerely,

M.E. Ortman

How would you rate the child's:	Never	Rarely	Sometimes	Often	Always
Ability to <i>initiate</i> with peers during free time	1	2	3	4	5
Ability to <i>respond</i> to peers during free time?	1	2	3	4	5
Ability to <i>take turns</i> with peers during free-time?	1	2	3	4	5
<i>Overall social skills</i> when interacting with peers?	1	2	3	4	5

Additional Comments:

Appendix I. Peer Ranking Form

Pre-Intervention or Post-Intervention

Who are the top 3 people you like to play with at recess from
your class?

1. _____ 2. _____ 3. _____

Who are the top 3 people you like to have over to your house
from your class?

1. _____ 2. _____ 3. _____

Who are your top 3 best friends in your class?

1. _____ 2. _____ 3. _____

Appendix J. Frequency Data Recording Sheet

Date	Time	Phase
Participant	Observer	
Setting	Extraneous Factors	

Operational Definitions:

Social Initiation: A verbal statement directed toward peers in the playroom or an independent verbal statement accompanied by the manipulation of a stimulus (e.g. asking a peer to play while holding a ball)

Social Response: Any verbal or physical behavior within 3 seconds of an initiation from a peer and relates to what the peer said.

Turn-Taking: Taking a turn at an appropriate time when involved in a conversation or activity where both students have attention. Must be after a single initiation and response.

Frequency	Social Initiations	Social Responses	Turn-Taking
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Frequency	Social Initiations	Social Responses	Turn-Taking
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			

Totals

Social Initiations: _____

Social Responses: _____

Turn-Taking: _____

Reliability

Agreements: _____

Disagreements: _____

Reliability: _____ % IoA

Appendix K. Duration Data Recording Sheet

Date	Time	Phase
Participant		Observer
Setting		Extraneous Factors

Start Recording When: Participant begins interacting with another student by either responding to a play request or initiating a play request

Stop Recording When: Participant discontinues interaction with a peer by no longer responding to or playing with them

Start Time	Stop Time	Duration

<p align="center">Total</p> <p>Duration of Social Interaction: _____</p>

<p align="center">Reliability</p> <p>Agreements: _____</p> <p>Disagreements: _____</p> <p>Reliability: _____ % IoA</p>
