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## Home-School Collaboration: A Case Study

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HOME-SCHOOL COLLABORATION:

A CASE STUDY

A Thesis

Submitted

In Partial Fulfillment

of the Requirements for the Degree

Educational Specialist

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This Study by: Sarah C. Ferguson  
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has been approved as meeting the thesis requirement for  
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## DEDICATION

This paper is dedicated to all of those individuals who helped me survive not only the process of this thesis, but also the past two years of graduate school.

My family who provided encouragement and support whenever I thought I couldn't go any further. They provided not only the support I needed to conquer graduate school, but also all of the steps that built the foundation I needed for graduate school.

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## CHAPTER 1

### INTRODUCTION

#### School Psychologists' Roles in Education

Although the field of school psychology has been around since the late 1800s, it was not until compulsory schooling that the need for a "school" psychologist was created. Due to compulsory schooling children with physical and mental disabilities were entering school systems at much higher rates than ever before. Schools were now required to educate and care for these children and were often unaware of how to do so effectively. "The schools were inundated with unanticipated disorders and forced to cope using unproven interventions" (Fagan & Wise, 1994, p. 26). A need to adjust the current educational system was created at this time. Special education services were implemented to meet these changes. Schools also began to hire psychologists to help them determine which students qualified for special education services. The school psychologist was often seen as the special education gatekeeper (Fagan & Wise, 1994).

Since the inception of school psychology there has been the "concern that [the] school psychologist do more than merely administer and score intelligence tests . . ." (Fagan & Wise, 1994, p. 15). School psychology today emphasizes a problem-solving model. School psychologists bring knowledge of child development, psychology of learning, progress monitoring, and program evaluation to the schools in which

they work. The problem solving model focuses on improving the educational environment by: (a) clearly identifying problems, (b) analyzing factors contributing to a problem, (c) setting goals, (d) analyzing resources available to attain the goal, (e) utilizing data to develop and implement interventions, and (f) evaluating outcomes and concluding interventions when warranted (Iowa Department of Education, 1994).

School psychologists provide both direct and indirect services to the students. Some examples of direct services are (a) individual and group counseling, (b) skills training, (c) family therapy, and (d) crisis intervention. Indirect services include: (a) consultation with parents, (b) consultation with educators, (c) functional assessment, (d) evaluation of programs, and (e) staff development. It is expected that through these services the school psychologist will enhance the educational functioning of students and apply psychological principles to education (Iowa Department of Education, 1994).

School psychologists work in collaboration with parents, teachers, and other school personnel. The involvement of parents in their children's educational planning is very important. Parents can often provide valuable information that the student's teacher may not know first hand.

### Application of Interventions

One of the roles that a school psychologist fills is to help classroom teachers plan and implement interventions. This is often done through a collaborative relationship between teachers and school psychologists. Effective interventions define the goal as well as the exact actions needed to meet the goal. Direct and frequent progress monitoring is used to assure that the intervention is effective and progress is being made. Teachers often look to school psychologists to design these interventions because they are generally above and beyond the normal classroom strategies used by good teachers.

### Statement of the Problem

Many students school psychologists work with will have medical diagnoses (e.g., ADHD, Asperger's Syndrome, Oppositional Defiant Disorder [ODD], and Tourette's Syndrome). Although the student may have a specific diagnosis, there are not specific educational plans/interventions designed for each diagnosis. Each student is different and as mandated by federal law, the educational plan needs to be tailored sure it meets the specific needs of each student. In addition, many children may display symptoms that are very similar across various disorders. This can lead to misdiagnosis and/or "fuzzy" diagnoses. Thus, it is important the school psychologist work with each individual child based on his or her strengths

and weaknesses. By using the student's specific strengths and weakness, the school psychologist can avoid recommending ineffective interventions that are put in place because the student has a specific diagnosis.

When looking at the student's strengths and weaknesses, it is important that the school psychologist have input from both the classroom teacher and the parents. This input will allow the school psychologist to have the most complete information when planning interventions. The school psychologist may work in consultation with both the parents and the teachers to make sure that the student is receiving the support he or she needs both at school and at home. This conjoint consultation process can be used to design interventions for both the school and home environments that will support each other.

There has not been a large amount of research done in the area of home/school collaboration where interventions are in place in each setting. This study hopes to add to that body of literature.

#### Research Objectives

This project had several research objectives. Prior to this study convergent data (interviews with teachers and parents, observations, and a review of school records) were used to identify target behaviors and or skills. The behaviors identified were summoning others and spelling. These were behaviors that both the child's parents and

teachers identified as needing extra support. Given the need, the following research objectives were proposed for this research:

1. Interventions for both summoning others and spelling will be developed for both the classroom and home.

2. Training will be designed for both interventions and both settings.

3. Both the parents and teachers will be trained in implementing the interventions.

4. The success of the intervention will be documented.

It was anticipated that providing the extra support in both the home and school settings would increase the effectiveness of the interventions.

## CHAPTER 2

## LITERATURE REVIEW

Attention Deficit/Hyperactivity Disorder (ADHD)

ADHD was first recognized and conceptualized by George Still in 1902 during a series of lectures to the Royal College of Physicians in England. Still described children who were aggressive, defiant, resistant to discipline, excessively active, highly emotional, and had poor attention to task. He felt these symptoms were the result of biological factors rather than a lack of parental training or responsibility. Still believed heredity was at fault in some cases, but in many cases ADHD was acquired as a result of damage to the central nervous system either peri- or post-natally. He also reported ADHD appeared to occur more frequently in males than in females and that these children seemed to have a larger number of physical anomalies in their appearance (Still, 1902 as cited in Mash & Barkley, 1989).

The latest (1994) publication of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) included Attention Deficit/Hyperactivity Disorder. According to the DSM-IV the essential diagnostic feature of ADHD is a persistent pattern of inattention and/or hyperactivity that is more severe and frequent than typically observed in an individual of a comparable age and developmental level. Impairments from the disorder must be present in at least two different settings (e.g., school and home). There must also be a clear

interference with development of social, academic, or occupational functioning.

Children with ADHD may fail to pay attention to details or may make frequent and careless mistakes. These children often perform their work quickly and carelessly; therefore, their work is often sloppy and contains frequent mistakes. Children with ADHD have difficulty maintaining attention during tasks and/or play activities. Persistence and organization are also problem areas for children with ADHD, thus children with ADHD often avoid and/or dislike activities that require organizational skills or that the child pay close attention to the task (American Psychiatric Association's DSM-IV, 1994).

Depending on which individual study is looked at, prevalence rates for children with ADHD range from 1% to 20% of school-aged children. The most common prevalence rate is 3% to 5% (American Psychiatric Association, 1994). The occurrence rate of ADHD fluctuates among cultures and socioeconomic status. In addition, the ratio of male to female varies between 2:1 and 9:1, with an average of 6:1 in clinical samples and 3:1 in community samples (Barkley, 1997).

Theories abound as to the etiology of ADHD. Brain damage was first proposed as the cause of ADHD symptoms; however, it was later demonstrated that less than 5% of children with ADHD have neurological evidence that would support brain damage as the chief cause of ADHD. Difficulty

in neurotransmitter function has also been proposed as a cause of ADHD; however, once again, neurological research contradicts this idea. Environmental toxins have also been explored as a possible cause for ADHD. This has also not shown support in the research (Mash & Barkley, 1989). According to the DSM-IV "it is not yet entirely clear what fundamental cognitive deficit is responsible for this" (p. 81). However, genetic factors do appear to increase the risk for ADHD. Although researchers are not entirely sure how, they believe ADHD is genetically organized in some way (Kauffman, 1993).

### Treatment

Over the years there have been many approaches to the treatment of ADHD. A few of them will be discussed here. Dietary treatments, the removal of additives, dyes, and/or sugars have been tried. Although these techniques have been very popular, they have demonstrated very little clinical significance in the treatment of ADHD. Play therapy and psychotherapy have also shown to be ineffective with children with ADHD. Some of the treatments that have shown to be effective with children with ADHD include: (a) psychopharmacological therapy, (b) behavior therapy, (c) parent training in contingency management methods, (d) cognitive behavioral training, and (e) classroom application of contingency management application (Mash & Barkley, 1989).

Psychostimulants such as Ritalin and antidepressants have shown to be effective in the treatment of children with ADHD (Hallahan & Kauffman, 1994). Long-term side effects of these medications are still unknown. It has been demonstrated, that these drugs, at the correct dosage level, can result in an improvement in behavior and allow the student to be more receptive to what is happening in the classroom. The drugs take affect quickly in the child, typically 20 to 30 minutes after being taken. The effects usually last from three to four hours (unless given in a sustained release capsule) and then, in order to keep the effects, the child is required to take another dose of the medication (Kauffman, 1993).

#### Educational Interventions

In addition to medication, training parents and teachers how to manage a student's behavior has demonstrated to be successful for children with ADHD. The majority of these students require multiple interventions that involve both parents and teachers.

The effects of ADHD are usually most apparent in the classroom. In the classroom setting the student with ADHD is expected to pay attention, comply with teacher requests, and relate to peers; all of which are areas that may be difficult for the student with ADHD. "The school setting taxes the child with ADHD in precisely those areas where he or she has the greatest deficits--sustained attention, impulse control,

and compliance" (DuPaul, Guevremont, & Barkley, 1991, p. 130).

Behavioral modification and cognitive strategy training have proven to be effective in the school environment for children with ADHD. Behavior modification is based on the principles of learning theory; that is, behavior is affected by its consequences. Successful behavior modification requires the person using it to be aware of both the principles that make it work along with the individual student's characteristics and preferences. Modifying the behavior of a child with ADHD will usually include some system of making sure that rewarding consequences follow an appropriate behavior. As well, either no consequences or punishing consequences will follow a negative or unwanted behavior. Token reinforcements, response cost, and time out are all behavioral management systems that have been used with children with ADHD (Kauffman, 1993).

Behavior modification is often resisted for use with children because it is viewed as a tactic to manipulate children's behavior. When working with children, proponents of behavior modification argue the use of rewards is more appropriate than the use of punishments. "Even in Skinner's early work, he argued for the use of rewards rather than punishing agents for children, and documented that the use of rewards had more beneficial results and fewer side effects than punishment" (Peterson, 1997, p. 533). When rewards rather than punishments are used with children, behavior

modification is often more accepted by the general public. In addition, objections to the use of behavior modification techniques are less likely to occur if the target behavior is related to an academic product (e.g., work completion) rather than behavioral targets (e.g., staying in a seat or attending to task; Kauffman, 1993).

Cognitive training has also been successful with children with ADHD. It is often recommended as a technique to allow students with ADHD to take control over their own behavior. The belief behind cognitive training is that if students are thinking about their behavior more carefully they can regulate their behavior more closely. One technique that has shown success in helping children with attention problems is self-monitoring. A student who is using a self-monitoring technique is responsible for keeping track of his or her own behavior. For example, a student may be self-monitoring their attention to task. When working on an academic task, the teacher may have a tape player next to the child that would sound or beep randomly. Each time the student hears the sound he or she is responsible for recording whether or not he or she was working on the task that he or she was suppose to be doing. Self-monitoring has been shown to work effectively with both elementary and secondary age students (Hallahan & Kauffman, 1994).

#### Asperger's Syndrome

Another diagnosis with many similarities to ADHD is Asperger's Syndrome. Although autism is the most widely

known and understood pervasive developmental disorder (PDD), Asperger's syndrome (AS) is the most controversial of the PDD's. Hans Asperger, in his doctoral thesis, first wrote about this controversial disorder in 1944. Asperger described a group of four boys who demonstrated unusual social, linguistic, and cognitive abilities (Attwood, 1998). These children tended to be socially isolated and awkward. At this time he used the term "autistic psychopathy" to describe these children. Although these children demonstrated many of the same behaviors as children with autism, Asperger felt that these children fit into a distinct classification because they had normal intellectual and communicative development (Myles & Simpson, 1998). Asperger felt that these children were suffering from some form of a personality disorder.

Asperger's writing attracted little interest in the English language literature until Wing used the term Asperger's Syndrome in a 1981 writing. She described a group of both children and adults who had many of the characteristics Asperger described in 1944. Wing noticed many of the children had the classic symptoms of autism at a very young age, but as they developed they developed language skills and a desire to interact with others. These children had progressed past a typical autism diagnosis; however, they still demonstrated some significant problems. These difficulties included lack of advanced social skills and difficulty with conversations (Attwood, 1998).

Perhaps the main feature of children with AS is that they tend to speak fluently by the time they are five, even if their language development was a little slow to begin with and even if their language is noticeably odd in its use for communication. Some of these children show dramatic improvements despite having had severe autistic symptoms as toddlers (Frith, 1991, p. 3).

In 1983, Burgonie and Wing named the following as clinical features of AS: (a) lack of empathy; (b) naive, inappropriate, one-sided interactions; (c) little or no ability to form friendships; (d) pedantic, repetitive speech; (e) poor non-verbal communication, (f) intense absorption in certain subjects; and (g) clumsy and ill-coordinated movements and odd postures.

Asperger's Syndrome has many similarities to autism and because of that it is often referred to as high-functioning autism. There is a division in the researchers as to whether or not AS is a distinct disorder or rather is it simply a more mild form of autism (Thatcher, 1996).

Currently, the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders IV (DSM IV; 1994) classifies AS as a disorder separate from autism. According to the DSM IV the essential features of AS include severe and sustained impairment in social interactions and the development of restrictive, repetitive patterns of behavior, interests, and activities. The DSM IV also indicates that unlike autism, there is no clinically

significant delay in language. There are also no clinically significant delays in cognitive development, development of self-help skills, adaptive behavior, and curiosity about the environment in childhood. AS is also reported to have a later onset than autism, or, rather, may be recognized later in child's life. One significant difference in children with autism and those with AS is that as children with AS grow older they become interested in other people, but remain socially inept (Newsom & Hovanitz, 1997).

Currently, there are multiple sets of criteria used by professionals when diagnosing AS. These include, Wing's, DSM IV, the World Health Organization's International Classification of Diseases X, Peter Szatmari and colleagues, and Gillberg's. Which criteria are used is up to the decision of each individual clinician (Attwood, 1998).

#### Treatment Strategies

Like autism and the other pervasive developmental disorders, no one treatment or cure has been discovered for AS. However, early interventions have proven to be extremely important, especially in the area of social skills (Lesaca, 1997). The lack of social awareness and social skills has been referred to as the most debilitating characteristic of AS. Children with AS need to be explicitly taught many of the social rules other children learn implicitly through interaction with the people in their environment. Children with AS do not learn appropriate behaviors through everyday interactions in their environments as other children do.

Therefore, teachers and others working with these children must assess where the child's skills are breaking down and begin instruction at this level. This breakdown often occurs at the primary levels (Thacker, 1996).

Wing (1981) suggested the following as general guidelines for parents, teachers, and others working with children with AS: (a) keep a regular, predictable routine; (b) keep to the concrete rather than the abstract; (c) use behavior modification techniques when appropriate; and (d) develop an appropriate educational program that develops existing skills and abilities. Other suggestions for those working with children with AS include: (a) use visual methods of teaching, (b) avoid long strings of verbal instruction, (c) mainstreaming and meaningful contact with children who have normal social behavior is essential, (d) early intervention, (e) the use of correct medications to improve both behavior and the quality of life (Grandin, 1995). In addition, it is best to teach children with AS skills and coping strategies in the environment in which they will be used the most (Stoddart, 1998).

There are multiple strategies that can be used by parents to help their child with AS increase his or her social skills. The first of these is that the parents can invite a friend over to the house. In order to assure this is a success, the parent should arrange an outing that allows the parent to interact with the children, encouraging socially appropriate behavior. Parents can also enroll the

child in after school clubs or activities. These activities are often structured and supervised which will help assure the child with AS feels successful. Parents also need to encourage their child to play with other children and to teach the child comments and actions that are socially appropriate for play with other children (Attwood, 1998).

The first stage in helping children with AS increase their social skills is to observe the games and activities that children of the same age group play. Then, play these games and activities with the child with AS over and over. The most basic skills needed for the activity will often need to be explicitly taught to the child. The idea behind this is not only to build the skills needed for the activity, but also to model for the child what is supposed to be done and said during this type of an activity. This is something that can be done both at home and at school. Parents can work on this at home; then when the child is at school he or she will have the skills needed to play with the other children. Other children in the classroom will often be more tolerant of the child with AS if he or she understands the basic rules of the game or activity (Attwood, 1998).

#### Educational Interventions

Children with AS usually have average to above average intelligence, particularly when looking at verbal intelligence. However, these children often lack comprehension skills along with higher-order thinking skills. They often tend to think very literally with concrete images;

and problem-solving skills are often very poor. Rote memory is very often a strength for a child with AS (Williams, 1998).

The student with AS requires some very specific educational programming strategies. One of these is that the teacher must not assume that the child with AS understands what has just been said because they can parrot it back to the teacher. Secondly, the student with AS will often need motivation not to follow his or her own impulses; therefore, class work must be interesting as well as rewarding for the student. A student with AS may often need added instruction when the concepts are abstract and/or require high-order thinking skills. Teachers must also realize that although the student with AS may be able to read fluently that does not mean the student is comprehending what he or she is reading (Jackel, 1996). Teachers should also avoid asking very abstract questions such as "Why did you do that?" rather, teachers should make very specific statements such as "I did not like the way you threw your book when I told you it was time to line up for gym class. Next time put your book down and tell me that there is a problem" (Moreno & O'Neal, 1998).

Firm expectations must be set for the child with AS. For example, in the quality of work produced, the student must understand that it is the quality not just the quantity of work produced that is important. Without these expectations the student may not be motivated to work in

areas he or she is not interested in. Seating the student in the front of the class and directing frequent questions to him or her will help him or her attend during class.

Assignments should be broken down into small units with frequent redirection to the activity if needed. Timed work sessions have also shown success with children with AS.

Students with AS often have difficulties with organizational skills. Strategies that may help a student with AS with his or her organizational skills include: (a) putting a picture of a pencil on the cover of a notebook, (b) maintaining a list of assignments, (c) helping the student clean and organize desks and lockers, and (d) praising the student when he or she has remembered the correct materials (Moreno & O'Neal, 1998). Transition time should be reduced as much as possible along with very predictable daily routines in the classroom. This will help organize the day for the child with AS and allow the child to concentrate more easily. In addition, surprises should be avoided at all costs (Williams, 1998). Consistent routines and expectations are very important for the student with AS.

The above strategies are by no means the only strategies available for use with children with AS, they are just a sampling of those available. In addition, these are not strategies for just students with AS, but many are often effective for other students, in particular, students with ADHD.

When working with a student with AS there are several important concepts for the teacher to keep in mind. One of these is that facial expressions and body cues may not work with the child with AS. Individuals with AS have difficulty interpreting these signals and often do not pick up on them. It's not that the child is ignoring the nonverbal information sent by the teacher; but rather, he or she has not interpreted it or has interpreted it incorrectly. The use of verbal overload also needs to be avoided. The teacher needs to speak clearer and use shorter sentences than he or she might use with other students in the class. The teacher should also be aware that the student with AS may perceive normal classroom levels of auditory and visual input as either too much or too little stimulation (Moreno & O'Neal, 1998).

Social skill groups are one technique that can be used in the schools to help the child with AS. These groups provide the student with a chance to practice a range of social skills. The groups often consist of a mix of children, all who need additional practice with their social skills. A multitude of activities are worked on in a group setting including: (a) replay actual events in which the person was insecure, (b) demonstrate inappropriate behavior and ask the student to identify and correct the inappropriate behavior, and (c) social reasoning activities (Attwood, 1998).

Although most children with AS speak fluently by the age of 5, communication is still a area of difficulty. Language is not used effectively to communicate or engage in the social aspects of communication (Thacker, 1996). These children have difficulties repairing a conversation, coping with uncertainty or mistakes, knowing when not to interrupt, teasing, understanding metaphors and figures of speech, and the relevance of a change in tone. Some of the strategies available to help with these communication difficulties include: (a) using the child's strengths to encourage language growth, (b) pointing out social cues, (c) learning cues as to when to interrupt, (d) whispering in the child's ear what to say to the other person, (e) social stories and comic strip conversations, (f) explaining metaphors and figures of speech, and (g) avoiding abstractions (Attwood, 1998; Thacker, 1996).

#### Caution with Diagnosis

When working with children, it is very important that diagnosis is given only with the utmost care. Often in children, especially young children, what at first look will appear to support one diagnosis, will often, after further consideration, be revised to a different diagnosis. This needs to be considered when diagnosing children with ADHD and AS. ADHD and AS are two very distinct diagnosis that have very similar symptoms and can easily be confused. Often children will present symptoms of inattentiveness, hyperactivity, and impulsivity which will lead psychiatrists

and neurologists to a diagnosis of ADHD without considering other symptoms that may lead to a diagnosis of AS. This may occur because doctors are often less familiar with AS than they are ADHD.

Perry (1998) looked at five boys who were originally diagnosed with ADHD. Each of the boys' diagnoses were later changed to Pervasive Developmental Disorder (PDD). The boys' diagnoses were first made during the early school years. Although oppositionalism and aggression were the most frequent and bothersome problems, it was the symptoms of inattention, hyperactivity, and impulsivity that led to the ADHD diagnosis. All of the boys displayed difficulties with friendships; however, not as severe as those associated with autism. The boys also displayed enough of an attachment to their parents that any problems with relationships were overshadowed by other symptoms. Language skills were also not a concern at the initial evaluation.

Although the boys' symptoms did not call out autism there was information in each of the cases that indicated PDD. Perry (1998) stated "It is at least plausible that the initial evaluators had a bias toward diagnosing ADD/ADHD and/or a lack of experience with PDD" (p. 113). Perry also believed some of the boys' history may not have been taken or other clinical findings overlooked because of this. Each of the boys had an unusual behavior or interest as either a preschooler or infant such as: (a) lining up toys, (b) opening and closing doors, (c) gazing at spinning records or

lights, (d) preoccupations with calendars and subway maps, and (e) hand flapping.

As infants each child was described as being withdrawn, made little eye contact, had little interest in playing with peers, and most of the boys did not smile. In addition, the boys were reported to relate better to their parents than to their peers. In addition, every boy had some delay or deviance of speech; two of the boys were echolalic. By preschool each of the boys was reported to have "normal" language skills. Four of the boys demonstrated difficulties with changes in routine.

Each of the boys met the criteria for AS. This change in diagnosis had many consequences for the children and their parents. Due to the change in diagnosis, two of the boys faced changes in their educational placements and programming. The change in diagnosis also led to a reevaluation of medication for the boys because the results of the use of stimulants in children with PDD are more variable than with children with ADHD.

Perry's (1998) report demonstrated the importance of treating symptoms (all of them) and not relying on a single diagnosis. "Although labels are important in the assessment process, you must not allow labels to regiment and restrict the ways you observe and work with each individual child" (Sattler, 1992, p. 6). These five boys were the same boys with the same symptoms after the diagnosis changed. However, for at least two of the boys, educational placements were

changed due to the change in diagnosis. If educators are using a classification system for special education services, these types of changes are bound to happen. Although, if schools and educators plan for children's education based on the child's educational needs, not diagnosis, this is less likely to happen.

This report also demonstrates the idea that doctors can not always pin point a diagnosis. Thus, children are often given "fuzzy" diagnoses. One disorder can often have symptoms very similar and closely related to that of another disorder.

#### Convergent Data

When an assessment is done on any child, it is very important that multiple procedures be used. Decisions should not be made based on any single assessment. The use of convergent data lends itself to "ecological validity to the information gathered" (Sattler, 1992, p. 540). This also reduces the chance of a potential error dramatically affecting any decisions made about a student (Pressley & McCormick, 1995; Sattler, 1992).

"Multidimensional assessment procedures should be used to collect data relevant to the problem" (Iowa Department of Education, 1991, p. 7). It needs to be recognized that difficulties that a student is having in the classroom may not be due solely to the individual student's characteristics. There may be environmental or other factors that impact the student's behavior. This is why it is so

important to use multidimensional or convergent data when working with a student. The use of convergent data also allows the school psychologist, or whoever's working with child, to look at all aspects of the problem and develop interventions that will address these issues.

#### Home and School Collaboration

Schools and parents have had a long history together. Over the years the role of parents in the schools has shifted from being actively involved in running the schools to that of guests in the school. The responsibility of "dealing" with the school system has traditionally rested with mothers. Today, many parents want to become more involved in the educational systems their children spend so much time in. School personnel also see the importance of parental involvement in the schools. "In order to be effective as educators, we must understand the families from which our students come and the opportunity and encouragement they receive to develop the skills necessary in creating positive working relationships" (Fuller & Olson, 1998, p. xiii).

The relationship that exists between schools and parents is mainly of a communicative nature. The school informs the parents what is happening in school and the parents inform the school if there are any major happenings in the home. This two-way relationship takes form in several ways: newsletters, school-home journals, narrative reports, and/or parent teacher conferences. Parental involvement in the school often consists of parents (as visitors) coming to the

schools to work with the students in some form (Fuller & Olson, 1998).

### Family-Centered Interventions

When working with children enrolled in special education programs, home-school collaboration is even more crucial. Special education law has helped to influence this collaboration, the law currently requires parental input on the Individual Education Plan (IEP) of each child. This process includes parents as an equal partner on the team that makes the student's educational decisions.

In a family-centered intervention parents work in collaboration with the school to plan interventions that are in line with the family's priorities for the student. "Interventions must move away from being child-focused and agency-directed to being family-focused and, to a large extent, family-directed" (Fuller & Olson, 1998, p. 173).

Several formalized programs focus on family centered interventions. These include: (a) Project DAKOTA (Kovack & Kjerland, 1986), (b) Choosing Options and Accommodations for Children (COACH; Giangreco, Cloninger, & Iverson, 1993), and (c) Co-Instruction (Bailey, Buysse, Edmonson, & Smith, 1992). Each of these programs focuses on the idea that parents know their child better than anyone else and this makes parents an integral part of the child's educational programming.

COACH, whose interview was used in this project, is an assessment and planning tool used for developing educational plans that meet the needs of individual students with

moderate to severe disabilities in inclusive settings. One of the main goals of COACH is for parents to become partners with the school. The family is considered a co-designer of the child's educational program rather than simply being allowed to provide input into the process. Once the educational plan is developed; collaborative teamwork, problem solving, and coordinated planning are used to address the regular education setting (Giangrec et al., 1993).

#### Parents as Therapist

In addition to family centered interventions, parents have been used as therapists with their children. The majority of the research in this area has focused on the use of parents as therapists for children with autism. O. Ivar Lovaas and UCLA's Young Autism Program, begun in the late 1960's, has extensively used parents as therapists. This program uses behavior therapy to "build complex behaviors, such as language, and can help to suppress pathological behaviors, such as aggression and self stimulatory behavior" (Lovaas, 1987, p. 3).

The Young Autism Project is not the only project to use parents as therapists. White, Hornsby, and Gordon (1972) looked at the use of using parents as therapists with children with autism. They believed that by using the mother as a therapist not only did the child receive 24-hour service, but also it could take advantage of the unique mother-child relationship. In structured play sessions the mother was instructed to repeat and reinforce those things

that were done in the structured playroom with the actual therapist. This gave the child added opportunities to practice the skills that were being focused on during therapy. Parents were also allowed to see first hand the progress their child was making. As a result of this program parents became less hostile and withdrawn around their children, improving the parent-child relationship.

In 1981 Harris, Wolchik, and Weitz looked into using parents as therapists to help children with autism acquire language skills. The parents of eleven preschool children with autism were trained to use operant conditioning procedures to train language skills with nonverbal children. The study demonstrated that children with autism made substantial gains in language skills when parents trained these skills.

These are just a sampling of the studies that have demonstrated that parents can be successful therapists for their children.

#### Combined Interventions

Using parents to plan students' educational programs and as therapists are steps towards designing and implementing interventions for both the home and school environments. In designing interventions for both the home and school environments, the school psychologist gives the student extra support. Extra support in both environments is often important because problematic behavior does not occur only in the home or only in the school environment.

Macfarlane, Young, and West (1987) looked at the use an integrated home/school procedure with students with severe multiple disabilities. The study showed positive results in regard to an integrated home/school program. "Such joint efforts enhance the successful mainstreaming of students with severe handicaps into public schools when consistent or intense programs are necessary" (p. 165). Macfarlane et al. reported several requirements for a successful home/school intervention. These include: (a) commitment from both parents and school staff, (b) school administrators must support teachers in the process, and (c) parents must be willing to accept training.

Visual Strategies for Improving Communication (Hodgdon, 1995) looked at having parents and school personnel use similar interventions to improve communication skills. Hodgdon discussed the idea that the tools used at home and in school do not have to be exactly identical; it is more important that the general strategies are the same and that they fit the requirements of the particular environment. "Families and schools both establish routines based on the demands and needs unique to the environments. Considering this, consistency becomes a similarity of style rather than a rigidity that cannot be modified" (Hodgdon, 1995, p. 116). For example, students can often experience a larger amount of freedom and self-direction at home than at school.

The TEACCH (Treatment and Education of Autistic and related Communication handicapped Children) Project has

focused on the use of parents in the home environment in the treatment of children with autism. Project TEACCH personnel assess children for their strengths and weaknesses and then use these in planning an educational program that will be the most successful for the individual child. An important part of project TEACCH is the physical restructuring of the environment; clear physical and visual boundaries are set to help the student understand where each area begins and ends. Daily schedules are set up to visually tell the student what will be occurring throughout the day. Parents are an integral part of the restructuring of the environment, which is often seen as a needed part of the treatment of children with autism. The home environment as well as the school environment is structured to provide the needed support and structure (Schopler & Mesibov, 1988).

When working with students the choice of appropriate strategies or interventions is very important. The strategies must be easily adapted for use by both the classroom teacher and the parents.

#### Appropriate Strategies

##### Social Stories

Carol Grey (Arnold et al., 1994; Attwood, 1998; Broek et al., 1993) has developed a technique termed social stories. Social stories help enable students with AS and other PDD's to recognize and understand specific cues and actions that occur during social situations. These stories also help

other students in the classroom to understand the child with AS.

Social stories involve creating a short story that describes a particular situation, including the appropriate actions and expressions. Important and relevant social cues, anticipated actions, and information on what is occurring and why it is occurring are included in each social story. There are four types of sentences included in the stories. The first type is descriptive sentences. Descriptive sentences "objectively define where a situation occurs, who is involved and why" (Attwood, 1998, p. 33). The second type is perspective sentences. Perspective sentences "describe, and explain, if necessary, the reactions and feelings of others in a given situation" (Attwood, 1998, p. 33). Directive sentences are the third type of sentences. They "state what the child is expected to do or say" (Attwood, 1998, p. 33). The final type of sentence is that of control. Control sentences "develop strategies to help the person remember what to do or how to understand the situation" (Attwood, 1998, p. 34). Control sentences are often written by the child him or herself and are then incorporated into the story.

Each story should have a combination and a balance of each of the four types of sentences. It is recommended that there are zero to one directive/control sentences for every two to five descriptive/perspective sentences. It is important to keep the vocabulary in the stories

developmentally appropriate for the targeted child. Stories are usually written in first person and in present tense, as if they are happening to the child as they would naturally take place. The first story used with a child will often revolve around a situation in which the child is already comfortable and successful. This allows the child to learn the rules of the game (Arnold et al., 1994; Attwood, 1998; Broek et al., 1993).

In addition to developing and using social stories, specific strategies may have to be developed in order to teach academic skills. This review will focus on one specific academic skill, spelling.

#### Multi-Sensory Spelling Instruction

Spelling is a very difficult task to teach any student, in particular, a student with a disability. Spelling requires the student to produce an exact sequence of letters, while offering the student no contextual clues (Fulk & Stormont-Spurgin, 1995).

Educators have found that a multisensory approach to spelling instruction has been successful for students who struggle with traditional spelling instruction (Fernald, 1943; Gillingham & Stillman, 1968; Murphey, 1997; Murphey & McLaughlin, 1990; Stanback, 1980). Blau and Blau (1969) and Blau and Loveless (1982) demonstrated success with a multi-sensory approach that focused on auditory, tactile, and kinesthetic techniques in teaching spelling. The visual

component was left out of the instruction process until the student learned to spell the word through other modalities.

Multi-sensory spelling instruction can take many forms. The student may be asked to use his or her pointer finger on their dominant hand to trace the spelling word. A variety of textures and strategies are used to increase the student's tactile and kinesthetic awareness of the word. Letters are often cut from sandpaper, boxes of sand or salt are used; or raised letters. The student often uses his or her finger as a writing utensil. Students may also be asked to look at the spelling word, say the word, and/or write the word (Murphey, 1997).

#### Curriculum Based Measurement in Written Expression (Spelling)

Curriculum Based Measurement is a measurement technique that uses standardized probes to analyze a student's written language progress over time. CBM can be administered in either an individual or a group setting. The first step involves finding the student's current level of performance for total words written, words spelled correctly, and/or correct English sequence. Once the current level of performance is found, a goal is set and written. Weekly probes are then administered to monitor the student's progress (Shinn, 1989).

One of the advantages to using CBM is that the material for the probes can be taken directly from the student's current curriculum and the material that he/she is using in class. This helps to provide authentic assessment

information. For example, the student's spelling words can be used to progress monitoring spelling (Shinn, 1989).

The above strategies have all been tried and tested in the school environment. The use of social stories is the only one of the three strategies that has been previously tailored for home use. This study looked at the application of the strategies in both the home and school environment.

## CHAPTER 3

### METHODS

#### Participants

##### Child

The participant in this study was referred to as Jonathan. (All names in this study were replaced with pseudonyms to protect the confidentiality of those persons involved in the study.) Jonathan was a 1st grade, Caucasian, male, enrolled in a parochial elementary school in Northeast Iowa.

##### Parents

Jonathan's parents (Mr. and Mrs. Jones) were in their mid 30's, middle class, blue-collar workers. They were married and living together. They also had a younger child, a three-year-old boy.

##### Teachers

There were two teachers who participated in this study. The first teacher, Mrs. A., was Jonathan's regular education 1st grade classroom teacher. Mrs. A. had been teaching for 32 years. This was her first year working with Jonathan. The second teacher, Mrs. N., was Jonathan's resource room teacher. She had previously worked with Jonathan during his kindergarten year. Jonathan went to Mrs. N.'s room for 1 hour per day, 4 days per week.

##### Student Assistants

Two student assistants (one seventh grade and one eighth grade) from Jonathan's school participated. The two students

were trained to carry out the multisensory spelling instruction strategy with Jonathan. These students volunteered to work with Jonathan during a part of their study hall.

#### Researcher as Participant

The researcher for this study was working on an Ed.S. degree in school psychology. She held an M.A.E. in General Educational Psychology with an emphasis in measurement and research from the University of Northern Iowa at the time the research was conducted. She had experience observing, reviewing records, and interviewing in the school setting.

#### Setting

##### School

The school was a K-8 parochial school in Northeast Iowa, which Jonathan had attended since kindergarten. The school stressed academics and expected academic excellence out of each student. However, the school was also very aware of special needs students and was willing to make the adaptations and modifications these students required.

##### Home

Jonathan resided in Northeast Iowa with his parents and younger brother. The family lived in a two-bedroom ranch style house. Jonathan shared a bedroom with his younger brother. The family also had a pet dog that resided in the house.

### Procedures: Stage I

This study took part in two stages. In the first stage observations, review of school records, and interviews with both parents and teachers were conducted. The information gathered here was used to identify target behaviors needed for the second stage. At the beginning of Stage I Mr. and Mrs. Jones signed a consent form, allowing Jonathan to participate in the research. The consent form (see Appendix A) outlined the purpose of the study. The consent form indicated that Mr. and Mrs. Jones could pull Jonathan from this research study at any time and with no penalty or repercussions for doing so,

### Observations

Narrative observations were used in this study to formulate a comprehensive description of Jonathan's natural behavior. Narrative observations are also referred to as anecdotal recordings and running records. These observations "describe events without resorting to quantitative recording procedures" (Sattler, 1992, p. 476).

Some of the advantages to using narrative observations were: (a) provided a record of the child's behavior and general impressions, (b) maintained the original sequence of events, (c) provided a means of gathering information and discovering critical behaviors, and (d) was a valuable precursor to more systematic observational procedures (Sattler, 1992).

There were multiple observations that occurred at different times of the school day on different days of the week. During the observations the researcher looked specifically for any suggestion of aggression either toward himself or others, any problems during transitions, social skills, self-stimulation, and study skills. In addition, the researcher looked for any behavior that was apparently different than that of Jonathan's peers. The other students in the classroom as well as the classroom teacher were observed. This was done in order to establish a baseline of appropriate behavior, as well as classroom expectations.

Jonathan was also observed in his home setting. However, these observations varied from the classroom observations. The home observations were done less formally during the time that the interviewer was in the home for parent interviews. At this time Jonathan, as well as his parents and brother, were observed. These observations focused on family interactions.

Information gained from observations. Through observations of Jonathan it was noted that he was having difficulties, both academically and socially, in the classroom. Jonathan demonstrated difficulty in spelling and written language. For example, during spelling the class worked from a workbook filling words from a word bank into sentences. Mrs. A. numbered the words in the word bank for Jonathan to correspond to the correct sentence. Without this

modification Jonathan would have been unable to complete the assignment.

Jonathan was also observed during his time in Mrs. N.'s room (the resource teacher). During the observation Jonathan and another student (Jeff) were working on reading. Mrs. N. gave each student a book to read (Jonathan's was entitled Things I Can Do). After reading the book with Mrs. N., the boys were asked to write their own sentence that went along with the theme of the book. Jonathan needed to complete the sentence, "I can . . ." Mrs. N. had to do considerable prompting to get Jonathan to finish the sentence. Once he had the idea, he had no difficulties copying the sentence onto the paper. The creativity required to complete the sentence appeared to be what was difficult for Jonathan.

While observing Jonathan in the 1st grade classroom, it was noticed that Jonathan was very unorganized. He often did not have the correct supplies for class or was searching for a pencil to write with. The other students appeared to know what supplies they needed and had them ready to go when it was time for class. When he did not have the supplies needed, he would just sit and wait for the teacher to say something to him. For example, Jonathan ran an errand for the teacher and while he was gone, pieces of paper were handed out for the children to make birthday cards. When Jonathan sat down, he did not have a piece of paper. Instead of telling Mrs. A. that he had not gotten a piece of paper, he just sat and waited until Mrs. A. came over to him. Once

he got the paper, he could not find his pencil. He wandered around the room looking for it. However, when another student offered him a pencil, Jonathan said, "No," he wanted his pencil. Eventually, Mrs. A. instructed Jonathan to get a pencil from the pencil jar; however, by this time it was time to put the cards away. Jonathan had not started yet on his card, while most of the other students in the classroom had finished their cards.

It was also noticed that Jonathan was unable to tie his shoelaces. His shoes were untied a lot of the time, unless another student offered to tie them for him (e.g. gym class when they had to change shoes).

#### Review of School Records

Jonathan's school records were reviewed for any beneficial information. In order to protect the confidentiality of those involved in the research study, the information from this record review was put into field notes; no information was photocopied from Jonathan's school records. These records included reports from the school psychologist; Child Health Specialty Clinics, a university hospital based psychological evaluation; as well as reports and information from previous teachers.

Information gained from review of records. Jonathan was referred to the Area Education Agency (AEA) for testing during his kindergarten year (1997-1998). Reports from his teachers stated Jonathan had difficulties during transitions; refused to do school work; would not ask to go to the

bathroom (i.e., instead he would wet and soil his pants); aggression towards other students, teachers, and himself (i.e., hitting, pulling hair, pinching, and hitting himself on the head); poor social skills; struggling with learning; and self stimulation. A Conner's Teacher Rating Scale (Conners, 1989) completed during the 1997-1998 year reported the following as significant: stubborn, isolates himself from others, appears to be unaccepted by the group, appears to be easily led, no sense of fair play, appears to lack leadership, and does not get along with the opposite sex. The kindergarten teacher completed a Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) in the spring of 1998. The following items were rated as clinically significant: anxiety, depression, withdrawal, and atypicality. Jonathan was rated as at-risk for the following: learning problems, adaptability, leadership, and study skills.

The AEA school psychologist report stated Jonathan displayed excessive self-stimulation behavior; and, that at times he could not be stopped. It was also reported that Jonathan displayed unusual and "magical" behaviors and thinking. Jonathan verbalized that his magic rock would protect him from other children as well as give him answers during testing.

Jonathan was referred to Child Health Specialty Clinics in the spring of 1998. The following diagnoses were reported by Child Health Specialty Clinics: (a) ADHD Combined Type,

(b) behavior problems (unusual and aggressive), (c) at-risk for learning problems and (d) enuresis and encopresis. Child Health Specialty Clinics also noted Jonathan's behavioral problems had the features of oppositional defiant disorder. The following recommendations were made by Child Health Specialty Clinics (a) Ritalin, with a possible switch to Dexedrine, (b) play therapy focusing on anger and aggression, (c) parents were encouraged to participate in parenting classes for a defiant child, and (d) further AEA evaluation to rule out a learning disability.

In the fall of 1998 personnel at a university hospital saw Jonathan for a psychological assessment. It was reported that Jonathan was pleasant, but highly distractible. It was also noted that Jonathan's intellectual functioning was within the below-average range. The clinic recommended structured and predictable environments to help Jonathan with transitions as well as a behavior management program that included immediate reinforcement for socially appropriate behavior.

### Interviews

Two separate interviews were used, one for Jonathan's teachers and one for his parents. The Impact Environmental Inventory for School and Community (Neel & Billingsley, 1989) was used as a prompt tool with Jonathan's teachers. This inventory "describes typical school and community activities, communication patterns at school, and the level of functional activities that the student has access to" (Neel &

Billingsley, 1989 p. 35). The researcher took the information from this inventory and used it to conduct a discussion of goals and needs with Jonathan's teachers. This helped to establish a prioritized list of concerns.

Jonathan's parents were interviewed using the Family Interview from Choosing Outcomes and Accommodations for Children (COACH): A Guide to Educational Planning for Students with Disabilities (Giangreco et al., 1998). This family interview was designed to help parents determine what they feel are the most important learning outcomes for their child. The interview allowed parents to look at different curriculum areas and then decide which areas they feel are the most crucial to their child's education. Through the interview parents prioritized learning outcomes for their child (Giangreco et al., 1998).

Information gained from the interviews. The interviews with both teachers, Mrs. A. and Mrs. N., were directed towards what Jonathan can do and what they would like to see him do. Mrs. A., Jonathan's 1st grade classroom teacher, listed the following on The Impact Environmental Inventory for School and Community as skills she would like to see Jonathan learn: (a) develop more social relationships with peers, (b) participation in large group activities, (c) stop self-abuse, (d) become more independent in learning activities, and (e) become more organized.

In the follow-up interview Mrs. A.'s responses on The Impact Environmental Inventory for School and Community were

clarified and it became apparent that one of her greatest concerns was Jonathan's written language abilities. She stated that at most the other students will miss two or three words on their weekly spelling tests. However, Jonathan rarely gets more than one or two of the words correct and when he does spell words correctly, it is because he has copied it from his neighbor's paper. Mrs. A. also discussed the fact that the other students know when to use capitalization and punctuation, but Jonathan does not understand when to appropriately use capitalization and punctuation. Mrs. A. estimated Jonathan's writing was at a prekindergarten level. She reported his reading was at a preprimer level while the rest of his class is in the middle of the 1st grade book.

Mrs. N. did not complete the section in The Impact Environmental Inventory for School and Community indicating what skills she would like Jonathan to acquire. During the interview this was clarified. Mrs. N. believed the biggest thing she would like to see Jonathan accomplish was for him to be more at ease and to not stand out from his peers as much. She felt he often draws attention to himself and this makes him different from other students in his class. For example, his shoes are almost never tied, where as the other first graders usually have their shoes tied. She feels it is little things, like the untied shoes, that make him stand out from his peers.

Mrs. N. also discussed Jonathan's inability to learn strategies that would make learning easier for him. She said he often does not "pick up" the strategies other children do. For example, she asked him to find the letter N on the alphabet chart. He had no strategy for finding the letter. He did not start at the beginning of the alphabet and scan until he found the letter. He did not start at the end of the alphabet and scan until he found it, and rather he just looked around at the letters until he found the correct one. She is afraid that by not learning strategies Jonathan is falling further and further behind his peers in school.

The interview with Jonathan's parents was conducted in their home, both parents, as well as Jonathan and his younger brother, were present for the interview. Mr. and Mrs. Jones were both very responsive and willing to answer questions regarding Jonathan. They talked amongst themselves and decided on what they both felt was the most appropriate and accurate answer for each question.

During one section of the COACH interview, the parents were asked if they wanted to answer questions in ten areas: (a) communication, (b) socialization, personal management, (c) leisure/recreation, (d) selected academics, (e) home, (f) school, (g) community, (h) vocational, and (i) other. Jonathan's parents answered questions in three of these categories, communication, socialization, and selected academics. These were the areas in which they felt Jonathan was struggling and could use assistance. The area they felt

he needed the most assistance was "making choices". The second area they felt needed the most work was summoning others. Both of these fall under the communication category. In the socialization category they felt Jonathan needed the most work on adjustment to change, transitions, and accepting assistance. In the academic category Mr. and Mrs. Jones felt the areas in need of the most help were use of a clock, the ability to calculate, and the use of writing tools.

#### Outcome of Observations, Record Reviews, and Interviews

As a result of the information gathered through the interviews, record review, and observations; two behaviors/skills were chosen to target. These were: (a) summoning others, and (b) written language (spelling). Both his teachers and parents felt these behaviors/skills were problem areas for Jonathan.

#### Procedures: Stage II

The second stage of this study was directed by the information gathered in Stage I. The target skills of summoning others and written language skills (spelling) were identified in Stage I. Both of the teachers and the parents felt Jonathan needed assistance in these areas and interventions for both target skills were developed.

#### Research Design

This study used a single subject, multiple baseline (across settings and behaviors) design. Both Jonathan's

teachers and parents were trained to implement the interventions. A data collection plan was developed as apart of each intervention. Both the teachers and parents were trained to correctly collect data. In addition, the researcher offered support (through telephone calls and home and school visits) to Jonathan's teachers and parents.

#### Target Behaviors/Skills

The two target behaviors/skills identified were summoning others and written language skills. It was determined from convergent data that these were both areas in which Jonathan needed extra support.

Summoning others. For the first behavior/skill identified, summoning others, the independent variable was the social stories that were developed. The dependent variable was the target behavior/skill itself, summoning others. Data were collected in both the home and school settings.

Written language. A multisensory spelling strategy was developed for use with Jonathan. The independent variable was the instructional strategy and the dependent variable was the spelled word. Although the strategy was to be implemented both at home and at school data, were only collected at school.

#### Interventions

In order to address Jonathan's social skills and spelling two distinct interventions were developed.

Summoning others. A social story was developed for Jonathan at school and one at home. The stories were written using the format detailed by Carol Gray in *The Original Social Story Book* (Break et al., 1993) and *The New Social Story Book* (Arnold et al., 1994). The reader is referred to Appendix B for copies of each story. The stories were written at a level that would be easily understood by Jonathan.

The stories were to be read to Jonathan by either Mrs. N. or his parents at least four times per week. Jonathan was asked to read as much of the stories as he could.

Mrs. A., Mrs. N., and Jonathan's parents were all asked to keep progress monitoring data on Jonathan's ability to summon others. Mrs. A. agreed to keep data for one half hour per school day (except Wednesdays, which were shortened school days). She kept data during Religion class, the first class period of the day. Mrs. N. also agreed to keep data four days per week. She kept data during the forty-five minute period that she had Jonathan each day. Mr. and Mrs. Jones (Jonathan's parents) agreed to keep data four nights per week. They decided the time period between supper and Jonathan's bedtime would be the most convenient to keep the data. Both Jonathan's teachers and parents were asked to record the number of opportunities Jonathan had to summons others; and, then, if he successfully summoned someone or not. At home, one of the concerns was that Jonathan would ask for help; but would mumble when asking and could not be

understood. Therefore, Mr. and Mrs. Jones were also asked to record the number of times Jonathan was asked to repeat himself.

Written language (spelling). A multi-sensory approach was adapted for use with Jonathan. However, the first step was an informal assessment of Jonathan's spelling skills. This was done by first developing a matrix of the spelling words that were a part of the curriculum in use by Mrs. A.. This matrix was created to look at the word forms of Jonathan's spelling words. Both the word pattern (e.g. consonant-vowel-consonant, vowel-consent, consonant-vowel-vowel-consonant) and the letter positioning (above the line, below the line, and above the median) were analyzed. The researcher wanted to see if there was any particular word forms that Jonathan struggled with more than others. It was discovered word form did not affect Jonathan's ability to spell a word.

The informal assessment of Jonathan's spelling also included a multisensory approach. Jonathan was asked to write words on a white board with an crayon, use two different type of magnetic letters to spell the words, and to write on paper with both a pencil and a crayon. A random selection of spelling words from the curriculum was given to Jonathan to spell. The only word that Jonathan spelled correctly was the word, "no."

Jonathan was also asked to identify his letters during the spelling assessment. The only difficulty he had here was reversing the letters m and w. As a part of the spelling assessment Jonathan was also asked to copy several of the spelling words. He completed this task with no difficulty. During the assessment Jonathan was asked to spell his name (his real name, not the pseudonym used here). He spelled his name correctly, however Mrs. A. reported that he will often leave off the last letter of his name when writing his name on papers.

As mentioned above, a multisensory intervention was chosen for use with Jonathan. Several different tactile activities were created. These included: magnetic letters, letters cut from sandpaper, glue letters (the spelling words written on a piece of construction paper and then traced in glue), rock salt (rock salt was placed in a container for Jonathan to trace the words in), and a dry erase board. In each of these activities Jonathan was asked to either trace the word or write the word while sounding it out. The different activities were rotated throughout the week. Jonathan was asked to see, trace or write, and say all of the spelling words, creating a multisensory approach to spelling instruction. In addition to this intervention Jonathan participated in his classroom's daily spelling instruction. This consisted of working from a spelling work book. The workbook often asked the class to write to words individually as well as to write the words in sentences.

Three of Jonathan's six, weekly spelling words were chosen to be targeted by the activities. The researcher in collaboration with Mrs. A. chose the words that would be focused on each week.

Jonathan completed similar activities both at home and school. At home Mr. and Mrs. Jones worked with Jonathan four nights per week (Monday through Thursday). At school the two student assistant's worked with Jonathan three days per week (Monday, Tuesday, and Friday). The student assistants could not work with Jonathan on either Wednesdays or Thursdays due to the school's schedule. The reader is referred to Appendix C for copies of the procedures and schedules for the spelling intervention.

Jonathan's spelling progress was monitored using Curriculum Based Measurement (CBM). Each week he took the spelling test with the rest of the class (taking all six words). Jonathan's success on the three words targeted that week were then compared to the three words not targeted that week.

## CHAPTER 4

## RESULTS

Social StoriesSchool

Baseline and progress-monitoring data were kept across three settings, Mrs. N.'s room (i.e., resource room), Mrs. A.'s room (i.e., 1st grade classroom), and home. In each setting the number of requests made were recorded. In addition, any situations where it would have been appropriate for Jonathan to request help and he did not were recorded.

Mrs. A. kept baseline data for 30 minute time periods during Jonathan's religion class. Mrs. A. was asked to note the number of times Jonathan needed help and if he made the needed request. According to the baseline data Jonathan asked for help 25% of the needed times. See Table 1 for baseline data.

Progress monitoring data were kept during the same 30 minute time period during Jonathan's religion class once the intervention began. This data showed that Jonathan's behavior, asking for help in appropriate situations, increased from 25% of the time during baseline to 62.5% during intervention.

Mrs. A. stated she believed the social story was doing wonders for Jonathan (Field Notes 3-24-99 and 4-16-99). She reported Jonathan talked more to his peers and to adults, volunteered more in class, and answered more questions

throughout the school day. See Table 2 for progress monitoring data.

Table 1

Baseline Data in Mrs. A.'s Room

Date	Yes, Asked for Help	No, Did Not Ask for Help	Activity
2-19-99		needed a pencil	making a poster
2-22-99		needed help finding the page	book
2-23-99	zipper was stuck		Religion
2-23-99		needed help	student book

Baseline data for Mrs. N.'s room were kept during the 45 minutes Jonathan was in her classroom each day. Mrs. N. had Jonathan each weekday except Wednesdays due to the school's early dismissals on Wednesdays. Mrs. N. had Jonathan and one other student at this time. Due to the more individualized structure of the resource room, Jonathan had fewer opportunities to ask for help in this setting. Baseline data showed Jonathan asked for help 50% of the times he needed to. See Table 3 for the baseline data.

Table 2

Progress Monitoring Data in Mrs. A.'s Room

Date	Yes, Asked for Help	No, Did Not Ask for Help	Activity
3-1-99		finding the page	book
3-4-99		finding the page	book
3-8-99	zipper was stuck		Religion
3-9-99	needed a pencil		book
3-11-99		needed a pencil	book
3-12-99		finding the page	book
3-23-99		needed a pencil	book
3-24-99	zipper was stuck		Religion
3-25-99	finding the page		book
3-29-99	zipper was stuck		Religion
3-31-99	knot in his shoelace		Religion
4-14-99	zipper was stuck		Religion
4-15-99	needed help tracing		art project

Table 3

Baseline Data in Mrs. N.'s Room

Date	Yes, Asked for Help	No, Did Not Ask for Help	Activity
2-22-99	a game		computer
2-24-99		a game	computer

Progress monitoring data were kept during the same time period as the baseline data, that is the forty-five minutes Jonathan was in Mrs. N.'s resource room. As noted, due to the one-on-one nature of the resource room there were fewer opportunities for Jonathan to ask for help. During intervention Jonathan appropriately asked for help 72.7% of the time.

Mrs. N. said she felt the social story was very effective for Jonathan (Field Notes 3-24-99 and 4-16-99). She noted she observed him, both in her classroom and around the school, talking more to his peers and adults. Mrs. N also stated she saw an increase in Jeff (the other student in the resource room with Jonathan) asking for help at appropriate times in the classroom. See Table 4 for the progress monitoring data.

Table 4

Progress Monitoring Data in Mrs. N.'s Room

Date	Yes, Asked for Help	No, Did Not Ask for Help	Activity
2-26-99	computer		computer
3-1-99	needed a pencil		writing
3-2-99		computer	computer
3-22-99	needed a pencil		writing
3-25-99	needed a book		reading
3-26-99	zipper was stuck		N/A
3-26-99	asked where to sit		chairs had been rearranged
3-30-99		needed an eraser	writing

Home

Mr. and Mrs. Jones were asked to chose a time during the day when it would be convenient to collect baseline data. They chose the time period between supper and Jonathan's bedtime. According to baseline data Jonathan asked for help or permission when it was appropriate. However, on two out of three occasions his parent asked him to repeat his request twice because he had not been understood. Data were

collected on the number of requests needed because Mr. and Mrs. Jones indicated this was a problem at home. See Table 5 for home baseline data.

Table 5

Baseline Data at Home

Date	Yes, Asked for Help	No, Did Not Ask for Help	Number of Times Asked to Repeat	Activity
3-8-99	Yes		2	getting a snack
3-9-99	Yes		3	watching a movie
3-10-99	Yes		1	playing Nintendo

Progress monitoring data showed Jonathan continued to ask for help/permission at home. In addition, the number of times Jonathan was asked to repeat himself (in order to be understood) decreased from an average of 2 time per request for help to .45 (9 of 20) repetitions per request for help. Further analysis of the data showed that as the study progressed the number of requests to repeat reached zero. During the last month only one parental request was made.

Field notes were also kept. These notes recorded reactions from Mr. and Mrs. Jones about the social story (Field Notes 3-29-99, 4-5-99, 4-19-99). These field notes highlighted Jonathan's parents belief that the social stories both at home and at school were very successful. Mr. and Mrs. Jones reported they had received positive feedback from Mrs. A regarding Jonathan's progress since the social story was started at school. See Table 6 for progress monitoring data.

Table 6

Progress Monitoring Data at Home

Date	Yes, Asked for Help	No, Did Not Ask for Help	Number of Times Asked to Repeat	Activity
3-11-99	wash hands		1	eating
3-13-99	wash hair		2	bath
3-17-99	play Nintendo		0	after supper
3-17-99	play outside		0	playing Nintendo
3-18-99	have a snack		3	watching a movie
3-18-99	play outside		1	watching a movie

(table continued)

Date	Yes, Asked for Help	No, Did Not Ask for Help	Number of Times Asked to Repeat	Activity
3-24-99	play outside		0	Dad was working in the yard
3-24-99		diving board	N/A	swim lessons
3-24-99	asked Mom to read him a book		0	bedtime
4-6-99	diving board		0	swim lessons
4-8-99	play on computer computer		0	
4-8-99	how to print		0	computer
4-8-99	taking off his shoes		0	bath time
4-14-99	help with a game		0	computer
4-14-99	washing hair		1	bath time
4-15-99	help with a game		0	computer
4-15-99	help with a game		0	computer
4-15-99	help with a game		0	computer

### Written Language

Baseline and progress-monitoring data were kept using Curriculum Based Measurement (CBM). Each week Jonathan's

spelling tests were analyzed for the number of words correct as well as if the correct words were words that had been targeted that week. Jonathan took weekly spelling tests (always on Friday's) in Mrs. A.'s classroom.

The baseline data (Jonathan's spelling grades during the year) showed Jonathan averaged between zero and two words correct per week. Mrs. A. believed that on the weeks he had several words correct, he copied the words from one of the students sitting near him.

The informal spelling assessment provided convergent baseline data. See Table 7 for spelling assessment data.

As mentioned Jonathan's progress in spelling was monitored using his weekly spelling tests. Spelling tests were broken down into two categories: (1) the words Jonathan had focused on that week and (2) the rest of the words. Each week (except week 1 which was a review week) Jonathan had six spelling words, three of which he specifically focused on. Jonathan did no extra work on the other three words, except what the rest of his class did during spelling instruction. During this research project Mrs. A. rearranged the classroom during each spelling test so that Jonathan, or any other student, could not copy off of his or her neighbor's paper. According to the progress monitoring data over the 6 weeks Jonathan correctly spelled 4 out of the 18 (22.2%) words that were focused on and 1 out of 26 (3.8%) of the words that were not focused on. When asked to use his spelling words in a

dictated sentence, Jonathan got zero of the words correct. See Table 8 for Jonathan's weekly spelling test results

Mrs. N. reported she repeated the last week's (5-28-99) spelling test with Jonathan during his time in the resource room. Mrs. N. had Jonathan use magnetic letters to spell the words and he was given only the letters he needed to spell each word. During this assessment he correctly spelled park, home was spelled heom and hom, and school was spelled shool.

An analysis of Jonathan's spelling tests demonstrated he was in the prephonemic stage of spelling. His spelling was made up of letters; however, it was often unreadable. Jonathan appeared to use letters randomly representing no particular sound. In this stage of spelling the student often arranges his or her "words" in horizontal lines, words are made up of unbroken lines of letters or may be arranged in word like configurations (Gillet & Temple, 1994). On each spelling test Jonathan was asked to write a sentence for each word dictated by the teacher. Although these sentences were not a part of the progress monitoring data, they did provide some helpful information. His performance demonstrated Jonathan was aware that words are made up of letters and that print is arranged horizontally. Both skills are indicative of prephonemic spelling. Prephonemic spelling is typical of older preschoolers, kindergartners, as well as many first-grade students (Gillet & Temple, 1994).

Table 7

Jonathan's Informal Spelling Assessment

Word Asked to Spell	How Word was Spelled
dog	god
had	njb
bus	mxusoh
was	js
sit	nuc
at	tat
he	afs
mom	magutter
fun	xonfag
pet	bmag
no	no
one	uoe
hot	bitrnn
red	tan
go	bater
late	wouldn't spell for me

Table 8

Number of Words Spelled Correctly

Week Number	Words Focused on	Words Not Focused on	Total Number of Words on Test
1	0	0	14
2	1	0	6
3	0	1	6
4	1	0	6
5	2	0	6
6	0	0	6

## CHAPTER 5

### DISCUSSION

Several research objectives were proposed in the introduction section of this research. They were:

1. Interventions for both summoning others and spelling will be developed for both the classroom and home.
2. Training will be designed for both interventions and both settings.
3. Both the parents and teachers will be trained in implementing the interventions.
4. The success of the intervention will be documented.

Throughout this research project each of the four research objectives were met. This section will focus on the fourth objective, the success of the interventions. Since each intervention occurred separate of the other, each will be discussed separately.

#### Social Stories

For this research project two social stories were created, one focused on seeking help in the school environment and one focused on seeking help/asking permission in the home environment. (Copies of the stories are included in Appendix B) The social stories were written to help Jonathan understand the context for asking for help or if he needed something; and, then how to actually ask for help. This was a skill according to baseline data, Jonathan was not using effectively. At home the social story also targeted

talking with clear speech. Previously, Jonathan would make requests at home; however, his parents often asked him to repeat his request until they could understand what he had said. Jonathan spoke clearly at other times during the day so it was a skill he was capable of performing.

### School

The baseline and progress monitoring data showed the social story intervention was successful in the school environment. As noted in Mrs. A.'s classroom Jonathan's behavior, asking for help, increased from 25% during baseline data to 62.5% during the progress monitoring phase. In the resource room, Mrs. N.'s room, Jonathan's requests for help increased from 50% to 72.7%.

These positive results were significant because in a majority of the instances Jonathan was asking for assistance in order to participate in the class activity (e.g., finding the correct page, needing a pencil). As an active participant in the classroom Jonathan needed to be fully participating in the classroom instructional process. With each increase in the number of requests for help, Jonathan increased his ability to be a full participant in the classroom environment. Both teachers reported Jonathan was not only requesting help from them but also from other students in the classroom. This is important in a classroom of 20 or more students. The teacher may not always be immediately available to help. If Jonathan will request help

from a nearby peer, he will receive the help sooner and will be able to return to the activity quicker.

In addition to asking for help with academic activities, Jonathan also began to request help in social situation (e.g his zipper was stuck). This increase in requests for help will make Jonathan more similar to his peers.

### Home

The social story used at home also demonstrated success. As mentioned previously, in addition to requesting help or permission, the home social story focused on Jonathan speaking clearly when requesting help or permission. The progress monitoring data showed the number of times Jonathan was asked to repeat himself decreased from an average of 2 repeats per request for help or permission to .45 repeats per request.

This decrease in parental request is important because if people are unable to understand what Jonathan is requesting, he may either be ignored or given the wrong item. If he is able to clearly state his request, not only will he be understood by the person he is making the request to, but his efforts at communication will be rewarded or reinforced. Increases in successful communication will lead to increased independency for Jonathan and reduced frustration for his parents. In addition, more normal communication patterns will be developed between Jonathan and his parents.

### Implications

Social stories demonstrated success with Jonathan. In addition to being successful, social stories are an intervention that could be implemented by a classroom teacher with little difficulty. The stories are fairly easy to write, following the formula given by Carol Grey (Broek et al., 1993; Arnold et al., 1994) in any of her books on Social Stories. In fact, numerous stories have been written and are available either for use or as a model see The Original Social Story Book (Broek et al., 1993) and The New Social Story Book (Arnold et al., 1994). Carol Grey also provides the reader with guidelines for writing the stories. Once the story is written it needs to be read with or to the student once a day. This can either be done by a teacher, parent, peer tutor, or an older student; thus allowing for enough flexibility that social stories could be incorporated into almost any classroom. They are also simple enough for a parent to incorporate into the family's daily routine with little or no disturbance to the family's schedule. Often parents read to a child as a part of the child's bedtime routine.

The social story was read to Jonathan during his time in the resource room. During this time there was another student (Jeff) in the room. Due to the structure of the classroom Jeff was often present and listening when Mrs. N. and Jonathan were reading the social story. Mrs. N. told the researcher that she had noticed Jeff was appropriately

requesting help more often. This may have some important implications for the classroom teacher. Observational learning appeared to occur with Jeff. Therefore, if the targeted student was paired with a non-targeted student (or group of students) that may have a similar difficulty, the non-targeted student(s) could benefit from reading or listening to the social story with the targeted student. Although social stories were created to be used by students with pervasive developmental disorders, often a "normal" student will experience some of the same social struggles as the student with the pervasive developmental disorder. By pairing students the teacher may be able to "kill two birds with one stone." This may be an especially effective technique if the targeted student can not read the story to him or herself. The non-targeted student may be used as a peer helper to read the story to the targeted child while possibly receiving some observational learning effects from the social story.

#### Written Language (Spelling)

This aspect of the research project focused on Jonathan's spelling skills. A multisensory approach to spelling instruction was used with Jonathan. It was hypothesized that this multisensory approach would increase Jonathan's success on three spelling words that were focused on for each week's test. Multisensory instruction was given to Jonathan both at home and at school over a six week period. Each week focused on three different words. This

instruction was given to Jonathan above and beyond the regular classroom spelling instruction.

The CBM progress monitoring data showed Jonathan correctly spelled 4 of the 18 (22.2%) words over the 6 week period whereas he only spelled 1 of 26 (3.8%) words correct that were not focused on. During baseline Jonathan was correctly spelling between 0 to 2 words per 6 words (0%-33%) correctly on weekly spelling tests. His progress monitoring data falls into the same range as the baseline data. Although Jonathan spelled more of the focused on words correctly, the number of words he spelled correctly per test did not increase over baseline.

One reason for this may have been that during baseline, Jonathan's parents worked with him (having him spell aloud and copy the words) on all 6 words per week. During progress monitoring Mr. and Mrs. Jones only worked on (using the multisensory approach) the selected 3 words for that week. It did not appear to matter which of the spelling instruction methods were used (the spell aloud and copy or multisensory), but rather if the words were practiced at home. During progress monitoring Jonathan's classroom spelling instruction did not change. The multisensory instruction was added to Jonathan's classroom instruction.

All persons (Mr. and Mrs. Jones, and the two student assistants) were trained how to properly carry out the multisensory spelling instruction. During this training consistency and standardization were stressed. However, it

can not be guaranteed that instruction was carried out as written. The researcher contacted both the parents and the student assistants on a regular basis to check for any questions; however, the researcher was not able to observe instruction.

A mastery learning approach may have been more appropriate for use with Jonathan (Fuchs, 1995). In mastery learning the curriculum is broken down into sets of sub skills. These sub skills are then placed in a hierarchy of educational objectives. The teacher creates a criterion-referenced evaluation for each step in the instructional hierarchy. The teacher starts the student on the lowest step on the hierarchy, tests the student, teaches the student the objectives on the hierarchy, and then gives the student a post-test on the material. The student does not move onto the next step in the hierarchy until he or she has demonstrated mastery on the current step. The teacher works with the student using corrective strategies until the student masters each step. Once a step is mastered, the student is allowed to move onto the next or more difficult step of the hierarchy.

A mastery learning technique may have been effective with Jonathan because he would have the building blocks or prerequisites before moving onto the next step. As his curriculum was currently set up what ever words he did not master one week were just ignored and not remediated. Jonathan, along with the rest of the class, simply moved onto

the next set of words. Under a mastery learning technique Jonathan would not lose words, which was what he was essentially doing with the current curriculum.

During the intervention stage of this research project the school and the Area Education Association (AEA) team began to raise some concerns about Jonathan's ability to function in the school environment. The school called a meeting with Mr. and Mrs. Jones (Field Notes 5-5-99) to discuss these concerns. Due to the fact that several of the concerns may have had implications on this research project, the researcher was asked to participate in the meeting.

The first concern was that Jonathan's skills were becoming very sporadic. Both Mrs. N. and Mrs. A. reported that Jonathan often would demonstrate a skill on one day and then not demonstrate it the next day; this was a change for Jonathan. Skills included identifying letters, sounds, numbers, and naming classmates. If Jonathan was having difficulty identifying letters and sounds, this may have affected his ability to accurately learn the spelling words that were a part of this research.

Another concern voiced by the school was an increase in Jonathan's aggressive and self-injurious behavior (i.e., head banging, scratching, sticking his fingers in his ears). According to Mrs. N. and Mrs. A. Jonathan engaged in the self-injurious behavior most often when he was frustrated. They felt he was having a more difficult time expressing himself in situations that earlier in the year he could

express his feelings with little difficulty. The school was concerned about this because Jonathan does have very positive social skills and will demonstrate them on occasion. Mr. and Mrs. Jones reported they had not seen a drastic change in this type of behavior at home but that day care had reported an increase in aggressive behavior. The school reported they had seen a lot of this type of behavior the first week or two of school, but that it disappeared until after Easter break.

Due to these concerns the school, the Area Education Association (AEA) team, and Mr. and Mrs. Jones decided at the meeting that next fall the Autism Resource Team would be called in to conduct a full evaluation of Jonathan. Mr. and Mrs. Jones reported the psychiatrist Jonathan sees (prescribes Ritalin for Jonathan's ADHD) mentioned the term autism to them and suggested they have the school do further evaluation.

#### Home-School Collaboration

The use of a home-school collaboration program allows for consistency across both the home and school environments. It ensures that people in both environments are dealing with a behavior or teaching a new skill in a similar manner. A home-school collaboration program also opens up the lines of communication between school officials and the student's parents. When there are open lines of communication, the parents and the school are more likely to voice any concerns they may have to the other party.

In this research project the home-school collaboration using social stories was effective. The acquisition of summoning others may have been enhanced, because of the home-school collaboration Jonathan was working on the skill in the two environments in where he spends the majority of his day. Working on the skill at home reinforced what was happening in school and vice versa. Home-school collaboration was also an important part of the spelling intervention even though the spelling intervention was not successful. It was shown that the number of words Jonathan spelled correctly correlated with the number of words worked on at home.

#### Limitations

As with all research this research study had some limitations. There would have been some advantages to the researcher, the teachers, and the parents all meeting as a group at the beginning of the research. This would have provided the researcher with the opportunity to make sure that everyone was on the same page. It would also have allowed the teachers and parents to directly hear what the other saw as Jonathan's strengths as well as his weaknesses. Finally it may have helped to strengthen the communication between the school and the parents. As it was the researcher was the link between home and school. The researcher would highly suggest that in the future when this type of research is done for the parents and teachers to be brought together for a meeting both at the beginning of the the research as well as a long the way.

Another limitation is that it would have been nice to be able to incorporate a second social story into Jonathan's environments once success was demonstrated with the first. A second social story would have been beneficial in several ways. One, it would have demonstrated the success of a social story on more than one behavior. It would have also allowed Jonathan to develop an additional skill.

The spelling instruction was implemented fairly late in the school year. Had it been implemented earlier more adaptations (possibly mastery learning techniques) may have been made in order to gain success with Jonathan when learning his spelling words. There may also have been more time for additional spelling assessment which could have led to a more successful spelling intervention.

The above limitations were a product of both the researcher's and the school's schedules. At the time of the research the researcher was taking a full class load and due to her class schedule was not able to spend as much time at the school as she would have liked. In addition, both teachers were teaching full schedules as well as tutoring after school. This placed limitations on the amount of time the teachers were able to provide in helping Jonathan.

Overall, this research project was successful. Both the school and Jonathan's parents felt it was a success. Through the research it was learned that social stories are an intervention that can be used successfully with Jonathan. This is an intervention that can be used in the future by

both Jonathan's parents and teachers when trying to help Jonathan through difficult social situations.

Although the spelling intervention was not successful, several things were learned. The first of these is that he is in the prephonemic stage of spelling. This is information that can be used when planning future spelling instruction for Jonathan. Secondly, it was learned that it is important for Jonathan to practice his spelling words at home. This appeared to be important with which ever type of spelling instruction was being used. Finally, it was learned that a multisensory approach to spelling may not be successful with Jonathan and another approach may need to be used.

#### Recommendations

This research project looked at some very important issues in the field of education. These include the use of home/school collaborative interventions, the use of social stories, and the use of a multisensory spelling instruction. Each of these issue was applied to a student who resembles a student with Asperger's Syndrome (AS) and Attention Deficit Hyperactivity Disorder (ADHD). These characteristics added an additional dimension to research. Not only did the research look at the effectiveness of home/school collaborative interventions, but it looked at effectiveness with a student who demonstrated many of the characteristics of a student with AS and ADHD.

Students with AS or High Functioning Autism, may be very bright children; however, they may demonstrate every uneven

work in school. These students may either have better skills in some areas than in others, or they may be able to demonstrate the skills on some days and not on others (Donnelly & Levy, 1995). This was apparent with Jonathan, in particular, with his spelling and letter recognition skills. According to teacher reports there were days that letter recognition would not be a problem and then on other days it would be. In order to combat this problem with students it is important to teach through their strengths. It is also important to allow them to work in a variety of settings (i.e., large groups, small groups, pairs, and individually). Many times allowing the student to learn by working in an area of interest can be helpful to the student (Donnelly & Levy, 1995).

When working with students with AS (or any of the Pervasive Developmental Disorders), it is very important that instruction be concrete and specific and follow a slower pace; and, if appropriate, break tasks down into smaller steps (Thacker, 1996). It is also very important that the number of transitions are minimized during the student's school day. Information should be presented to students in written format, visually (i.e., pictorially), and auditorially. The number of distractions in the classroom should also be minimized as much as possible (Williams, 1998). Some modifications suggested for assessments and assignments include: modify difficulty, shorten, highlighted text, allow extra time, apply learning to real life

situations, provide visual cues, and individualize (Dalrymple & Ruble, 1998).

The social stories created for Jonathan proved to be very effective. Social stories are an intervention that would be very easy for either a teacher, a parent, or both to incorporate into the child's day without any major disruption in the child's schedule. Social stories may be an effective tool to use with Jonathan, as well as other students, in the future. A social story can be written for any social situation making them very adaptable and useful. The observational learning demonstrated in this research also shows that students other than the targeted student can benefit from a social story being used in the classroom or home environment.

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APPENDIX A  
Informed Consent Form

This project, Home-School Collaboration, is designed to look at the effectiveness of home-school collaboration on building new skills in a child. Observations and interviews as well as a review of student records will be used to determine a skill area to be focused on. Once the skill has been identified behavior management strategies will be developed. The exact strategies used will depend on the skill area identified. All strategies used will meet the approval of the student's Individual Education Plan (IEP) team.

At this time there are no foreseeable risks or discomforts for the student. The student involved in this project will be benefited by the potential to build new skills.

All records of the student's participation will be kept confidential. At no time will the student be identified to anyone other than the members of my thesis committee, Dr. Christine Macfarlane, Dr. Barry Wilson, and Dr. Ralph Scott. Participation in this study is completely voluntary and the student may withdrawal at any time during the study. Withdrawal from the study will not result in any penalty to the student or his or her family.

For any further information on this study please feel free to contact myself, Sarah Ferguson, at (319)234-4493 or Dr. Christine Macfarlane, thesis chair, at 156 Schindler Education Center or (319) 273-3291. In addition, the office of the Human Subjects Coordinator, University of Northern

Iowa, (319) 273-2748 may be contacted with any questions concerning this research and/or the rights of research subjects.

I am fully aware of the nature and extent of my child's participation in this project as stated above and the possible risks arising from it. I hereby agree to allow my child to participate in this project. I acknowledge that I have received a copy of this consent statement.

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(Child's Name)

---

(Signature of Parent or Guardian)

Date

---

(Printed Name of Parent or Guardian)

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(Signature of Investigator)

**APPENDIX B**  
**Social Stories**

Social Story #1 - Home

## Asking

Sometimes I need to ask Mom or Dad if it is OK to play. Maybe I need to ask if I can to play Nintendo, or watch a movie, or maybe do something else.

Sometimes at home I need to ask Mom and Dad for help. Maybe I need help to tie my shoes, get something I can't reach, or maybe something else.

If I need help, I need to ask.

When I ask Mom and Dad I need to speak clearly. If I speak clearly Mom or Dad can understand what I am asking. If I do not speak clearly Mom and Dad may not know what I am asking them.

Mom and Dad want to hear me. Mom and Dad want me to ask for help.

Mom and Dad are glad to help me. Mom and Dad feel good if I say "thank-you" after they help me.

Social Story #2 - School

## Asking

Sometimes in class I have a problem. I may need help from the teacher. I may need a pencil, a book, a piece of paper, or maybe something else.

When I have a problem I raise my hand. If the teacher sees my hand, the teacher may be able to come over to my desk. When the teacher gets to my desk I can ask the teacher for help or for something else.

If the teacher doesn't see my hand or is busy I may ask a person sitting near me. When I ask for help, I should whisper so I don't bother other students.

It is Ok to ask someone for help. It makes my teacher feel good when she can help me. It is good to say thank-you when someone helps me.

APPENDIX C  
Spelling Instructions and Schedules

## Directions for Spelling Activities (HOME)

### General Direction

- \*Do each Spelling word three (3) times
- \*As Jonathan traces or writes each letter have him sound out that letter
- \*Do one activity (suggestions are listed on the calendar) each day

### Sandpaper Letters

- \*Have Jonathan help you pick out the letters for each word
- \*Have Jonathan trace the letters with his pointer finger on his right hand

### Glue on Paper

- \*Have Jonathan trace the letters with his pointer finger on his right hand

### Rocksalt

- \*Fill the container with about 1/2 an inch of salt
- \*Have Jonathan write the word in the salt

### Watercolors

- \*Have Jonathan use the watercolors to write each word
- \*After each word has dried, have Jonathan trace the word with his pointer finger on his right hand

### Magnetic Letters

- \*Have Jonathan help you pick out the letters for each word
- \*Have Jonathan trace the letters with his pointer finger on his right hand

### Write on Board

- \*Write each word on the board
- \*Have Jonathan trace the word with the crayons

## Directions for Spelling Activities (SCHOOL)

### General Direction

- \*Do each Spelling word three (3) times
- \*As Jonathan traces or writes each letter have him sound out that letter
- \*Do one activity (suggestions are listed on the calendar) each day

### Sandpaper Letters

- \*Have Jonathan help you pick out the letters for each word
- \*Have Jonathan trace the letters with his pointer finger on his right hand

### Glue on Paper

- \*Have Jonathan trace the letters with his pointer finger on his right hand

### Rocksalt

- \*Fill the container with about 1/2 an inch of salt
- \*Have Jonathan write the word in the salt

### Watercolors

- \*Have Jonathan use the watercolors to write each word
- \*After each word has dried, have Jonathan trace the word with his pointer finger on his right hand

### Magnetic Letters

- \*Have Jonathan help you pick out the letters for each word
- \*Have Jonathan trace the letters with his pointer finger on his right hand

### Write on Board

- \*Write each word on the board in large letters
- \*Have Jonathan trace the word with chalk

Spelling Words and Schedule of Activities (Home)

Week #1

Words:

They  
Send  
Fast

Activities:

Monday: None  
Tuesday: Sandpaper Letters  
Wednesday: Glue on Paper  
Thursday: Magnetic Letters

Week #2

Words:

The  
What  
When

Activities:

Monday: Write on Board  
Tuesday: Rocksalt  
Wednesday: Watercolors  
Thursday: Sandpaper Letters

Week #3

Words:

Play  
Help  
Rest

Activities:

Monday: Glue on Paper  
Tuesday: Rocksalt

Wednesday: Magnetic Letters  
Thursday: Watercolors

Week #4

Words:

Go  
Sleep  
Hold

Activities:

Monday: Write on Board  
Tuesday: Magnetic Letters  
Wednesday: Rocksalt  
Thursday: Glue on Paper

Week #5

Words:

Her  
His  
Him

Activities:

Monday: Watercolors  
Tuesday: Magnetic Letters  
Wednesday: Write on Board  
Thursday: Sandpaper Letters

Week #6

Words:

Home  
School  
Park

Activities:

Monday: Rocksalt  
Tuesday: Glue on Paper

Wednesday: Magnetic Letters  
Thursday: Watercolors

Spelling Words and Schedule of Activities (School)

Week #1

Words:

They  
Send  
Fast

Activities:

Monday: None  
Tuesday: Sandpaper Letters  
Thursday: Glue on Paper  
Friday: Rocksalt

Week #2

Words:

The  
What  
When

Activities:

Monday: Watercolors  
Tuesday: Magnetic Letters  
Thursday: Write on Board (Large Muscles)  
Friday: Sandpaper Letters

Week #3

Words:

Play  
Help  
Rest

**Activities:**

Monday: Rocksalt  
Tuesday: Glue on Paper  
Thursday: Magnetic Letters  
Friday: Watrecolors

Week #4**Words:**

Go  
Sleep  
Hold

**Activities:**

Monday: Sandpaper Letters  
Tuesday: Glue on Paper  
Thursday: Magnetic Letters  
Friday: Write on Board

Week #5**Words:**

Her  
His  
Him

**Activities:**

Monday: Rocksalt  
Tuesday: Watercolors  
Thursday: Glue on Paper  
Friday: Sandpaper Letters

Week #6**Words:**

Home  
School  
Park

**Activities:**

**Monday:** Write on Board

**Tuesday:** Magnetic Letters

**Thursday:** Rocksalt

**Friday:** Glue on Paper