DOES USING CHILDREN'S LITERATURE AND SOCIAL STORIES HELP STUDENTS WITH AUTISM TO DECREASE INAPPROPRIATE BEHAVIORS?

Whitney Begue

A Thesis

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Committee:

Dr. Cindy Hendricks, Advisor

Dr. Lessie Cochran

Dr. Mark Earley
ABSTRACT

Dr. Cindy Hendricks, Advisor

The purpose of the study was to determine whether inappropriate behaviors in students with autism can be decreased through children’s literature and Social Stories that address the behaviors. The research question guiding this study was, “Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors?”

The study’s participant was one third-grade student with autism. The study took place over four weeks. During the first week, the researcher observed the student in his classroom setting to establish a baseline of the student’s behavior. The researcher read the stories with the student twice a week over three weeks. The researcher went into the student’s school two days a week for one hour. The stories were read with the student for 10 minutes and then a 50-minute observation followed. Qualitative data were collected through observations. Quantitative data collection included counting the opportunities the student had to engage in the inappropriate behavior and the amount of times he did engage in the inappropriate behavior. This number was converting it to a percentage.

The student steadily decreased the number of times he engaged in the inappropriate targeted behavior after beginning interventions. The percent of time the student engaged in the behavior provided evidence of the connection. Overall, the data support that there was a decrease in the inappropriate targeted behavior over four weeks by reading Social Stories and children’s literature stories to the student.
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CHAPTER I. INTRODUCTION

Autism spectrum disorder (ASD) has primarily been categorized as a social disability. Poor social interaction skills represent a main deficit in individuals with autism despite the individual’s level of intelligence or language ability (White, Albano, Johnson, Kasari, Ollendick, Klin & Scahill, 2010). Because many children learn appropriate social skills by interacting with others and observing behaviors, children with autism are often placed in the general education classroom during various times of the school day for exposure to appropriate models of social behavior. Unfortunately, simply allowing students with ASD to observe appropriate social behaviors is not enough. Individuals with autism often do not acquire social skills through observing modeled appropriate behaviors. To effectively teach students with autism, strategies must be taught that directly teach relevant social skills.

Statement of the Problem

The number of individuals diagnosed with autism spectrum disorder is rapidly increasing. According to Gundlach (2012), 1 in 88 children is affected by autism. It is now the fastest-growing serious developmental disability in the United States. Social impairments are considered to be a core feature of individuals with ASD. Even children with high functioning ASD have average cognitive abilities with social deficits. Therefore, it is crucial for teachers to be aware of and to implement beneficial literacy instruction and appropriately address behavioral needs for the increasing number of students with ASD in classrooms.

Social problems are long lasting and are difficult to change even with interventions. Social challenges faced by individuals with ASD often include: interacting socially with others, using and understanding verbal and nonverbal communication, understanding others emotions, and feeling no empathy. Individuals also have difficulty engaging in age appropriate
relationships and behaviors that are typical for the individual’s age. These difficulties often become more prominent over time as social interactions become more complex (DeRosier, Swick, Davis, McMillen, & Matthews, 2011).

Children with autism have difficulty generalizing learned skills to new environments and using those skills with new people. Individuals with ASD’s inability to understand social customs and respond to their environment in an age appropriate manner often results in isolation and frustration. The frustration experienced by individuals with autism frequently leads to inappropriate behaviors. Inappropriate behaviors found in individuals with ASD often are common and repetitive in daily routines and activities (Al-Shammari, Daniel, Faulkner, & Yawkey, 2010). According to Neitzel (2010), individuals with autism have interfering behaviors. These interfering behaviors refer to repetitive and disruptive behavior. Repetitive behaviors can be unusual interests or preoccupation with a certain subject, echolalia (repeating the same noise, word, or phrase), and insistence in sameness. Disruptive behaviors can include self-injury, aggression, running unattended, and tantrums. These behaviors often interfere with teachers’ and parents’ attempts to promote learning. Preventing the child from engaging in repetitive behavior can cause disruptive behaviors. For example, not allowing the child to be first in line may cause the child to become upset or aggressive with themselves or others. Often children with autism engage in these behaviors because they are unable to effectively communicate or use social skills to get what they want.

Research Question

Since individuals with autism are deficit in social skills, they often engage in inappropriate behaviors. A common intervention to decrease inappropriate behaviors for many students with autism is through the use of Social Stories. Social Stories are short stories that aim
to help students with ASD to understand others’ thoughts, feelings, and behaviors (Williamson, Carnahan, & Jacobs, 2012). Other children’s literature that relates to the inappropriate behaviors can be used in addition to Social Stories during reading instruction. Since Social Stories and children’s literature can be used to address some the behaviors students with ASD exhibit, the purpose of this study was to answer the research question, “Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors?” This study will explore the effectiveness of using children’s literature and Social Stories that address inappropriate behaviors to decrease inappropriate social behaviors in one child with ASD (Laushey, Heflin, Shippen Alberto, & Fredrick, 2009).

Rationale

Identifying areas of need and implementing appropriate social skill interventions is critical for individuals with autism. Interventions are specific planned programs for improvement that focus on preventing the occurrence of an inappropriate target behavior (Al-Shammari, et al., 2010). Ideally, interventions for these difficulties should address increasing skills for social engagement. By creating interventions that increase social engagement individuals will begin to learn appropriate behaviors (DeRosier, Swick, Davis, McMillen, & Matthews, 2011). According to Neitzel (2010), research has suggested for interventions to be successful for children with ASD, positive and proactive behaviors must be taught. Individuals must be taught an appropriate alternate behavior to replace the inappropriate behavior. The stories to which the student is exposed throughout the case study will not only address the inappropriate behaviors in which the student engages, but will also teach an appropriate alternate behavior.
Using children’s literature to affect behaviors of children is not new. Literature has been used in a therapeutic way to address many issues and personal situations students may be experiencing. Bibliotherapy is an indirect intervention that uses literature to help students’ to make personal growth. Children are encouraged to make a personal connection with characters in the book. The goal of this intervention is for students to evaluate their own behavior through the experiences of the characters in the story. There are a few principals that must be met for bibliotherapy to be an effective intervention. The student must identify with characters or the specific situation in the story. If the student is unable to make a connection with the story, he/she will not be engaged in it. Insight must also occur when the reader comprehends the feelings and situations in a new way and is then motivated to make a positive behavior change. Bibliotherapy can be used to influence students’ behaviors and attitudes. Characters model problem-solving strategies so students’ can relate these strategies to their own lives. Using books is often a less intimidating way to encourage students’ to reflect on some of the inappropriate behaviors they are engaging in while teaching them more appropriate replacement behaviors (Rozalski, Stewart, & Miller, 2010).

Social Stories are specifically designed interventions to teach individuals with ASD to identify and respond appropriately to various social situations. Social stories help those with autism to understand that others have perspectives different from their own. These stories can include pictures to guide the students understanding (Kokina & Kern, 2010). According to Barry and Berlew (2004), Social Stories also help children with ASD to identify social cues, expectant behaviors, and consequences of acting in particular ways (as cited in Williamson, Carnahan, & Jacobs, 2012). Using Social Stories can increase students with autism’s social skills by helping
them relate to a character’s feelings, apply their background knowledge to what is being read, and make text-to-self connections (Williamson, Carnahan, & Jacobs).

Definition of Key Terms

Several terms are essential to understanding this thesis and will be defined here.

Bibliotherapy - a projective indirect intervention that uses literature to help individuals make personal growth (Rozalski et al., 2010).

Hyperlexia - a condition where a person demonstrates exceptional word-reading ability, above that expected of their IQ, at a higher level than their ability to comprehend and integrate words (Newman et al., 2007).

Social Stories - According to their creator (Gray, 1998), Social Stories are an intervention that is primarily aimed at assisting individuals with ASD with their social difficulties (as cited in Kokina & Kern, 2010).

Theory of mind - the ability to take on the perspective of another person (Colle, Baron-Cohen, & Hill, 2007).

Limitations

ASD affects children with different degrees of severity. Autism manifests itself in many areas including: social, behavioral, academic, motor, and sensory skills (Gira, 2010). Since the disorder can manifest itself in so many different ways, each person with ASD is different. The term spectrum is used in autism spectrum disorder because the characteristics of the disability occur on a continuum. On one end of the continuum, there are more severe symptoms and on another end there are very mild behaviors (Willis, 2012). Due to the fact the disability has so many characteristics and different degrees of severity each student’s needs are different (Gira,
Since each case of autism is unique, the results of this study may vary from student to student.

**Summary**

In this study, students were presented with children’s literature and Social Stories. If this study were replicated the results may vary by using a different Social Story or children’s story. A student may also have a different level of background knowledge, which could affect the student’s level of understanding of what has been read when given a certain Social Story or text. The behavioral plans implementing at each student's school may also affect the results. The age and grade level of the students should also be taken into consideration when replicating the study. During the investigation, the student was presented with the children’s literature story first, then he was presented with the Social Story. This occurred throughout the study. If the order of the stories were counter-balanced, the student may have remembered more from the children’s literature rather than the Social Story, which may impact the interpretation of the investigation.
CHAPTER II. REVIEW OF LITERATURE

Individuals with autism often display inappropriate social behaviors inside and outside the classroom. In an effort to decrease these inappropriate behaviors in school settings, appropriate interventions should be implemented by teachers. The purpose of this study was to answer the research question, “Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors?” The purpose of this chapter is to review literature on the behaviors and characteristics of autism and the effectiveness of Social Stories as an intervention. Given the context of the study, it was necessary to explore the history of autism, the theoretical perspectives relating to autism, the behavior and learning characteristics of children with autism, the effects of autism, the effects of Social Stories on children with autism, and research relating to autism and Social Stories.

Understanding Autism

According to Autism Speaks (2012), autism is a general term for a group of complex disorders that affect the development of the brain. Autism appears to begin to manifest during early brain development with obvious signs and symptoms appearing around two to three years of age. Although there is no single cause of autism, many cases of autism appear to be caused by a combination of autism risk genes and environmental factors that affect brain development. The disorder is characterized by varying severity of: deficits in social skills, difficulty with communication, and repetitive behaviors. Autism can be associated with intellectual difficulties, deficits in motor coordination, the inability to focus attention, and physical health issues. Many individuals with autism have above average abilities in visual skills, music, and academic areas. Although there are many common characteristics found in autism, no two children with autism are the same and each case is unique (Autism Speaks).
Wolff (2003) states that when autism was first discovered almost 60 years ago, it was narrowly defined. Children with isolated autistic symptoms, like difficulty with social interactions, were diagnosed as being autistic. Children with brain damage and intellectual disabilities were also thought to be on the autism spectrum. During the 1950s and 1960s, researchers believed schizophrenia and autism were linked. Autism was thought to be a psychosis rather than a developmental disorder. Wolff believes that this misunderstanding lead to wasted and painful years of psychotherapy for children with autism. Johnson (2008) adds that, in the 1970s, a common theory of the cause of autism was parenting. The term “refrigerator mother” was coined to describe cold and unnurturing parents, often the mothers who were believed to be the source of blame for children with autism. It was believed that because the parents of children with autism were withdrawn and lacked emotion, children would develop the same characteristics. By the 1980s, research studies became focused on providing interventions to children with disabilities through their environment, like a special education classroom. Wolff adds that key discoveries were made at this time regarding information known about autism. Johnson confirms that, in 1980, autism was no longer classified under schizophrenia, but categorized as a developmental disorder. Children with autism and autistic characteristics began to receive intervention through a controlled environment along with children with other disabilities. Caruso (2010) acknowledges that in the present time, the core autism movement is characterized by large organizations. Organizations like Autism Society of America and Autism Speaks, seek to raise awareness for individuals with ASD, advocate for those with ASD, and contribute to furthering research to gain understanding of the disorder.
Caruso (2010) believes that an article written by Dr. Leo Kanner marked the birth of autism. Kanner (1943) became one of the first people to study children who displayed withdrawn behaviors to gain insight and information regarding individuals with autism. Kanner studied 11 children with autism to determine common characteristics within the disability. Many of the characteristics noted were obsessions, stereotypy, and echolalia. Kanner claimed that individuals with autism show ‘extreme aloneness’ from the beginning of their lives. The actions of those with autism were described as rigid and isolated. The knowledge that Kanner found through his study of individuals with autism provided valuable information regarding the disability.

In addition to the research contributed by Kanner, Wolff (2003) states that Hans Asperger, a pediatrician from Germany, further added to the understanding of autism in 1944. Caruso (2010) explains that Asperger’s contributions lead to the understanding of individuals with high functioning autism. Wolff comments that Asperger studied four cases of similar features found in autism, later found to be Asperger’s disorder. He found the children he studied were deficient in their social skills, lacked feelings for others, engaged in stereotypical behavior, and were very interested in one particular area of knowledge. However, unlike many children with autism, the individuals studied by Asperger were not delayed in their language acquisition and were gifted in areas like mathematics or science with a creative mode of thinking. Years later, experts placed Asperger’s and other autism-related conditions on a spectrum ranging from mild to severe behaviors (Johnson, 2008).

Theoretical Perspectives Related to Autism

Lerner, Hutchins and Prelock (2011) suggest that individuals with ASD are deficient in their Theory of Mind abilities. An individual with autism’s inability to take another’s perceptive
is considered a central domain of impairment. Theory of Mind includes the ability to make inferences about thoughts and emotions. Individuals who are deficient in their Theory of Mind have difficulty taking on the perceptive of others. For example, a person who is deficient in his/her Theory of Mind may not understand that a person has feelings, thoughts, and beliefs different from his/her own. Theory of mind refers to the ability to attribute mental states to others or to oneself. This leads to difficulty in understanding behavior in terms of mental states. The ability to attribute mental states to oneself and others is essential in understanding and anticipating others behaviors. Individuals with ASD do not understand that underlying mental states motivate behavior (Colle, Baron-Cohen, & Hill, 2007). One of the main functions of the Theory of Mind is to become proficient and understand social situations. Using the Theory of Mind, one can begin to gain insight on the social difficulties of those who have ASD (Begeer, Malle, Nieuwland, & Keysar, 2010).

Norbury (2005) declares that difficulties in pragmatic language are also connected to deficits with the Theory of Mind. This difficulty leads to a lack of understanding with communication and an inability to make sense of ambiguous language such as similes, metaphors, and other figurative language. Due to this, individuals who are impaired in their pragmatic language ability struggle to understand a character’s motivations, necessary for comprehension. When this ambiguous language is present in literature, understanding of students with ASD is severely lessened (Norbury).

According Sayers, Ruddick, and Wallis (2011), the executive dysfunction hypothesis can explain the inability to control their actions by individuals with autism. This inability to control actions often manifests itself into stereotypical behaviors. Stereotypical behaviors are a common feature of autism. Stereotypical behaviors prevalent in individuals with autism are apparent
movement or actions that are repeated. These behaviors can involve moving parts of the body, the whole body, or objects. Stereotypical behavior has an impact on the individual’s quality of life. For example, the behaviors impact learning, activities, and interactions with others.

Research conducted by Russell, Jarrold, and Hood (1999) demonstrates another implication of the executive dysfunction in individuals with autism: the inability to engage in flexible behavior. This inability to be flexible prohibits individuals from creating plans, staying focused on a certain topic, and refocusing their attention to a new task. Individuals often know what has to be done to achieve a certain goal or complete a task but habits and stereotypical behaviors cause this not to take place.

Sayers et al. (2011) remark the perpetual reinforcement model falls under the executive dysfunction hypothesis and can further explain the behavior of individuals with autism. In this model, behaviors are carried on by sensory feedback and shaped by the positive reinforcement one receives from the behaviors. It is suggested that an individual engages in many different behaviors until he/she experiences what is considered the ‘right feeling’. The individual then engages in the behaviors that he/she considers rewarding. The executive dysfunction model views autism as coming from deficits in executive control of behavior. The executive function contains one’s ability to direct behaviors away from the present and think in terms of future events. This could explain the prevalence of stereotyped behaviors because executive dysfunction does not allow an individual to plan or control behaviors. The executive dysfunction hypothesis can begin to explain some of the inappropriate behaviors exhibited by individuals with autism.

According to Wakabayashi, Baron-Cohen, Uchiyama, Yoshida, Kuroda, and Wheelwright (2007), the empathizing-systemizing theory can further explain individuals with
autisms social difficulties. Empathy is the ability to identify another person’s emotions or thoughts. This can involve responding with an appropriate emotion to another person’s thoughts or feelings and the ability to predict another’s behavior. Individuals with autism often demonstrate a lack of empathy. Baron-Cohen (2009) further states that identification of mental states is associated in a systematic way. Systemizing is the need to live or classify items according to an organized system. Baron-Cohen observed that individuals with autism show a strong ability to systemize and often score above average on tests that involve systemizing when compared to their typically developing peers.

Baron-Cohen (2009) explains the validity of the empathizing-systemizing theory. The theory can explain the social and nonsocial features in ASD. Below average levels of empathy is a way to explain social and communication difficulties. Above average systemizing is a way to explain narrow interests, repetitive behavior, and the need for a routine or sameness. This is due to idea that when one engages in systemizing behavior, it is easy to keep everything constant and only change one thing at a time. This may help the individual’s environment to remain stable. Several groups or individuals show empathy difficulties; however, only individuals with autism show the discrepancy between their difficulties emphasizing and strong need to systemize.

Characteristics of Children with Autism

Individuals with autism exhibit a certain set of behaviors. Willis (2012), states that to be diagnosed with autism, a child must exhibit a significant number of these characteristics. These characteristics are: a significant delay in social interaction, a communication delay, stereotypical behaviors, an obsessive preoccupation with objects, and the need to engage in ritualistic routines. These characteristics affect aspects of the individual’s life and areas of learning. Although each child with autism is unique and exhibits characteristics in varying ways, the main difficulties
found in individuals with autism are deficits in communication, a display of behaviors atypical to peers, difficulty with social interactions, and a negative response to certain sensory stimuli.

Low and Lee (2011) describe deficits in communication as a core feature of autism. The deficits include a lack of interest to communicate with others, a lack of intentionality in communication, and the inability to begin, maintain, and end conversation with others. The deficits in language hurt an individual’s ability to develop and make growth in speech and language skills. This results in the majority of children with ASD to have a delay in speech and language development and one-fourth of individuals to not develop language at all. Individuals on the severe end of the autism spectrum experience severe language processing deficits that hurt their ability to process sound and the meaning of words. This deficit hinders the ability to understand word meanings and build vocabulary. A result of this is an inability to recognize spoken language and semantics. In addition to these difficulties, children on the severe end of the spectrum have difficulty manipulating the fine motor actions required to produce speech.

Joosten, Bund, and Einfeld (2009) describe stereotypical behaviors as repetitive, unchanging, and consistent. These behaviors can include simple body movements and more complex rhythmic and repeated movements. Some behaviors may involve the manipulation of objects or sounds while others can be self-injurious. Stereotypical and repetitive behaviors are considered to be multifunctional because they provide more than an enhanced sensation to those who engage in them. These behaviors can gain the individual attention or an escape from a situation, environment, or task. Determining the motivations behind behavior allows interventions to take place. Although these behaviors cannot be fully eliminated through interventions, they can be reduced. To understand why individuals engage in these behaviors surveys and interviews are often used to assess the situation. The Motivation Assessment Scale
(MAS) is often used to gain insight on stereotypical behaviors. The areas of the assessment are grouped into four categories: to gain positive or negative attention, to gain or remove tangible object, to escape or avoid a situation or people, and to experience sensory feedback or stimulation. Assessing the behaviors can lead to interventions that are based on alternating or changing the environment, improving the methods of communication, and altering social demands and schedules.

Willis (2012) further explains how the difficulty with communication leads children with autism to engage in stereotypical behaviors. Common stereotypical behaviors can include flapping of the hands, pulling the ears, and rocking back and forth. These actions, can severely impact an individual’s ability to learn. These behaviors are often not physically harmful but interfere with the individual’s ability to focus on what is happening around him/her. Although many typically developing children do not pay attention to a subject they would like to avoid, individuals with ASD consistently do this to ‘tune out’ everything around them. Understanding the function behind the stereotypical behaviors is crucial to discovering what the individual is trying to communicate by engaging in the behavior. To determine what the child is trying to communicate one must focus on what happened immediately before the child’s behavior began and what in the environment may have triggered the behavior. For example, if a child is having a tantrum during group activities this may indicate the child is trying to gain the teacher’s attention.

In an article by Boyd, McDonough, Rupp, Khan, and Bodfish (2011), the need for individuals with autism to engage in repetitive and ritualistic behavior is described. The repetitive behaviors of children with autism interfere with daily living functioning as well as learning and social interactions. Repetitive behaviors are associated with the mood and behavior
problems in individuals with ASD. There are a variety of discrete types of repetitive behaviors that appear in autism. The behaviors can be divided into two categories. The first category is “lower order” motor actions, which can include stereotyped movements, the repeated manipulation of objects, and repeated self-injurious behavior. “High-order” cognitive behaviors are more complex and can include compulsions, rituals and routines, a need for sameness, and restricted interests. These behaviors are characterized by a strict attachment to a rule or mental set. When individuals are unable to engage in these repetitive or ritualistic behaviors, it often triggers irritability, aggression, or other behavioral problems. The inflexible behaviors often interfere with socialization, learning, and become a motivating factor behind severe mood and behavior problems. Therefore, these behaviors and interests can interfere with the child’s well being.

Zandt, Prior, and Kyrios (2007) explain that individuals with autism often have an obsessive preoccupation with objects or a narrow range of interests. Children with ASD are often described as being “obsessed” with a particular subject. The obsessions the individuals have, is believed to cause them joy and are not a source of anxiety. However, these obsessions may be a response to anxiety. The narrow range of interests in individuals with autism affects daily living functions because when a task, conversation, or situation does not involve this interest it is often not engaging to the individual and difficult for them to participate.

Laursen and Yazdgerd (2012) state that many individuals with ASD have anxiety in social situations because interactions are unpredictable to them. Recognizing and interpreting social interactions and communication is problematic for individuals with ASD. Initiating interactions is difficult without the assistance of others. Often, the only interactions that are easily initiated are based upon the individual needing something. When conversations do take
place, individuals with ASD find it easiest to talk about a topic of interest to them, rather than something of interest to the other person. Giving other people attention, expressing interest in them, and showing empathy does not come naturally to individuals with autism. Engaging in these behaviors may require direct instruction for most individuals.

Lierheimer and Stichter (2012) confirm that individuals with autism not only have difficulty with verbal communication, but understanding nonverbal communication as well. One way that individuals with ASD exhibit social difficulties is by misunderstanding facial expressions that show emotion. Understanding and interpreting facial expressions is a normal social development. Most children gain the skills to interpret facial expressions through daily interactions with adults and peers. Many individuals with social deficits spend less time in social situations, which results in less exposure to facial expressions. In addition to the difficulty understanding facial expressions, individuals with ASD have difficulty displaying facial expressions correctly, displaying expressions at an appropriate time, and even have a limited range of expressions. Individuals with ASD also have more difficulty decoding facial expressions when compared to their peers. This negatively affects one’s ability to understand emotions and engage in a social situation.

Watson, Patten, Baranek, Poe, Boy, Freuler, and Lorenzia (2011) note that children with autism exhibit unusual responses to sensory stimuli. These responses can be categorized into three different sensory-processing constructs: hyper-responsiveness, hypo-responsiveness, and sensory seeking behaviors. Hyper-responsiveness is when no expected response of a stimulus is given, the response to a stimulus is delayed, or a higher response is exhibited from the individual. For example, the individual may be unable to familiarize himself/herself to a new sound in the environment. Hypo-responsiveness is the exaggerated response, negative reaction,
or effort to avoid a sensory stimulus. Sensory seeking behaviors are actions one engages in to gain or intensify a sensory stimulus. This can include staring at lights or sniffing objects. These behaviors can occur in combination with one another or on their own. Early in life, individuals with autism exhibit behavior features that include sensory symptoms. The negative responses to sensory stimuli often hurt individuals with ASD’s ability to adapt to new environments. The adverse reaction to sensory stimulus can impact the development of learning language, social, and communication skills.

In a study conducted by Love, Carr, and LeBlanc (2009), the behaviors of children with autism were studied. The archived data from a clinic that serviced children diagnosed with ASD were examined to investigate the occurrence of problem behaviors. The individuals studied were children with ASD, Asperger’s disorder, and Pervasive Developmental Disorder with ages ranging from 2-12 years old. Two types of functional assessments were carried out in the study. A rating scale was used to gather information about the frequency of situations that lead to inappropriate behaviors. An interview was also conducted with the caregiver of each child to collect further data. The children were observed in an environment where inappropriate behaviors were exhibited; these behaviors were noted as well as the situation leading to the problem behavior. The behaviors exhibited in the students ranged from aggression to vocal stereotypy and were all common features of autism. After observations took place, interviews were completed, and data were evaluated. The data indicated that inappropriate behaviors in students with ASD were frequently maintained by social reinforcement. It appeared that the inappropriate behavior took place so the child could gain attention from others due to the fact the children lacked the skills to effectively communicate. Love, Carr, and LeBlanc noted that individuals with ASD often use inappropriate behaviors as a way to escape more frequently than
the individuals with Asperger’s disorder. The results of the study can begin to explain that inappropriate behaviors in children with ASD come from their difficulty understanding social situations and the inability to effectively communicate their needs.

Effects of Autism

Development

Pronovost, Wakstein, and Wakstein (1966) used a case study approach over two years to observe the speech behavior, language comprehension, and functioning of 14 children diagnosed with autism. The children in the study were 2 girls and 12 boys ranging from 5 to 15 years of age. The children had limited language ability that ranged from vocal utterances to the ability to produce words, phrases, and sentences. After observing the children’s speech and language abilities, it was found by the researchers that many children have difficulty producing speech due to the difficulty mastering the fine motor control of their lips and teeth. The children in the study who had the ability to speak showed instances of echolalia. Echolalia is the repetition of stored phrases for which the child has no understanding of the meaning. Speech displayed in all of the children appeared to be inappropriate to the situation. Many of the children’s vocalizations were repetitions what an adult had said previously.

In addition to speech behavior, Pronovost, Wakstein, and Wakstein (1966) found information relating to language comprehension and usage by using the Language Comprehension Scale. It appeared that many factors in a situation influenced each child’s response. For example, the child would rely on a gesture to respond to the command made by an adult and would respond correctly more frequently when a gesture accompanied the command. Many of the children’s responses to interactions with adults suggest that children with ASD rely on situational clues rather than the content of what the other person is communicating when
engaged in conversation. If a gesture did not accompany something said by the adult, the student ignored the verbal message. The difficulty communicating in individuals with ASD can appear as inappropriate behaviors.

Baron-Cohen (1991) conducted an investigation because it was believed that the main difficulty for people with autism is the inability to enter into emotional relationships. Baron-Cohen’s study was conducted to begin to understand whether or not people with autism understand what causes emotions. People with autism show deficits when matching images of facial expressions of emotions with videotapes of emotions or related vocalizations. In the study (Baron-Cohen), 17 children with autism were studied. The children were tested individually and told a story. While the story was read, two questions were asked to test the understanding of situations as a cause of emotion and two questions were asked to test the understanding of desires as causes of emotions. After the questions related to desire were asked, two questions were asked to test the understanding of beliefs as the cause of emotions. Each test question was followed by a justification question. The entire procedure was then repeated with a few variations.

The results (Baron-Cohen, 1991) indicated that individuals with autism have an understanding of situations as a cause of emotion. However, the most prominent deficits in understanding emotions were caused by beliefs, instead of emotions caused by situations and desires. Therefore, a conclusion can be drawn that difficulty in understanding emotions emerges most often when the task involves understanding how emotion interacts with different beliefs (Baron-Cohen).

Gonzalez-Lopez and Kamps (1997) conducted a study to determine the effectiveness of social skills training to increase social interactions and decrease inappropriate behaviors in
individuals with autism. Four children with ASD participated in the study as well as 12 typically developing children. The children participated in sessions consisting of one child with autism and three typically developing children. The children with autism displayed inappropriate behaviors including: grabbing, disruptions, and leaving the group. The sessions lasted 20 to 25 minutes with 10 minutes of social skills training and 10 to 15 minutes of playtime. Five sessions took place, including a session to establish a baseline of behavior. The skills focused on behavior management skills, greetings, using names and conversations, following instructions, sharing and taking turns, and asking for help and making appropriate requests. A social skills/behavior rating skills was used to measure the use of social skills and the occurrence of inappropriate behavior during playtime.

The results of the study (Gonzalez-Lopez & Kamps, 1997) showed that the length of appropriate interactions displayed in children with autism increased in every session in three of the children. When given reinforcement, the length of interactions increased in all of the students. Inappropriate behaviors during playtime were also measured in the children with ASD. Inappropriate behaviors in three of the children were progressively decreased through the social skills training. Gonzalez-Lopez and Kamps note the lack of social skills found in children with autism prevent them from developing positive peer relationships. Promoting social skills through direct instruction is beneficial when decreasing inappropriate behaviors in children with autism.

**Reading**

Students with ASD exhibit unique literacy behaviors relating specifically to their word recognition and comprehension. Newman, Macomber, Naples, Babitz,, Volkmar, and Grigoren (2007) state that students with ASD often exhibit strength in word recognition but are lacking in
their ability to comprehend what they are reading. Hyperlexia, a condition where individuals have rapid word reading ability, is commonly found in individuals with ASD. In early grades, a predictor of comprehension is often through students’ word-reading skills. Williamson, Carnahan, and Jacobs (2012) add that by third grade the relationship between comprehension and word-reading skills decline as texts become more challenging and require higher oral language and cognitive skills. Although students with ASD have an ability to read, they often do not attach meaning to what is being read. Nation, Clarke, and Williams (2006) confirm that students with ASD frequently do not decode words; rather, they rely on rote memorization and recognize words based on the shape or patterns of letters that appear in the words. Often, the well-developed reading-skills are depthless. Although reading ability is well developed, comprehension is critically lessened (Nation et al.).

Williamson, Carnahan, and Jacobs (2012) state that comprehension is lessened in students with autism because of their difficulty when accessing background knowledge. When accessing relevant background knowledge while reading, one needs previous experiences related to the text and the ability to recall the details of the experiences. This is difficult for students with ASD because their life experiences are often limited and there is difficulty synthesizing new and previous knowledge. Carnahan, Williamson, and Christman (2011) add that students with autism also often fixate on one subject and know an abundance of information about it, leading them to often know little on what is being taught, limiting their background knowledge. When students have limited or no experience with the content of the text, their ability to comprehend is negatively affected. Comprehension is the reason for reading; therefore, it is important for students with ASD to develop comprehension skills to be successful academically and in their life (Williamson, Carnahan, & Jacobs).
Carnahan, Williamson, and Christman (2011) state that because students with ASD experience difficulty with social situations, comprehension is often difficult when texts focus on social situations. The Theory of Mind often affects students with ASD. Theory of Mind involves recognizing that others have different thoughts and feelings from one’s own thoughts and feelings. Since students with autism lack the ability to understand other’s thoughts and feelings, it is difficult to understand the motivation of characters, make predictions based on emotions, and make inferences. To fully comprehend text, one must take into consideration the characters’ feelings and emotions, which is very difficult for students with autism.

In a study conducted by Huemer and Mann (2010), 385 students with ASD were studied to determine their level of comprehension and decoding ability. The children with autism who participated in the study scores’ were compared to the scores of individuals with dyslexia. Four assessments were given to assess the students’ phoneme awareness to determine their decoding ability. Five comprehension assessments were given in addition to the decoding assessment. Individuals with autism scored lower on all comprehension measures when their scores were compared to the scores of children with dyslexia. Individuals with autism scored relatively high when reading words in isolation and ‘nonsense words’. Huemer and Mann (2010) concluded that for children with ASD, comprehension deficits come from the difficulty they experience going beyond simply decoding the words and understanding the word’s meaning.

Lanter, Watson, Erickson, Freeman, Nippold, and Troia (2012) explored the emergent literacy skills, interest in books and reading, home reading environments in a diverse group of children with autism. The 41 children in the study were aged from 4 to 8 years old and were diverse in their language ability. Lanter et al. (2012) state that due to language delays in autism, many children with ASD are assumed to be incapable of learning to read and write and are
taught function living and language skills instead of reading and writing skills. Therefore, the authors conclude that little is known about the emergent literacy skills, print motivation, and home environments of children with ASD.

In the study conducted by Lanter et al. (2012), each child completed assessments of language, cognition, and emergent literacy. The parents of the children participated in an interview to find information about the children’s literacy skills, print motivation, and literacy environments in the home. To assess emergent literacy skills, several assessments were given to test knowledge of letter name identification, letter-sound correspondence, environmental print, concepts of print, and writing. Print motivation was assessed by an interview with parents. The parents were asked about books their child enjoyed, including questions about the child’s favorite book or genre of book. The home literacy environment was assessed by the interview as well. Parents were asked about their education, personal achievements in education, and literacy abilities. Information was also obtained about the books or literature available for the children in the home. Parents were also asked if they used guiding questions while reading to help their child’s comprehension. Information from the interview was also used to decide the parents’ feelings of responsibility on who should be educating the child. Finally, information on the child’s strengths in reading and writing was gathered. The interview was used to determine how the parents formally or informally taught literacy skills to their children as well as the value they placed on literacy.

Lanter et al. (2012) found that oral language skills are correlated with other emergent literacy performances for children with ASD. It was determined in the study that individuals with ASD who have the ability to read and write may struggle with reading comprehension. Lanter et al. theorizes that this is due to the social language deficits found in autism. The results
also concluded that children with higher language ability display higher scores on emergent literacy scores when compared to those with moderate or severe language impairments. There is a discrepancy between children with ASD who exhibit various language ability levels. Children with ASD also appeared to excel in individual skills, like letter name identification and demonstrated weakness in comprehensive skills like understanding the function of print. Parents also confirmed in the interviews that their children did well with skills that relied on memorization, but did not fully understand why a person would read. Lanter et al. conclude that a connection can be made with the findings in the study and what is known about later literacy development in children with autism. In the emergent stage of reading, children with autism excel in their ability to read words and spell but struggle with higher order skills like reading comprehension. Lanter et al. advise that educators should use multiple clues of emergent literacy to measure knowledge, address both oral and written emergent skills in the curriculum, and implement practical and meaning-based literacy activities in their lessons for children with ASD. The early literacy support that children receive at home is also a strong contributor to success in literacy. The study shows that children with ASD have the potential to be successful in emergent literacy when provided the appropriate support.

Social Stories and Autism

Carol Gray is the director of The Gray Center for Social Learning and Understanding. Gray has served as a teacher for students with ASD for over 22 years. Gray developed Social Stories and Comic Strip Conversations (Gray, 1998). These resources are used worldwide with individuals with ASD. According to Gray, Social Stories are designed to share social information in a way that will be easily understood by the audience. A Social Story describes a situation, skill, or concept in a way that is relevant to the student. Information often given in the
stories includes: where and when a situation may take place, who is involved in the situation, and why the particular situation may occur. Gray explains that, in the stories, relevant social cues, perspectives of others, and common responses to the situation are given. The stories may also explain what other people know, feel, or believe; Social Stories can also explain concepts that are abstract and often difficult to understand (Gray).

According to Gray (2011), Social Stories should affirm something the individual does well while teaching the target behavior or skill. The goal of a Social Story should not be to change the individual’s behavior, but to improve understanding of social situations that may lead to increased appropriate behavior. According to Gray, the understanding a person gains often promotes self-esteem, can calm and create order in a turbulent situation, promote independence, reduce anxiety, and increase social understanding.

Gray (2011) states that before using a Social Story, research should take place to determine the student’s area of need. Social Stories should address a very narrow topic before instruction begins. Knowing the intended audience is an important part of developing a Social Story. Gray claims a story can be written with audience participation to increase engagement. By including missing blanks in the story, the child can fill in the blanks or provide suggestions to help with the story writing process. Meaningful phrasing and vocabulary to the student should be incorporated into the story. The child’s environment should also be taken into consideration when creating these stories. Gray believes before interventions begin, an objective look should be taken at the situation to determine if a Social Story is needed. Other people in the child’s environment need to be educated and involved in the interventions. To promote relevant social understanding, the perspective of the child as well as others involved in the child’s life should be taken into consideration during the writing process (Gray).
Gray (1998) describes the six effective elements required when developing, writing, and implementing Social Stories. The six elements are: determining the topic, gathering individualized information, considering the guidelines for writing for the person with ASD, adhering to the Social Story Ratio, incorporating the student’s interests into the story, and introducing, reviewing, and monitoring the Social Story.

According to Gray (1998), the first element is to determine the student’s area of need and determine the topic of the story based on it. Social Stories are often written in response to events that are difficult for the student and have resulted in confusion. A Social Story can also anticipate a new experience and provide the student with useful information in advance to avoid a negative response and increase the student’s confidence.

After a topic has been determined, Gray (1998) believes information about the student and topic should be gathered. Information gathered should include relevant cues, typical sequence of events, ideas from those involved in the situation, and the perspective of the student. Although the story may not contain all of the information, it is important to have a complete understanding of the situation. Relevant cues are crucial to the development of a story and the student’s understanding. Gray believes an accurate assessment of cues and variations with cues provide a framework for the development of an effective Social Story. Interviews with those who have contact with the student should take place. Teachers, parents, and other professionals in the child’s life should be considered. These individuals have beneficial information relating to the student’s interest, likes, and responses to similar events. The student’s perspective and interests should also be taken into consideration (Gray).

Consideration of the guidelines for writing for a person with ASD should take place (Gray, 1998). The writer should put forth effort to include some of the student’s interests in the
Considering the student’s age, reading ability, and attention span should influence the content and design of the story (Gray). The story should also be very focused on the topic; no additional informational should be included. The child’s attention should be drawn to the most important aspects of the story. Gray advises that when writing a story, ‘literal accuracy’ of the language used should be taken into consideration. Gray argues that this insures the reader will be able to interpret the content literally without any loss of the intended meaning. For example, the use of vague words like sometimes, about, usually, and probably should be avoided. Social Stories are most often written from a first-person perspective with present or future tense. Writing from a first-person perspective has advantages because it self-directs the student rather than telling him/her what to do (Gray).

Gray (1998) cautions that a certain ratio should be adhered to when writing Social Stories. Social Stories are comprised of a combination of up to four different types of sentences. The different types of sentences are descriptive, perspective, directive, and control. The first kind of sentence, a descriptive sentence, should define where a situation occurs, who is involved, what someone should be doing, and why it is happening. Gray adds that the sentence may also introduce characters in the story. A perspective sentence should be used to describe a person’s feelings. This sentence often describes another person’s thoughts, beliefs, and motivations. By using these sentences in a Social Story, students can begin to relate to characters’ feelings to increase their level of understanding. A directive statement should then be used to guide the child to act in an appropriate manner (Gray). The sentence should guide the student’s behavior. Directive sentences should always begin with “I will try…” or “I will work on…” to avoid sounding demanding and intimidating the student. This also may minimize the pressure for the
According to Gray (1998), a student’s interests should also be incorporated in the Social Story. By using information that is interesting to the student, the story is more personal and more likely to motivate the student. The stories can reference a favorite character, animal, or setting of the student. A story can also reflect a writing style that the student enjoys, like rhyming. Illustrations and visual supports related to the student’s interests could be used throughout the story as well (Gray).

Finally, the story should be introduced, reviewed, and monitored (Gray, 1998). The story should be introduced in a comfortable environment with little distractions. The student should be encouraged to read the story independently. However, the student may want to share the story with others. Hearing the same information from other people reassures the student that others have the same information. The story should be reviewed consistently. Gray explains that, often, the time needed to review the story is dependent on the situation. The Social Story will be more effective if it is reviewed before the target situation takes place. Depending on the story and/or how well the student begins to master the skill, the story may be reviewed less frequently until it is no longer needed. However, the story should be kept for future reference.
because it is likely it may need to be reviewed later. It may be necessary to revise the story if there are problems with it or the student quickly masters it. When problems with the story are encountered, rewriting the story leads to the student’s success (Gray).

According to Gray (2006), Thinking Stories are another category of Social Stories that describe unstated meanings. Thinking Stories teach unspoken elements of communication. These elements may seem obvious to most but are often difficult for individuals with ASD to understand. This social communication may frustrate or limit the individual with ASD’s ability to understand the literal meaning of words, phrases, or statements. These stories are very short and directly address a few possible meanings to a predetermined statement that is causing the individual with ASD difficulty. The stories can be developed by a fill-in-the-blank exercise that will complete the story (Gray).

The Thinking Stories developed by Gray (2006) follow a formula that begins with a statement, “when someone says…” followed by a figure of a person and a talk symbol. The target statement, what someone would actually say, is then included in the talk symbol. These are often idioms or phrases with non-literal meaning. After the target statement is given, the author can write three possible meanings of the statement. These meanings would be written in three additional ‘thinking clouds’. When selecting the meaning of the statements, they should include: a general traditional or frequent meaning of the phrase, a more specific second example, and a closely related meaning to the experience (Gray).

Gray (1998) reports that an individual with autism may often be confused or overwhelmed by a social situation and interactions with others. This may result in others viewing their behaviors as ‘inappropriate’. To improve these social interactions, strategies must take place to share the appropriate social information with the student in a way he/she can
understand. Social Stories are an effective way to teach students necessary skills in a way that addresses each child’s unique needs (Gray).

**Research Related to Social Stories**

Swaggart and Gagnon (1995) declare that behavioral excess and social deficits characterize children with autism and these problems can be improved when provided with appropriate intervention programs. To improve the social and behavioral difficulties in children with autism, a study using Social Stories was conducted. Interventions were based on a combination of Social Stories and social-skill interventions. The study involved three students who, due to the severity of their behaviors, were placed in a restrictive classroom. The students were presented with Social Stories specific to their behavioral needs. For example, one of the students’ was given a story about the importance of sharing. The interventions were carried out different lengths of times, depending on the student being studied.

The study (Swaggart & Gagnon, 1995) appeared to provide support for students with autism. The use of Social Stories, in combination with social skills training, increased students’ appropriate behavior and decreased behavioral excesses. The study also demonstrated the importance of tailoring Social Stories to meet students’ specific needs. In this investigation, the Social Stories were modified by presenting them in a book-like format. Each sentence was presented with an accompanying visual on each page. This was done to help students to focus on one concept at a time. The visual icons were presented to support the students’ overall understanding and comprehension. The students also appeared to benefit from being presented these stories individually.

To further evaluate the effectiveness of Social Stories, Norris and Dattilo (1999) conducted a study to examine a Social Story intervention on an eight-year-old girl diagnosed
with autism. First, observations took place to discover a baseline data of her inappropriate behaviors. After the baseline was established, specific Social Stories to address her needs were selected. Daily review of the Social Stories took place outside of the student’s classroom. The stories were presented 10 to 15 minutes before lunch, when the inappropriate behaviors were taking place. Three social stories were constructed for the student. Three stories were used to maintain the student’s interest and further enhance comprehension. Corresponding pictures and images were included in the stories. The student read the stories aloud and received assistance pronouncing some of the words. The administrator also answered her questions if they were related to the content of the story. Questions were also asked after every page of the story and at the end to monitor the student’s comprehension. The administrator also commented on content, by giving examples of adding a further explanation of the content, to aid the further aid comprehension (Norris & Dattilo).

After interventions took place in the study (Norris & Dattilo, 1999), the decreases in inappropriate social interactions were correlated to the Social Stories read with the student. It appeared although the effect was delayed, the interventions did help the student. The researcher hypothesized that it may take a few days for students to internalize and apply the information learned. However, the Social Stories did not appear to have an effect on appropriate social interactions. Although inappropriate interactions were decreased, appropriate interactions remained the same throughout the study. The student was also asked one question after about every two pages she had read and after she finished reading the Social Story. The questions were given to determine the student’s level of comprehension. The researcher determined that asking questions may aid in comprehension of Social Stories, especially the first few times the stories
are read. Asking questions also appeared to help the student to identify important information and clarify any unclear content (Norris & Dattilo).

In a study conducted by Ozdemir (2008), three case studies were conducted to determine the effectiveness of Social Stories when decreasing disruptive behaviors in students with autism. The Social Stories used in the study were constructed within Gray’s (1998) guidelines. The students participating in the study were all males with ages’ ranging from seven to nine years old. All of the students attended a public elementary school. To be included in the study, the students needed to have a diagnosis of autism, the ability to orally communicate with others, reading or pre-reading skills, and opportunities to interact with peers throughout the school day in the general education classroom. The target disruptive behaviors addressed in the study were using a loud voice in the classroom, tipping over chairs, and cutting in front of others students in the lunch line. Social Stories were read with the students three times a week.

Three Social Stories were created by the researcher (Ozdemir 2008) for each student based on the target disruptive behavior. The stories were seven to nine pages. The students were able to bring the stories with them into other classrooms so they could be used in multiple settings. The student’s own picture was used in each story and pictures were used to depict the target behavior. The last page of each story included a picture of the teacher and teacher’s aide with a caption containing positive feedback.

The study (Ozdemir, 2008) followed a single-subject, multiple baseline design. During the baseline conditions, the students were observed in their classroom environment and data were recorded on the disruptive target behaviors. No interventions occurred during this time. When interventions were implemented, the teacher’s aide read the story to the students. The stories were read before the time the target behavior was exhibited. After the final intervention session,
two probes were given to help the student maintain the information. Certain interventions were faded after the students began to master the material by decreasing the inappropriate behavior more frequently. Two fades were used, Fade A and Fade B. During Fade A, the story was rewritten and read to the child without the directive sentence. In Fade B, the written Social Story was read during every other session. If the behavior remained at least 40% less than the baseline for at least five sessions, then no story was read for five sessions. Data were gathered during a 20-minute observation daily. The students were observed in the environment where the target behavior was taking place.

The study’s (Ozdemir, 2008) results demonstrated a reduction of targeted disruptive behaviors when compared to the baseline in all three students. During Fade A, all three of the participants’ behaviors had showed an increase but still was low. As the fading continued two of the students’ disruptive behavior showed a slight increase and the others students decreased. When no story was given, the children’s disruptive behavior occurred, but less frequently. This data showed that as the Social Story intervention faded all maintained levels of disruptive behavior that was significantly below the student’s baseline performance. The results support the purpose of the study because there was a reduction in inappropriate behaviors after the Social Story interventions were introduced.

Summary

Individuals with autism exhibit a variety of unique behaviors that can appear to be inappropriate and interfere with learning. These behaviors are something that can be lessened with interventions, not ended. Studies have shown that Social Stories are often an effective intervention when attempting to decrease inappropriate behaviors in children with autism. However, when Social Stories are implemented it is crucial for the interventionist to learn about
the background of the child so the story will best meet his/her needs. In addition to learning about the child’s background it is important for the interventionist to learn about the child’s behavior and unique characteristics. Sinclair (1993) stated the following regarding the behaviors and characteristics of individuals with autism:

Autism isn't something a person has, or a "shell" that a person is trapped inside. There's no normal child hidden behind the autism. Autism is a way of being. It is pervasive; it colors every experience, every sensation, perception, thought, emotion, and encounter, every aspect of existence. It is not possible to separate the autism from the person – and if it were possible, the person you'd have left would not be the same person you started with. This is important, so take a moment to consider it: autism is a way of being. It is not possible to separate the person from the autism. (p. 5)

Nordquist (2011) remarks autism is a wide spectrum disorder. No two people with autism are alike. Individuals can experience varying combinations of symptoms with mild to severe behaviors. When implementing interventions on a person with ASD it is crucial to remember autism is a way of being and the traits exhibited make up whom the person is. Autism cannot be ‘cured’ or ‘fixed’ but with proper interventions that address the individual’s unique needs, the individual can receive help to reduce inappropriate behaviors that interfere with their ability to function in daily life.
CHAPTER III. METHODS AND PROCEDURES

The needs of students with ASD vary from student to student. Most often students with autism struggle with social skills and require supports to function in many aspects of their lives. The purpose of the study was to determine if inappropriate behaviors in students with autism can be decreased through children’s literature and Social Stories that address the behaviors. The research question guiding this study was, “Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors?” In this chapter, the methods of this study will be described, including research design, the participants in the study, instruments, procedures, data collection, and data analysis.

Methods

Research Design

This research study focused on a case study design to determine whether using a Social Story and children’s literature can decrease inappropriate students with ASD. A case study approach is used to study the behaviors of a small population of students in their school environment. According to Flyvbjerg (2011), a case study is an intensive analysis of an individual unit stressing developmental factors in relation to environment. The student in this case study was diagnosed with ASD and was observed in his school setting to monitor his behaviors. The research study used qualitative data by observing the student in a setting and evaluating his behavior using a rubric. Before the stories were read to the student, interviews with the child, parent, and teacher took place. The interviews were used to gain insight into the student’s behaviors to determine what behaviors should be focused on during the interventions. After the stories were read, data were gathered by observing the student in a social setting to determine if inappropriate behaviors have improved. Interviews were also conducted with the
student after the stories have been read.

Participants

The individual participating in the study was a third grade student attending a public school in Ohio. The student was nine-years-old at the time of the study. The student in the study was diagnosed with ASD. The student was on an IEP and received some instruction in the general education classroom and pullout services in the resource room. The student in the study had a previous relationship with the researcher because the researcher tutored the student for 14 weeks, once week. The student had the ability to perform the activities required of them to participate in the study.

Instruments

In the study, the student was read a story and Social Story related to the targeted inappropriate behavior. The Social Stories used were created by the researcher and were related to the student’s inappropriate behavior. The stories also contained characters from the student’s favorite television show to engage him. To check the student’s understanding, he was observed in the classroom environment to determine if the inappropriate behavior had decreased after the story was read. A chart was used to record the behaviors the student exhibited as well as the setting of the situation. The chart was then used to evaluate the student’s success in the classroom environment.

Procedures

The process began by identifying a student the researcher had previously tutored. After this information was gathered, the teachers, principal, and parents of the student were given consent forms to sign (see Appendix A). A letter explaining the study was also included. Once
consent was given, the researcher read and explained the forms to the students to gain his approval to participate in the study.

Once the consent forms were signed, the researcher scheduled a day to meet with the student’s teacher and parents. During this meeting an interview took place (see Appendix B) to determine background information about the child. An interview then took place with the child to determine some of his interests for writing the Social Story and planning interventions. Questions were asked to the parents and teachers about inappropriate behaviors the child exhibited. Once the behaviors were identified, stories were chosen based on the student’s needs.

The study took place over four weeks. During the first week, the researcher observed the student in his classroom setting to determine a baseline of the student’s behavior. The researcher read the story with the student twice a week over three weeks. The researcher went to the school two days a week for one hour. The story was read with the student on the first day, and then an observation took place. On the second day of the week, the researcher did not read the story but observed the student to see if the targeted behavior had changed. The stories presented to the student were children’s literature similar to the inappropriate behaviors exhibited by the student. Social Stories created by the researcher were also read to the student. The Social Stories were use to address the student’s needs and engage him further. The story was read while the student was in the resource room. The student worked one-on-one with the researcher while the rest of the class worked with the resource room teacher. After the stories were read, interview questions were asked to measure the student’s level of understanding. Once the stories had been read, the researcher observed the student in a classroom setting to determine if inappropriate behaviors had been decreased.

Data Collection
By following the rubric created to evaluate the student’s behavior in the classroom environment, qualitative data were collected. After the observations were carried out, the rubrics were evaluated. Once interviews were completed, charts were made to record responses and behaviors. The students, parents, and teachers’ answers during the interviews were also recorded. The data were recorded to further analyze the student’s behavior.

Data Analysis

The charts used during collections were used to compare the student’s behavior from his baseline to the final results after using children’s literature and Social Story. Qualitative data were analyzed to determine the effectiveness of the intervention by observing the student’s behavior. Each week’s data was examined to determine whether growth had taken place.

Summary

This research study used a case study design to analyze the behaviors of a student with ASD. The study involved one student in third grade. The student was read a story and Social Story and his behaviors were assessed after the story has been read using interviews and observations. Qualitative data were collected using information obtained from observations and an interview. Once data were collected, it was analyzed to answer the research question.
CHAPTER IV. DATA ANALYSIS AND DISCUSSION OF RESULTS

This research investigation was designed to investigate whether using children’s literature and Social Stories could decrease inappropriate behaviors in children with autism. The study focused on one third-grade student in a rural school in Northwest, Ohio. Specifically, this investigation focused on the following research question: Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors? This chapter includes an overview of the procedures, a presentation of the results of the data analysis and a discussion of the results obtained through the investigation.

Procedural Overview

To answer the research question, initial observations occurred in the child’s classroom to establish a baseline of behavior for 50 minutes. Interventions and observations took place twice a week over three weeks for one hour to determine the effectiveness of the interventions. Before each observation took place, ten minutes were spent with the teacher reading a story to the student related to the targeted behavior and a Social Story written specifically for him by the researcher. The targeted behavior that the interventions aimed to decrease was immediately responding with, “I don’t know” or “I got nothing” when asked a question. During observations, qualitative and quantitative data were recorded. Qualitative data collected by the researcher were gathered by recording the setting, noting tasks in which the student was engaged, and identifying responses the students gave. Quantitative data were recorded by counting the number of times the student was asked a question and the number of time the student responded with, “I don’t know” or “I got nothing”, immediately after the question was asked. The number of times the student responded by saying he did not know the answer and the number of question
he was asked a question by the teacher or paraprofessional was converted into a percentage to
determine how often the student engaged in the behavior.

Data Analysis

Week One: Baseline

The student was observed in the resource room to establish a baseline for behavior. The
student was observed for 50 minutes after he arrived at school. Individuals present in the
classroom were the intervention specialist, paraprofessional, and five other students. During this
time the student and his classmates engaged in a writing activity. The teacher began by
introducing the writing prompt, “If I could invent my own cookie, what would it be?” During
this time, the student listened attentively with his eyes on the teacher and he did not appear to be
distracted. Before the student began writing, the teacher led the students in a chant to help them
to remember the traits of effective writing. The student watched but did not participate. Before
writing, the students told the teacher what they were going to write about. The student stated
that he did not know what to write about and required prompting from the teacher.

As the student wrote, he frequently told the teacher he did not know how to spell words
that were available on the classroom word wall, his personal spelling dictionary, and on the
worksheet. The teacher frequently prompted the student by asking him what he should do next
because he appeared distracted and oftentimes stopped working. Each time the teacher asked
him what to do next, the student responded that he did not know. As other students in the
classroom began finishing their work, it appeared that the student’s “I don’t know” responses
increased. Finally, after the student finished his writing he was told to draw his cookie. The
student insisted that he did not know what to draw or what the cookie would look like. After
prompting, the student finally finished the assignment. The student was asked a total of 21
questions and responded that he did not know the answer 9 times; he engaged in inappropriate targeted behavior 42% of the time.

*Week 2: Session 1*

The first session of the second week was the first time interventions took place by reading the student Social Stories and children’s literature. Interventions took place by first introducing the student to the Social Story written by the researcher to target the chosen behavior that was to be decreased. The Social Story followed the Social Story ratio described by Gray (1998). The researcher read the story aloud to the student. After the story was finished the student was given stickers of his favorite television show, *Ninjago*, and was asked to make the final page of the story to help him to remember how he would try to no longer exhibit the targeted behavior. The student created the picture and the sentence. The researcher scribed, “I will count to three and think before answering.” The student was then read the children’s literature story, *Try Your Best* (2001). After the story was read, the student was asked three questions to determine his level of understanding (See Appendix C) The student was unable to retell any of the elements of the story. When questioned about what happened in the story, the student engaged in the targeted behavior by immediately responding with, “I don’t know”. When the student was asked about what happened to the student who did not try in the story the student stated, “If you don’t try, you will not win.” Finally, the student was asked to choose an emotion related to how the stories made him feel; the student said the stories made him feel confused.

After interventions took place, the student worked with the speech pathologist and two other students in the resource room for 20 minutes. The student began by repeating a word off the tape and generated sentences using the provided words. The student was on task and
completed the assigned tasks. When the student was asked questions related to emotions, he engaged in the inappropriate targeted behavior. For example, the student was asked about a time he had ever felt surprised and was asked to select a face from a worksheet that looked surprised. The student responded to the questions by stating that he did not know. The student then listened to two sentences, one that used a verb in the correct tense and one that did not. The students had to determine what sentence was correct. The student did so four times without engaging in the behavior. However, when the student was asked to read the sentences rather than listen, he engaged in the targeted inappropriate behavior by immediately stating he did not know the answer and did not know how to read.

After the student completed speech therapy, he worked with the intervention specialist and two other students for 20 minutes. The students were introduced to a book about animals and where they live. The students were asked to make predictions about the book. The intervention specialist activated the students’ background knowledge by asking them where specific animals might live. When the teacher initially questioned the student to make a prediction, he engaged in the inappropriate targeted behavior two times. After prompting and other students gave examples, the student joined in and generated predictions without engaging in the behavior. The students then went on a picture walk of the book. The student was questioned on observations he made from looking at the book. The inappropriate targeted behavior was not demonstrated.

After working with the intervention specialist, the student read a comprehension passage with the paraprofessional and another classmate. The student and paraprofessional took turns reading the passage together. After the paraprofessional would read a part of the passage, she would ask the student comprehension questions. Although, the student did not respond correctly
to the questions each time, he did not engage in the inappropriate target behavior. The student was asked a total of 26 questions and responded that he did not know the answer 4 times; he engaged in the inappropriate targeted behavior 15% of the time.

*Week 2: Session 2*

In the second session of the second week, the student engaged in interventions through the same Social Stories and children’s literature used the previous week. Interventions took place by reading the Social Story and children’s literature story to the student. After reading the story the student was asked the same three questions (See Appendix C) as the previous week. The student remembered more details about the stories than he had the previous week. When the student was first asked about the story, he responded by saying, “maybe there’s another thing I like in the story, I liked the Legos because I like Ninjago.” After prompting the student to remember details from the stories, he responded by saying, “Try your best.” When the student was asked what happened to the character that tried his/her best, he responded by saying, “They got their goal even though they said they couldn’t do it.” When the student was asked how the story made him feel; he said he was still confused by the children’s literature story.

The student was observed first working with the paraprofessional and one other student for ten minutes in a center activity. The student was matching words to pictures. To provide assistance to the student, the paraprofessional asked the student where the pictures should go by prompting him to read the words. The student did not engage in the inappropriate targeted behavior at this time.

After switching centers the student engaged in guided reading with the intervention specialist and three other students for twenty minutes. The students began reading the story, *Where Animals Live*, which was introduced during the previous session. The student read the
pages he was instructed to read aloud. After reading, the students filled out a graphic organizer focusing on the details and main idea of the story independently. When the student was told to fill it in, he appeared inattentive and distracted by looking around the room and not working. When the intervention specialist noticed this, she began to prompt him to help him to recall some of the places the animals lived in the story. Twice, when the teacher referred to an animal in the story, the student said, “I don’t know where the animal lives”, without looking back in the story as he was instructed to do. Finally, after prompting from the teacher, the student was the last to finish the assignment.

For the next 20 minutes the student worked with the paraprofessional. The student began interventions by practicing his handwriting on a worksheet independently. During this time, the student did not engage in the targeted inappropriate behavior. The student then read a comprehension passage with the paraprofessional. The student engaged in the behavior once when the paraprofessional asked him to sound out a word. After the paraprofessional assisted the student in sounding out the word, she read to him while the student listened attentively. After reading, the student answered five comprehension questions read by the paraprofessional. The student answered all of the questions without responding, “I don’t know.” The student was asked a total of 25 questions and responded that he did not know the answer 3 times; he engaged in the inappropriate targeted behavior 12% of the time.

*Week 3: Session 3*

During first session of the third week the student was read the same Social Story and children’s literature story that had been read the past week. After reading, the student was asked three questions to check his understanding. The student was first asked what happened in the story. The student said, “The kids weren’t good at things.” The student then went off task by
talking about his classmates although the researcher prompted him by saying, “Can you tell me anything else about the story?” The student responded by saying, “Sensei Wu (one of the characters from the child’s favorite television show and featured in the Social Story) asked Kai (the other character in the story) about a riddle. The student then went off task by talking about the television show and not the Social Story; however, he did state that, “The ninja’s in the show were able to solve the riddle by trying their best.” Although the student’s response did not summarize what happened in the story, he did discuss the message of the Social Story. The student was then asked about what happened to the student who tried his/her best. He responded by saying, “The people did a good job.” The student was then prompted to recall anything else from the stories. The student responded, “That’s all I know.” When the student was asked how the story made him feel, he said confused. The student elaborated on why he felt confused by calling the characters in the stories, ‘liars’. He said the girl in the story who said she could not do the things asked of her in the story was, “lying about it and faking because she could do them.”

The student was first observed in the resource room working with the speech pathologist for 20 minutes. The student worked with two other students using an iPad. The speech pathologist began by first reading two sentences to the students. One sentence used a verb in the correct tense and the other sentence used a verb in the incorrect tense. The student was asked to choose the correct sentence. The student answered correctly when he was read the sentences. When the student was asked to read the sentences, he engaged in the behavior one time by saying, “I don’t know” when asked to read a name in the sentence. After a sentence was read the speech pathologist questioned the students by saying, “What is something you will do today?”
The student stated that he did not know what he would do and required prompting before answering the question.

The student then worked with a substitute teacher for the intervention specialist and four other students for 20 minutes. The student was only asked a total of three questions while engaging in guided reading. The questions were related to whether or not he liked the story and if he could read some of the sight words in the book. The student appeared inattentive by looking around the room while listening to the teacher and other students read. The student did not engage in the inappropriate targeted behavior at this time.

Finally the student worked with the paraprofessional for 10 minutes to match vocabulary words with their pictures. The paraprofessional helped the student to initially read the words and prompted him as he matched the pictures. If the student hesitated, the paraprofessional would help him to decode the words. This happened with a total of 10 words. During this time the inappropriate targeted behavior was observed. The student was asked a total of 36 questions and responded that he did not know the answer two times; he engaged in the inappropriate targeted behavior 5.5% of the time.

**Week 3: Session 4**

The first 10 minutes of the fourth session consisted of the same Social Story and children’s literature story that had been read in past week. The stories were read aloud to the student. After the stories were read to the student, he was asked the same three questions he was asked after each session. When the student was asked what happened in the story he stated, “Sensei Wu asked him [Kai] what happened and Kai was thinking.” The student was then prompted to determine if he remembered any details about the children’s literature story. The student said, “The girl said, ‘oh good’ and then the other girl said, I’m not good at it, but she
tried her best.” The student was then asked about what happened to the person in the story who tried her best. He stated, “They said they couldn’t but they could.” The student was then asked how the story made him feel. The student stated that the story made him feel confused because, “the girl said she didn’t know the answers but she could do it.”

Instruction began by the student working with the intervention specialist and three other students for 15 minutes. The students were first instructed to read the sentences the intervention specialist had written on the board. The sentences displayed had question marks and periods that the students had previously added. The student read the sentences with some assistance from the intervention specialist. The students were then instructed to write their own questions on the dry erase boards. The student did so independently and referred to the board and word wall while writing without engaging in the inappropriate targeted behavior. However, the student made a mistake by writing a question instead of a statement. The teacher prompted the student to turn his question into a statement. The student then appeared inattentive by looking around the room and not working as the teacher assisted another student. The teacher asked the student if he needed help and he responded by saying, “yeah I got nothing.” The teacher then prompted him by giving him a question and a statement and asked him to pick the correct statement. The student did so and wrote the question. The student then wrote a question independently.

After the student finished writing, he worked with the same group of students and the intervention specialist for 15 minutes. The students engaged in guided reading. The student took turns reading independently and reading with a group. The student participated in reading and answered all of the comprehension questions asked by the teacher without engaging in the inappropriate targeted behavior. After reading took place, the student then worked on a worksheet where he had to write statements to the questions asked. For example, one of the
questions was “What would you like to eat for lunch?” The student responded to all questions without engaging in the inappropriate target behavior.

When the student completed his worksheet, he worked with the paraprofessional and two other students to complete a word family sort for the remainder of the class time. The student was asked to read 10 of the words and did so without engaging in the inappropriate target behavior. After the student completed the word sort, he wrote his spelling words independently. During this time the inappropriate targeted behavior was not observed. The student was asked a total of 42 questions and responded that he did not know the answer one time; he engaged in the inappropriate targeted behavior 2.4% of the time.

*Week 4: Session 5*

The first 10 minutes of the fourth session during the third week consisted of the same Social Story and children’s literature story that had been read in past weeks. The stories were read aloud to the student. After the stories were read to the student, he was asked the same three questions he was asked after each session. The student stated that the children’s literature story was about a girl who said, “I don’t know. I’m not so very good at it, but she was able to do it.” When the student was asked about what happened in the Social Story, he stated, “Sensei Wu asked Kai a question and he thought about it.” The student then was asked about what happened to the characters in the stories who tried their best in the stories. The student stated, “The characters were ‘scardy cats’ because they were good at things but they did not try.” The student once again stated that the story made him feel confused because he didn’t understand why people said they weren’t good at things when they actually were.

After interventions took place, the student worked with the paraprofessional and two other students. The student matched pictures of his word family words to word cards. The
paraprofessional provided prompting by asking him, “What is this card?” and “Where should it go?” The student did not engage in the inappropriate targeted behavior at this time. After the student finished matching, the paraprofessional orally read a comprehension passage to him and the two other students with whom he was working. The student appeared to listen but did not follow along in the passage. After the passage was read, the paraprofessional asked the comprehension questions to the student and the two other students. The student answered the questions he was asked without engaging in the inappropriate targeted behavior.

The student then worked with the intervention specialist and three other students for 20 minutes. The students were asked several questions at this time because they were taking a quiz over their reading. Before beginning the quiz, the student was asked about some of the rules for taking quizzes. The student responded to the teacher’s questions at this time by stating, “Keep your eyes on your own paper.” The quiz then began by the intervention specialist orally reading the questions to the students while the students filled in their responses independently. The questions the student was asked were over sequencing of the story, vocabulary, and details. The student did not engage in the inappropriate targeted behavior at this time. After the students finished their quiz, they were handed a new worksheet. The teacher again orally read comprehension questions. The student only engaged in the inappropriate targeted behavior once when asked a sequencing question. The behavior occurred after a question was asked and the student sat in his chair not working and appeared inattentive. The teacher asked him if he heard the question and the student responded, “I don’t know.” The teacher reread the question and the student responded to it on his paper.

Finally, the student worked with the paraprofessional and two other students for 15 minutes. The student worked independently on his handwriting while writing his spelling words.
At this time, the paraprofessional asked the student questions about his weekend. The student responded to all questions at this time. After the student worked on his handwriting, he was given 25 sight word cards to read. The paraprofessional showed him each card while asking him “What’s this word?” The student responded each time without engaging in the inappropriate targeted behavior. The student was asked a total of 56 questions and responded that he did not know the answer one time; he engaged in the inappropriate targeted behavior 1.7% of the time.

*Week 4: Session 6*

The first 10 minutes of the fourth session during the third week consisted of the same Social Story and children’s literature story that had been read in past weeks. The stories were read aloud to the student. After the stories were read to the student, he was asked the same three questions he was asked after each session. When the student was asked about what happened in the children’s literature story he stated, “The teacher wanted the girl to try and she said oh no and that’s it.” The student was prompted to recall more events but he was unable to do so. When the student was asked what happened in the Social Story, he stated, “The teacher asked Kai [student in the story] a question and he thought about the answer.” The student was then asked about what happened to the character who tried his/her best. He stated, “I think she didn’t know she was good at something until she tried.” Finally, the student was asked how the story made him feel and he said, “It made me feel confused because two people didn’t know they were good at something.”

After the story was read, the student worked with the paraprofessional and one other student for 15 minutes. The student was instructed to match words with pictures. The paraprofessional prompted the student by asking, “Where does this picture go?” and “Does this word go with this picture?” The student was asked a total of 33 questions at this time related to
his identification of words. After this, the student practiced writing his spelling words and completed a handwriting worksheet independently. The inappropriate targeted behavior was not engaged in at this time.

The student then worked with the intervention specialist and three other students for 25 minutes. The student worked one-on-one with the intervention specialist while the other students completed a phonics worksheet. The teacher reviewed the student’s sight words with him. She prompted him by asking, “What is this word?” The student was questioned on 20 sight words. After the student finished reading his sight words, he began working on a phonics worksheet independently. After the worksheet, the student was instructed to write three sentences on the back of the worksheet. Once finished, the students shared their sentences. The student was asked to his sentences three times and he did so without engaging in the inappropriate targeted behavior. The student was asked a total of 26 questions by the intervention specialist and did not engage in the inappropriate targeted behavior at this time.

Finally, the student worked with another paraprofessional for 10 minutes. The student mainly worked on worksheets at this time and was only asked three questions. The student worked on a worksheet reviewing his sight words and the paraprofessional asked him three questions regarding his the words he had written. The student did not engage in the inappropriate targeted behavior at this time. The student was asked a total of 62 questions and responded that he did not know the answer 0 times; he engaged in the inappropriate targeted behavior 0% of the time.

Discussion of Results

The case study used qualitative data by observing the student in the resource room and recording responses as well as quantitative data by recording the number of questions the student
was asked and the amount of times he engaged in the inappropriate targeted behavior. While these responses were the behaviors of one individual, the data were analyzed in a way that trends and patterns were found. A graph was created to provide a summary of responses (See Figure 1). The student was also asked a total of three questions after the stories were read to gauge his understanding of the stories. The child’s engagement in the inappropriate targeted behavior provides the details of the most common trend in the data.

A baseline of behavior was established during the first week of observations. This initial observation demonstrated that the student frequently responded to questions by stating, “I don’t know”, in the resource room. The student responded that he did not know the answers immediately to questions 42% of the time. These inappropriate behaviors appeared to occur the most frequently when the student was asked to write and when he was working in a larger group setting without teacher assistance. After beginning interventions for the first week over two sessions, the student has decreased the inappropriate targeted behavior to 15% and then to 12% of the time. During the second week of interventions, the inappropriate behaviors were demonstrated most frequently when the student was asked to respond to questions from the speech pathologist about emotions. During the third session of the second week, the student frequently responded with the inappropriate targeted behavior when he was asked to read orally aloud. During the third week of interventions the student engaged in the inappropriate targeted behavior 5.5% of the time and then 2.4% of the time. During the first session of the third week, the student most frequently engaged in the inappropriate targeted behavior when working with the speech pathologist once again. The questions that the student responded, “I don’t know” or “I got nothing” to were questions that required him to orally read aloud and required him to use background knowledge. During the second session of the third week the student only engaged in
the inappropriate targeted behavior once during writing. During the fourth week of interventions
the student engaged in the inappropriate targeted behavior 1.7% of the time and 0% of the time.
During the first session, the student responded, “I don’t know” one time when he was working
independently on a worksheet and the teacher asked him if he needed assistance. During the
final session, the student did not engage in the inappropriate targeted behavior.

The question guiding this study was, “Does using children’s literature and Social Stories
help students with autism to decrease inappropriate behaviors?” Viewing the data, it appears that
the combination of a Social Story and children’s literature story did decrease the inappropriate
behaviors over three weeks. Before beginning interventions, the student was exhibiting the
behavior 42% of the time. After providing the student with interventions, the behavior decreased
to 15% of the time, nearly a one third decrease in the behavior. As the sessions continued, the
student steadily decreased the inappropriate behavior and, on the last day of interventions, did
not exhibit the behavior at all. The data appear to demonstrate that using children’s literature
and Social Stories with students with autism does decrease inappropriate behaviors.

Summary

The quantitative and qualitative data collected from one student over four weeks were
analyzed at the conclusion of the data collection phase. The anecdotal notes of the observations
and the number of times the student engaged in the inappropriate targeted behavior was studied
and analyzed. The number of times the student engaged in the behavior as well as the setting
that led to this behavior was noted to find patterns in behavior. The student steadily decreased
the number of time he engaged in the inappropriate targeted behavior after beginning
interventions. The percentage of times the student engaged in the behavior provided evidence of
the connection. Overall, the data supports that there was a decrease in the inappropriate targeted
behavior over four weeks by reading Social Stories and children’s literature stories to the student.

Figure 1

Percentage of Inappropriate Behaviors Over Four Weeks
CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Providing appropriate targeted interventions to children with autism is crucial to each individual’s success in school and in life. According to Gray (2011), Social Stories are an effective intervention when working with children with autism. Social stories affirm something that an individual does while teaching them an appropriate targeted behavior and/or skill. Social Stories are a necessary intervention due to some of the social deficits that individuals with autism can face. Pronovost, Wakstein, and Wakstein (1966) discovered that individuals with autism experience deficits related to speech behavior, language comprehension, and functioning. These difficulties can cause individuals with autism to engage in inappropriate behaviors. Baron-Cohen (1991) adds that individuals with autism also have deficits when engaging in relationships with others due to their difficulty understanding the causes of emotions.

In addition to the social difficulties individuals with autism face, there are also unique literacy behaviors exhibited by these individuals. Newman et al. (2007), states that individuals frequently demonstrate strength in word recognition but have difficulty comprehending what they are reading. Students with autism often rely on memorization of the words they are reading without attaching any meaning to them. Williamson, Carnahan, and Jacobs (2012) confirm that reading comprehension is also lessened in individuals with autism due to a lack of background knowledge. If individuals do not have knowledge or previous experiences related to the content of the text, comprehension and understanding of what is read is severely lessened. Williamson et al. further state that since individuals with autism have difficulty understanding emotions, it is difficult to make meaningful connections to characters in the stories to assist in reading comprehension. Since individuals with autism experience social difficulties that lead to inappropriate behaviors and lessen comprehension, interventions including Social Stories and
children’s literature were used in this study. The research question guiding this study was, “Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors?”

Summary

The purpose of the study was to answer the question, “Does using children’s literature and Social Stories help students with autism to decrease inappropriate behaviors?” This research study focused on a case study design to determine whether using a Social Story and children’s literature can decrease inappropriate in students with ASD. The student’s behaviors were monitored over four weeks for 50 minutes to determine whether or not inappropriate behaviors had been decreasing. Anecdotal notes were recorded including details about the behavior, the setting, and the people involved when the inappropriate targeted behavior occurred. The number of times the student was asked to respond to a question was recorded, as well as the number of times the student engaged in the inappropriate targeted behavior. The statistics were then calculated and graphed to identify trends in the data.

Conclusions

Based on this investigation, it was apparent that multiple readings of Social Stories may be necessary for students to recall information from the stories. As the student was asked questions throughout the study it appears that he was able to recall more information the more frequently the story was read to him. These findings are consistent with a study conducted by Norris and Dattilio who found that it often takes a few readings of a story for the student to internalize the information before results could be seen when first introducing a Social Story. Analyzing the student’s responses to the questions about the Social Story and children’s literature story, it appears that the student was able to only retell details from the children’s
literature story but was able to make connections to the Social Story by synthesizing information. This conclusion can also be demonstrated through the student’s behavior. The student’s inappropriate behavior slowly decreased as the story was read more throughout the study. By the student’s inappropriate behavior slowly decreasing throughout the study, it can be concluded that he was able to recall more information from the stories because he was demonstrating the messages of the story through his behaviors. Overall, it appears that multiple readings of the stories should take place overtime in order for the interventions to be effective.

A second conclusion that may be drawn is that using a Social Story aided in comprehension more than the children’s literature story by the students ability to make connections and create examples. Although the stories were read together, it cannot be determined if the Social Story aided in comprehension more than the children’s literature story. However, when asked about the children’s literature story the student could repeat back quotes from the story but was unable to make any connections to his background knowledge. Pronovost et al. studied the language comprehension in 14 children with autism and found similar patterns in comprehension. When students were asked questions they often repeated back stored phrases rather than responding to the questions. By the student in this study repeating back quotes from the book demonstrated similar findings in the study. When the student was responding to questions about the Social Story he was able to relate the targeted behavior to characters from his favorite television show. For example, the student stated, “The ninjas beat an enemy because they tried their best.” Although this was not relevant to the school setting, the student was able to make some kind of connection to the targeted behavior, demonstrating the benefits of the Social Story.
The Social Story may have also been more beneficial to the student because it was more direct and shorter than the children’s literature story. The Social Story focused on and directly addressed the inappropriate targeted behavior while the children’s literature story focused on an overall theme. For example, the children’s literature story was focused on ‘trying your best’ while the Social Story directly focused on not immediately responding with “I don’t know” after being asked a question. It appears that since students with autism already have difficulty with comprehension, using a Social Story is more beneficial because it directly addresses the behavior rather than leaving the student to draw conclusions about the theme of the story like in a children’s literature story. It can be concluded that comprehension is aided more effectively by directly addressing the behavior through the Social Story.

Another conclusion drawn from this investigation was that the student with autism was able to draw a conclusion about the characters’ emotions or motivations. An individual with autism’s ability to understand characters motivations is not expected. According to Norbury (2005) individuals with autism are deficit in their Theory of Mind. A deficit in the Theory of Mind impairs an individual’s ability to understand others thoughts, motivations, or feelings. This difficulty often hinders reading comprehension so characters’ motivations cannot be understood. After five readings of the Social Story and children’s literature story, the student was able to begin to understand characters’ motivations. Although individuals with autism are thought to be deficit in their ability to understand others thoughts, motivations, or feelings, it may be concluded that through repeated exposure of stories that relate to others feelings, individuals with autism can begin to understand these emotions. It appears that through frequent readings of the story, the student was able to begin to make more connections to the characters. It can be
concluded that it will take up to five readings of the stories for the student to begin to make connections to the characters’ emotions or motivations.

**Recommendations for Teachers**

Elements of this study may be beneficial for teachers to use in their classroom for their students with autism. If teachers were to implement interventions, teachers should use both a children’s literature story and a Social Story focused on the inappropriate targeted behavior. Since the Social Story appeared to be most beneficial in this study, more focus could be placed on the Social Story. It is crucial for teachers to incorporate the students interests in the Social Stories so that they can make connects to the characters and the message of the story. Students should also take ownership in their story by creating the final page about what they will do try to increase the appropriate behavior. Teachers may also put the students name into the children’s literature story in order to help him/her to take ownership in the story and increase engagement. When teachers read these stories to their students, it is recommended that the story be read before the inappropriate targeted behavior most frequently takes place. Finally, these stories should frequently be reviewed with the student over time. In this study, it took the story being read five times before the student could recall details of the story.

**Recommendations for Parents**

Parents may also support the interventions used in the study. According to Gray, when using Social Stories, having multiple people give the same information affirms the message of the story. Children may benefit from having their parents read the same Social Story that is used at school. This may also benefit children because the repeated exposure to the story could help them to recall the information more frequently over time. Parents may also help teachers to plan appropriate interventions by providing relevant background information on their child’s interests.
This information could be used in the Social Story to help students to make a connection to it. Finally, parents should provide reinforcement of the message of the story to help students to decrease in the inappropriate targeted behavior.

Recommendations for Further Study

If this study was to be continued, there are several aspects that could be changed to further test the effectiveness of the interventions. The student in study was read the story first thing in the morning and was only observed for 50 minutes in the resource room. Students participating in a study similar to this could be observed in the general education classroom, art room, and other places in the school to monitor whether or not the targeted inappropriate behaviors have been decreased. Along with the student being observed across multiple settings, the researcher could observe the student for longer durations of time rather than for 50 minutes. The researcher could observe the student for the entire day or increase the increments of time he/she observes the student over time. The interventions in this research study occurred twice a week on Mondays and Fridays. By changing the days and/or increasing or decreasing the amount of days the interventions took place on may yield different results for future study as well.

This study also focused on only one student. This study could be replicated to include a group of students who have a similar behavior that needs to increased or decreased. Interventions could take place together with the same children’s literature story and a specific Social Story for each student that incorporates their interests.

Finally, to support comprehension, the questions that were asked of the student after the stories were read could be changed. The questions could be developed to help the student to make more connections between his/her behavior and the message in the stories to make the
ideas appear less abstract. The researcher could also take an additional 10 minutes or designated amount of time after the story has been read to clear up any confusions. In this study, the student often remarked that he felt confused after a story was read. Since this research study was designed to begin to understand how well the student could independently comprehend the stories by decreasing the inappropriate targeted behavior, these confusions were not cleared up. Adding these components to future studies may contribute to future students’ with autism successes when aiming to decrease inappropriate behaviors.

The findings in the study demonstrate the importance of reading the stories to the student before the inappropriate targeted behavior is most often exhibited. Although conclusions have been found to support the research question, there are areas that would allow for further analysis of the subject. The interventions took place right after the student arrived at school twice a week for three weeks. The student was only observed for 50 minutes during speech therapy and reading instruction in the resource room. Reading the stories at this time appeared to decrease inappropriate behaviors during the 50 minutes the student was observed. This is consistent with the recommendations of Gray who stated that a Social Story should constantly be reviewed in order to effectively reinforce the information. Gray adds that stories are most effective when read before the targeted situation takes place. If this study were to be continued, the Social Story and children’s literature story should continue to be reviewed with the student. According to Gray, even if the student begins to master the skill, the story should be kept for future reference. If this study continued, the student may benefit from having the story revised to target the types of questions he was responding, “I don’t know” to.

When constructing a Social Story, Gray emphasizes the importance of knowing the audience. In the study, the child’s interests were taken into consideration by including characters
from the child’s favorite television show and making them characters in the story. This appeared to engage the child in the story based off of his responses when he was asked to recall details from both the children’s literature story and Social Story. The student demonstrated interest in the Social Story by making connections to the message of the story and the television show. The student also requested to be read the Social Story first during interventions. If this study were to be replicated, it is recommended that the child’s interests be included in the Social Story.

The children’s literature story, *Try Your Best*, was chosen to accompany the Social Story. The children’s literature story did not include the child’s interests but reinforced the theme of putting forth effort before refusing to do an activity or answer a question. The story was below the child’s reading level, used repetitive language to reinforce the message, and consisted of 24 pages with very few words on each page. The story described multiple situations where a girl was asked to perform different tasks and she would always respond that she could not do so. With encouragement from the girl’s teacher and fellow students she would try her best and succeed at what she was trying to do. Although the book did not follow the student’s interests, it used key phrases like “just try your best” that the student would repeat when he was asked to retell the story. Therefore, when selecting a book to pair with the Social Story, it may be beneficial to select one that is below the child’s reading level with simple statements to reinforce the behavior that is to be increased.

Gray also states in her Social Story ratio, the student should have the opportunity to create the last page to help him/her to recall the information. The student was asked by the researcher on the first day of interventions to think of a way for him to remember not to immediately respond by saying “I don’t know” to questions. The student decided that he would stop and think for three seconds. The sentence was scribed by the researcher and the student
created a picture to go along with the sentence. According to Gray, this helps the student to take responsibility for his/her actions. In the study, the student frequently acknowledged that he created the final page and this component appeared to be beneficial to the students understanding of the story and ownership of actions. If this study were to be recreated, this component should be included.

It should be noted that since autism can manifest itself in many different ways, each person with ASD is different. The results of this study may vary if the procedures are carried out with another student.

Summary

A summary of this study, conclusions, and recommendations for further study have been presented in this chapter. Past research has demonstrated that students with autism benefit from Social Stories and the repetition of these stories. Conclusions can be drawn that these interventions are most effective when they are repeated at least four times to support comprehension. However, the student did demonstrate an inability to comprehend elements of the story when they were related to emotions and motivations of others.
REFERENCES


http://www.autismspeaks.org/what-autism


APPENDIX A

LETTERS OF CONSENT
Dear Principal,

My name is Whitney Begue, and I am a graduate student at Bowling Green State University. As part of the research for my master’s thesis, I would like to conduct research in one of your resource rooms for the purpose of exploring if inappropriate behaviors in students with autism can be decreased through children’s literature and Social Stories.

I would like to read an age appropriate story along with a Social Story to one of your students. Before I read the stories with the child I would like to ask the child a few questions to get to know about his/her interests and learn more about the child. After the stories have been read, I would like to test his/her understanding by observing him/her in the classroom environment. This study is expected to take place over four weeks and each of my visits should last about one hour. I would visit twice each week spending 10 minutes reading to the student and observing the student for 50 minutes. I would also like to interview the child’s teacher and parents to determine what some of the child’s inappropriate behaviors are. Once the observations and interviews have been conducted, they will be transcribed. Copies of the research will be distributed to you and others as appropriate.

Hopefully, this research will provide your teachers with information about how to best support the behavioral and reading needs of children with autism. Your decision about whether or not to participate in this study will not interfere with your school’s status or relationship with the institution in any way. Please also keep in mind that the likely risks to you, your teachers, and your students are no greater than those encountered in daily life.

For the purpose of the research study, all identifying information (i.e. names and signatures) will be removed. Pictures and/or videos will not be used as part of the study. However, I will use an audio recorder for the student interviews. All data will be stored in a locked cabinet. You may choose to withdraw from the study at any time without any form of penalty. Please contact Whitney Begue by email at wbegue@bgsu.edu or by calling 330-309-8080 if you have any questions. You may also contact my advisor Dr. Cindy Hendricks at cindyg@bgsu.edu or 419-372-7341. Specific questions regarding students’ and teachers’ rights as research participants can be directed to the Chair of the Human Subjects Review Board at BGSU at hsrb@bgsu.edu or 419-372-7716.

Thank you in advance for your time and consideration.

Sincerely,

Whitney Begue
Graduate Student at Bowling Green State University

Please circle one: I AGREE I DO NOT AGREE to allow you to do research at this school
Principal’s Name (please print)______________________________
Principals Signature

Date
Dear Teacher,

I am a graduate student at Bowling Green State University pursuing my Master’s Degree in Reading. Currently, I am conducting a study for my research project on using children’s literature along with Social Stories to decrease inappropriate behaviors in students with autism. I will be using Social Stories as an intervention to teach appropriate behaviors. I am writing to ask your permission to conduct a brief interview with you about some of the behaviors of the child, to read some stories to one of your students, to observe him/her, and to conduct a brief interview with the child. I would be visiting your classroom twice a week for about an hour each time for a period of four weeks. I would read with the student for ten minutes and observe the student for about fifty minutes in the classroom. In addition to your permission I will also gain parental consent and student assent prior to beginning the study. Hopefully this research can benefit you as an educator by discovering if Social Stories and children’s literature can help to decrease inappropriate behaviors.

If you allow me to work with your student, I would include your student’s responses and notes on my observations in my data analysis. For the purposes of the research study, all identifying information (i.e. names and signatures) will be removed. I would conduct a brief interview (20 minutes) with you to determine some of the student’s behavioral problems. Information from the interview would be used in my data analysis. An audio recorder will be used during the interview only. The information obtained from this study will be kept confidential. You will be given a copy of the paper at the end of the study. All data will be stored in a locked cabinet. As a participation in this study is voluntary, you may choose to withdraw at any time. Your participation in this study will not interfere with your status as a teacher or affect your relationship with Bowling Green State University. Please keep in mind that the likely risks to you and your students are no greater than those encountered in daily life.

Please contact Whitney Begue by email at wbegue@bgsu.edu or by calling 330-309-8080 if you have any questions. You may also contact my advisor Dr. Cindy Hendricks at cindyg@bgsu.edu or 419-372-7341. Specific questions regarding students’ and teachers’ rights as research participants can be directed to the Chair of the Human Subjects Review Board at BGSU at hsrb@bgsu.edu or 419-372-7716. Please do not sign this form until your questions have been answered. Thank you in advance for your time and consideration.

Sincerely,

Whitney Begue

Please circle one: I AGREE I DO NOT AGREE to allow Whitney Begue to conduct an interview with me regarding the behaviors of my student and use my responses from the interview in her final report.

Teacher’s Name (please print) ________________________________
Teachere Signatur }____________________________
Date ________________________________
Dear Parent/Guardian,

I am a student at Bowling Green State University in the Graduate Reading Program. I am currently doing a research study to determine whether using a Social Story and children’s literature related to a behavior can help to decrease the inappropriate behaviors in children with autism. I will be using Social Stories as an intervention to teach appropriate behaviors. This study will take approximately an hour a day, twice a week, for four weeks (eight visits). I would like to read with your child for about 10 minutes and observe the child in the classroom for 50 minutes. During this time, I will be reading with your child while the rest of the class reads in a small group. I would also like to conduct an interview (approximately 20 minutes) with you to determine some of your child’s inappropriate behaviors.

The purpose of this letter is to ask your permission for you and your child to be part of this study. I would like to interview your child initially to determine some of his/her interests and hobbies to learn more about your child. The initial interview would take about 5 minutes and would be used only to get to know your child better. I would also like to include your responses and your child’s responses to the interview in my final report. I would also include some observational notes of your child in his classroom environment in the final report. For the purpose of the research study, all identifying information (i.e. names and signatures) will be removed. The information obtained from this study will be kept confidential. All data will be stored in a locked cabinet.

By allowing your child to participate, your child’s teacher may gain better information about your child’s behavioral needs. However, participation in this study is voluntary. Your decision about whether or not to allow your child to participate will not interfere with your child’s grades, progress, or development. Please also keep in mind the likely risks are no greater than those encountered in daily life. By completing the form, you are agreeing to allow your child to be a part of the study. You may choose to withdraw your child from the study at any time without penalty. Your child is also free to withdraw from the study at anytime without penalty. If you do not agree to participate in study or you and/or your child chooses to withdraw from the study, your relationship with Bowling Green State University will not be affected.

Please contact Whitney Begue by email at wbegue@bgsu.edu or by calling 330-309-8080 if you have any questions. You may also contact my advisor Dr. Cindy Hendricks at cindyg@bgsu.edu or 419-372-7341. Specific questions regarding students’ and teachers’ rights as research participants can be directed to the Chair of the Human Subjects Review Board at BGSU at hsr@bgsu.edu or 419-372-7761. Please do not sign this form until your questions have been answered. Thank you in advance for your time and consideration.

Sincerely,

Whitney Begue
Graduate Student at Bowling Green State University

Please circle one: I AGREE  I DO NOT AGREE  to allow my child to participate in this study and my have my answers to the interview be included in the final report

Child’s name (please print)__________________________________________
Guardians name (please print)______________________________
Guardian’s signature__________________________________
Date_______________________________________________
Dear Student,

I am a student in college. I want to read some stories with you that will take about 10 minutes. I will read with you twice a week over four weeks. After we read the stories, I will watch you during class time and ask you a few questions. This will happen during reading class. When we read, we will be in the classroom while your classmates read with your teacher. The questions you answer will be about what we have read together. When you talk to me, I will write down what you say. You do not have to answer the questions. You will not get in trouble or get a bad grade for not doing this. You can stop answering questions at any time. You can also stop working with me at anytime. “Yes” means that you will read with me and answer some of my questions. “No” means that you do not want to read with me and answer my questions. Please circle your answer.

YES  NO

Student Signature __________________________
Date __________________________
APPENDIX B
INTERVIEW QUESTIONS
Questions for Parents

1. At what age was your child diagnosed with autism?
2. What inappropriate behaviors does the child exhibit at home?
3. What behavioral plan do you have in place to decrease the inappropriate behaviors?
4. What appropriate behaviors in your child would you like to see increased?
5. How do you support the appropriate behaviors?
6. What are some of your child’s interests?
7. What is motivating to your child?

Questions for the Teacher

1. What assessment was given to the student to determine if he/she has autism?
2. What services or interventions does the child receive?
3. What inappropriate behaviors does the child exhibit during school?
4. What behavioral plan do you have in place to decrease the inappropriate behaviors?
5. Where does the child most frequently exhibit these behaviors?
6. What appropriate behaviors in the child would you like to see increased?
7. How do you support the appropriate behaviors?
8. What are some of the child’s interests?
9. What is motivating to the child?
Questions for the Student Before the Study

1. What do you like about school?
2. What don’t you like about school?
3. What are your favorite things to do at school?
4. Where is your favorite place to go?
5. What are some of your favorite things?
APPENDIX C

QUESTIONS FOR THE STUDENT
Questions for the Student After the Story Has Been Read

1. What happened in the story? (Prompt the child while he/she retells the story.)

2. What happened to the character that tried their best in the story?

3. How did this story make you feel?
Choose one: (Happy, sad, angry, or confused)
Thank you for your submission of Revision materials for this project. The Bowling Green State University Human Subjects Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

The final approved version of the consent document(s) is available as a published Board Document in the Review Details page. You must use the approved version of the consent document when obtaining consent from participants. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that you are responsible to conduct the study as approved by the HSRB. If you seek to make any changes in your project activities or procedures, those modifications must be approved by this committee prior to initiation. Please use the modification request form for this procedure.

You have been approved to enroll 3 participants. If you wish to enroll additional participants you must seek approval from the HSRB.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must also be reported promptly to this office.

This approval expires on November 6, 2013. You will receive a continuing review notice before your project expires. If you wish to continue your work after the expiration date, your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date.

Good luck with your work. If you have any questions, please contact the Office of Research Compliance at 419-372-7716 or hsrb@bgsu.edu. Please include your project title and reference number in all correspondence regarding this project.
This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Bowling Green State University Human Subjects Review Board’s records.