

Completed Project Approval Page

Peer Training to Increase Social Skills in Students with Autism (3 Credits)

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(Project Advisor)

PEER TRAINING TO INCREASE SOCIAL SKILLS IN CHILDREN WITH AUTISM

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ABSTRACT

Children with autism have significant difficulty with social skills. This lack of social skills makes it extremely difficult for them to participate in social activities schools often provide. Peers without disabilities can be excellent role models and facilitators of social skills for children with disabilities. They need to be trained to first understand autism(or other disabilities), then provide them opportunities to understand what it feels like to have autism. These first two steps alone may be enough to increase social interactions and interest in students with autism. The final step conducted in this educational project is to give them structured opportunities to play and interact together. Children in this project were extremely kind and understanding and it was apparent they care about each other. If given the opportunity and tools all children will have a friend.

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Chapter 1-Introduction

Overview

Autism spectrum disorder (ASD) is a variety of complex neurodevelopment disorders. People afflicted with autism may have a range of symptoms and behaviors. The more severe diagnosis is often categorized as autistic disorder or sometimes called classical ASD. On the milder side of the spectrum would include Asperger syndrome and childhood disintegrative disorder. (http://www.ninds.nih.gov/disorders/autism/detail_autism.htm)

Children identified as having (ASD) have increased substantially in the last few years. There are more boys affected than girls with about 1 in 4 children diagnosed with autism are girls. The most current estimates from the Centers for Disease Control (www.cdc.gov) estimate that ASD occurs in 1 in every 88 children. This makes it the fastest growing developmental disability in the United States.

Autism is a developmental disability which causes problems with social interaction and communication. Children with ASD lack many social skills and the ability to form friendships. Their brain is wired differently and according to Temple Grandin (2006) brain scans of people with Autism show a lack of desire and motivation to interact with other people. They also have many sensory issues that impede interactions with peers and teachers. Students with ASD may tune out words and only hear noises or be very over stimulated on the playground and unable to participate in play activities. They are unable to take cues from other's body language or verbal language. Considering most social interactions are verbal and involve body language, this puts them at a great disadvantage. More and more children with ASD are being integrated into inclusive classrooms so the ability to interact and cope is becoming crucial to the success of their learning.

Problem Statement

Children with ASD have a difficult time developing social skills due to the nature of their disability. They may need structured lessons specifically focusing on social skills with peers. Students in their classrooms may not understand the peer with autism or know how to interact with them. It would be beneficial for peers to receive specific training to help increase knowledge. Some students with ASD may have peer training written into their Individualized Education Program (IEP) without specifics on what should be done. What if specific structured activities and/or a program were created to help their typical developing peers understand the disability as well as help their peers develop appropriate ways to interact with students who have autism?

Purpose

The purpose of this educational project is two-fold. The first part focuses on students without ASD by increasing their awareness of autism which includes sensitivity training. The second part will focus on finding ways to increase Autistic student's social skills by training peers to interact with children who have ASD.

After completing these two components of this educational project, the students will have the tools needed to understand and effectively engage in social interactions with their peers with autism.

Hypothesis

It is hypothesized that with peer sensitivity training, as well as peer training which includes appropriate ways to interact with students with ASD, there will be increased social skills in the students with autism. Typical developing peers will take initiative and will be

motivated to interact with students with ASD after they receive appropriate training. Answers to the following questions will be sought during this project:

- What are the most effective ways to increase social skills in students with ASD?
- Will peers accept and use their training to successfully interact with children who have ASD?
- How much increase in social skills will there be and is it enough to make a difference in the life of a child with ASD?

Significance

The significance of this study is to find the most appropriate and successful way to assist children with Autism show an increase in social skills. These skills may range from very minimal social contact such as eye contact to more complex social skills such as interactive play.

Delimitations

- This educational research project will target 2 students with autism in this researcher's classroom. This is a limited sample of students with autism from the Iowa-Grant School District.
- These students are categorized as having moderate to severe autism and this research will not include higher functioning students with autism.
- The students who will participate in the peer training will be limited to 8 typical developing students who are peers of the chosen students with autism.

Chapter 2: Review of Literature

According to the Autism Society of America (www.autism-society.org), symptoms of ASD may include any of the following behaviors in varying degrees: difficulty expressing needs, using gestures or limited use of words, tantrums, reduced or no eye contact, refusals to cooperate and inappropriate attachment to toys or objects. These behaviors make it difficult for the student with ASD to thrive socially in the regular educational environment.

There are several neuropsychological characteristics of autism that severely inhibit students to interact. Students with ASD they are very unmotivated to initiate social interactions and this makes it difficult for social training. Another characteristic that may have negative impacts on social skills occurs when social contact is made it is usually part of a routine and lacks any type of spontaneity. Students with ASD also do not understand social rules such as personal space and are unable to read facial or vocal expressions. They will not understand if a peer is making a sarcastic statement or showing certain cues with body language. They exhibit this "prewired" inability to develop social skills which can lead to being left out in social situations and sometimes even teased by peers. (Mesibov, Shea, & Schopler, 2004)

ASD varies widely in severity as well as behaviors so it may be difficult to diagnose, especially in children with mild symptoms. Early indicators may include the following symptoms:

- no babbling by age 1
- no single words by 16 months or two word phrases by age 2
- no response to name
- poor eye contact
- excessive lining up of toys and objects

- lack of smiles and responsiveness to people

Later indicators of autism may include:

- inability to make friends with peers
- unable to have conversations with peers or adults
- lack of imaginary play activities
- repetitive use of language
- preoccupied with certain objects or subjects
- a strong need to adhere to routines and structure

These indicators are mostly social and communication related which makes teaching social skills a high priority when it comes to including students with ASD in the classroom.

Scientists are not sure about the causes of ASD but it is most likely a combination of genetics as well as environmental factors. There are a number of genes linked to this disorder and people with ASD have some noticeable differences in many parts of the brain. High levels of serotonin and other neurotransmitters have been noted in the brain

(http://www.ninds.nih.gov/disorders/autism/detail_autism.htm).

The treatments of autism are varied based on the child. There is no cure for autism but symptoms can improve after intense therapies and training. Most health care professionals and educators believe the earlier the intervention begins the better. Treatments may include educational and behavioral interventions as well as medications. There are also a few controversial treatments such as special diets but very few are confirmed by scientific studies. Caregivers should be cautious of "miraculous" cures advertised and continue to make sure their child with autism is not harmed in the process.

Peer Sensitivity Training

Helping peers understand how a child with autism feels and sees the world may be a difficult task. Nevertheless, it is important for peer sensitivity training to occur so peers can feel empathy and compassion for the student with ASD. It is important for students to see peers with ASD as children first but with some differences as well as similarities to themselves. With the assistance of the book, *Walk awhile in my autism*, (McGinnity & Negri, 2005) sensitivity and a little more understanding of this disorder can be an attainable goal for students and teachers. This book gives many first hand examples of how people with autism feel and perceive the world.

One such example is of a young man, Matt Ward, who does speaking engagements at schools and other organizations. He is an intelligent man, with severe autism, who has received his degree in mathematics from UW-Madison. He gives a glimpse of the inside perceptions of someone with autism. Matt talks about dealing with kids who were mean to him and why he didn't understand why they would be mean to him. He really did not have any perception that he was different. He also talks about peers who were nice and tried to help him. His mom is a strong advocate of his and she would talk to the teachers and the students about his autism before the beginning of each school year. Matt feels his autism actually makes it easy to learn math and often times he would understand math more effectively than the math teachers in his high school. Matt talks about not understanding people which makes it difficult for him to make friends mainly because he doesn't know how to be friendly. He actually finds it highly disturbing to make eye contact with people and even has difficulty looking himself in the mirror. Most of his friends are other young people with autism who share similar interests. He is not really interested in having a girlfriend or getting married, he just does not see the point (McGinnity &

Negri, 2005). This is an important story because children without autism need to understand their peers with ASD have feelings but can be intelligent and talented.

McGinnity and Negri (2005) also describe in their book numerous activities to help peers understand a classmate with autism. They believe the more a peer understands about the perceptions and experiences of a classmate with autism, the more sensitive that peer is likely to become (McGinnity & Negri, 2005). Some of the sensitivity activities include, visualization, cognitive style, getting stuck, differences in senses and social barriers. These activities are hands on and help students feel what it may be like to have autism. One such activity is called getting stuck. This is done in order for the peers to develop an understanding of how sometimes children with ASD get stuck in movement, words or thought. This activity is as follows; the class is divided into two groups and they participate in the game of simon says. One group is secretly told not to go on the next command but rather to continue doing the previous movement for at least 10 more times. There is a discussion following about how they felt and what the other group thought of them. The teacher relates this feeling to the child with autism who may "get stuck" and how even though they realize they have to move on to the next activity they just are incapable (McGinnity & Negri, 2005.)

Another example of an activity is called, "differences in hearing." This sensitivity activity starts by the facilitator telling the class they are going to be taking a spelling test. The teacher then plays music loudly and talks softly. The music is turned up and down randomly and at the same time, the teacher's voice varies in volume. This is to help the class realize what their friend with autism may experience during class work time. Because of their very sensitive sense of hearing, things such as the heat vent blowing or computers humming may really interfere with their ability to concentrate and listen to the teacher. Discussion is to follow all

activities as well as questions. Peers are encouraged to think of possible ways to help the student with autism in their class (McGinnity & Negri, 2005).

With the assistance of the examples and activities in this book, typical developing peers will develop a basic understanding of children with autism. They may also see there are more similarities than differences between themselves and their peer with autism.

Helping peers see that their classmate with autism is a child first and can be a friend is another goal of peer sensitivity training. A book entitled, *A is for Autism, F is for Friend*, (Keating-Velasco, 2007) focuses on using a child's point of view to attempt to help students understand their peers with ASD. The character in the book, Chelsea, is an eleven year old with severe autism. The book is written from Chelsea's point of view. It simply takes readers through basic descriptions of autism and focuses on the differences in the senses when a child has autism. At the end of each chapter there is a talk time section with suggestions for discussions about the topic in each section. This book emphasizes that kids with autism are really just kids with some differences and in many ways they are very much similar to their peers. Some of the sections in the book are titled; Sensing the difference, Can you see what I am thinking and Look Deep into my Eyes. One section of the book describes how behaviors of the student may look different or even scary because sometimes kids with autism are frustrated and are unable to express themselves. Students with autism often times cannot express themselves much like a computer that freezes up-they are stuck and they may have a "meltdown."

A is for Autism, F is for Friend, (Keating-Velasco, 2007) gives students without autism a glimpse of what children with autism may feel and think and it encourages students to not be afraid to talk or play with students who have ASD.

An article by Clark and Smith (1999) discusses important strategies to help students with ASD become included as much as possible in the regular education environment. The authors recognize students with ASD can have behavioral and social issues that can disrupt the learning of other students. They feel the physical environment is important when preparing the student with ASD for success in the classroom. Strategies such as word cards, posters displaying appropriate behavior and a classroom schedule with visuals will be helpful to not only the student with ASD but most likely benefit other students.

According to Clark and Smith (1999), creating positive attitudes at the beginning of the school year is vital to the social success of the students with ASD. Discussions in the classroom such as being a supportive friend to the student with ASD or other students with disabilities are very important to set the tone of a positive atmosphere. Inclusion of a student with autism can help set a positive social climate focused on celebrating differences as well as gaining insight in the acceptance of diversity among all students.

Peer Social Skills Training

In the literature there has been research to find the most effective ways to teach students with autism appropriate social skills. Due to the increasing population of students with autism as well as the increasing mandated inclusion of these students, it is becoming very important to understand how to help students with autism to cope in regular environments. The student with ASD needs to be trained to understand how to be socially appropriate and using peers in the training has been a recent trend in special education.

Research conducted over the last 20 years has shown that peer training of social skills training results in skills acquisition, maintenance and generalization of social interaction. Peers can be used in a variety of ways. They can be taught to initiate interaction, respond to the child's

initiations or act as a tutor in academic or play type activities. Some debate exists as to whether or not using peers results in positive social skills in other environments and with other peers not involved in the training. Despite this debate, most researchers suspect social skills taught through peers may have more generalization effects than other typical social interventions (Krebs, McDaniel, & Neeley, 2010).

A study performed by Krebs, McDaniel and Neeley (2010), indicated that peer training of targeted social skills may result in the increase of these skills in students with ASD. They also unexpectedly found an increase in certain social skills that were not targeted in the research. They believe peer assisted social intervention is one of the purest forms of behavior modification. In their research the peers were trained to focus on the following social skills: eye contact, maintaining close proximity to peers and directing or initiating conversation and maintaining the topic of conversation. Two children with ASD were chosen for this study. One child was categorized with severe/moderate autism and the other child had mild autism. They both exhibited several behaviors that interfered with social contact such as lack of eye contact, unusual play skills, inappropriate laughter and obsessive compulsive tendencies. The researchers also selected four typically developing peers. The training and observations were held in a private therapy room. All four peers were trained at the same time and they focused on helping the peers understand successful and unsuccessful interactions. After the peer training the children were observed playing together and if successful interactions did not occur after ten minutes the researchers would prompt one of the peers. Both ASD participants showed considerable increase in the skills observed. In one example, the child with ASD improved their incidents of close proximity from zero percent on the baseline to one hundred percent during some of the probes (Krebs et al., 2010).

Another study emphasizes peer training in natural environments such as recess. This study by Harper, Symon and Frea (2007) realizes that students with autism may not have an internal desire or seek pleasure in unstructured social play opportunities. Their desire for routine and predictability may actually cause much anxiety for children with ASD. Even when students with ASD are placed in a socially motivating environment, they most likely are incapable of showing socially appropriate play skills without intervention. The purpose of this study was to examine what happens when typically developing peers are trained using natural type methods in the context of play time such as recess. Recess was chosen because there is no direct instruction occurring during that time.

Two fully included third grade students with ASD were chosen for this study. The initial social skills training took place in a classroom so the environment would be controlled. Motor type activities were placed in the room such as nerf balls, beanbags, ring toss and velcro ball catch. Cue cards were used which represented various naturally occurring strategies the researchers wanted the peers to utilize. The social skills strategies included, turn taking, initiating social contract and gaining attention. Peers were taught specific strategies for each of these skills and practiced these skills with the researchers before implementing them with the students with ASD. Both students with ASD in this study engaged in potentially aggressive behaviors so the peers were also taught to back away and find an adult for help. Results from this study revealed both participants improved their social skills. One student showed greater gains than the other but both went from almost zero interactions during recess to several occurrences during just a 10 minute observation probe (Harper, Symon, & Frea, 2008). This study supports the theory of peer training as being a very effective way to increase social skills in students with autism.

A study conducted by Owen-DeSchryver, Carr, Cale and Blakely-Smith (2008) looked at inclusive settings and how to increase social skills of students with ASD in naturalistic types of settings. They focused on training peers but also realized the importance of peer sensitivity training. These researchers realize that placing a student with autism in inclusive settings is not enough. Most students with ASD only interacted with adults in the classroom or interacted only to obtain instructional information. They also realize students with ASD may not even participate in play activities even when they are in close proximity to peers and their play activities usually was by themselves or ritualistic types of play. The researchers in this study wanted to explore how to increase social behaviors in children with ASD in the context of naturally occurring free play activities.

Two students diagnosed with autism and one student diagnosed with Asperger syndrome were chosen for this study. All three students had significant social difficulties but they had varying academic skills. Their Intelligent Quotient (IQ) scores ranged from 76-97. During the course of this study the researchers did not directly work or interact with the students with ASD and the students with ASD were not aware of the nature of the study. Ten typical developing peers were selected for the study based on recommendations from the teachers or assistants. The study was performed over six months time with the baseline observations occurring during a 3-6 weeks followed by a 2 week peer training (Owen-DeSchryver et al., 2008).

Three phases of the study were conducted with the first phase pertaining to peer sensitivity training. In this first phase the students explored reasons for developing friendships with students with disabilities and reading a children's book about a boy with autism. This phase mainly focused on discussing friendships and concepts concerning why they need to have friends. The second phase of peer training was looking closer at the students with autism and

discussing their strengths as well as things they are still learning to do. The purpose of this phase was to realize all children with and without disabilities have strengths and areas of need. Phase three consisted of the peer training which concentrated on providing specific information and strategies that would assist the peers during their interactions with their autistic friends. The researchers discussed topics such as, when to play and talk with the peer with ASD as well as some topics they could talk about. They also discussed the activities they could do together as well as what they could do to help the peer learn to play. They also taught the peers what to do if the student with ASD doesn't respond or shows inappropriate behaviors. The purpose of this last phase was to provide the children with actual situations and difficulties they may have with their peers with autism. Data was then collected on the peers and the students with ASD. The observers focused on the number of social initiations and the number of responses made by both groups. Peer interactions increased for all three students with ASD. For one of the autistic students the interactions and responses increased by 30 percent. The researchers did not predict that untrained peers would also increase their interactions with the autistic students as well. These interactions doubled for one of the students with autism and nearly doubled for the other two (Owen-DeSchryver et al., 2008).

This study is very consistent with the other research that has been done with peer training to assist students with autism. Teaching peers how to interact with autistic classmates in natural settings is very important for generalization of skills.

Temple Grandin's book, *Thinking in Pictures* (2006), gives amazing insight as to the thoughts and feelings of people with autism. One of her chapters entitled, Learning Empathy, gives some insight into being caring and kind to others including animals. She believes, in order for her to have feelings of kindness and gentleness, a person with autism must feel a gentle

calmness to their own body. By using her squeeze machine to help with some of her sensory issues, she is able to feel calm and relaxed within herself and then is more able to relate to people and animals. The relaxing feeling her squeeze machine gives her almost washes the negative feelings away. Studies of the brain show that sensory problems have a neurological basis. We now know that children with ASD, who reject their parents soothing touch and calming words, have sensory issues that most likely relate to abnormalities in the cerebellum. Grandin believes children with autism need to be taught to do things that are good for the community such as picking up garbage or making cards for the elderly at nursing homes. People with autism are not without emotions but find it difficult to express or experience complex emotions. They need to be shown how to express kindness and caring actions because it does not come naturally. The more hands on experiences they have on how to be a friend, the more caring and kind they will be as a person (Grandin, 2006).

Temple Grandin's insights give teachers and therapists important information as to why people with autism lack social skills. It seems to be almost purely neurological which affects their sensory system and their ability to feel a sense of friendliness towards others. This information can help develop programs for students to address their sensory issues which in turn should help with social skills training.

Summary

Since the implementation of legal mandates of Individuals with Disabilities Education Improvement Act of 2004, more students with ASD have been placed in general education classrooms in public schools. This has resulted in an increase focus on the best ways of how to help them participate socially as well as academically in the classrooms with typical peers. Based on the literature, it does not seem enough just to place them in the classroom without

social skills interventions. Studies have shown that peer based social interventions have replaced or shifted focus from adult led interventions. All the studies reviewed indicate that peer training is an effective strategy to help students with ASD increase peer interactions. An article written by Nauert (2011) shows training peers can help students with ASD improve their social skills and is more effective than adult-led interventions. According to Nauert, observations of students with ASD that had peers who received training spent less time alone on the playground and had many more interactions than students with ASD who only received adult led programming.

In order for students with ASD to be really included in the general education classroom there are many factors that need to come together to help them. Peer sensitivity training and an overall embracing of students with differences is a must by the teachers and all students. Peer training is also vital to the inclusion of students with autism and there appears to be a push for social skills training to occur in natural settings such as lunchroom or recess environments. Another factor to help students with ASD is to make sure their sensory needs are met which may include a sensory diet or occupational therapy. Addressing their sensory needs will help with calmness and the ability to tolerate as well as interact with peers around them. If all these factors are in place, students with ASD will have the best chance of being included socially in the academic environment. Typically developing peers, who are involved in training, most likely will develop compassion, kindness and empathy toward people with differences. This is a priceless benefit in having students with autism socially included in the classroom.

CHAPTER 3: Methodology

Children on the autism spectrum have an extremely difficult time initiating and socially interacting with their peers. Some people with autism have actually said it is painful to make eye contact. Other people with autism just do not have any interest in developing relationships and some people on the spectrum describe their overloaded sensory systems interfere with engaging in social activities.

Teachers, therapists and other professionals working with students with autism may have attempted to train students with autism how to socially interact but it can be a difficult task. According to the research, as noted in the literature review portion of this project, peer training could possibly be a more successful way to increase social skills in students with ASD. It makes sense to train children, who already interact effortlessly with one another, to interact and engage socially with students who have difficulty such as children with autism.

Procedures

The Institutional Review Board (IRB) board of University of Wisconsin Platteville approved this educational project. The final approval letter is contained in appendix A.

Dawn Merth-Johnson is a speech and language therapist and was also involved in planning and implementing this project. She has 15 years of experience working with a variety of children with special needs, including autism. This researcher, Kim Bauman, has 22 years of experience working with many different ages and various disabilities including many children with ASD. Both professionals will be working together on developing the social groups and peer sensitivity training. This researcher will conduct observations and collect data. Both professionals are employed by the Iowa-Grant School District.

The process to help children with autism learn social skills for this project will include several steps. The following steps will be an integral part of this project:

- 1-Choose two students with autism who are part of this researcher's classroom. They will be known as student A and B.
- 2-Observe interactions between all potential peers and the students with ASD and collect data on the number and types of interactions.(appendix B) The observations will occur in natural environments including recess and lunch time.
- 3-Provide all potential peers in their classroom with sensitivity training pertaining to autism and specific to the student in their class.
- 4-Develop social skills groups and train four chosen peers from each classroom by showing them how to help the student with ASD. This training will be done by Mrs. Merth-Johnson and this researcher. This step is done without the child with ASD.
- 5- The first social group will include two trained peers and the student with ASD. There will be observations and data taken of the various types of interactions. The four students who are trained will alternate sessions.
- 6-Under the supervision of two qualified teachers, there will be social groups held focusing on increasing interactions between the two regular education students and the children with ASD. There will be at least five social skills groups that will be part of this project.
- 7-Observations will be made during the last social skills group and data will be taken on amount and types of interactions. The data from the first and last observations will be compared.

8-Observations of lunch and recess interactions for 15 minutes will take place and data will be compared after five weeks of the social group sessions.

Participants

A child with autism in elementary school has many potential peers. They may have peers in the classroom, playground, during lunch or in their neighborhoods. Peers selected for this project are the peers in their classrooms. These peers are with their classmates with ASD throughout the day and can easily be observed during social times. The teachers of each classroom selected four students who they thought could be potentially good role models and students who would be willing to interact with students A and B. These students will participate in the structured social groups. Parent permission was sent home with eight students (four from each class) and all eight parents gave written permission. (appendix C) The students seemed anxious to get started and often asked about the social group.

Two students who have been diagnosed with autism have been selected to take part in this educational project. Both of these students are integrated with the regular education classroom setting with the exception of math and language arts. These students have been diagnosed with autism and are moderate to severe on the spectrum. Both students have their own teacher's assistant all day to insure safety and positive behavior. They engage occasionally with peers but often seem uninterested in any type of social contact. A letter was also sent home to the parents of students with autism making them aware of the project. (Appendix D) Parents of the students with autism were previously aware of the social groups because it was discussed during an Individualized Educational Program (IEP) meeting. One of the students is a nine year

old boy in 2nd grade. The certified school psychologist employed by the school district categorized him as having moderate autism. He will be referred to as student A. The other student is an eleven year old boy in 5th grade. The school psychologist categorized him as having severe autism. He will be referred to as student B.

Instrumentation

The instrumentation used in this project was developed by this researcher. Observations of various interactions in different settings were made before the peer sensitivity or the social groups began and after the last social group was held. Data collected is the amount of interactions as well as the types of interactions between peers and student A and B.

Baseline observations were made using appendix B. Peers and student A and B were observed during lunch and recess and incidents of social contact were tallied. This interaction was categorized as eye contact, non-verbal interactions (high fives, hugs,) and verbal interactions during lunch time. Interaction during recess was categorized as eye contact, non-verbal interactions(hugs, high fives) and parallel or cooperative play. If student A or B initiates the interaction the observer would make note. The observations were conducted for 15 minutes.

Student A's initial observations showed quite a few interactions with peers with five incidents of eye contact, four non-verbal interactions which mainly consisted of a peer holding his hand and five incidents of parallel play which involved running together. Student A did not initiate any of these interactions.

Student B's initial observations of interactions with peers showed he engaged in a total of two verbal interactions and one parallel play interaction involving swinging. He turned his back during lunch so there was little chance of any interactions occurring.

Sensitivity Training

All students involved in the sensitivity training were peers in the homerooms of the two students with ASD. This involved all students in a second grade classroom and students in a fifth grade classroom. A letter was sent home to all students who are peers of the targeted students with ASD which described the sensitivity training. (appendix E) The students with ASD were not present during this training.

Mrs. Merth-Johnson and this researcher planned the sensitivity training. This training was based partially on the techniques described in the book, *Take a walk in my shoes* (McGinnity and Negri, 2005) and the information contained in *A is for Autism and F is for friend* (Keating-Valasco, 2007). The entire homeroom peers of students A and B were both given similar trainings with some exceptions made for the age differences of peers.

The video, *A is for Autism, F is for Friend*, on youtube.com, was shown to them and stopped in appropriate places to discuss specific behaviors of the student with ASD. The video was mainly based on sensory differences. Another main message of the video was to help them understand that despite these differences, children with autism can be friends because they have similarities as well. After the video was shown to the students, they participated in an activity. This activity was to help them understand what the student with ASD may feel and experience in the classroom. They were asked to draw a picture of something they could do with student A or B. While they were drawing they experienced a sensory overload with the lights flickering, music blaring loud and soft and teacher directions were difficult to understand. Discussion followed this activity and it was related to how the student with autism may feel and experience these types of sensory experiences even when the classroom appears normal to the other students. The students with autism in their classrooms do have heightened senses. Most

students seemed to understand the purpose of the activity and they asked many good questions. Some students appeared to already be very in tune with their classmate with autism and had made good observations. Both classroom teachers were very interested and also asked good questions.

General observations immediately following the sensitivity training, which did not include taking data, seemed to indicate a spike in overall interactions and interest in the students with ASD. One of the students in 5th grade often asked student B to accompany him to get the mail everyday from the office. He often engaged in fist bumps and attempts to converse with him in the hallway. The students in 2nd grade also were observed seeking out student A and were observed holding his hand and playing tag type games at recess. Some of the students hold his hand on the way to lunch as well and want to sit by him while eating their lunch.

Small Group Social Skills Training

The social skills group was held in the speech and language classroom at Iowa-Grant Schools, to insure privacy and structure. The first session with the four peers from each homeroom was without the student with ASD present. There were four main target areas selected to teach them. They included; first and then concept, keeping the student engaged by facing the group, using short phrases and using non-verbal cues to help the student. The first-then technique uses an object or picture cue to help the student with ASD know what to expect. This researcher acted similarly to student A and B and we helped the students work through what to do and say to the students with autism. This researcher knows the students very well so behaviors and language were easy to immitate. The first two activities were chosen and the group engaged in role playing of the second session which will include the child with autism. Actual role playing was part of the first session so the peers could practice what to say and do.

Both groups was very productive during the "practice" session and the students were interested and motivated.

Social groups

The first actual session included the student with autism, two classmates, the speech therapist and this researcher. The peers were engaged, willing to take instruction and seemed to enjoy the interactions with the student with ASD.

Data was taken during the first session with student A for a duration of 15 minutes. (appendix F) Student A did not engage in eye contact, there were no instances of verbal interactions, one instance of non-verbal interaction and parallel play almost during the whole session. His verbal language was mainly echolalic in nature. His non-verbal interactions mainly consisted of attempts to take their game pieces and toys away. Initially the peers were going to let him and they had to be encouraged not to let him do this. Cooperative play that involved give and take of ideas was not observed. It was noted that during the first sessions there was little eye contact or physical contact made between the peers and the student A. A few changes were made to increase these interactions such as, sitting on the floor and getting a smaller table. Giving high fives and touching to gain attention were also encouraged.

Data was also taken for a duration of 15 minutes during the first session with student B. Appendix F was also used. Student B made eye contact two times with a student and one time with the speech therapist. He had five verbal interactions/responses which mainly consisted of yes and no answers. He responded to peers and did what they asked him to do. He engaged in parallel play which consisted of playing a game. Student B did not initiate any interactions. On two occasions student B started to turn away from the group but the peers were instructed to guide him back to the table.

During the next 5 weeks each student with autism participated in the social group with alternating groups of two students from each classroom. The sessions were organized with one structured activity which usually consisted of a game followed by a less structured activity such as bowling, playing with a toy house or action figures. Toys and activities were age appropriate for each group. The peers were given reminders throughout the group sessions on what to do to help the students with ASD.

Informal Observations of Social Groups

The peers chosen seemed to be ideal and were more than willing to participate and listen to this researcher and the speech therapist. They appeared to learn from each session and take their role seriously. After the first two sessions they needed less prompting to try and help the child with ASD engage and participate in the activities. The adult facilitators attempted to give the students time to solve minor problems instead of giving assistance immediately. The students with ASD listened to the peers and they were often able to get the students with autism back on task if their attention wandered or if they turned away from the group. During one session, Student B made direct eye contact with one of the peers and said something to him. The peer was ecstatic and told his classroom teacher all about it. He said "It was huge!" This peer seems to understand the little things count and how difficult it is for students with autism to make eye contact. The sessions went without too much difficulty with all students being cooperative. One session with student A was somewhat difficult most likely because his routine was different due to a busing issue. Despite his agitation, the peers were able to get him to participate without too much difficulty. The peers became more confident with their interactions and they started to remember how to handle various situations and they responded with extreme appropriateness. They had the most difficulty talking in shorter sentences and almost all of the

peers needed many reminders to do this. The peers did an excellent job of giving choices after it was modeled by the facilitators. Once they started to become comfortable guiding with physical cues such as pointing or gently guiding the student this became more and more frequent.

During the last session with student A, data was taken of the amount and type of interactions that occurred. They participated in a turn taking game involving matching shapes and a free play activity which involved playing with a toy house and filling it with furniture and dolls. Student A was engaged in the game and responded to redirections by his peers. He attempted to go out of turn and take their shapes and the peers were able to gently guide him to appropriate behavior with simple cues and guiding his hand. They needed just subtle hints by the facilitators. Student A and his peers engaged in four instances of eye contact, three verbal interactions which involved asking questions and student A either imitated or he answered. There were two non-verbal interactions including the peers rubbing his back and guiding his hand and parallel play was evident throughout the session. Student A did initiate a non-verbal interactions involving moving a peer's hand from his shoulder. Even though this is somewhat negative it does show an awareness of their presence.

During the last social group session with student B there was data taken and the amount and type of interactions that occurred. There was three incidents of eye contact, four incidents of verbal interactions, three incidents of non-verbal interactions and two incidents of parallel play. The session involved two activities, a structured activity involving a pretend grocery store and a free play type of activity with Christmas music and decorating the tree. The peers are very comfortable with student B and have learned how to give him choices when he doesn't respond. They still need to work on giving him some "think" time and to slow down when they talk to him. They have become really good at encouraging non-verbal interactions such as fist bumps

and high fives. It is really fun to watch them together! Imitation was not on the observation checklist but it was observed during this session. The peers started to dance and student B imitated them. This truly delighted the peers and they continued to attempt to get student B to imitate them. After a while student B did turn his back to them and continued with the task of decorating the tree. Student B appears to trust the peers in the social group and will often listen to them when he wanders or turns away. At one point while playing store student B walked away and sat in a beanbag chair. The peers were able to get him back on task without much adult assistance.

Lunch and Recess Observations

Final observations of lunch and recess social behavior occurred after the peer sensitivity training and the five weeks of social groups with peers and the students with ASD. Student A demonstrated five total incidents of eye contact, two non-verbal interactions and three incidents of parallel play. Both non-verbal interactions were initiated by student A. One non-verbal interaction was to slap a child during lunch time. Even though this is a negative behavior he is starting to notice peers around him. Student A was agitated during this lunch because he did not have chips in his lunch as he always does every other day. The other non-verbal interaction occurred when student A held his hand out to run with another peer at recess. This appears to be a very good indication of wanting to interact with peers. The peers and student A have been running together most recesses since this project began so the interaction could be a reaction to predictable behavior from the peers but it also could suggest student A wants this social interaction to occur.

Student B was also observed during lunch and recess after the sensitivity training and the five weeks of social groups. Student B engaged in six incidents of eye contact, 10 incidents of

non-verbal interactions and 15 verbal interactions. Student B initiated one non-verbal interaction which involved taking a ball away from a peer, who happens to be one of the peers from the social group. This is a negative interaction but it shows awareness and wanting to be near peers. The verbal interactions and eye contact were mostly related to this incident and the peer interacting with student B to get the ball back. The peer was very patient but student B needed guidance from his assistant to give the ball back. Often times student B swings on his own during most of the recess so this was a good indication of him wanting to be near peers. There was no parallel play or cooperative play observed during this recess.

Chapter 4: ANALYSIS OF DATA

Comparison of Pre and Post Observations

Observations were taken during lunch and recess before sensitivity training and peer groups involving trained peers. This will be categorized as pre-observations. The sensitivity training occurred once in both classrooms with all potential peers of students A and B. Peer training was held once with four peers from each student's classroom. The social groups were held on five occasions for 30 minute sessions. Observations taken after the trainings and social groups will be categorized as post observations.

This table represents the pre and post observations taken during lunch and recess of student A.

Pre-observation	Interactions	Post-observations	Interactions	+/- number of interactions
Eye contact	5	Eye contact	5	+0
Non-verbal	4	Non-verbal	2	-2
Verbal	0	Verbal	0	+0
Parallel play	5	Parallel play	3	-2
Initiations	0	Initiations	2	+2
Total	14	Total	12	-2

Student A did not show much growth in his overall lunch and recess interactions after peer training and social groups. Eye contact did remain the same and he did continue to show some non-verbal interactions as well as parallel play. Cooperative play was not observed at all even though it was on the original observation checklist. The most significant increase was in social initiations made by the student with autism. This is a nice increase since initiating social skills was nearly non-existent with this student. One of the negative initiations involved slapping another student but the other initiation was very important. This initiation involved putting his

hand out for another student so they can run together at recess. The ability to reach out to another child and want interaction is very difficult for student A and to see this social skill on a short fifteen minute observation is very significant. Student A is very rigid with his routines and this observation was made on a day when one of his favorite foods was accidentally left out of his lunch. This caused student A some stress which possibly caused the slapping. His need for a structured routine and rigidity does impede his social interactions.

This table represents the pre and post observations taken during 15 minutes of lunch and 15 minutes of recess of student B.

Pre-observation	Interactions	Post observation	Interactions	+/- no. interactions
Eye contact	0	Eye contact	6	+6
Non-verbal	0	Non-verbal	5	+5
Verbal	2	Verbal	8	+6
Parallel play	1	Parallel play	0	-1
Initiations	0	Initiations	1	+1
Total	3	Total	20	+17

Student B made significant increases in all areas of interactions except parallel play. It is remarkable the number of interactions as the total number of increase from pre and post went up by 17 interactions. Student B went from zero initiations to one initiation but this interaction was also negative as he took a ball away from another child. This is significant because this negative interaction led to most of the verbal and non-verbal interactions observed. This researcher is hoping this student is seeking peer interaction and is starting to notice peers are around him and he is wanting to engage socially with them. The peers in student B's classroom are older than

Student A's and they have shown a definite interest in him and a genuine desire to interact with him. Student B has definitely benefitted socially from the peer training and sensitivity training.

This table represents the pre and post observations taken during the first and last social skills group with student A. The observations were taken after the peers were trained.

Pre-observations	Interactions	Post-observations	Interactions	+/- number of interactions
Eye contact	0	Eye contact	4	+4
Verbal	0	Verbal	3	+3
Non-verbal	1	Non-verbal	2	+1
Parallel play	2	Parallel play	2	+0
Initiations	2	Initiations	1	-1
Total	5	Total	12	+7

Student A made some nice increases with the number and types of interactions he made during social group. He went from zero to four instances of eye contact. Eye contact is very difficult for this student and he clearly made nice eye contact with this peer group when they were participating in the structured game. Most of these interactions were during the structured activity and only two were during the free play time. Student A seems to need structure in order to have social interactions because the number of interactions during the peer group was substantially higher than during lunch and recess. His one social initiation was again a somewhat negative reaction but it shows nice awareness to the other children that are near him. Parallel play was very consistent with the pre and post observations which is nice to see. The next step to cooperative play will be a big one for student A.

This table represents pre and post observations during the first and last social groups with student B. The pre-observations were taken after the peers were trained.

Pre-observations	Interactions	Post-observations	Interactions	+/- number of interactions
Eye contact	2	Eye contact	3	+1
Verbal	5	Verbal	4	-1
Non-verbal	0	Non-verbal	3	+3
Parallel play	2	Parallel play	2	+0
Initiations	0	Initiations	0	+0
Total	9	Total	12	+3

Student B showed a nice increase but not as much as he did during the unstructured time of recess and lunch. He also did not initiate any social interactions during the group time but he did participate in imitation of the peers. This was an unexpected behavior that was not on the observation forms. His non-verbal interactions with peers increased nicely and this is partially due to the comfort level of his peers. They seemed to enjoy doing fist bumps and high fives with student B and he participated in these interactions willingly. The students themselves thought of the fist bumping which is very age appropriate and a nice way to show affection with one another. Student B also participated in all parallel play type of activities with only a few instances of disinterest or looking away.

Chapter 5: SUMMARY AND CONCLUSIONS

This educational project addressing social skills in children with autism has been a very exciting and eye opening process. The wonderful peers involved in this project were excellent and not just the peers in the social group but most of the peers in each of the student A and B's classrooms. Students are naturally kind and caring towards one another and if given opportunity to help, they are willing. All the steps in this project seemed to be a good combination to assist the students with autism. The sensitivity training was an essential component as it gave the peers nice background knowledge of autism as well as a taste of what it might feel like to have autism. The caring attitudes and their sense of wonder started immediately after the sensitivity training. This set the tone for the whole project which was very positive.

The peers in the social groups were not only kind and caring but willing to learn and take direction from their teachers. They were not only interacting with student A and B during the group but many of them sought them out during recess, lunch and even in the classroom. One surprising outcome of this project was to see the students who were not trained peers learn from the peers who were trained. This researcher finds this amazing and very intriguing. The classroom teachers of both student A and B were also supportive but yet made sure the peers treated them with respect and as equals. One unforeseen outcome of this project was to observe student B during his specials classes. This student has a one on one assistant and she felt strongly that the peers could help him during specials (art, music and guidance). The assistant has slowly stepped away and his peers have helped him in just the right way during these special classes. They guide him gently and get him on task when needed. The special area teachers have also been willing to let this occur. Currently student B's assistant stands in the hallway and

waits for him in order to help with transitions after the specials. This was very much an unexpected outcome that is most likely related to the training of the peers.

The students with autism appeared to make nice social gains but in different ways. Student A seems to enjoy interacting in more structured settings and student B seems to interact much more during free choice and unstructured times. These students are very unique and their behavior can easily be affected by a change in routine, lack of sleep or sensory issues. They now have peers that understand them a little better and have been trained to help them in many different situations. This project occurred over five weeks but it will continue throughout the school year so hopefully the students with autism will make strides in noticing and interacting with their peers. This researcher feels very confident in saying that both students with autism included in this project have a friend, actually many friends, who truly enjoy being with them. What a gift these students have given their friends with autism.

APPENDIX A



UNIVERSITY OF WISCONSIN
PLATTEVILLE
 INSTITUTIONAL REVIEW BOARD

10/19/2012

Kim Bauman
 Sponsor: Daniel Leitch
 Department of MSE
 University of Wisconsin-Platteville

RE: IRB Protocol #2012-13-06

Project Title: Peer Training to Increase Social Skills in Students with Autism

Approval Date: 10/19/2012

Expiration Date: 10/18/2013

Your project has been approved by the University of Wisconsin-Platteville IRB via a Full board Review. This approval is subject to the following conditions, otherwise approval may be suspended:

1. No participants may be involved in the study prior to the IRB approval date listed above or after the expiration date.
2. All unanticipated or serious adverse events must be reported to the IRB.
3. All modifications to procedures, participant selection, and instruments used (surveys, consent forms, etc) must be reported to the IRB chair prior to their use.
4. If the project will continue beyond the expiration date, then the researcher must file for a continuation with the IRB at least 14 days prior to the expiration date. If the IRB approval for this project expires before approval for continuation is given, then a new protocol must be filled out and submitted. Federal guidelines allow for no exceptions to this rule. Any data collected after the expiration date cannot be used in the study.

If you have any questions, please contact the IRB chair at the address below. Include your protocol # on all correspondence.

Sincerely,

Dr. Barb Bamet

Dr. Barb Bamet
 Institutional Review Board Chair
 Professor, Mathematics Department
 Gardner 451
 University of Wisconsin-Platteville
 (608) 342-1942
 bametb@uwplatt.edu

APPENDIX B

Observation Checklist-

Observe social interactions between peers and student A.
Observations will occur for 15 minutes and tally amount of interactions.

Date:

Lunchroom Social Behavior	Tally Marks		Recess Social Behavior	Tally Marks
Eye contact			Eye contact	
Non-verbal Interactions (hugs, high fives)			Non-verbal Interactions (hugs, high Fives)	
Verbal interactions			Verbal interactions	
			Parallel or Cooperative Play	

Notes:

Interactions initiated by the student with autism will be described here. Any other unusually observations will also be noted.

APPENDIX C

October 20, 2012

Dear Parents/Guardians,

We are currently working with a student in your child's class on social skills including language and play skills. Your child's teacher has indentified your child as someone who may be able to help this student. We would like to have your child join us in the Speech and Language Classroom for the last 30 minutes of the day for approximately 3-4 Thursdays a month. We will teach him/her how to help this classmate with social skills as well as specific ways to talk and interact with this student. Your child may miss part of their normal guided study. Your child will act as a role model during different social activities and games.

This social skills training is part of an educational study under the guidance of UW-Platteville and it will be conducted by Mrs. Bauman. There will be some observations made of your child but their names will be not be used in this study.

Please sign below including your permission for your child to join the social skills group. This form can be returned to your child's homeroom teacher or to Mrs. Bauman. If you have any questions, please call us at 943-6311.

Thanks for your consideration of this very important project to help a student with special needs!

Mrs. Kim Bauman
Special Education Teacher

Mrs. Dawn Merth-Johnson, M.A.,CCC-SLP
Speech Language Pathologist

** Please note-If you have concerns about how you were treated in this study, please contact: Kathryn Lomax, Director, Office of Sponsored Programs (342-1456; lomax@uwplatt.edu)."

_____ has my permission to be involved in this project.
(student name)

_____ does not have my permission to be involved.
(student name)

(parent signature)

(date)

APPENDIX D

Dear Parents,

We wanted you to be aware of the educational project and study we are about to begin.

Your child's classmates will be involved in peer sensitivity training. This training involves educating peers about autism and celebrating similarities and differences between your child and the other students in the in their class. We will be showing them a short video clip called A is for autism, F is for friend. This video is available for you to view on youtube.com. We will also be doing a short activity with the class on what it might feel like to be a child with autism in the classroom. This is mainly to help them realize the sensory overload some children with autism may experience.

After the sensitivity training, we will be training four students from your child's class on how to interact and play with your child. Two of the four students plus your child will participate in a social group playing games and doing other fun activities. The next time the other two students will participate. The social skills group will meet once a week. We are hoping to make new friends, increase your child's social language skills and have fun playing together.

This is an educational study Mrs. Bauman will be conducting under the supervision of UW-Platteville. There will be some observations and data collected but your child's name will not be used.

Any questions please do not hesitate to call or e-mail Mrs. Bauman

Sincerely,

Mrs. Bauman and Mrs. Merth-Johnson

APPENDIX E

October 22, 2012

Dear Parents/Guardians,

Your child's class will be involved in peer sensitivity training. This training is meant to help build positive relationships by respecting each other's differences but also understand they have many similarities.

The main focus of this training is to help the students become aware of autism and why students with autism behave a certain way. They will be shown a video called A is for autism, F is for friend. This video clip is on youtube.com if you would like to view it. This video mainly relates to the differences in senses that a student with autism may experience. The students will also participate in an activity in which they may realize what a student with autism may feel or experience in the classroom.

We are encouraging kindness and acceptance of all students in the classroom.

This training is part of an educational study conducted by Mrs. Bauman with the assistance of Mrs. Merth-Johnson. The study is the under the supervision and approval of UW-Platteville. If you have any questions please feel free to e-mail or call Mrs. Bauman.

Sincerely,

Mrs. Bauman

APPENDIX F

Peer Group Observations

Date:

Observations will be for 15 minute intervals

Tally marks will be used to indicate the total number of interactions noted between student A and peers

Eye Contact	Verbal Interactions	Non-verbal interactions (high fives, hugs, Cues)	Parallel or Cooperative Play

Number of interactions initiated by student A

Tally marks will be used as an indicator of the number of times

Eye Contact	Verbal Interactions	Non-verbal interactions (high fives, hugs, cues)	Parallel or Cooperative Play

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