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**THE EFFECT OF SOCIAL STORIES ON THE POSITIVE PLAY BEHAVIORS
AND SOCIAL INTERACTIONS OF PRESCHOOL STUDENTS WITH
DEVELOPMENTAL DISABILITIES**

by

Lauren Lee DiVittorio

A Thesis

Submitted to the
Department of Interdisciplinary and Inclusive Education
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in Special Education
at
Rowan University
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Thesis Advisor: Amy Accardo, Ed.D.

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Dedications

I would like to dedicate this manuscript to my students who have inspired me to become a better teacher and advocate for those with special needs and to my sons Andrew and Liam.

Acknowledgments

I would like to express my deepest appreciation to Dr. Amy Accardo for her guidance and assistance throughout this research. The skills and practice I have gained I are invaluable and will assist me with my future educational endeavors.

I would also like to thank my supportive and amazing husband and children for being patient and understanding through this process; and for believing in me, even during the toughest days. Their love and support has inspired me to work my hardest, try my best, and I hope that my hard work will inspire my children to work just as hard to reach their own goals and dreams.

Finally, I would like to thank my beautiful and inspirational students as they have taken a piece of my heart and motivated me to complete this process to become a better teacher and continue to help others succeed.

Abstract

Lauren DiVittorio

THE EFFECT OF SOCIAL STORIES ON THE POSITIVE PLAY BEHAVIORS AND
SOCIAL INTERACTIONS OF PRESCHOOL STUDENTS WITH DEVELOPMENTAL
2018-2019

Amy Accardo, Ed.D.

Master of Arts in Special Education

The purpose of this single subject design study was to determine the effectiveness of social stories on the positive play behaviors and social interactions of preschool students with developmental disabilities. The satisfaction of staff members with the implementation of social stories in the classroom was also examined. Preschool students in the study showed an increase in positive social interactions including turn-taking, using verbal and non-verbal communication to express their feelings during play, and overall positive play behaviors after implementation of social stories. Staff members reported positive social validity of the intervention. Implications for using social stories with preschool students with developmental disabilities are discussed.

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Chapter 1

Introduction

Estimates show that one in six children in the United States have one or more developmental disabilities. Developmental disabilities are conditions stemming from physical, learning, language, or behavioral impairments (Crozier & Tincani, 2006). These conditions begin during the developmental period, may impact day-to-day functioning, and usually last throughout a person's lifetime (Crozier & Tincan, 2006). Autism spectrum disorder (ASD) is characterized as a developmental disability and defined as a serious neurodevelopmental disorder that impairs a child's ability to communicate and interact with others (Crozier & Sileo, 2005). Individuals with ASD may exhibit restricted repetitive behaviors, interests and activities (American Psychiatric Association [APA], 2013). Such behaviors cause significant impairment in social, occupational and other areas of functioning (APA, 2013). Early intervention is critical to providing children with disabilities with a strong and supportive base for educational and life skills (Crozier & Tincani, 2006).

Statement of the Problem

Preschool students with developmental disabilities often struggle with the ability to understand another person's perspective, which can lead to problem behavior and social deficits (Wright & McCathren, 2012). Problem behavior in children with developmental disabilities may include screaming, crying, aggression, and self-injury (Wright & McCathren, 2012). Children with developmental disabilities often exhibit social difficulties including decreased eye contact, an inability to interact with peers or

form friendships, poor play skills, and poor appreciation of social cues (Wright & McCathren, 2012). Many children between 3 to 5 years of age enter preschool with the need for strategies to increase social/emotional growth and development (Scattone et al., 2006). For example, children with expressive language delays often exhibit challenges with sharing, turn-taking, and social areas of learning and play because of difficulties with expressive language skills (Sansoti & Powell-Smith, 2008). These skills are critical as a base for socialization, cooperation, and academic achievement (Wright & McCathren, 2012). An effective tool to assist developing appropriate social behaviors in young children is social stories (Hagiwara & Myles, 1999).

The challenges of social interactions for children with ASD and other developmental delays can be profound and severe (Gray & Garland, 1993). There has been a significant increase of strategies put in place to help students with developmental delays understand positive social situations however adult support, modeling, and teacher prompts are often needed (Scattone, Tingstrom, & Wilczynski, 2006). To date, social stories are identified as effective behavioral interventions that focus on decreasing inappropriate behaviors in young children. These behaviors include aggression, screaming, difficulties with sharing, turn-taking, and grabbing toys (Gray & Garland, 1993).

Social stories may be a beneficial intervention for children with developmental disabilities for multiple reasons. First, social stories model the relevant components of a given social situation (Gray & Grand, 1993). For example, a social story about turn-taking could be used for a student who grabs toys away from other children. Second, social stories help explain confusing situations and help lessen related anxiety and

problem behavior (Wright & McCathren, 2012). Third, social stories use visual learning, which is often a strength of students with developmental disabilities (Wright & McCathren, 2012). Finally, social stories provide children strategies for waiting, playing cooperatively, behaving in particular situations (Wright & McCathren, 2012). In guidelines for social story use, Hagiwara & Myles (1999) explains that social stories are most appropriate when presented on one piece of paper without the use of visual stimuli. Social stories should be individualized for each student and; contain one sentence per page to minimize the amount of information students receive at any one time (Hagiwara & Miles, 1999).

Significance of the Study

A child that is delayed in a specific area of development may benefit from the use of social stories (Scattone et al., 2006). The present study builds on the research of Wright and McCathren (2012), Crozier and Tincani (2006), and Sansoti and Smith-Powell (2008) by using social stories with students with developmental disabilities at the preschool level. Providing children with research-based motivating tools, such as social stories, may increase positive social interactions, allow children to gain a stronger understanding of social rules, and strengthen effective play among peers (Wright & McCathren, 2012). Learning prosocial behaviors may ultimately allow students with developmental disabilities to work and cooperate successfully in small-group learning activities; as well as build peer relationships (Gray & Garland, 1993).

The use of social stories in the present study may have an impact on the prosocial behaviors of preschool students with developmental disabilities by increasing initiating of

social activities, increasing flexibility during social activities, and increasing appropriate greeting behavior. Because of impairments in communication and social interaction skills, students with developmental disabilities are vulnerable to developing inappropriate behaviors. Inappropriate behavior among students with developmental disabilities can negatively impact their relationship with peers, as well as disrupt their development and learning. The implementation of social stories in the present study will allow for further research on the topic and assist children with behavioral strategies through an instructional shift from reducing inappropriate behaviors to a more global focus on improving social behaviors and student quality of life outcomes.

Purpose of the Study

The purpose of the study is to determine if the use of social stories will increase pro-social behaviors in preschool students with developmental disabilities. Student behaviors both prior to, as well as with the implementation of social stories, will be investigated.

Research Question

Research questions investigated in this study include:

1. Will the use of social stories increase the turn-taking behavior of preschool students with developmental disabilities?
2. Will the use of social stories increase the social language use of preschool students with developmental disabilities?

3. Will the staff members be satisfied with the use of social stories to increase the social behavior of preschool students with developmental disabilities?

Hypothesis

I hypothesize that all preschool students within this study diagnosed with developmental disabilities will show an increase in appropriate behaviors when socially interacting with or near other peers, with the use of social stories. This includes turn-taking, using appropriate language to express feelings and wants, and to solve social problems that occur during play. I believe that the modeling and clear, direct language and prompts used within social stories, will provide preschool students with the tools they need to strengthen social interactions.

Key Terms

For purposes of this study, *social stories* will be defined as “individualized short stories designed to increase appropriate social interactions of children with ASD by teaching them the relevant components of a given social situation (Scattone, Tingstrom, & Wilczynski, 2006, p. 211).

For the purpose of this study, *Early Intervention* will be defined as a “multidisciplinary, coordinated, and natural environment based system (i.e., least restricted environment) of service provision to eligible children birth to 3 or 5 years of age and their families; provided under the U.S. Individuals with Disabilities Education Act, Part C. Services are designed to address identified developmental delays and at risk situations of the child and/or the family (Hardman, Drew & Egan, 2008, p.63).

Chapter 2

Review of the Literature

As a result of increasing prevalence, students with developmental disabilities and ASD are increasingly being educated in inclusive settings (Spencer, Simpson, & Lynch, 2008). Developmental disabilities include impairments in physical ability, learning, language, or behavior that begin during the developmental period, impact day-to-day functioning, and usually last throughout a person's lifetime (Reynhout & Carter, 2006). A lack of theory of mind, the ability to infer what other people think and feel, has been proposed to account for the social impairments experienced by individuals with developmental disabilities (Kuo & Mirenda, 2003).

ASD Diagnostic Criteria

DSM-5 ASD diagnostic criteria is characterized by persistent deficits in social communication and social interaction across multiple contexts, as manifested by deficits in social-emotional reciprocity, nonverbal communicative behaviors used for social interaction ranging from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language, or deficits in understanding and use of gestures (American Psychiatric Association (APA), 2013). Diagnostic criteria also include deficits in developing, maintaining, and understanding relationships, stereotyped or repetitive motor movements, inflexible adherence to routines, ritualized patterns, strong attachment to or preoccupation with unusual objects, and hypo- or hyperactivity to sensory input or unusual interests in sensory aspects of the environment (APA, 2013).

The characteristics of ASD occur on a continuum of impairment from mild to severe (Crozier & Sileo, 2006).

Needs of Children with ASD

Social skills are complex, and even individuals diagnosed with ASD who are high functioning often experience considerable difficulty in social situations (Quirnbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008). Because of impairments in their communication and social interaction skills, children with ASD are vulnerable to developing inappropriate behaviors (Kuoeh & Mirenda, 2013). They may become aggressive toward or withdrawn from others, demonstrate self-injurious behaviors, and experience considerable difficulty in social situations (Kuoeh & Mirenda, 2013).

Inappropriate behaviors among students with ASD can negatively affect their development and learning (Kuoeh & Mirenda, 2003). Poor social behaviors such as lack of awareness of others or poor eye contact, may hinder individuals with ASD and other developmental disorders from actively participating in simple play or games (Quirnbach et al., 2008).

Students with ASD need support with decreasing fear, aggression, and obsessions, and increasing positive prosocial behaviors and academic skills (Scattone et al., 2006). Children with ASD do not tend to initiate social contact or play interactively with peers, which may be due to a lack of understanding of social norms (Quirnbach et al., 2008). Younger individuals may have little to no interest in establishing friendships, complicating social interactions and limiting building relationships with others (Quirnbach et. al., 2008).

Preschool Students

The first few years of a child's life are a particularly important period in the process of development, and laying a foundation for cognitive functioning behavioral, social, and self-regulatory capacity and physical health is essential (Berk, 2008). Social and emotional development is a critical area in which children learn to acknowledge and manage their emotions and recognize the emotions of others (Gunter, Caldarella, Korth, & Young, 2012). Social and emotional development also allows for good decision making, handling challenges and situations effectively, developing empathy towards others, and establishing positive friendships (Gunter et al., 2012). Preschool students, both typically and atypically developing, often have difficulty understanding other's emotions or perceptions, and display egocentric behaviors (Berk, 2008). Preschool children have a literal thinking capacity and may not display appropriate reasoning skills (Berk, 2008). Preschoolers also display their emotions in ways that they understand, for example frustration, anger, and quarreling is quite common among preschool-aged children (Berk, 2008). Children may display challenges with the concept of self-control and lack the skills to verbally express their emotions or feelings; leading to upsets and tantrums (Berk, 2008). Through repeated exposure and practice with positive social experiences, children can learn techniques to manage their emotions, recognize the emotions of others, and have positive prosocial interactions with peers (Gunter et al., 2012). Children often need direct prompting, modeling, and strategies to learn how to initiate appropriate social interactions and develop friendships (Gunter et al., 2012). Often, "talking through" a situation with the help of an adult, allows a child to gain a

better understanding of their feelings and resolve conflicts among their peers (Berk, 2008).

Early Interventions

Early Intervention improves and enhances the development of a child with delays, special needs, or other concerns and provides assistance and support to families (Berk, 2008). The Individuals with Disabilities Education Act (IDEA, 1991) strengthened early intervention services for students, by emphasizing the value of family-focused programs in schools, prevention strategies, and better coordination and transition of services (Majnemer, 1998). “Eligibility criteria for early intervention programs include those diagnosed with a condition with an established or known risk for delay, children with a developmental delay determined by standardized instruments, and those at environmental or biological risk that are likely to develop disabilities without interventions” (Majnemer, 1998). Teachers often face challenges with implementation of effective classroom interventions for children with developmental disabilities that foster their social development (Sansosti, Powell-Smith, & Kincaid, 2004). The increase of students with developmental disabilities requires an immediate response of establishing effective strategies and supports for children (Sansosti et al., 2004). Approaches that focus on teaching functional skills that result in long-term lifestyle changes for students with ASD are critical (Sansosti et al., 2004). Social skill training and teaching prosocial behaviors to children with ASD is beneficial and needed for their development (Sansosti et al., 2004). An intervention that incorporates these components is the use of social stories.

Social Stories

Social stories can be defined as “individualized short stories designed to increase appropriate social interactions of children with ASD by teaching them relevant components of a given situation” (Scattone et al., 2006, p. 211.). Since the early 1990’s, social stories have been used to increase the prosocial development of children with ASD (Sansosti et al., 2004). Social stories have shown to be successful when applied to a variety of negative behaviors including aggression, screaming, grabbing toys, using inappropriate behaviors, and crying (Scattone et al., 2006).

Crozier and Tincani, (2006) outline the four basic types of social stories that are found to be effective in previous research. They include *descriptive* social stories, *perspective* social stories, *affirmative* social stories, and *directive* social stories. A social story that is descriptive, provides factual information. A perspective story provides thoughts and feelings of other individuals. An affirmative story is used to reassure the student; and a directive story provides instruction for the student on what to do in a given situation (Crozier & Tincani, 2006).

Prior Research on Developmental Disabilities and Social Stories

Scattone, Tingstrom, and Wilczynski (2006) conducted a study to investigate the effect of social stories on increasing appropriate social interactions of children with ASD. Participants included three children diagnosed with low to high functioning autism. Children were provided social stories that were created in a book-like format and written in first person point of view. The stories included appropriate social interactions consisting of initiations and responses designed specifically for the children’s behaviors

observed during free-play time (Scattone et al., 2006). The stories were designed to increase the quantity of the children's appropriate interactions with peers. The researchers used a multiple baseline across participants design to investigate the effectiveness of social stories when used as a sole intervention to increase social interactions in children. During baseline data, the participants in the study showed few social interactions among peers that were appropriate (Scattone et al., 2006). During the intervention, teachers were instructed to read the social stories to the students one time per day, 5 days per week, just prior to their scheduled play-time. Results showed 2 of the 3 children improved significantly with appropriate social interactions with the use of social stories. In both children, improvements occurred with appropriate play and social interactions (Scattone et al., 2006).

Similarly, in a study conducted by Crozier and Tincani (2006) social stories used with three preschool students with ASD were found to increase social behavior among peers and increased positive behavior, including keeping hands to themselves and sitting at circle time. The social stories described appropriate behaviors and were typed at 14-point with one sentence per page on 8x11 in. white paper to create a book (Crozier & Tincani, 2006). The stories were written in accordance with Gray's (1995) social story guidelines (Crozier & Tincani, 2006). Crozier and Tincani (2006) report a functional relationship was established between the target behavior and the intervention. Each student increased prosocial behavior with peers, including verbal interactions, and sat at circle time for a longer period of time (Crozier & Tincani, 2006). The results corroborate the findings of Scattone, Tingstrom, and Wilczynski (2006) in that the use of social

stories increased prosocial and positive behaviors in children with developmental disabilities.

Sansosti and Powell-Smith (2008) conducted a study to investigate the effect of social interactions and communication skills using social stories introduced to students on tablets and computers. Participants included three children with low to high functioning autism and the researchers used a multiple baseline across participants design (Sansosti & Powell-Smith, 2008). During the intervention phase, each participant viewed a video-modeled social story about prosocial communication behaviors prior to the targeted social setting e.g., recess and lunch (Sansosti & Powell-Smith 2008). Results showed improvement in all participants. Sansosti and Powell-Smith (2008) noted the effects were increased for one of the three participants when verbal prompts and modeling were added to the intervention. The use of multiple intervention strategies such as prompting, modeling, role playing, and rehearsing ideas from the social stories showed a greater impact on the student's success when implemented (Sansosti & Powell-Smith, 2008).

Findings of Sansosti and Powell-Smith (2008) align with the findings of Hagiwara and Myles (1999) in which a computer-based social story was found to be effective in teaching the task of hand washing to three young children with severe autism (Hagiwara & Myles, 1999). A multiple baseline across participants design was used to analyze the effects of social stories on teaching skills to young children with ASD (Hagiwara & Myles, 1999). Similar to Sansosti and Powell-Smith (2008) during the intervention phase, the use of verbal prompts and modeling along with social stories demonstrated an increase of 100% success observed for one of the three participants (Hagiwara & Myles, 1999). The overall results showed that the use of social stories with

verbal prompting and modeling was effective for each participant in the study (Hagiwara & Myles, 1999).

In contrast Ozdemir (2008) found that using solely social stories with three young students with ASD without additional prompts or interventions, increased appropriate social engagement in participants. Ozdemir (2008) found that removing strategies, such as prompting techniques, reduced the potential for confounds within the study. Ozdemir (2008) concluded that the social story intervention was primarily responsible for the change in the duration of appropriate social engagement and play of three children with ASD participating in the study. A multiple baseline across participants design was used to examine the effects of social stories on the appropriate social engagement of children with ASD (Ozdemir, 2008). The study resulted in increases in duration of appropriate social engagement for all participants following the social story intervention (Ozdemir, 2008). Ozdemir (2008) also notes that the study lends support to the notion that children with ASD, specifically young children with ASD, can be taught and learn appropriate social engagement (Ozdemir, 2008).

Conclusion

The most pervasive and challenging feature of developmental disabilities is the deficit in social skills (Scattone et al., 2002). While typically developing children may gain social skills by observing others in the classroom, individuals with developmental disabilities often have difficulty in social stimuli and social interactions (Scattone et al., 2002). Appropriate social skills must be acquired by children with ASD to reach the long-term goal of functioning independently in the community (Ozdemir, 2008). Given

the unique social needs of children with ASD, social stories provide an effective strategy to improve social competence and prosocial behaviors (Ozdemir, 2008). Strategies that increase functional life skills and social interactions in children with developmental disabilities, are effective practices to use in the classroom Scattone et al., 2002).

The challenges of social interactions for children with ASD and other developmental delays can be profound and severe (Gray & Garland, 1993). There has been a significant increase of strategies put in place to help students with developmental delays understand positive social situations however adult support, modeling, and teacher prompts are often needed (Scattone, Tingstrom, & Wilczynski, 2006). To date, social stories are identified as effective behavioral interventions that focus on decreasing inappropriate behaviors in young children. These behaviors include aggression, screaming, grabbing toys, difficulties with sharing, and turn-taking (Gray & Garland, 1993). The use of social stories in the present study may have an impact on the prosocial behaviors of preschool students with developmental disabilities by increasing initiating of social activities, increasing flexibility during social activities, and increasing appropriate greeting behavior. Because of impairments in communication and social interaction skills, students with developmental disabilities are vulnerable to developing inappropriate behaviors that can negatively impact their relationship with peers, as well as disrupt their development and learning (Ali & Fredrickson, 2006). The use of social stories in the present study will assist children with developmental disabilities with behavioral strategies used for improving social behaviors and student quality of life outcomes.

Chapter 3

Methodology

Setting

The study was conducted in a public preschool, in a western new Jersey school district. The school contains 32 classrooms, including small group instruction rooms and specialized spaces such as a library media center, a gym, two technology labs, enrichment and art rooms, two enclosed courtyards and a large outdoor play space. In addition to the eighteen preschool classes located within the school, community preschool providers, including Head Start and ABC Playschool are also an integral component of the preschool program. These providers offer additional classrooms to provide for our large preschool population and extended care, while following the Phillipsburg School District's designated program, Creative Curriculum.

The early childhood learning center consists of approximately 500 students between preschool and kindergarten enrollment. Of this population 14% of students have an IEP and receive special education services. The school is a Title 1 school and 70% of students are considered to be economically disadvantaged. The school has a diverse population of students. According to the New Jersey Performance Report (New Jersey Department of Education, 2017), 52% of the students are Caucasian, 24% are Hispanic, 14% are African American, 2% are Asian, and 8% comprise of two or more races.

The study took place in two inclusive preschool classrooms. Both classrooms have a general education teacher and a special education teacher. Each classroom has a morning classroom assistant teacher and an afternoon classroom assistant. In classroom A, there is also a personal one-on-one assistant to one of the students presented in the

study. There are 14 students in classroom A; four of which have an IEP and receive special education services. There are 12 students in classroom B; 2 of which have an IEP and receive special education services. The classrooms are across the hall from each other and the special education teacher splits the day working with students between the two classrooms. The classrooms are designed with materials to provide the Creative Curriculum. There are interest centers set up in the room, including an art area, reading area, dramatic play area, sand and water table, block area, science/discovery center, and table toys or manipulatives. Play and hands-on learning experiences are at the core of the curriculum and developmentally appropriate practices and materials are used.

Participants

This study included four preschool students enrolled in a full-time inclusion classroom. All participants were male students between the ages of 3-5 years of age. All students in this study were classified as having ASD or other developmental disabilities. The students were found eligible for special services under their classified diagnosis from their neurodevelopmental pediatric doctors. All participants in the study have an IEP to meet their individualized needs. Table 1 presents the general participation information.

Table 1

General Information of Participating Student

Student	Age (Years)	Grade	Classification
1	5	Pre-K	Preschool Student with a Disability-ASD
2	3	Pre-K	Preschool Student with a Disability-Significant Language Delays
3	4	Pre-K	Preschool Student with a Disability-Significant Language Delays
4	3	Pre-K	Preschool Student with a Disability-ASD/Significant Language Delays

Participant 1. Participant 1 is a five-year-old male student who is of multi-racial descent (African American and Caucasian). The student is eligible for special education services under the classification Preschool Student with a Disability/ASD. This is the student’s third year in preschool and he will be entering Kindergarten in the 2018 school year. The student is very high functioning, and displays strong academic skills that are near Kindergarten academic levels. The student is part of the school’s applied behavior analysis (ABA) program and receives ABA support for 30 minutes daily. The student is cooperative when asked to complete tasks and enjoys playing in the block area building towers. The student has acquired many strategies for positive play and social interactions; however, when he becomes upset, he will run away and throw his body on the floor; push items off shelves, and knock over chairs. Triggers include other children touching his toys or his body as well as peers who enter his personal space.

Participant 2. Student 2 is a 3-year-old Caucasian male. He is eligible for special education under the classification Preschool Student with a Disability. The student is described as being active and affectionate. The student enjoys exploring all areas of the classroom, but struggles during periods of time that require sharing, cooperative play, and interaction with peers. His receptive language is strong; however, he finds it difficult to communicate and it often leads to screaming, crying, or hitting other children. This is the student's second year of preschool.

Participant 3. Student 3 is a 4-year-old Caucasian male. He is eligible for special education under the classification Preschool Student with a Disability. Teachers describe him as cooperative and showing an interest in learning and school. He is focused during classroom activities and he enjoys playing with the blocks and puzzles in the interest areas. The student has significant communication and language delays. His receptive language is strong and he is beginning to use techniques learned in speech therapy to communicate more effectively with others. This is the student's second year of preschool.

Participant 4. Participant 4 is a 3-year-old Hispanic male who is eligible for special education services under the classification Preschool Student with a Disability/ASD. This is the student's first year attending a preschool program. The student is described by teachers as very active, excited to be at school, and independent. The student is actively involved in the classroom; however, displays difficulties with positive peer interactions. The student struggles with sharing, turn-taking, and waiting

for a turn. He grabs toys out of the hands of other children, becomes aggressive at times when upset, and struggles to express his wants and needs in the classroom. The student can be impulsive at times and hit other children when he wants a toy they have and knocks down structures other children have built. The student struggles with leaving a desired activity to a less desired activity to complete a task and will become upset as well as drop to the floor, screaming, and kicking teachers. The student is motivated by music and enjoys to dance and sing. When music is playing in the classroom, he becomes more socially inclined with his peers and teachers.

Research Design

A multiple baseline across participants design was used to assess changes in social interactions and positive play skills with the implementation of social stories. Five baseline data points were obtained for student 1; ten baseline data points were obtained for student 2; fifteen baseline data points were obtained for student 3, and 20 baseline data points were obtained for student 4; staggering introduction of the intervention for each student. Baseline data were obtained during a 15-minute observational period each day during free-choice time without any manipulations or instructions from the teacher.

Materials

For each participant, an individualized social story was developed. Each social story provided the participant with the appropriate social initiations and responses he was expected to make with his peers during free-choice time. The author wrote into the stories appropriate social interactions that consisted of initiations and responses that she

had previously observed typical peers make during free-choice time. These social stories were designed to increase the quantity of the child's positive play behaviors and appropriate social interactions with peers. The author followed Gray & Garland (1998) social story construction guidelines. The pages of the social story were typed on white paper using 16-point font, mounted onto construction paper and compiled into a book-like format. One to two sentences were typed on each page and were written in first person point of view. One small illustration was included on the page to show an example of the appropriate behavior (e.g. a child handing a toy to another student). Illustrations were not used on every page in an effort to isolate the effects of social stories when used alone, without any other interventions.

Procedures

The social stories were introduced to the first student after five data points had been obtained and while baseline data collection continued for participants 2-4. Baseline and intervention data on positive play and social interactions were collected during one 10-minute free-choice activity per day for approximately six weeks until each student entered the intervention phase. During the observations of the student's interactions, the observer simply marked each interval in which an appropriate social interaction occurred. A data collection table was used to collect data on positive social interactions and to log student use of social language for each student during each phase. Resulting data prior to and with the intervention was compared to determine the effects of social stories on positive social interactions and use of social language.

Measurement Procedures

For all participants, an *appropriate social interaction* was defined as a verbal, physical, or gestural initiation or response to a peer (e.g., handing a toy to a peer or receiving something from a peer); continued engagement in the same activity as the peer (e.g. both drawing, playing at the sand table, or building blocks); a physical gesture such as nodding or showing an emotion or verbal indication to demonstrate approval or disagreement; or expressing frustration or satisfaction through the use of simple words (e.g. *My turn, I'm mad, Here, your turn*); without physical anger.

Data Analysis

The effectiveness of the intervention was assessed on participants' social interactions and turn-taking by measuring the percentage of intervals of appropriate social interactions exhibited by each participant during 10-minute observations across baseline and intervention phases. Appropriate social interactions were graphed for each participant daily as a percentage of intervals. Changes in level, variability and trend for data points were inspected during baseline and intervention phases. A comparison of results between phases assisted in determining the effects of social stories on the positive play behaviors and social interactions of preschool students with developmental disabilities.

Chapter 4

Results

Summary

In this single subject, multiple baseline across participants' design study, the effects of social stories on the positive play behaviors and social interactions of preschool students with developmental disabilities were examined. Four preschool students from two classrooms participated in the study. The research aimed to consider if the use of social stories increased the positive social interactions (e.g. turn-taking behavior and use of social language) of preschool student with developmental disabilities, and if staff members were satisfied with the use of social stories.

Positive Social Interaction

The study began by obtaining baseline data for each participant starting on the same day. Baseline data were obtained during a 10-minute observational period each day during free-choice time without any manipulations or instructions from the teacher. The effectiveness of the intervention was assessed on participants' social interactions and turn-taking by measuring the percentage of intervals of appropriate social interactions exhibited by each participant across baseline and intervention phases. Appropriate social interactions were graphed for each participant daily as a percentage of intervals. Changes in level, variability, and trend for data points were inspected during baseline and intervention phases. After five baseline data points for participant 1, the intervention of social stories was introduced. The three other participants remained in baseline. The intervention was introduced to participant 2 five days after participant 1 entered the intervention phase. The intervention was introduced to participant 3 five days following

participant 2, and finally participant 4 entered the intervention phase five days following participant 3. At least five baseline data points were collected for each participant. Participant 4 entered the intervention phase with the most amount of baseline data collected.

Results from baseline and intervention phases for participant 1-4 were compiled into graphs, reflecting the participant's positive social interactions. Figure 1 shows individual data for participants 1-4 at baseline through intervention phases.

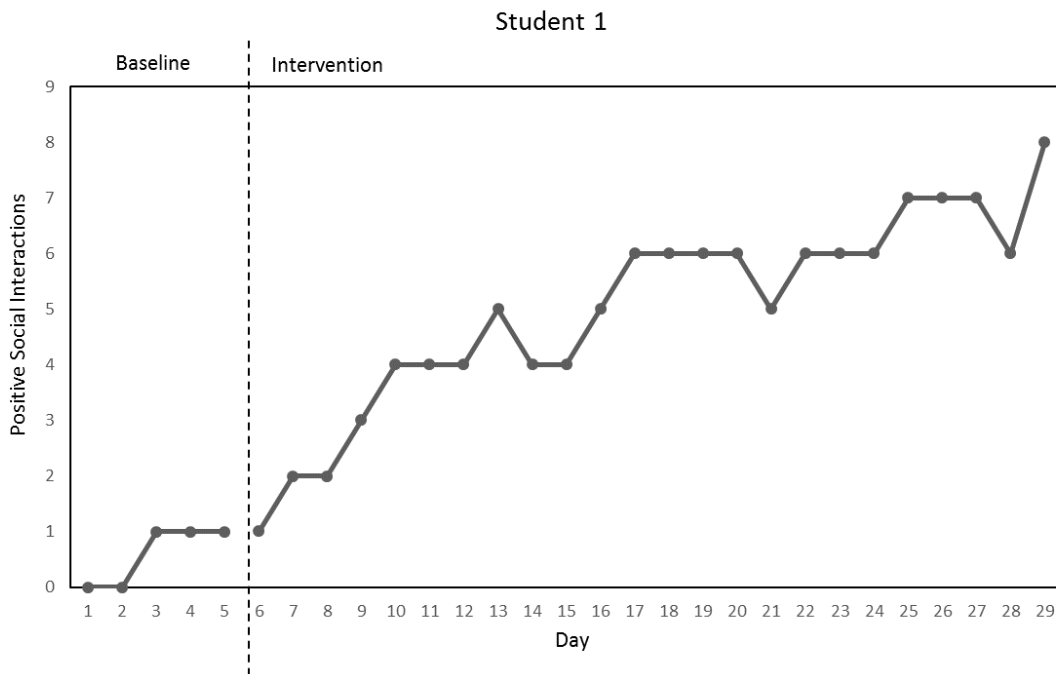


Figure 1. Baseline and intervention phases for students 1-4.

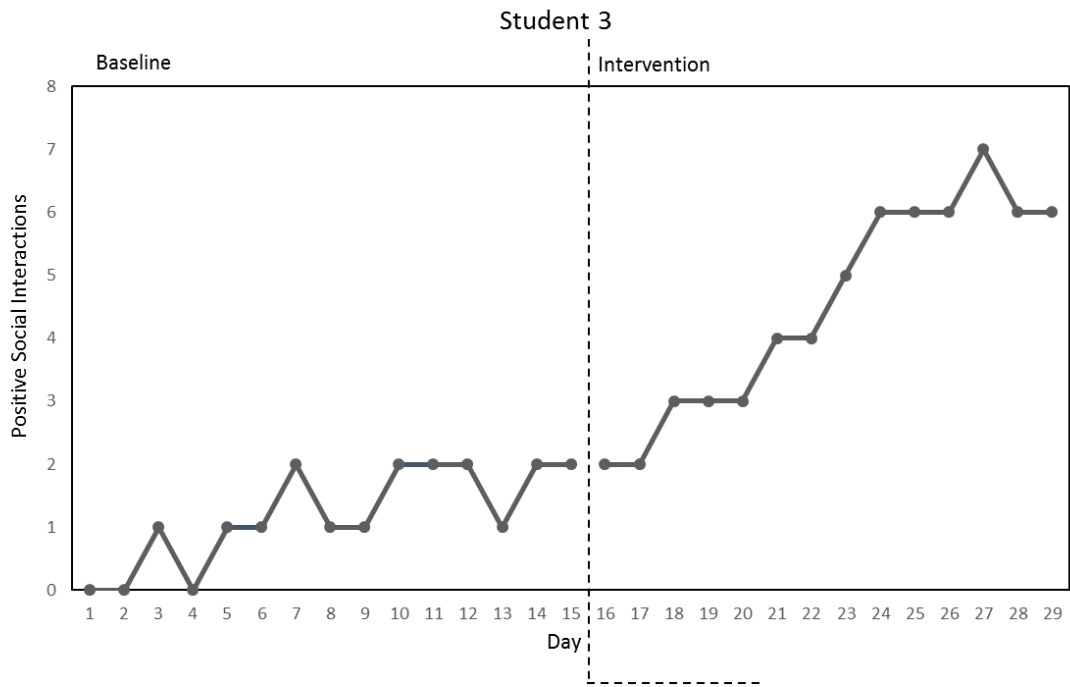
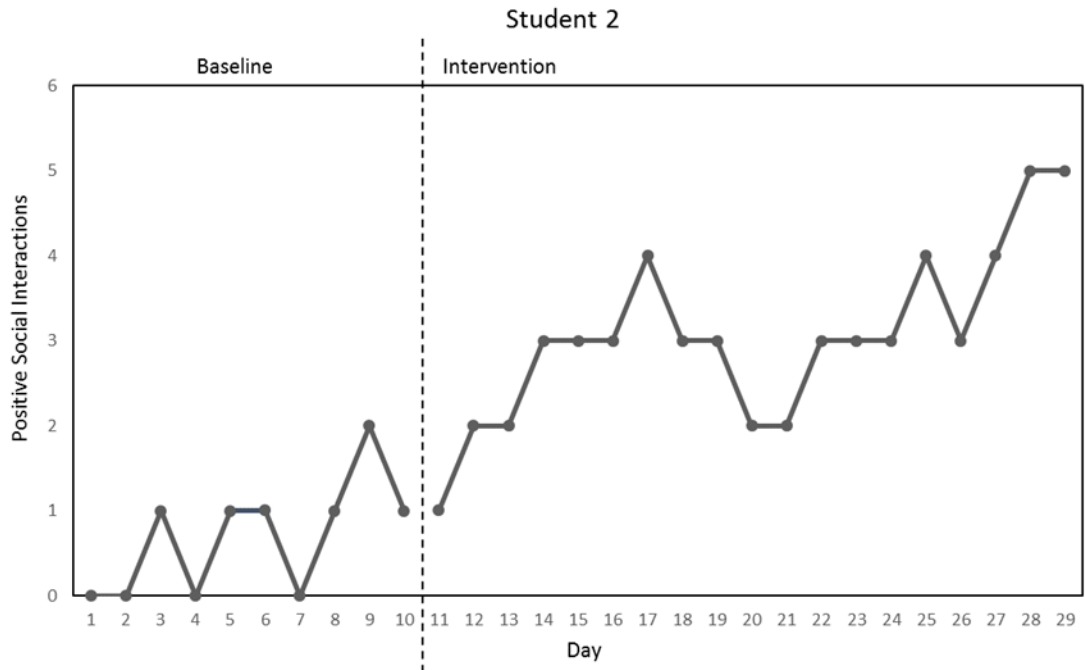


Figure 1. (continued)

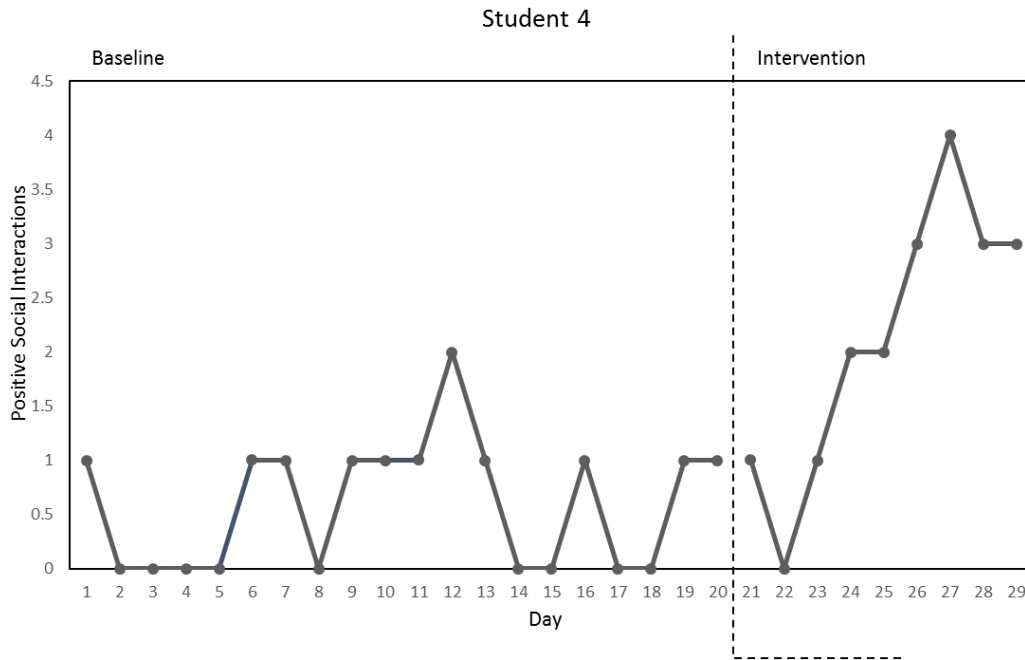


Figure 1. (continued)

Individual Results

Baseline data was collected from each student beginning on the same day. The baseline and intervention both lasted 29 days, with intervention staggered for each of the 4 students.

Participant 1. Participant 1 entered intervention phase after 5 baseline data points were collected. Participant 1 entered the intervention phase on day 5. During baseline, participant 1 did not have any positive social interactions during the 10 minute free-choice play period. On day 3-5 of baseline he increased with 1 positive social interaction each day. When the intervention was introduced to participant 1 on day 6, he remained consistent with the last baseline, exhibiting 1 positive social interaction. On day two and three of the intervention phase, participant 1 increased his positive social interactions to 2 during play after listening to the social story on positive play. This trend continued with

a mean of 3.7 positive play interactions during the first half of the intervention phase. As participant 1 entered the second half of the intervention phase he totaled 6 positive social interactions and continued to increase his interactions to a mean of 6.3 positive social interactions and continued to increase his interactions to a mean of 6.3 positive social interactions. The trend shows that through the intervention phase, participant 1 increased his positive social interactions by 2.6 per day. Figure 2 shows the trend line for participant 1.

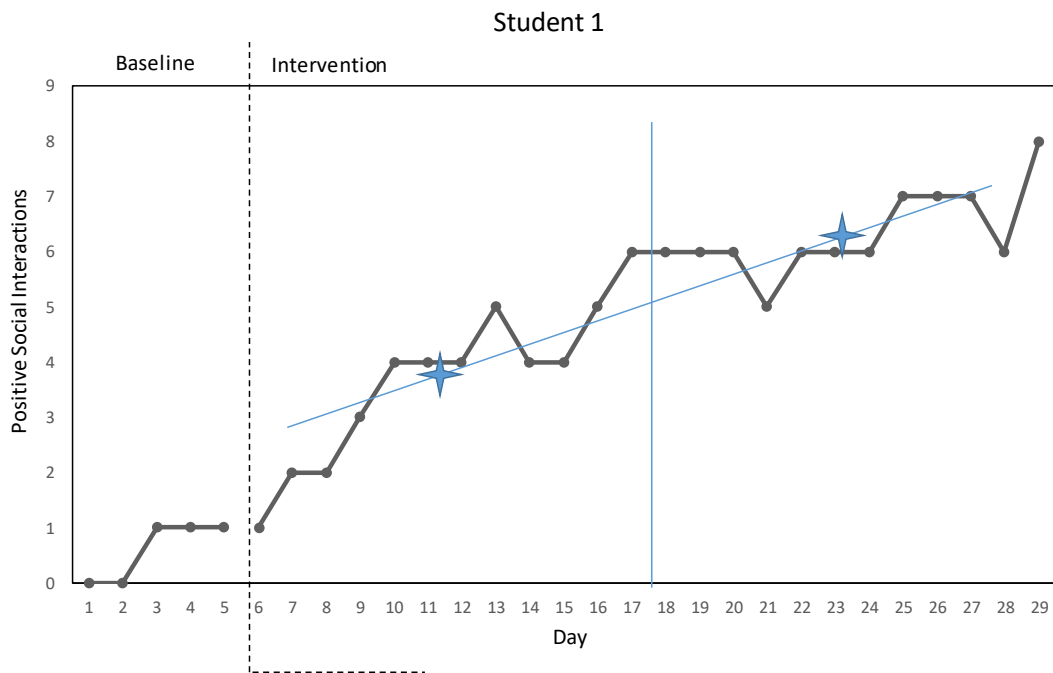


Figure 2. Student 1 trends

Participant 2. Participant 2 entered the intervention phase ten days after baseline began, which was 5 days after student 1 began the intervention. During baseline, he averaged 5.0 positive social interactions in those ten days. On the first day of intervention, after listening to a social story, 1 positive social interaction was charted and an increasing trend was prevalent for the remainder of the intervention phase for

participant 2. During the first half of the intervention phase, participant 1 had a mean of 2.7 positive social interactions with his peers, increasing his positive interactions from a mean of 0.7 baseline. The second half of the intervention phase also showed an increase from the first half with a mean of 3.4 positive social interactions. This trend shows that participant 2 had an increase of 1.7 positive interactions per day from the first half of intervention through the second half. Figure 3 shows a consistent increase in positive social interactions for participant 2.

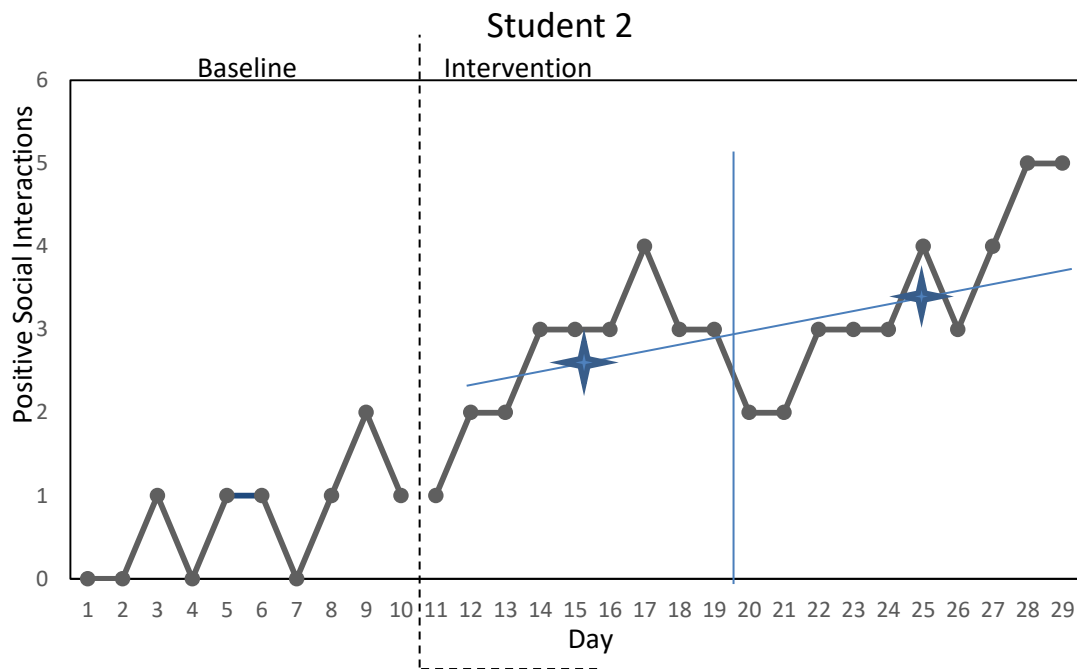


Figure 3. Student 2 trends

Participant 3. Participant 3 remained in baseline for 15 days as data was collected on the positive social interactions without the use of social stories. During baseline, participant 3 exhibited a mean of 1.2 positive social interactions daily. On day 18, three days after the intervention was implemented, he increased his positive social

interactions to three during the 10 minute free-choice play time. This trend of increasing positive social interactions continued for participant 3. During the first half of the intervention phase, participant 3 exhibited a mean of 3 positive social interactions and during the second half of intervention, participant 3 increased his positive interactions to six per 10-minute play period. This trend shows participant 3 increasing his positive social interactions to three more per day than in the first half of intervention. Figure 4 shows the consistent increase in positive social interactions across the intervention phase.

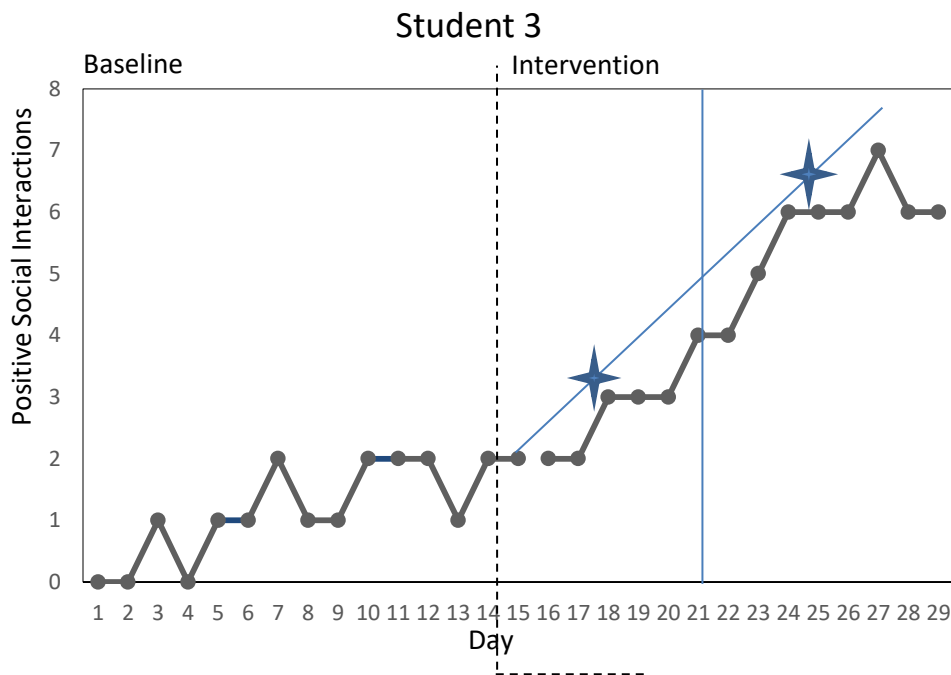


Figure 4. Student 3 trends

Participant 4. Participant 4 had the longest period in baseline and entered the intervention phase on day 20, twenty days after student 1. During the baseline phase, participant 4 exhibited a mean of 0.6 positive social interactions per day. On day 1 of the

intervention phase, after listening to a social story, he had 1 positive social interaction. On day 2 of the intervention, he decreased to 0 positive social interactions. After day 3 of the intervention, participant 4 began to increase his positive social interactions with an average of 1 positive social interaction per play period during the first half of the intervention phase. Participant 4 continued a trend of increasing positive social interactions with a mean of 3 positive social interactions during the second half of the intervention phase. Participant 4 increased his positive social interactions to 2.4 as compared to baseline when no intervention was used. Figure 5 shows the student's increase in positive social interactions after the exposure to social stories.

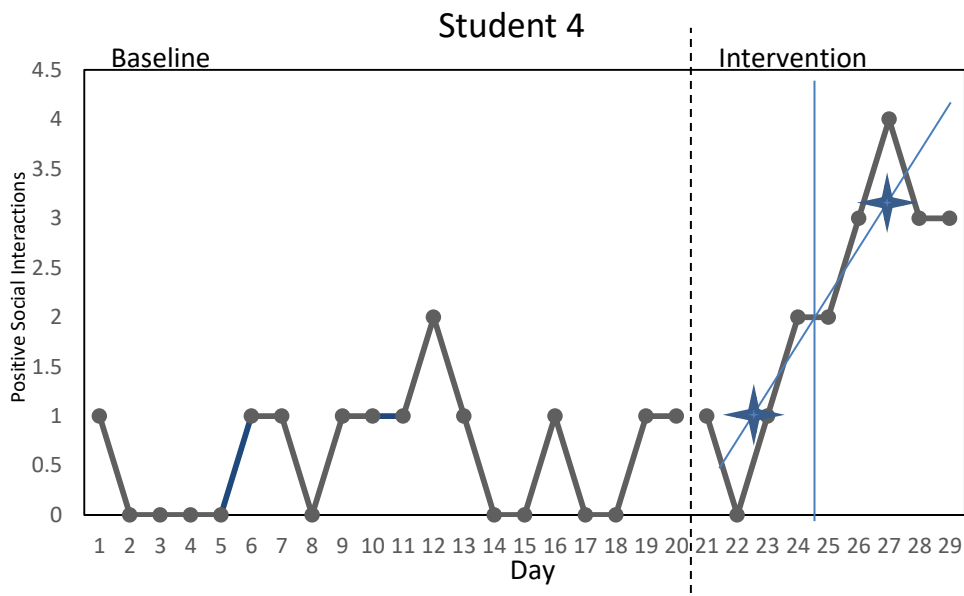


Figure 5. Student 4 trends

Level of Performance

After analyzing the participant's data in regards to their level of performance, looking directly at the student's difference between their last baseline data point and their first intervention point, the data remained unchanged. Participants 1-4 had 0 positive social interactions between these two points. However, an increase of positive social interactions is shown for participant 1 and participant 2 on day two of the intervention phase and day three for participant 3 and participant 4. Table 2 shows the difference between the last baseline data point and first intervention data point, outlining the student's level of performance for participants 1-4.

Table 2

Level of Performance

Student	Last Baseline Data Point	First Intervention Data Point	Level of Performance Difference
1	1	1	0
2	1	1	0
3	2	2	0
4	1	1	0

Group Results

As a group, the students each showed an increase in positive social interactions during play after being exposed to the intervention of social stories. The student's progress varied depending on their length of time in baseline and intervention phases. Participant 1 showed a higher increase of positive social interactions with a mean of 4.35 positive social interactions at the end of intervention as compared to baseline without the

intervention. Participant 1 also had the lowest mean of 0.6. Participant 2 showed an increase to 3.16 positive social interactions after completing the intervention phase. Participant 3 increased positive social interactions to 3.30 as compared to the 1.2 positive social interactions in baseline phase. Finally, participant 4 increased positive social interactions to an average of 1.28 compared to only 0.6 in baseline phase. Participant 4 had the smallest increase during the study; however, student 4 remained in baseline for 20 days, only being exposed to the intervention for 9 days, yet still showing an increase. The overall data of the participants reveals that the use of social stories in this study did increase turn taking, social language use, and overall positive social interactions of preschool students with developmental disabilities. Table 3 shows the mean changes for each student, including the difference between baseline mean and intervention mean for each student.

Table 3

Change in Means

Student	Baseline Mean	Intervention Mean	Change in Means
1	0.6	4.95	4.35
2	0.7	4.31	3.16
3	1.2	4.50	3.30
4	0.6	1.88	1.28

Survey

Each staff member in the classroom completed an intervention satisfaction survey at the completion of the study. The survey aided in determining the research question investigated in the study “Will the staff members be satisfied with the use of social

stories to increase the social behavior of preschool students with developmental disabilities?” Staff members rated the statements using a Likert scale of 1 through 5, with a score of 5 indicating “completely satisfied,” 4 “mostly satisfied,” 3 “undecided,” 2 “somewhat dissatisfied,” and 1 “mostly dissatisfied.”

Table 4

Satisfaction Survey

Statements	Mostly Dissatisfied (1) %	Somewhat Dissatisfied (2) %	Undecided (3) %	Mostly Satisfied (4) %	Completely Satisfied (5) %
1. I am satisfied with the results of positive play in our classroom with the use of social stories.	0	0	0	85.7	14.3
2. I am satisfied with the effect of social stories on positive play behaviors in our class.	0	0	0	71.4	28.6
3. I am satisfied with continuing to implement social stories as a way to continue positive play within our students.	0	0	0	71.4	28.6
4. I enjoyed implementing social stories as a strategy to enhance positive play.	0	0	42.8	28.6	28.6

Survey Results

Within the two inclusive preschool classrooms, seven staff members were issued the survey including teachers, personal assistants, and classroom assistants. Out of seven staff members 14.3% were “completely satisfied” with the results of positive play with the use of the intervention and 87.5% were “mostly satisfied.” This shows 50% of staff participating in the survey chose “completely satisfied,” and the other 50% of staff chose “completely satisfied.” Of the seven staff members, 28.6% of were highly satisfied with both the effects of social stories on positive play behaviors as well as continuing to implement the use of social stories in the classroom, and 71.4% of the staff was “mostly satisfied” with these elements. Finally, 28.6% were both “highly satisfied” and “mostly satisfied” with enjoyment of using this strategy in the classroom to enhance positive social actions among the students, while 42.8% were documented as “undecided.” Overall, the scores are a four or above for all 4 statements, with the exception of statement 4. Not all staff members were part of administering the social stories or present in the classroom each play period to decide if they enjoyed the use of them.

Chapter 5

Discussion

The purpose of the study was to determine the effects of social stories on the positive play behaviors of preschool students with developmental disabilities. Specifically, the study investigated the increase of turn taking behavior as well as the increase in social language use of preschool students with developmental disabilities. Turn taking and social language use were combined and labeled “positive social interactions,” when determining results of the effectiveness of social stories. At the end of the study, staff members were asked to complete a voluntary satisfaction survey to assess their perceptions of the use of social stories to increase the social behavior of preschool students with developmental disabilities.

Findings

Research suggests that social stories are an effective intervention for increasing positive play for students with developmental disabilities (Wright & McCathren, 2012). Social stories provide children strategies for waiting, playing cooperatively, and behaving positively in social situations (Wright & McCathren, 2012). The results of all four participants in the present study corroborate the research of Gray and Grand (1993) in which students improved their positive social interactions when using social stories. In addition, survey results support the findings of Sansoti and Smith-Powell (2008) as most teachers and staff members reported a significant increase for students with developmental disabilities to work and cooperate successfully in small-group learning

activities; as well as reported the building of peer relationships. The results of the present study for participants 1-4 support these findings.

In the present study, student 1 began intervention after five baseline data points were taken. Participant 1 had zero positive social interactions until day 3 of baseline with 1 positive social interaction recorded. Once the intervention was introduced to the student, he remained consistent with the baseline of only 1 positive social interaction. On day two and three of the intervention phase, participant 1 increased his positive social interactions to 2 during play after listening to the social story on positive play and turn taking. This trend continued with a mean of 3.7 positive play interactions during the first half of the intervention phase. As participant 1 entered the second half of the intervention phase he totaled 6 positive social interactions and continued to increase his interactions to a mean of 6.3 positive social interactions. The trend shows that through the intervention phase, participant 1 increased his positive social interactions by 2.6 per day. During baseline, participant 2 averaged 5.0 positive social interactions. On the first day of intervention, after listening to a social story, 1 positive social interaction was charted and an increasing trend was prevalent for the remainder of the intervention phase for participant 2. During the first half of the intervention phase, student 1 had a mean of 2.7 positive social interactions with his peers, increasing his positive interactions from a mean of 0.7 baseline. The second half of the intervention phase also showed an increase from the first half with a mean of 3.4 positive social interactions. This trend shows that participant 2 had an increase of 1.7 positive interactions per day from the first half of intervention through the second half. Participant 3 remained in baseline for 15 days as data was collected on the positive social interactions without the use of social stories.

During baseline, participant 3 exhibited a mean of 1.2 positive social interactions daily. After the intervention was implemented, participant 3 increased his positive social interactions to three during the 10 minute free-choice play time. This trend of increasing positive social interactions continued for student 3. During the first half of the intervention phase, participant 3 exhibited a mean of 3 positive social interactions and during the second half of intervention, student 3 increased his positive interactions to six per 10-minute play period. This trend shows participant 3 increasing his positive social interactions to three more per day than in the first half of intervention. Finally, during the baseline phase for participant 4, he exhibited a mean of 0.6 positive social interactions per day. On day 1 of the intervention phase, after listening to a social story, participant 4 had 1 positive social interaction. On day 2 of the intervention, he decreased to 0 positive social interactions. After day 3 of the intervention, participant 4 began to increase his positive social interactions with an average of 1 positive social interaction per play period during the first half of the intervention phase.

Participant 4 continued a trend of increasing positive social interactions with a mean of 3 positive social interactions during the second half of the intervention phase. Participant 4 increased his positive social interactions to 2.4 as compared to baseline when no intervention was used. The present study reinforced the findings of Scattone et al. (2006) that many children between 3 to 5 years of age enter preschool with the need for strategies to increase social/emotional growth and development which will aide in positive social interactions among peers. Findings in the present study collaborate with Sansoti and Powell-Smith (2008) in which children with developmental delays and expressive language delays often exhibits challenges with sharing, turn-taking, and social

areas of learning. The results of the present study align with the findings of Hagiwara and Myles (1999) that with the use of social stories increased turn-taking, social language use, and decreased negative behaviors for children with developmental disabilities would be present.

Limitations

A limitation of the study was that it was difficult to distinguish between “turn-taking” and “social language use” as the data overlapped. As a result, the data were combined and reported as “positive social interactions.” Another limitation may have been the student’s rigidity toward sudden change in routine, resulting in each participant to maintain the same amount of positive social interactions on the first day of intervention as the last day of baseline, demonstrating no immediate increase in positive social interactions. Typically, after circle-time the students are dismissed to choose a play-time area for free-choice. When intervention began on day 1 for each participant, they were asked to go to the library in our classroom to listen to the social story. Participant 1 and Participant 3 were reluctant, however, followed directions, but they were distracted when listening to the story because they wanted to choose a play-time center. Participant 2 was highly reluctant to go to the library to listen to the social story. He became upset; however, when he calmed down and was offered a juice, he sat and listened to the story although he did appear to be distracted. Participant 4 was also very reluctant to go to the library to listen to the social story. Participant 4 sat on a staff member’s lap and looked at the story, but continued to point to the water table where he wanted to play. Having the participants go to the library was a difference in routine and they had no prior warning of

the change, so it may have been difficult for them to adjust on the first day of intervention.

Implications and Recommendations

This study adds to the existing research on the effectiveness of social stories for students with developmental disabilities. The implementation of social stories in preschool classrooms for students with developmental disabilities may lead educators to consider alternative methods to teaching and implementing practices that enhance positive social interactions among students. The use of social stories may also offer an effective and hands-on tool for staff members to readily access and implement when students are struggling in a social situation and to offer positive solutions to students with expressive language delays.

Although the study had its limitations, the data suggests that the use of social stories for students with developmental disabilities helped improve their amount of daily positive social interactions during free-choice play. This included turn-taking, using verbal and non-verbal forms of communication to express their feelings with peers, and limiting negative behaviors such as screaming, falling to the floor, and physical altercations with peers. Prior research such as the study conducted by Gray and Garland (1993) has also yielded promising results as students with developmental disabilities learned to work cooperatively in small-group learning activities as well as learned to build peer relationships with the use of social stories. Therefore, there is a demand for research to continue on the use of social stories to improve positive social interactions for students with developmental disabilities.

Conclusions

Overall, it appears that the use of social stories will help preschool students with developmental disabilities to increase their positive social interactions in the classroom and other social situations. In addition, it seems that staff members who used social stories as a strategy to increase positive social interactions during play-time were satisfied using the strategy. While each participant in this study increased their positive social interactions, some limitations were noted including inattentiveness and lack of focus to the social stories when beginning the intervention. With the development of technology becoming a tool for learning and communication in our classrooms, further research is needed to determine if social stories introduced on an iPad or computer would increase the student's level of focus and engagement with the social stories compared to traditional book-like social stories, as well as give the preschool students their own ability to access the stories and listen to them independently as a self-regulation strategy.

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