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**Using Point-Of-View Video Modeling And Relational Response
Questioning To Increase Perspective Taking Abilities In A Child With
Asperger's Disorder**

by

Melissa Susan Shestack

A Thesis

Submitted to the
Department of Educational Services/ Instruction
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts
at
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Thesis Chair: S. Jay Kuder Ed. D.

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Dedication

I would like to dedicate this manuscript to my family, Denny, Samantha and Marcus, and to all those who have a family member on the autism spectrum.

Abstract

Melissa Susan Shestack

USING POINT-OF-VIEW VIDEO MODELING AND RELATIONAL RESPONSE QUESTIONING TO INCREASE PERSPECTIVE TAKING ABILITIES IN A CHILD WITH ASPERGER'S DISORDER

2011 / 2012

S. Jay Kuder, Ed. D.

Master of Arts

This study evaluated the effectiveness of using point-of-view video modeling and relational response questioning to teach perspective taking skills to a second grade student with Asperger's disorder. The student showed significant deficits in the ability to share with his classmates and with a younger sibling. Three baseline collection periods were held in which the participant was asked to share a food item and a toy with his five year old sibling to analyze sharing deficits. Sharing is an integral function of perspective taking skills. The intervention was a personalized point-of-view video using the subjects five year old sister as a model. This video was used as an intervention daily for a five day period. Data and rate of occurrence of the target behavior of sharing was collected. Point-of-view video modeling used with a relational response question proved to be an effective technique in increasing the perspective taking skills of a seven year old student diagnosed with an autism spectrum disorder.

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Chapter I

Introduction

Children diagnosed with autism often have difficulty in developing behaviors related to perspective taking skills such as sharing, turn taking and empathy. Successful social interaction is dependent on being able to take the perspective of other people to show understanding, empathy, and to respond in predictable ways to a variety of social stimuli. (Spradlin & Brady 2008). Students in social and educational environments need the ability to interact with peers successfully. Perspective taking skills not only affects our ability to make and keep friends, but also our ability to process complex information in the classroom. Our educational system is supporting curriculum that is dependent on teaching educational objectives in a team or group approach. A child's ability to learn will be impeded if that student is hindered in the area of perspective taking skills. There is tremendous need to find a concise and effective way to teach perspective taking skills to students with autism.

Numerous studies have documented the effectiveness of using video modeling as an instructional tool for students on the autism spectrum.

Researchers believe this medium is successful because children with autism are limited in motor imitation. A problem with motor imitation could lead to a failure to develop a relation between one's private events and the public behavior of others (Spradlin & Brady 2008). Video modeling provides the stimulus for autistic children to increase motor imitation, thus increasing positive incidents with newly acquired skills. This study will use the point-of-view method of video modeling to teach the perspective taking skill of sharing.

Point-of-view video modeling is filmed at eye level of the student, it is visually from the child's perspective. This allows the participant to focus on the relevant stimulus. This method of video modeling will be used as a means to depict a scripted sequence of the participant's five year old sibling involved in sharing activities. Sharing situations in a negative and positive manner will be demonstrated to help the participant understand another's perspective. This method of observational learning will attempt to increase positive interactions in sharing situations for the autistic student. In conducting this study, I hope to discover an effective way to teach perspective taking skills to students with an autism spectrum disorder.

Statement of the Problem

The present study will investigate the question:

Will a seven year old student with an autism spectrum disorder acquire skills to increase his positive perspective taking abilities when sharing after instruction using point-of-view video modeling?

The perspective taking task of sharing will be demonstrated by using the point-of-view method of video modeling. My hypothesis is that point-of-view video modeling used in conjunction with a relational response question will be an efficient and concise intervention to increase the ability of a student diagnosed with Asperger's disorder to share. This information will help educators increase these skills in students with deficits in their perspective taking abilities. Knowing this information will help students increase their likelihood of positive social outcomes.

Key Terms

Autism Spectrum Disorders (ASD): a developmental disability, and a category under the Individuals with Disabilities Act (IDEA) which qualifies students for

special education, individuals range in severity of affects to language and cognition.

Perspective Taking: the ability to see things from a point of view other than one's own, often referred to as or considered a part of the "theory of mind," a concept introduced in 1978 by researchers Premack and Woodruff.

Point-of-View Video Modeling: involves holding the video camera at eye level to record the environment as the viewer would see it; as if performing the action.

Implications

This topic is especially important as its findings directly affect a primary aspect of perspective taking. Perspective taking abilities allow us to tailor our behaviors to others, thus making more satisfying social interactions.

Perspective taking as it relates to sharing plays a key role in the purpose of socialization. Increasing perspective taking abilities has the potential to greatly improve the social skills of students on the autism spectrum.

As a master's degree candidate, I hope to be able to become a resource for other special educators, especially in the area of social skills. Difficulty with social interactions negatively impact a students ability to achieve in an educational setting. It is my goal to find an effective and concise method of teaching a social skill intervention.

Summary

The majority of students with an autism spectrum disorder experience deficits in the ability to take the perspective of others, thus greatly impacting social competence. Perspective taking is often described as the act of being aware of what another person sees, thinks, and feels. Sharing with another provides the foundation to teach these perspective taking objectives. The goal of this study is to examine the effectiveness of using point-of-view video modeling and relational response questions to increase the perspective taking skills of a seven year old boy diagnosed with Asperger's disorder.

Chapter 2

Literature Review

Perspective Taking

The term “theory of mind” was coined by Premack and Woodruff in 1978 in a study of the mental states of chimpanzees. Premack and Woodruff (1978) defined theory of mind as the ability to ascribe mental states to oneself and to others. The ability to make inferences about what another person believes to be the case in a given situation is described as the Theory of Mind.

Baron-Cohen, Leslie and Frith (1988) described an aspect of social skills as the ability to know what other people know, want, feel or believe. They used what Premack and Woodruff (1978) termed as “theory of mind” to describe the behavioral deficits seen in children on the autism spectrum in the areas of social functioning, communication and lack of imaginative play. Their study focused on the underlying cognitive mechanisms of social skills in autistic children and suggested that the association between these three areas of functioning could be explained by a single cognitive deficit, called Theory of Mind.

The authors developed a method to test very young children's Theory of Mind based on Premack and Woodruff's (1978) definition. The study analyzed the ability of children to succeed on a task when asked a belief of another individual. The procedure involved the Sally and Anne dolls. A child observed the Sally doll placing a marble in a basket. Sally left the scene and the Anne doll entered. The Anne doll moved the marble from the basket to a box. When the Sally doll returned the experimenter would ask the child "Where will Sally look for her marble?". If the child answers with "In the basket", they passed the test because they can appreciate the Sally doll's false belief that it would be where she originally left the marble. In the study sixteen out of twenty children with an autism spectrum disorder failed the Sally/ Anne false belief test. The results indicated that children on the autistic spectrum fail to employ Theory of Mind. This kind of testing could be considered a perspective taking task. Baron-Cohen, Leslie and Frith (1988) referred to perspective taking as a visuospatial skill that does not require the inferencing of what others believe.

In contrast to the large amount of published research on Theory of Mind, there has been relatively little attention in perspective taking as a research topic. Relational Frame Theory: A Behavioral Account Of Human Language And Cognition, written by Hayes, Barnes-Holmes, and Roche, (2001) has recently

inspired investigations of perspective taking. The Relational Frame Theory asserts that relational responding is the basis of much if not all of complex human behavior, including perspective taking.

Relational responding can be described as an individual experiencing specific reinforcement for a verbal exchange to some stimuli, and then in absence of a reinforcement being able to generalize to another stimuli. Perspective taking is specifically a form of this generalized operant responding involving relations between stimuli. For example a perspective taking repertoire emerges following a reinforced history to responding to questions such as, “What would you do if you were me?”, or “What will I be doing there?”. The researchers suggested that learning to respond appropriately to these types of questions that require the child to change perspective is critical to establishing perspective taking skills. A reinforced history of the relational properties of ‘I versus You’, ‘Here versus There’, and ‘Now versus Then’ may lead to the emergence of a sophisticated repertoire of perspective taking abilities.

A study by McHugh, Barnes-Holmes, and Barnes-Holmes (2004) was innovative in paving the way toward understanding perspective taking as derived relational responding. The researchers reported on the use of protocol which represents a variety of relational perspective tasks involving simple I-You,

Here-There, and Now-Then relational statements. The protocol was administered to a large group of participants ranging from early childhood to adulthood. The protocol was administered to an individual from the experimenter in a conversational manner. The participant had to respond relationally to correctly answer a question. An example of the protocol was, "I have a green brick and you have a red brick, If I was you and you were me, which brick would you have?". The results indicated that the errors decreased as a function of the participant's age. These findings lend support to the notion that derived relational responding may be the basis of a perspective taking repertoire. Auditory scripts that depict relational responding between participants is an important component in teaching perspective taking skills.

A child's ability to make inferences about another individual was more recently studied by Spradlin and Brady (2008). They proposed that inferences occur because of visual stimuli produced by another person's motor act, vocal behavior and when the behavior of the child and the behavior of the other is given the same name. The authors used an example of a child with a headache crying and holding his head. A parent may teach the child to recognize this pain as a headache by their accompanying response, "You're in pain because you have a headache". This act leads the child to learn to tact the behavior of others in

similar situations or with similar reactions. They describe the development of the ability to make inferences of others' as a passive process of observation.

However, the authors continue to clarify that the inferences of others' private events is also an active process. When you ask a child a question such as, "How would you feel if your brother broke your toy?", or "How do you think Goldilocks felt when she woke up to three bears at the bed?" you are teaching them to predict about their own feelings and thoughts or about the feelings and thoughts of others.

Spradlin and Brady (2008) included an analysis of false belief tests. The authors concluded that subtle changes in phrasing affects the proportion of children who succeed on these tests. A study by Fisher and Happe (2005) showed that children with an autism spectrum disorder can be taught to pass the common false belief tests. Teaching children the Theory of Mind cognitive concepts did not seem to improve social functioning; rather the children were simply taught a strategy to the solution of one type of test. Currently, the only alternative available for autistic individuals is to memorize a large repertoire of interactional skills that would prepare the student for most social situations. The easier and more effective option would be to train individuals with autism to develop a basic insight into perspective taking.

A study by Schrandt, Townsend and Poulson (2009) demonstrated that children with autism can learn to generalize an empathetic response from training to a non-training environment. They examined whether a training package of dolls and puppets as models and auditory scripts, behavioral rehearsals, and reinforcement was effective in teaching empathy skills in a pretend play setting. Four children diagnosed with an autism spectrum disorder attended four or five sessions per week that lasted approximately twenty to thirty minutes each. Three boys ages four to six years old and one eight year old female were identified for participation by their teachers for not demonstrating empathy toward their classmates.

The sessions were conducted in a small room furnished with small tables, chairs, and bookshelves. A session consisted of training trials in which one examiner would present a verbal and motor vignette and another examiner would reciprocate with a verbal and motor response for a given empathetic skill. An example of this in teaching frustration as an empathic skill would be for one examiner to maneuver a doll to try to place a shape in a sorter while giving the verbal prompt of "I can't do it!", a second examiner seated behind the child would respond verbally with "I can help you" while using the motor response of reaching one hand toward the doll.

The sessions were then presented with an actual person to replace the dolls presented in the training vignettes. The sessions were conducted in a large conference room not associated with training. The examiners presented the same prompts and vignettes under the new conditions. They concluded that the treatment was effective in promoting generalized empathetic responses in a generalized, non-training setting. The results indicated that children with autism can learn socially relevant empathy skills in pretend play settings and that these skills can generalize to pretend play vignettes not targeted during training. The researchers concluded that treatment would be more effective with an actual person modeling the empathetic skill. Children who can demonstrate appropriate concern or interest when others are sad, excited or frustrated will increase their successful interactions with peers and family members.

Children with autism often have significant difficulty sharing with others. A study conducted in 1979 by Barton and Ascione examined verbal and physical sharing of preschool children during a free play period. In this study the examiners selected thirty-two preschool children who were between the ages of three years to five years. All of the children were allowed to explore the four classrooms located in the building and to play with the materials which included art supplies, toys, and books. From the pool of thirty-two children two boys and

two girls were selected to form a group. The group would enter a training session for sixteen minutes each day Monday through Friday.

During the baseline session only six toys would be available in the play room. The group was then taken into an art room immediately following the free play period for twelve minutes. The children worked around a large piece of paper located on the floor. Around the paper was five sets of art materials which changed daily from markers, to crayons and paints. A data collection period was conducted in which two observers recorded behaviors of physical sharing, verbal sharing, and refusals to share.

During the treatment phase of the study an experimenter trained the group in sharing techniques prior to the beginning of the free play session. The experimenter used a script to present a rationale for the importance of sharing then they were given instruction on how to share. The experimenter selected one of the children to model the behavior by asking him/her to share a toy. The experimenter then praised the requested behavior when the model demonstrated the behavior. The remaining children were requested to rehearse the model's behavior as practice. Praise statements by the experimenter were always specific to the appropriate mode. For example, the examiner might respond with "I liked the way you played with Evelyn's toy with her."

During the free time period immediately following the treatment sessions the experimenter prompted and praised sharing among the children. Four weeks after the termination of the treatment phase, a follow-up phase was conducted five days in the same manner of the baseline phases. The results indicated that training physical sharing and verbal sharing generalized to another setting and were maintained during the follow-up. Training children to share only physically is viewed as the least desirable means of encouraging sharing behavior. Children taught to share verbally did so in the training setting while the treatment was in effect, however, there was no carry-over to the generalized setting and the effects were not maintained in the follow-up.

Video Modeling

Video modeling is an intervention technique in which a student is asked to watch a video demonstrating a skill. The student is usually asked to demonstrate that skill immediately following the viewing. Albert Bandura's Social Learning Theory (1965) sparked an expanding body of literature in video modeling because the theory explains that people learn through observing other people. Most of the research since the late 1980's have demonstrated that video modeling is an effective strategy when used as an intervention for children with an autism

spectrum disorder. Video modeling combines two highly effective interventions, visual cues and modeling. The incorporation of visual cues in instruction builds on the strengths of students with an autism spectrum disorder. Video models are individualized for the student and can be created for a wide array of skills.

Haring, Kennedy, Adams, and Pitts-Conway (1987) was among the first to demonstrate the effectiveness of video modeling for the autistic population. They demonstrated that purchasing skills of young adults with autism generalized across different community settings when using video modeling.

Charlop and Milstein (1989) used video modeling procedures to teach conversational speech skills to children with autism. Their results indicated that all the participants acquired conversational speech skills after observing the video model. Generalization across settings was maintained at a fifteen month follow-up.

Charlop-Christy, Le, and Freeman, (2000) compared video modeling with in vivo modeling to teach five children with autism between the ages of seven and eleven tasks involving emotions, cooperative play, conversational speech and greetings. The participants in the study had faster acquisition and better

generalization in the video modeling condition than in the in vivo condition. The authors suggest that video modeling was time and cost efficient as well as effective.

Bellini and Akullian (2007) conducted a meta-analysis to examine the effectiveness of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. Twenty-three participants were determined by their diagnosis of an autism spectrum disorder. Most of the studies were conducted on elementary age children, but the full range included participants from age three to twenty.

In the study intervention, maintenance, and generalization effects were measured and the results indicated that video modeling is an effective intervention strategy for children and adolescents with an autism spectrum disorder. The results indicated that video modeling promoted skill acquisition and that the skills acquired are maintained over time and transferred across settings. Behavioral functioning, social communication skills, and functional skills can be demonstrated with video modeling and effectively taught to students on the autism spectrum. Video modeling intervention strategies meet

the criteria for consideration as an evidence based practice for students with an autism spectrum disorder.

Reagon, Higbee, and Endicott (2006) examined the teaching of pretend play skills to a student with autism using video modeling with a sibling as his play partner. The four year-old boy diagnosed with autism and his six year old brother participated in the study. A television and DVD was used to view the video models in a common space of a preschool classroom.

The training video would depict scenario's approximately seventy seconds long and included stimulus items of dress up clothes such as a firefighter jacket, hat and yellow garden hose, fire truck, and verbal dialog. The participant would watch his brother as a model playing with the stimulus items and verbalizing scripted statements. After viewing the participant would be placed with his brother and the stimulus items to perform the correct action within five seconds of his sibling's corresponding action or verbal statement; such as "I'll drive", while climbing into a fire truck.

The results of the study indicated that the participant was able to generalize the skills during a follow-up session. All of the play materials were available and

the instruction “Go play” was given to the participant and his sibling without the aid of the video model. The participant was able to move from one play scenario to another without adult prompts.

The benefits of using siblings for video modeling intervention include ready availability, parental support and an increased likelihood of generalization of play skills at home. The video modeling in this study did not use reinforcement or repeated practice as in other video modeling studies. This study demonstrated that video modeling alone was effective in producing scripted and unscripted statements and appropriate play actions with a sibling.

Charlop-Christy, Morris & Daneshvar (2003) used video modeling to teach perspective taking skills. The perspective taking skills demonstrated in this study involved false-belief tasks. The Sally / Anne task involves a puppet placing an object under a bowl. The puppet left and another puppet moves the object to a box. The observing child was asked where the first puppet will look for his object. The correct answer was “under the bowl”. The students viewed a video of an adult correctly completing the Sally / Anne task prior to testing the child. The study indicated that video modeling was an effective tool for teaching the false-belief, perspective taking task to children with autism.

Reeve, Reeve, Townsend, and Poulson (2007) designed a study to assess whether four children with autism could learn a generalized helping repertoire. The participants were four children all diagnosed with an autism spectrum disorder in the age range of five to six years old. The children were selected for the study because the children as indicated by the school staff and their parents emitted little or no spontaneous helping behavior.

The sessions took place in a small classroom that contained six chairs, a desk and a small table. A television monitor and a videocassette player were used to present video models during certain training trials. The examiners collected information from the children's parents to define categories of helping behaviors to be used in the study. From the information collected eight categories of helping were created. These categories were cleaning, replacing broken materials, picking up objects, sorting materials, locating objects, carrying objects, putting items away, and setting up an activity. Each child participant received training with activities from only four of the categories. Probe trials were conducted to assess the degree of generalized helping within a category not used for training. The probe sessions involved the experimenter using a motor and verbal component with a stimuli. For example the experimenter would say "Boy, this

table is messy” while rolling her eyes and wiping a table. The experimenter would then wait for five seconds for the child to emit the appropriate verbal and motor components of the helping response.

During training trials if the child did not emit an appropriate helping response within five seconds of the initial delivery a video model was presented. In each video model an adult actor presented the stimuli for that helping activity. The correct verbal and motor helping responses were modeled by another actor, a five year old boy of typical development. When the video model ended, the experimenter presented the stimuli for that trial a second time. Verbal prompting and repeat viewing of the video would be used until the child independently emitted the correct helping response. The results indicated that all four children learned to emit appropriate helping responses for the helping categories used during training. Generalization of helping responses was observed in a novel setting, with a novel stimuli, and with a novel instructor.

A recent study by Marzullo-Kerth, Reeve, and Reeve (2011) used video modeling in conjunction with prompting and reinforcement to teach children with autism to share. The students were all males in the seven to eight year old age range. Each participant had experience with a token-based motivational system. The video model used to teach sharing were about ten seconds in length

and depicted two peers sharing. Each video model demonstrated a seven year old peer making a verbal offer such as, “Do you want to try?” while using a stimulus such as a cookie to share. Following viewing the students were given an item depicted in the video.

Observers scored participants correct if a motor and verbal offer to share occurred. If the participant did not respond within five seconds after given the stimuli, responded incorrectly, or emitted only one component of the sharing response (verbal not motor or vice versa) the experimenter removed the materials and implemented an error-correction procedure.

The error-correction procedure consisted of replaying the video model and then presenting the materials to the participant a second time. If the participant offered to share within five seconds the experimenter responded with “yes” or “thank you”. If the participant did not offer to share within five seconds of the second opportunity the experimenter provided a physical prompt by using hand-over-hand assistance. Simultaneously, the experimenter activated a voice recorder that emitted a recoding of the target vocal response. A reinforcement token was given to each participant for a correct verbal and motor response. Following the treatment process participants demonstrated increases in offering

to share during probe trials. All three students demonstrated increased rates of sharing and showed evidence of skill maintenance.

Point-of-View Video Modeling

Point-of-view video modeling is a newer form of video modeling to be used as an intervention strategy with students on the autism spectrum. This video modeling technique demonstrates the student's perspective when viewing the skill area to be taught. There are five studies that evaluated the effectiveness of using this method of video modeling. These studies investigated the effectiveness of point-of-view video modeling for teaching self-help skills, play skills and compliance with transitions.

Alberto, Cihak and Gama (2005) used point-of-view video modeling to compare the effectiveness of static picture prompts and video modeling as intervention strategies. Students with moderate intellectual disabilities were instructed in the tasks of withdrawing money from an automatic teller machine and purchasing items using a debit card. Both simulation strategies were effective and efficient at teaching the skills.

The eight students who participated were in the eleven to fifteen year old age range. The participants all had an IQ score in the forty to fifty-five range in cognitive functioning and had no prior training with a debit card and automatic teller machines.

The examiners performed baseline procedures in a community setting. The participants were provided with all the materials to complete the targeted tasks of withdrawing twenty dollars from an automatic teller machine and purchasing two items from a convenience store.

The study used a photo album consisting of color photographs of the machines needed to complete each task. The examiner would open the album and state the first motor response (“press arrow to withdraw from checking”) while showing a close-up photograph of the automatic teller keypad or debit card keypad. Both tasks were demonstrated with a photo album.

Similarly, the point-of-view video’s used for the demonstration of the tasks consisted of a seven or eight minute film displayed on a nineteen inch television set with a built-in video cassette recorder. In the film the examiners arm and

hand were shown demonstrating the video sequence on the keypads while verbalizing the motor response (“press arrow to withdraw from checking”). Both tasks were sequenced in the point-of-view video manner. All eight students acquired and maintained the skills necessary for using a debit card to withdraw twenty dollars from an automated teller machine and for purchasing two items at a convenience store.

Schreibman, Whalen, & Stahmer (2000) examined the use of point-of-view video priming to reduce disruptive transition behavior in children with autism. Three children with a diagnosis of autism participated in the study. The children aged two, three, and six years old each demonstrated tantrum behavior in transition situations.

The treatment phase consisted of each participant viewing a specific video recording of the problem transition setting. The experimenter carried the camera through the transition setting to show the environment as the children would see it when progressing through the transitions. The videos varied depending on the transition situation in length from one minute to four minutes. For each participant the treatment sessions were conducted three times per week. The children were shown the appropriate video in their home immediately before

being placed in the transition situation. The child was told, "Okay, time to watch your video," and the video was started. A reinforcement of verbal praise, "That's good watching", was given after viewing the video to each participant.

Follow-up was conducted one month after the treatment sessions ended. This study demonstrated that all the participants showed a reduction or elimination of the disruptive behavior before transition of the area viewed. Further, behavior reductions generalized to new transition situations. The advantages of using point-of-view video as an intervention strategy is beneficial in helping increase the predictability of situations and thereby decreasing disruptive behaviors.

Shipley-Benamou, Lutzker and Tauban (2002) evaluated the effectiveness of teaching daily living skills to children with autism through point-of-view video modeling. The researchers evaluated three five year old children with autism. The research was conducted in a small room containing a child sized chair, table, and an adult sized chair. The room also contained a twenty-one inch color television and a VHS recorder to view the videos. For each of the participants data was collected for baseline, intervention and maintenance. Maintenance procedures were conducted one month after intervention.

Five tasks were selected for the three children. The parents and teachers of the participants were given a list of daily living skills which were age appropriate and asked to identify three specific skills for each participant. Some of the skills identified for interventions was preparing a letter to mail, feeding a pet, and setting a table. A reinforcer was received for successful completion of tasks.

The intervention videos demonstrated each of the tasks. The task was performed by a researcher and videotaped as the participant would view the task. The video showed only the hands of a model completing each step as described on the task analysis. At the beginning of each task, the experimenters voice was heard on the videotape giving the verbal instruction. For example to start the "setting a table" video the participant heard, "Here is everything your friend needs to set a table;" "When I say, "go" I want you to watch your friend, Ready, go".

During intervention sessions the participant was seated facing the television monitor and all the items needed to complete the target task were placed on a small table. The participant was first shown the video and then immediately presented with the verbal instruction. For example, the examiner stated for the "setting a table" task, "When I say "go" I want you to set the table as best as you

can". Once all the steps of a task was complete reinforcement in the form of candy or access to a preferred toy was provided. If the participant did not respond after viewing the training video after sixty seconds a verbal prompt was provided. If still no initiation was made within another sixty seconds then all materials were removed and the session was considered incomplete.

During the baseline data was collected over a two week period. The participants were provided with the stimulus needed to complete their task and told "When I say "go" I want you to set the table as best as you can". Praise was provided for attending behaviors only during this time.

Replication probes were conducting in the homes of the participants to assess skill performance during baseline and the one month follow-up sessions. The video was not shown during the follow-up sessions. The results demonstrated that point-of-view instructional video was effective in promoting skill acquisition across all three subjects and maintained during the follow-up. The one month follow-up for each of the participants remained steady for all three tasks with a 75%-100% correct responding rate.

Hine and Wolery (2006) evaluated the effectiveness of point-of-view video modeling in teaching selected toy-play skills to two preschoolers with autism. The study stated that for modeling strategies to be effective, the child with autism must attend to another person, must attend to that person's actions, and the action observed must be imitative (Hine and Wolery 2006).

In this study the participants were two girls aged thirty months and forty-three months. Both participants met the criteria for diagnosis of an autism spectrum disorder. According to teacher reports, both children participated regularly during activities, but both girls needed instruction on how to use toys. Video modeling sessions were conducted in the preschool therapy room where both girls attended a full day program.

The participants were presented video clips which showed a pair of adult hands performing the actions with toys, such as using a shovel to dig a hole. The participants also heard a female voice state "Play with you toys!" during the video modeling clip. After the hands modeled the action with each object, the same female voice said, "Great job playing with your toys!".

During treatment sessions, each participant was shown two separate videos containing one play behavior. Each video clip contained the desired action of either playing with gardening tools or cooking tools for two minutes in length. Three examples of an action of stimulus pertaining to either the gardening play or cooking play category were demonstrated. A daily practice segment followed each of the video modeling sessions in the treatment phase. The participant would be given a bin with the same stimulus viewed in the video and told "Play with your toys!". No reinforcements were delivered for imitating modeled actions.

A maintenance phase was conducted in which no videos were shown during the procedure. The participants were given two minutes to play with each set of stimulus materials. The study indicated that point-of-view modeling was an effective tool for teaching toy-play actions to pre-schoolers with autism. Point-of-view video modeling was effective in helping children on the autism spectrum imitate the motor actions demonstrated on video and generalize the skills to new materials.

Tetreault and Lerman (2010) studied the effectiveness of using point-of-view video modeling to teach social skills to children with autism. The participants in

the study were three children diagnosed with autism. There were two males who participated in the study age five and eight and a female who was three years old. The sessions were conducted in a small room at a day treatment center. The treatment room contained a child sized table and chairs and a portable DVD player.

Three scripted sequences of social initiations were modeled on the video. These three sequences consisted of "Get Attention", "Request Assistance", and "Share a Toy" scenarios. The "Share a Toy" sequence involved offering a doll to an unfamiliar adult. Each video model was about two minutes in length and shot in the first person perspective. All the video scenarios used action and verbal statements. A female adult who was not in view spoke the target verbalizations. An example script for "Share a Toy" demonstrated an adult hand playing with a toy. Another adult would enter and verbalize "Hi!" then you hear "Hello" off camera. The camera view would move to the adult and you would hear off camera "I'm playing with a toy". The adult would respond with "That looks like fun" as the camera moves to look at the adult and then back to the toy. A verbalization off camera would respond, "Would you like to play?". The camera would pan back to the adult with a verbal response, "Yes! Thank you!". The

camera angle would move to the toy and you see the toy being handed to the adult.

Immediately following the video viewing a practice session was set up with the same stimuli as viewed in the video. The participants were scored correctly for using a greeting, target verbal and target motor behavior. Two other sets of stimulus were provided in practice sessions to record any generalization of the target skill. The examiner would cue the participant if there was no exchange after ten seconds. For all the participants, eye contact appeared to generalize across baselines to some extent and was maintained more often than scripted vocal behavior. The action of eye contact was clearly visible in the video model whereas, the scripted vocal responses were stated by a person not seen on the video.

The point-of-view video model was sufficient to change the behavior of one participant, but failed to illicit any change in another. The third participant did show behavior change but, prompts were necessary. The verbal exchange was complicated in that it asked for a greeting, command, and a acknowledgement as verbal responses in one scenario. When using point-of-view video modeling the

skill being taught should be focused on one topic and consist of only one or two verbal exchanges.

Point-of-view video modeling is an effective teaching tool for individuals diagnosed with an autism spectrum disorder. This option is child friendly and cost and time efficient. The results of the research indicate that point-of-view video modeling offers a positive and relatively simple intervention for children with autism. In this study the examiner will evaluate the effectiveness of the use of point-of-view video modeling to teach the perspective taking skill of sharing.

Chapter 3

Methodology

Participants

One seven year old male diagnosed with Asperger's disorder by an independent psychologist served as the subject for this study. In order to verify the diagnosis of Asperger's disorder the Childhood Autism Rating Scale was completed with the participant. The Childhood Autism Rating Scale is a fifteen item diagnostic assessment tool that rates children on various criteria. A composite score ranges from non-autistic to mildly, mildly to moderately, and moderately to severely autistic. The participant obtained a score of 34, falling in the mild to moderate range of the autism spectrum. In addition, the Gilliam Asperger's Disorder Scale was administered. The Gilliam is a standardized instrument designed to assess persons with Asperger's disorder. The participant obtained an Asperger's Disorder Quotient of 117 (87%). Quotient scores eighty or above correlate with a high probability of Asperger's disorder.

At four years of age the participant completed the Wechsler Preschool and Primary Scale of Intelligence-Third Edition for an independent psychologist. This

is a measure of general intellectual ability consisting of a Verbal, Performance and Processing Speed Scale. The intelligence quotient is obtained by comparing the participants scores with the scores earned by a representative sample of his own age group. The results indicated that the participant was an exceptionally bright boy with a Verbal score of 143 (99.8 %ile rank), Performance score of 140 (99.6%ile rank) and a Processing Speed score of 119 (90%ile rank). The full scale intelligence quotient obtained was 142 (99.7%ile).

The seven year old male lives at home with his parents and a five year old sister. He attends an elementary school in a rural community in southern New Jersey. The elementary school is home to grades kindergarten through four in a small district. The participant is placed in a general education second grade classroom with a total of sixteen students. His general education placement includes a one to one aide to help in using a token-based motivational system and with daily transitions and social interactions. He receives two pull out session per week (thirty-minutes each) with the school psychologist for instruction in social skills. During the course of this study, the participant received his therapy sessions and his behavior reinforcement program as outlined in his individual educational plan.

The participant was selected for the study because reports by parents, teachers, and counselors indicated that sharing was an area that greatly impacted social interactions in a negative manner. Per parent report, arranged play activities with peers were disruptive because of the inability of the participant to share and had to be discontinued. Play activities with the participant's sibling has to be closely supervised to mediate the exchanges because of the participants inability to share. The participant had never had exposure to point-of-view video models as an instructional strategy prior to this study.

Setting

All sessions were conducted in the participants home at the dining room table. The room contained an adult sized table and four chairs. A sixteen inch screen laptop computer was used to view the training videos during the intervention sessions.

Materials

The materials selected for use in this study were determined by reports from the participants parents and teachers on items of difficulty in sharing. The objects are

common in the home and classroom and were chosen to engage the participant in an activity that is typical in his social environment.

Two categories were selected based on reports from the participant's mother as problem behaviors: sharing a toy and sharing a food item. In each of these two categories items were selected as stimulus materials in the baseline, intervention, and follow-up sessions. The "share a food" category stimulus items were: apple slice, pear slice, square of chocolate and a cookie. The "share a toy" category stimulus item were: a plastic spider, cash/ coin drawer, laptop with computer game displayed and a paint brush and paint. Some stimulus materials were used repeatedly in the baseline session, in a video presentation and then again in the practice session and follow-up session. A complete list of all the items used can be found in Table 1.

Table 1

Stimulus Materials

1A: Baseline

Share A Toy	Share A Food
plastic spider	chocolate square
cash/coin drawer	sliced pear
laptop with computer game	sliced apple

1B: Intervention Sessions

Share A Toy	Share A Food
cash/coin drawer	sliced apple
paint brush and paint	cookie

1C: Follow-up Sessions

Share A Toy	Share A Food
cash/coin drawer	sliced apple
laptop with computer game	chocolate square

In order to increase generalization of the perspective taking skill of sharing for this study scripted negative examples are included in the intervention session.

The study by Homer, Eberhard, and Sheehan (1986) demonstrated that the use of negative examples teaches the learner how not to perform an acquired response.

The difficulty with generalization is that responses are performed across non-

trained situations. If generalized responses are to be functional it is important that the participant discriminates situations in how the response should not be performed.

A negative example is a training trial in which the learner should not perform the target response. This example should share as many stimulus characteristics as possible with the positive examples to facilitate more precise discrimination about which responses are and are not appropriate.

It is hypothesized that the participant will not only increase positive examples of sharing but, generalize his sharing behavior to novel situations. The ability to accomplish this goal might provide the participant with the potential to develop a basic insight into perspective taking.

In order to accomplish this goal the intervention sessions consisted of three separate parts. The negative scripted video presentation, the positive scripted training video, and a practice session with the participant in which the stimulus material from the training video was presented. The practice session consisted of the participant and his five year old sibling seated at the dining room table as in

the baseline sessions. The intervention sessions took place over a one week period and were conducted daily for five days.

This study was developed for the participant to increase perspective taking abilities through the task of sharing a stimulus item with the correct verbal and motor response. The researcher used a multiple baseline design across two tasks (share a food and share a toy) for the participant. In addition, the relational responding question that immediately followed each video was never trained. The participant was praised for a correct verbal response to this question.

Research Design

Baseline Procedures

During the baseline collection sessions the participant was sitting at a dining table across from his five year old sister. A stimulus item from one of the two categories (share a toy, share a food) was placed in the center of the table and the verbal instruction of "Let's Share" was given by the examiner. The examiner provided no feedback on performance during the baseline sessions. The stimulus items were identical to those used in the training video and intervention sessions. Data on correct verbal and motor responses for each stimulus item was recorded

using pencils and paper data sheets on a trial-by-trial basis. Two participant behaviors (share a food, share a toy) and two actions for each behavior (verbal, motor) were recorded during the baseline sessions.

The scoring was based on the participant's verbal and motor response and scored as pass or fail. A correct verbal response would be a request, invitation or acceptance of an invitation to share. A correct motor response would require the participant to hand a stimulus or simultaneously use a stimulus item. A refusal to share were defined as all instances of noncompliance in verbal and motor responses. The experimenter provided no feedback on performance to the participant during the baseline session. Each session in the baseline lasted five to ten minutes. A multiple baseline design with three collection periods were used during a three day period.

Intervention Sessions

Each twenty five minute intervention session started with the participant being asked to come sit at the dining room table by the examiner. The stimuli featured in each video sequence corresponded to stimuli used during baseline and intervention sessions. The stimulus materials were in a cardboard box

hidden under the dinning room table. The laptop computer with the video models were placed in the center of the table. Each video model began with a verbal prompt of "I would like to show you a video" spoken by the examiner.

The video models demonstrated two negative and two positive scripted sequences of a sharing situation. The video was created from the participants perspective using the point-of-view video modeling technique. The model used for all the video sequences was the participants five year old sister. These activities were selected as scenarios that commonly elicit negative social interaction between the participant and his sibling and peers. Each of the four scripts modeled on the video was associated with the "share a food" and "share a toy" stimulus materials.

One verbal exchange and one motor activity was demonstrated in each scripted sequence video model. The motor activity and verbal exchange was kept very simple and was determined by the positive or negative manner of the scripted sequence.

At the conclusion of each positive and negative video model the subject was asked to respond to questions that were designed to increase the ability for the

participant in this study to develop a basic insight into perspective-taking. The questions were based on the Relational Frame Theory (Hayes, Barnes-Holmes, and Roche, 2001). Relational responding can be described as an individual experiencing specific reinforcement for a verbal exchange to some stimuli, and then in absence of a reinforcement being able to generalize to another stimuli. This requires deriving relations among events: for example, if $A=B$ and $A=C$, then $B=C$. Each video sequence concluded with the phrase, "How would you feel if that was you?". Learning to respond appropriately to this question requires the participant to change perspective which is critical to establishing perspective taking skills.

The negative video model for "sharing a food" consisted of the stimulus item of one apple slice on a plate with one plastic butter knife. The scripted sequence depicted the sibling from the point-of-view of the participant. The camera angles showed the apple slice and the sibling sitting at the table. You can hear the verbal exchange "It's mine" as the camera angle shows a hand pulling the plate with the apple away from the center of the table. The camera angle moves to the sibling's sad face as the video ends. The examiner then asks "How would you feel if that was you?". The "sharing a toy" stimulus consisted of a cash/coin drawer. The motor and verbal exchange is the same as in "sharing a food", ("It's mine",

pulling the drawer and ending with the sibling's sad face). Once again the examiner asks, "How would you feel if that was you?".

The positive training video models used the same two stimuli materials to facilitate a precise discrimination between which responses are appropriate. For example, the "share a food" positive training video model depicts a similar apple slice presented on a plate with a plastic butter knife as in the negative version. The participant's sibling is pictured sitting at the table. You can hear the verbal exchange "Let's share!" as the camera angle shows a hand pushing the plate toward the sibling. "Do you want to cut?" is heard as the sibling cuts the apple slice in half. The sibling responds with, "Thank you!" and eats her piece of the apple. The camera angle moves to the sibling's happy face as the video ends. The examiner then asks "How would you feel if that was you?". The "sharing a toy" video used the same camera angles. The cash/coin drawer is pictured. As you hear "Let's share!", the camera angle shows a hand moving the drawer toward the sibling. "Do you want to help me count?" is heard as the sibling takes the change and responds with "Thank you!". Once again the camera angle moves to the sibling's happy face and the video ends. The examiner asks, "How would you feel if that was you?". A correct response to the relational response question would be praised, ("Very expected") an incorrect response was ignored.

During the practice session immediately following the playing of the training video the stimulus from each training category was placed on the table. In the practice session the participant had the opportunity to apply the skills modeled in the video. The participant's sibling was brought to the dining room table to participate in the reenactment. In addition, one stimulus item from each category was provided to practice generalization of the sharing task. A cookie was used for the "sharing a food" category and a paint brush and paint for the "sharing a toy" category. As the experimenter placed the stimulus item on the table she would state, "Let's share." Praise was provided, ("Very expected sharing") for correct verbal and motor actions involved in sharing a stimulus item. If the participant did not make any attempt to initiate the task or made an incorrect response the verbal prompt was repeated ("Let's share") after sixty seconds. If no initiation or correct response was provided within another sixty seconds materials were removed and all steps were considered a refusal.

The experimenter recorded data for the intervention sessions using pencil and paper data sheets as in the baseline sessions. The participant behaviors (share a food, share a toy) and two actions (verbal, motor) were recorded as pass or fail as well as a pass or fail score to the relational response question.

Follow-up

One month after the termination of the intervention sessions, follow-up sessions were conducted for two days each session lasting about five minutes. The participant was not shown the training video and all sessions took place in the same setting as the baseline and interventions sessions. The follow-up procedure followed the same recording of data procedures as in the baseline and intervention sessions. In addition to the stimulus items depicted in the training video, one set of generalization stimulus materials were selected for each script sequence to be used in the follow-up sessions with the participant's sibling. A piece of chocolate was used for the "sharing a food" category. A computer game displayed on a laptop was used for the "sharing a toy" category

Chapter 4

Findings

This study examined the use of point-of-view video modeling to increase the perspective taking skill of sharing in a seven year old student with Asperger's disorder. Data was collected using a pencil and paper format to record positive interactions of each session and then results were tallied up and converted into a percentage of correct responses for each category. The results of the baseline, intervention and follow-up sessions were converted into percentages of correct responses. The percentage of positive sharing verbal and motor interactions for the categories of Sharing a Food and Sharing a Toy are displayed in bar graph format.

The seven year old participant preformed at 0% correct sharing interactions during baseline trials for sharing a food item and toy item. There was a three consecutive day collection period during which sharing experiences were manufactured with the participant's younger sibling. During this process the examiner was looking for positive verbal and/or motor responses from the participant. An example of a positive verbal and motor response would be for the

participant to push the stimulus item over to his sibling and make a “You” statement, such as “you go first, you cut, you pick.”

During the intervention period the student had several tasks for each of the training sessions during the five day period. The student watched the video of positive and negative sharing opportunities. Immediately following viewing each point-of-view video segment the participant was asked a relational response question. The participant answered the relational response question of, “How would you feel if that was you?” four times during each intervention session. Twice after viewing a negative example of sharing and twice after viewing a positive example of sharing (sharing a food, sharing a toy).

After viewing a negative model of sharing, a target response of sad, disappointed, unhappy or upset was stated by the participant ten out of ten times. After viewing the positive model of sharing a food or toy stimulus item the participant when asked the relational response question stated the targeted response of happy, proud or good ten out of ten times. The participant generated a 100% correct response rate for the relational response question during the five day intervention session.

Immediately following the viewing of the point-of-view video model and the relational response question the participant's five year old sibling was brought to the table. The exact stimulus materials depicted in the video was presented to the pair as data was collected by the examiner. Over the five day intervention practice sessions the participant shared the stimulus item for sharing a food (apple slice) at 80% success rate for motor responses and 60% success rate for verbal responses. The practice sessions continued with a generalization stimulus item being presented to the participant and his sibling. These items were not demonstrated in the point-of-view video model. The participant was able to share a generalized food item (cookie) with his sibling at an 80% success rate for motor and 80% success rate for verbal interactions.

The follow-up sessions were conducted approximately one month after termination of the intervention sessions. The participant was not shown the training video and all sessions took place in the same setting as the baseline and intervention sessions.

The participant and his sibling were presented with the same stimulus items as shown in the training video. The participant demonstrated a correct motor and verbal response 100% of the time for sharing an apple slice. A generalization

phase was also conducted during the follow-up sessions. A square of chocolate was used during this Sharing a Food category. The participant had a 50% correct motor response rate for sharing a chocolate square and 100% verbal response rate. See figure one for a bar graph depicting the results for the Sharing a Food category.

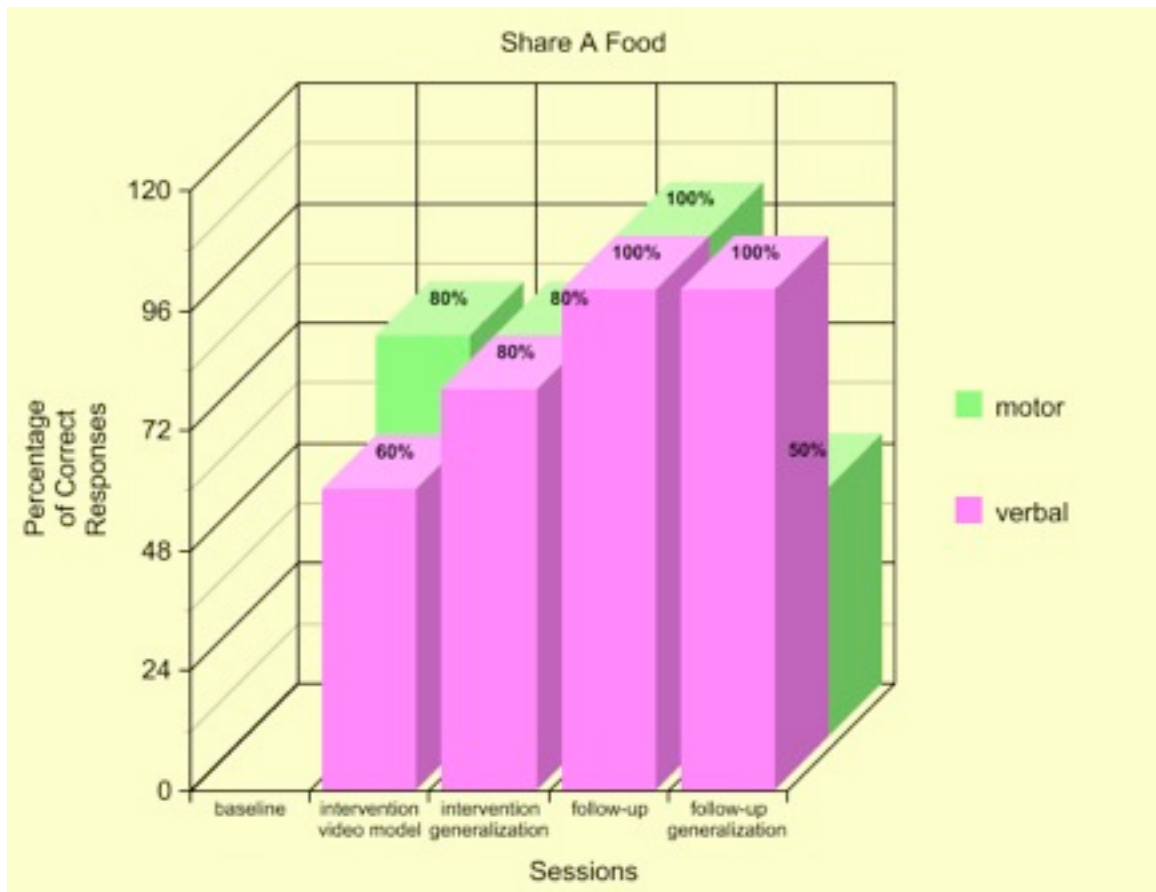


Figure One: Share A Food

The participant was also asked to Share a Toy as a stimulus item over the five day collection period during the intervention sessions. The stimulus item of a cash/coin drawer was depicted in the point-of-view video model. This item was also used during the practice sessions with the participant and his sibling. The participant performed at a 100% correct response rate for both motor and verbal sharing interactions for this stimulus item. The generalization item for Sharing a Toy was a paint brush with paint and a painting sheet. This generalized stimulus item produced an 80% success rate for motor responses and 100% success rate for correct verbal interactions of sharing a toy.

Sharing a Toy was also a category used during the follow-up sessions. The participant was not shown the training video and all sessions took place in the same setting as the baseline and intervention sessions. The participant correctly responded for the Sharing a Toy category during the follow-up session when given the stimulus item of the cash/coin drawer as depicted in the training video a month earlier at a 100% success rate for verbal and motor interactions. The participant during the generalization phase of the follow-up sessions of Sharing a Toy in this case a computer game on a laptop device demonstrated a 100% success rate for correct motor and verbal response. See figure two for a bar graph depicting the results for Sharing a Toy.

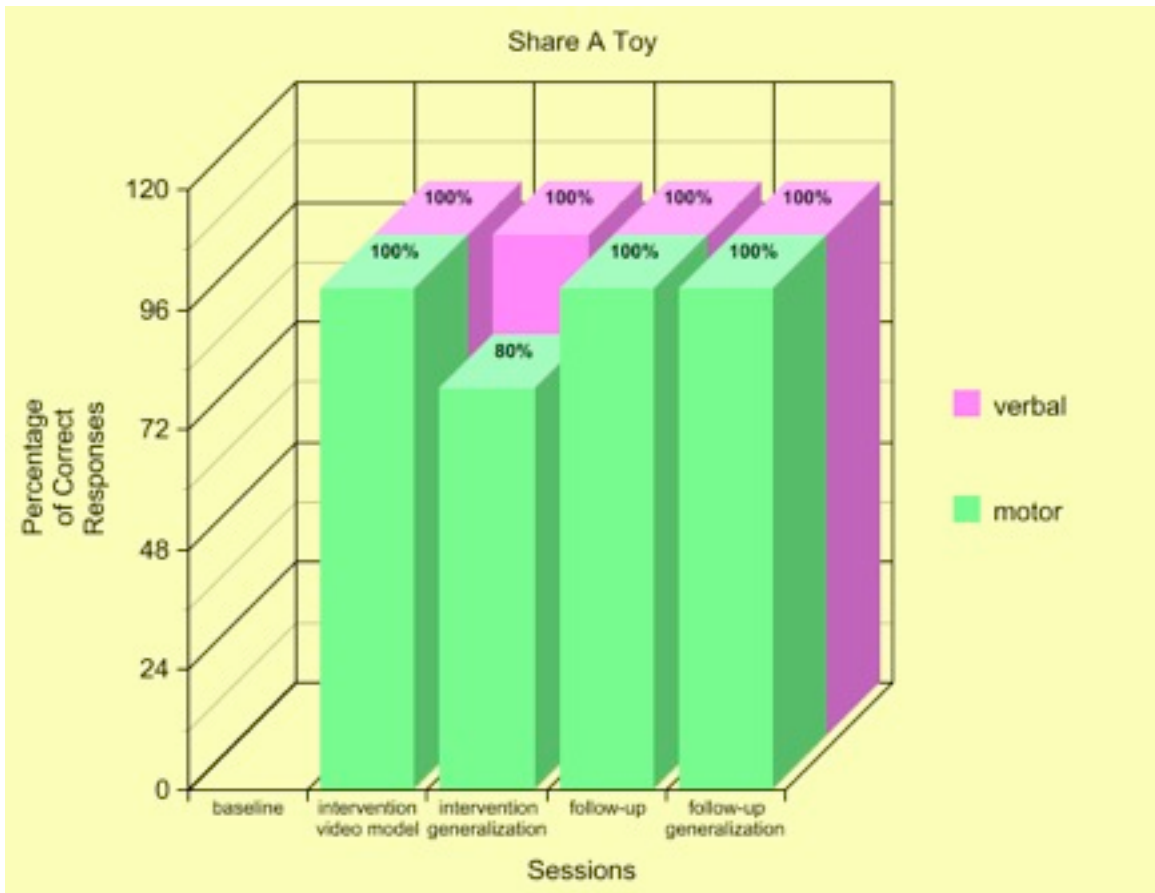


Figure Two: Sharing A Toy

Chapter 5

Discussion

In this study point-of-view video modeling used with a relational response question was used in an attempt to improve the perspective taking skill acquisition of sharing for the participant and maintained during the one month follow-up. The results showed a 60% to 100% increase in correct responses when the participant was asked to share a food item or toy item with his five year old sibling.

Results of this study closely resembled Shipley-Benamou, Lutzker, and Taubman's (2002) research in Teaching Daily Living Skills to Children with Autism Through Instructional Video Modeling. This study evaluated the effectiveness of teaching daily living skills to children with autism through point-of-view video modeling. The researchers evaluated each of the three five year old participants in three specific skill areas. Some examples of areas targeted for skill acquisition used were feeding a pet, setting a table and mailing a letter. The researchers saw skill acquisition across all three children and maintenance during a one month follow-up. Similarly, the percentage of correct responses

increased by 70% -100% after video intervention and at a one month follow-up after a 0% correct baseline period.

The participant in the current study also showed a dramatic increase after the point-of-view video intervention after a 0% correct response rate during the baseline period. The participant in this study demonstrated a 20% decrease in correct responses in sharing a food item over sharing a toy. The examiner was looking for the participant to elicit a correct verbal response that offered his sibling the first opportunity to share in the item. A correct response would contain a "you" statement, such as, "You cut" or "You go first." The absence of any verbal dialog on the participants part would result in a incorrect verbal response. In three out of five trials the participant would just push the plate with the food item over to his sibling without a verbal exchange. This type of action during the intervention sessions decreased his correct verbal response to 60% correct. During the one month follow-up the participant only demonstrated a 50% correct response rate for motor response when participating in the "sharing a food" activity. In this case during one of the two sessions the sibling broke a chocolate square in half off-center. The participant grabbed the larger piece of chocolate out of his siblings hands and ate it in one bite. The sibling ate her piece without any verbal dialog.

A significant feature, which may have contributed to the success of the present research was the pragmatic skills of the participant as it related to success of a correct response rate of the relational response question. Prior to this study the participant had pragmatic speech instruction to aid in his perspective taking skills. Pragmatic speech instruction is a service usually delivered by a Speech and Language Pathologist. The speech therapist targets specific goals for the participant to increase appropriate conversation skills. One specific goal targeted in therapy is to introduce perspective thinking through discussing the scenarios of different actions as they related to someone else and through pretend play scenarios. Pragmatic language instruction was given for one year and concluded six months prior to the implementation of this study. Therapy was discontinued by the parents because it was not seen as aiding the participants day to day interactions as it related to positive social interactions with classmates and a sibling. The therapy may have aided in the participants success rate with the relational response question.

Relational responding can be described as an individual experiencing specific reinforcement for a verbal exchange. Perspective taking is specifically a form of relational responding that involves relations between stimuli. For example a

perspective taking repertoire emerges following a reinforced history to responding to questions such as, “ What would you do if you were me?”, or “What will I be doing there?”. Hayes, S. C., Barnes-Holmes, D., and Roche, B., (2001) suggest that learning to respond appropriately to these types of questions that require the child to change perspective is critical to establishing perspective taking skills. In this study the participant learns the perspective of his sibling through the relational response statement of, “How would you feel if that was you?”, after the viewing of each video model. The participant in this study was able to correctly identify the appropriate feeling of his siblings emotions as it pertained to situations presented in the point-of-view video 100% of the time. According to Hayes, S. C., Barnes-Holmes, D., and Roche, B., (2001) the ability to respond correctly to a relational response statement increases the participants basic insight into perspective taking. The relational response question included at the end of each negative and positive scripted video sequence can be used to gage an individuals perspective taking abilities. Future studies might want to investigate the question: Does a lower correct response rate on the relational response question indicate the need for pragmatic language instruction?

Point-of-view video modeling is a relatively simple intervention for children with autism. Technological advances in cell phone equipment make video

models easy to manufacture for many skills. It can also be readily learned by parents, teachers, and clinicians. The results are rapid and specifically designed for the individual. This is a positive behavior support that is cost and time efficient.

The present research was conducted with only one participant. Therefore, generalization to the larger population of children with Asperger's disorder is questionable. It would be beneficial for future research to include a much broader range of individuals across age ranges and abilities on the autism spectrum.

Consistent with prior research, the data in this study suggests that video is a useful medium for accomplishing skill acquisition in the autistic population (Charlop, M.H., and Milstein, J.P. (1989), Hine, J., and Wolery, M., (2006), Reagon, K.A., Higbee, T. S., and Endicott, K., (2006)). This study demonstrated that a seven year old student with Asperger's disorder was able to acquire skills to increase his positive perspective taking abilities when sharing after instruction using point-of-view video modeling and the relational response question.

Sharing is an integral function of perspective taking skills. A five day video intervention using the participants sibling as a model proved to be effective in increasing perspective taking skills and was maintained during a one month follow-up.

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