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# Evaluation of Student Progress to Goals: Tracking Positive Behavior Changes Among Students Identified with Special Needs Grades 1 to 3

Julia Ries

*Dominican University of California*

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Evaluation of Student Progress to Goals:  
Tracking Positive Behavior Changes  
Among Students Identified with Special Needs Grades 1 to 3

Julia Ries

Submitted in Partial Fulfillment of the Requirements for the Degree

Master of Science in Education

School of Education and Counseling Psychology

Dominican University of California

San Rafael, CA

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**Signature Sheet**

This thesis, written under the direction of the candidate's thesis advisor and approved by the Chair of the Master's program, has been presented to and accepted by the Faculty of Education in partial fulfillment of the requirements for the degree of Master of Science in Special Education. The content and research methodologies presented in this work represent the work of the candidate alone.

Julia Ries

December 1, 2015

Candidate

Date

Madalienne F. Peters, Ed.D.

December 1, 2015

Thesis Advisor

Date

Elizabeth Truesdell, Ph.D.

December 1, 2015

Program Chair

Date

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**Table of Contents**

**TITLE PAGE ..... 1**

**SIGNATURE SHEET ..... 2**

**ACKNOWLEDGMENTS..... 4**

**TABLE OF CONTENTS ..... 5**

**ABSTRACT..... 7**

**CHAPTER 1 EVALUATION OF STUDENT PROGRESS TO GOALS ..... 8**

**STATEMENT OF PROBLEM..... 9**

**PURPOSE STATEMENT ..... 9**

**RESEARCH QUESTION ..... 10**

**DEFINITION OF TERMS ..... 10**

**THEORETICAL RATIONALE..... 11**

**ASSUMPTIONS ..... 12**

**BACKGROUND AND NEED..... 13**

**SUMMARY ..... 14**

**CHAPTER 2 REVIEW OF THE LITERATURE ..... 15**

**VIDEO MODELING ..... 15**

**POSITIVE BEHAVIOR SUPPORT ..... 17**

**RESPONSE TO INTERVENTION ..... 19**

**ANIMAL THERAPY ..... 21**

**SOCIAL STORIES..... 23**

<b>SUMMARY .....</b>	<b>26</b>
<b>CHAPTER 3 METHOD.....</b>	<b>28</b>
<b>RESEARCH APPROACH.....</b>	<b>28</b>
<b>ETHICAL STANDARDS.....</b>	<b>28</b>
<b>SAMPLE AND SITE.....</b>	<b>28</b>
<b>ACCESS AND PERMISSIONS.....</b>	<b>30</b>
<b>DATA GATHERING PROCEDURES.....</b>	<b>30</b>
<b>DATA ANALYSIS APPROACH .....</b>	<b>31</b>
<b>CHAPTER 4 RESULTS.....</b>	<b>56</b>
<b>SUMMARY .....</b>	<b>68</b>
<b>CHAPTER 5 DISCUSSION/ANALYSIS .....</b>	<b>70</b>
<b>SUMMARY OF MAJOR FINDINGS .....</b>	<b>70</b>
<b>COMPARISON OF FINDINGS TO THE LITERATURE.....</b>	<b>71</b>
<b>LIMITATIONS/GAPS IN THE RESEARCH .....</b>	<b>73</b>
<b>IMPLICATIONS FOR FUTURE RESEARCH .....</b>	<b>73</b>
<b>OVERALL SIGNIFICANCE OF THE STUDY.....</b>	<b>74</b>
<b>ABOUT THE AUTHOR.....</b>	<b>75</b>
<b>REFERENCES.....</b>	<b>76</b>

### **Abstract**

There has been an increase in the number of children identified and served, in school settings, and in the community at large, under the Individuals with Disabilities Education Act (IDEA.) Many school-based programs focus on mainstreaming students with disabilities. However, few programs exist for children between the ages of 5 and 9 who need positive behavior intervention services because they lack socially appropriate interaction skills.

The research literature revealed that students who lack appropriate social interaction skills are often placed into mainstream general class settings, where results of student improvement in social interaction skills are mixed. There is a gap in the research on the effectiveness of targeted instruction in social interaction skills for a specific subset of the population, ones who need intensive instruction in positive interpersonal communication skills.

The purpose of this program evaluation study is to measure the progress of students with social skill deficiencies served under IDEA in a non-public school setting. I, as the teacher/researcher, collected data on students' verbal social skills, which followed targeted teaching strategies that focused on the development of social skills, specifically verbal interaction skills. Results indicated that students who had targeted instruction in their social interaction skills showed improvement in their ability to communicate positively with others in a school setting. Data also showed that attendance did not play a factor in the overall gains towards students' individualized goals.

Keywords: positive intervention behavioral support, social skill deficiencies, verbal interaction



## **Chapter 1 Evaluation of Student Progress to Goals**

The teacher/researcher, referred to in this paper as researcher, sought to evaluate students identified on the autism spectrum with a focus on verbal social interactions with peers. Students needed to learn how to self-regulate and express their wants and needs verbally to staff and peers. Students were assigned to this specialized, private school setting because they often demonstrated aggressive, occasionally violent behavior in a general public school setting. Nine students formed the class, which included 3 girls and 6 boys in grades K-3. Student diagnoses included the following: Autism (4), Emotional Disturbance (3), Other Health Impairments (1), and Severe Learning Disabilities (1).

Students struggled with low self-esteem following actions taken at their former school setting to remove them from the general education classroom setting. Students commonly referred to these actions as being “kicked out” of their general education placement or not being “smart enough to be in regular school.” These students loved to watch movies, sing songs, and read books. Everyone enjoyed Read Aloud (Layne, 2015) because they were exposed to characters who made mistakes, had different families, or turned into “a different person” when they were angry or upset.

Student interest in Read Aloud led to my understanding of the need these children had to learn how to label their feelings, a big challenge for them. This awareness led me to formulate a research agenda that addressed the effect of targeted instructional practice on improving social and verbal interaction skills.

**Statement of Problem**

There is an increase number of students who receive services under the Individuals with Disabilities Education Act (IDEA, 20 U.S.C. § 1412). As a result, there are many mainstreaming options offered to students with disabilities. However, there are few education programs for young students with emotional disabilities specifically for those with limited social interaction skills. The programs that exist serve students who display problematic social behavior. This, in turn, is interfering with how these students interact socially with others. Therefore, classroom teachers need to focus on strategies that improve social skills and student-to-student interactions.

Within the classroom that served as the location for this study, student ability to use language to express their feelings varied between and among students. Students with home support and experiences outside the home in community situations had stronger verbal skills compared to students with limited support outside the classroom. Therefore student behavior in the classroom, in a school that specialized in educating children on the autism spectrum, mirrored behavior described in other settings. This was also reported in my university professional training as a special education teacher, with additional formal coursework in teaching children on the autism spectrum.

**Purpose Statement**

The purpose of this study is to evaluate student progress towards their behavior goals that focus on using language to promote positive interactions between peers and staff. Evaluation in any educational program is important. It is particularly true in specialized settings. Targeted instruction in improving social interaction skills needs to be evaluated in terms of effectiveness,

which documents student improvement in behavior. Students with improved social skills may then increase their chances of success outside of a specialized instructional setting.

In the context of this study, the researcher evaluated student progress towards behavior goals using daily observations following the end of a class period, or the end of the day. Little evidence is available that documents empirically the effect of specific strategies on improving social skills behavior in this population. The purpose of the study reflects the importance of program evaluation to offer evidence as to the effectiveness of specific instructional approaches.

### **Research Question**

What is the impact of direct teaching instruction through modeling on increasing the ability of students identified on the autism spectrum to use words to verbalize feelings, following the use of specially designed social thinking curriculum?

### ***Definition of terms***

Direct Teaching Instruction is a general term for the explicit teaching of a skill set using lectures or demonstrations of the material.

Modeling is a visual act that serves as a behavioral or moral example to others.

Autism Spectrum describes a wide range of conditions classified as neurodevelopmental disorders.

Specially Designed Social Thinking Curriculum demonstrates the link between one's social learning abilities and his or her related ability, or disability, when processing or responding to the environment.

**Theoretical Rationale**

The special education law, the Individuals with Disability Education Act (IDEA) of 2004 went through several reauthorizations before 2004. The IDEA law was designed to provide students with disabilities free access to public education. IDEA mandates that public schools serve students with a wide range of disabilities and that they also provide services and any additional support in order for these students to reach their fullest potential in a general education setting. (Individuals with Disabilities Act, 20 U.S.C. § 1412)

The Least Restricted Environment is one of the requirements of federal law ensuring students with disabilities are taught in the same classroom as children without disabilities. It states that whenever possible, both students with disabilities and children without disabilities should be taught in the same general education classroom. Exceptions are made when education is not satisfactory in the general education classroom setting despite supplemental aids and services. According to federal law school districts must make certain that:

...to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and

services cannot be achieved satisfactorily. (Individuals with Disabilities Act, 20 U.S.C. § 1412)

As a result of legislation, students with limited social interaction skills are educated in specialized instructional settings. Legislation is the mandate that has led to program development for children identified as needing to improve social behavior. The present study is an evaluation of the students' LRE in their specialized program in terms of documenting improvement on their targeted deficiencies and improvement in communicating with others.

Special education law created the foundation for serving all students in an educational setting, regardless of their disability. Aspects of the law call for evaluating a student's needs and establishing an instructional program to address targeted needs. Legislation formalized the practice of providing education to students on the autism spectrum. Student evaluation of progress is part of the delivery of services in all specially designated settings. In the setting that served as the focus of the study, teachers follow legislative mandates in documenting student progress. The program is in place in compliance with federal and state laws for educating students on the autism spectrum.

### **Assumptions**

The researcher assumes that all classroom and clinical staff know the behavior needs of the students in the K-3 classroom. She also assumes that clinical staff establish and teach positive behavior strategies with the students, when they are not with the teacher. Lastly, she assumes that most support at home for positive behavior support is unstructured; parents may not have the skills needed to implement positive behavior support at home.

**Background and Need**

Bandura (as cited in Grusec, 1992) believed that humans process information and think about the relationship between their behavior and the consequences that may follow. People learn from one another by observing. By observation, students can retain information, reproduce information, and process what they will gain by reproducing information. Children observe the world in many different ways. One example is using observational learning to understand and process how one should act. Children may look around to see what other students peer are doing. If children can process information well, they are able to change as the environment around them changes. Another example is self-efficacy. This is the children's developed belief about their own abilities and characteristics. These beliefs develop their behavior and tell them how much effort they should put in to get what they need (Grusec, 1992).

Bandura's theory of learning through observation, provides the framework of how students acquire knowledge and behavior skills in any setting. Students on the autism spectrum with poor social interaction skills struggle with knowing what is socially acceptable and appropriate with adults and children. They may not have the filter to understand conceptually how their explosive responses interfere with creating positive peer relationships, and positive relationships in other settings. In applying Bandura's theory in practice, special education professionals developed instructional approaches that led to the field of research that produced positive behavior intervention strategies.

**Summary**

With 6.4 million students served under IDEA (Autism Society 2014) and mainstreaming becoming increasingly prevalent in schools, it is important for teachers to understand and implement different ways to teach students served under IDEA to communicate expectations between students and their classroom teachers. A main deficit for these students includes their ability to think how their actions and how they may have an effect on the feelings of others, particularly their peers. These children have different learning styles and ways of communicating.

There are many ways to teach these students how to label their feelings, and the feelings of others. Students can use pictures, the zones of regulation, such as labeling feelings by color, social stories, social behavior mapping, and video modeling. The focus of this study is to examine changes in student behavior, specifically in the area of positive social behavior during a 6 week summer session in a private, non-public school setting.

## **Chapter 2 Review of the Literature**

This section is a review of research literature from peer-reviewed articles, which focused on different ways to promote positive language skills in children that are being served under IDEA. More specifically, research literature focused on intervention strategies used with children with deficiencies in language skills. The articles selected provided an understanding of programs offered to children served under IDEA, including interventions described and used for students on the autism spectrum disorder.

### **Video Modeling**

The purpose of these articles was to document the four components of socially expressive behaviors: verbal comments, intonation, gestures, and facial expressions in ASD children using video modeling. The authors examined data to analyze the impact of video modeling on improving children's socially expressive behaviors. Three boys identified on the autism spectrum, ages 9-11, and were introduced to video modeling. Students watched specific videos that modeled student socially appropriate behavior. Each video included an adult familiar to the students to promote a calm demeanor and willingness to participate. Each student watched the video separately from other students. All three children had the same four target behaviors: verbal comments, intonation, gestures, and facial expressions. They all were below the baseline of accurately presenting their socially expressive behaviors. Progress was not consistent throughout the trials. The boys participated in 9 trials. All the boys were able to use the correct target response in 7 out of 9 trials. Data for this study was presented in charts, tables, and



graphs. The data showed the video modeling successfully prompted socially expressive behaviors in the three boys with ASD (Charlop, Dennis, Carpenter & Greenberg, 2010).

Funahashi, Gruebler, Aoki, Kadone, and Suzuki (2014) examined video modeling as a tool to target a variety of behaviors for students with ASD. They discussed characteristics of students with ASD and how video modeling can be used to improve behavior. They reviewed past studies on video modeling, and the consistency in data that showed improvement in children's behavior, increasing vocalization and communication skills in children with ASD. The researchers were interested in studying the effectiveness of video modeling on improving behavior in children with Autism. The researchers reviewed studies, which showed improvement in attention of children with ASD. Student attention was focused on relevant stimuli. Students repeated target behaviors, practiced observing behaviors, and focused on student interest in using electronics. Although, the benefits of video modeling are consistently reported, the authors noted that it is unclear what aspects of video modeling are necessary for continued success (Funahashi, Gruebler, Aoki, Kadone, & Suzuki, 2014). Only two children served as the sample for the study, thus limiting generalizations on the effectiveness of video modeling as an instructional practice that can be effective in working with large groups of students on the autism spectrum.

Wilson (2012) studied video modeling as an intervention strategy in school settings due to the unprepared feeling Speech Language Pathologists (SLP) felt when working with students on the Autism Spectrum. The researcher outlined steps taken in video modeling from a SLP's perspective after reviewing previous studies over the past decade. Review of the past studies

showed an overarching theme in how video modeling is used with students on the Autism Spectrum by SLPs. The researcher describes the theme as a five step process. These steps included preparation, recording of the video model, implementation of the video modeling intervention, monitoring of the student's response to the intervention, and planning of the next steps. Data uncovered that when SLPs used video modeling as an intervention it allowed the students increased independence, easy individualization in targeted behavior, low cost, consistent implementation, and consistent use across professionals and settings. With these findings Wilson (2012) suggested SLPs advocate for video modeling in their clinical practice with students with ASD.

### **Positive Behavior Support**

Neufeld, Law, and Lucyshyn (2014) studied positive behavior support, which focused on the effective practice, and growth of positive behavior support with ASD students in school. The researchers focused on the use of behavioral interventions for students with ASD and their effect in reducing the occurrence of interfering behaviors, such as repetitive or disruptive behaviors, through the use of "evidence-based practice" (Trochim, Donnelley & Arora, 2016, p. 9.) A tiered approach was used to implement specific behavioral methods and strategies, which gradually increased the amount of support for students with ASD as interfering behaviors become problematic.

In this study, functional behavioral assessments were used to identify possible causes of interfering behaviors. The assessments also included strategies that were implemented within the context of a comprehensive behavioral intervention plan. The researchers aimed to discuss

interfering behaviors. They then presented a model for preventing and reducing these behaviors. Finally they provided a variety of evidence-based practices that can be used to address interfering behaviors in children and youth with ASD (Neufeld, Law, & Lucyshyn, 2014).

Additional research addressed the background of positive behavior support and the impact in which variables can enhance participation, student choice and quality of life for students with severe challenging behaviors. McClean and Grey (2012) described a sequence of specific changes, and collected data over a three-year period. Interventions were based on a multi tiered approach of behavior support. Variables that affected behavior ratings were frequency, severity of behavior, how the behavior was managed, the mental health of the participant, and their quality of life.

The intervention showed that the sequence of events happened in a low arousal environment, built rapport and predictability, and differentiated reinforcement strategies. The results showed a substantial reduction in target behaviors and improvement with quality of life using students' mental health scores. The study demonstrates the efficacy of positive behavior support for people with exceptionally severe behavior in individually designed services.

(McClean & Grey, 2012).

The importance of educational professionals in public school systems using a school wide positive behavior intervention framework was examined by Evans and Weiss (2014).

Classrooms have consistent rules and routines to promote success in their students. An example of a routine may be checking in and out of the classroom. These processes were only found effective if clear communication and collaboration happened between special educators and

general education teachers. One challenge the school personnel faced when serving high numbers of students who qualify under IDEA is setting aside a structured time to discuss students' plans and programs and how the general educators and special educators should best collaborate to serve the needs of these children so they can be successful. It was found that the wealth of knowledge, whether it came from the special educator or the general educator was not always shared, but rather assumed. In order for students to become successful members of their schools special education teachers and general education teachers need to work together to collaborate on a weekly basis (Evans & Weiss, 2014)

### **Response to Intervention**

A review of the article described how educators can work together by adopting a multi-tiered system to promote positive behavior for their students. This method of support is known as RTI, or response to intervention (Neitzel, 2010). When using an RTI model multiple personnel, the Student Study Team (SST), evaluate a student at school. Parents also report how children behave at home. SST then meets to discuss strategies that may improve student behavior and increase learning.

Tier one offers preventative practices. The main goal is to prevent a student's interfering behavior from occurring. Specific preventative practices include organizing a safe and predictable classroom environment where students are able to build relationships with peers and other adults. The environment is arranged to support the students' behaviors. In addition to following the school-wide expectations, some teachers will create quiet spaces, offer multiple breaks, and use visual schedules.

Tier 2 is designed to provide increasingly targeted support for students who continue to exhibit interfering behaviors, despite the use of strategies from tier 1. There are three main focuses of Tier 2. These include a teacher providing a formative behavior assessment that is designed to guide specific interventions for each behavior, implement the evidence based practices to decrease the students' interfering behaviors, and further develop communication and socialization skills between peers and students (Neitzel, 2010.)

Tier 3 focused on providing intensive, individualized instruction to students who exhibit interfering behaviors, despite the use of preventative strategies and interventions used in tiers 1 and 2. An example of this would be to create a Behavior Intervention Plan from the Formal Behavior Assessment you already created in Tier 2. At this time more team members from the school may join to support the teacher and student. These team members include a school psychologist, administrator, and specialists that work in the field of need for the student in question. Team members meet and re-evaluate identified triggers that might influence the behavior, gather additional assessments, evaluate student behavior patterns under past interventions, and develop a detailed idea regarding the function of the student's behavior (Neitzel, 2010).

Camargo, Rispoli, Ganz, Hong, Davis & Mason (2014) studied the effectiveness of behaviorally based social skills interventions in inclusion settings. Using research based interventions, this study analyzed the quality of single case research to improve social interactions and evaluated whether those interventions could be considered as evidence based practices. This study was made up of 55 participants, 50 boys and 5 girls ages 3-21 and was

conducted in settings other than inclusive classrooms. Differences in settings led the researchers to report that this approach might have limited effectiveness in inclusive settings. A variety of social skills were targeted for intervention. The researchers looked at the school setting for the child, whether it was more or less inclusive, and then selected a specific skill that was appropriate to the student's placement. Behaviorally based support interventions are typically used in homes, clinical settings, or special education classrooms and are infrequently conducted in inclusive settings. Many limitations were found from this study, including location of service delivery, past interventions used with subjects before entering the study, and subject diagnoses under ASD. The review suggests that behavioral components may be an essential aspect of successful social skills interventions. However this review does not investigate differential effects between social skills interventions utilizing and not utilizing behavioral procedures. Researchers suggested that there was a need for additional research.

### **Animal Therapy**

Animal therapy is a specific intervention that has demonstrated promise with students who are qualified under IDEA. Research has also addressed on the effect of animal therapy in on children in school and hospital settings. Animal therapy research documented improvements in social functioning, including increasing social approach behaviors and social skills, and decreasing social withdrawal behaviors, during and after the program. Over half of parents who participated in the study also reported that their children demonstrated an increased interest in attending school while these programs were in place. Therapy animals are a relatively simple and

cost-effective means of helping educators and families to improve the social functioning of children who qualify under IDEA (O'Haire, McKenzie, McCune, & Slaughter, 2014).

Another study used quantitative data to measure the smiles of a child with autism spectrum disorder. These children wore an interface device during animal-assisted activities 7 months. Results were compared to a control group of typical students of the same age. The participant was a 10-year-old boy with ASD, and a normal healthy boy of the same age served as the control or comparison was the control. They voluntarily participated in this study. Neither child had difficulty putting on the wearable device. Each session lasted for 30-45 minutes. The participants' behavior was video-recorded and coded by the medical examiner.

In both groups, the smiles recognized by the medical examiner corresponded with the computer-detected smiles. In both groups, positive social behaviors increased when the smiles increased. Also, negative social behaviors decreased when the smiles increased in the student with Autism. The evidence suggested that "by leading the (ASD-C) into a social environment that may cause smiling, the child's social positive behaviors may be facilitated and his social negative behaviors may be decreased." (Neufeld, Law, & Lucyshyn, 2014.)

Berry, Borgi, Francia, Alleva and Cirulli, (2013) conducted a review of literature on the use of animal therapy dogs with students on the Autism Spectrum to see if there was sufficient evidence to support it as a best practice. In the 6 studies reviewed the population was the same; children ages 3-15 with ASD, with an additional emphasis on social behaviors and language use. The review of the literature examined the way in which the dogs were used. The dogs were presented in two ways, assistant dogs, and therapy dogs. Interaction with assistance dogs assisted

in improving children's behavior, with decreased anxiety and anger, increased calmness, reduction in the number of emotional outbursts (tantrums), and manageable bedtime routines. Therapy dogs were used with children in a 1:1 setting and for brief periods of time. Children were observed to improve awareness of their social environment. Student verbal interactions were stimulated quickly and easily with use of a therapy dog, and children were likely to stay on topic. The authors identified a flaw in the research. When using an assistance or therapy dog, evidence was collected by interviews, questionnaires distributed to parents, which could have possibly reflected than parents' satisfaction more than the actual modification in the child's behavior. After providing a review of current evidence they concluded that although the study documented success of the program, the researchers recommended the need for additional studies with large sample sizes, and improved data collection procedures.

### **Social Stories**

Hutchins and Prelock (2013) examined the potential of using social stories as an intervention to promote positive change in behavioral and communicative functioning. The researchers also wanted to identify whether specific targets in using social stories as an intervention are more or less effective among caregivers with a comprehensive knowledge of the child. The sample included twenty, 18 males two females, from ages 4-12 with Pervasive Developmental Disorder (PDD)/Autism, PPD-Not Otherwise Specified, or Asperger's Disorder. The Institutional Review Board approved this study. Parents completed a daily diary for 6 weeks to collect baseline data on their child's behavior. The intervention strategy of using social stories lasted for 6-8 weeks, varying according to the number of sessions the child had with a specialist.



Hutchins and Prelock (2013) found that eleven of the nineteen behavior stories targeted the reduction of behaviors, which included tantrums, yelling, aggression, and self-injury. These stories also promoted an increase in appropriate behavior routines and ability to greet others politely. The results showed that 55% of parents observed therapeutic changes when using all social stories. Improvement of 52% was documented using positive communication social stories, while 65% improvement was shown using behavioral social stories. Hutchins and Prelock specified in their article that social stories need to be taught using repetition in order to establish optimal outcomes.

Bozkurt and Vuran (2014) analyzed studies in which social stories were used to teach social skills to students with ASD. Review of the literature showed that social stories could be an effective tool to teach social skills to children with ASD. The researchers found that social stories are effective because they meet the following criteria: the stories are visual, they can be repeated multiple times with the same student, they are cost effective, they are created to draw the necessary attention from the student, they focus on other people's thoughts and actions, they stories are easy to write and apply, and they are considered to be an effective and acceptable intervention by teachers and family.

Thirty-two research articles were collected to create a descriptive and meta-analytical study. The researchers focused on: how social story related to the skill, how the data was gathered, the range of the sentences, the characteristics of the intervention in the story, and how the stories were carried out. A total of 70 subjects were examined regarding social stories for teaching social skills using social stories. 76% of the subjects were diagnosed with autism and

22% with Asperger's syndrome. Only one study was carried out on children with a diagnosis of autism and learning difficulties. Subjects' ages ranged from 3-15. 78.26% of the studies were seen to be carried out in environments such as school, institutions or health centers, and 13.04% of the studies were carried out at home. The researchers found that the intervention of the social stories differs greatly due to the high variables ranging from single subject case studies to multiple baselines for other subjects. Social validity data were collected in 65.21% of the studies on the use of social stories in teaching social skills to children with ASD (Bozkurt & Vuran, 2014)

Kassardjian, A., Leaf, J., Ravid, D., Leaf, J., Alcalay, A., Dale, S, Tsujo, K, Taubman, M, Leaf, R, McEachin, J & Oppenheim-Leaf, M. (2014) completed a comparison study on the teaching interaction procedure to Social Stories in a social setting. They focused on teaching social skills to three children diagnosed with autism spectrum disorder. They used two different procedures with their subjects. One was the teaching interaction procedure, which consisted of didactic questions, teacher demonstration, and role-play. The other procedure they used followed the steps in implementing social stories. This procedure consisted of reading a book and answering comprehension questions. The researchers measured participants' performances during inquiries, responses to comprehension questions, and responding during role-plays. The researchers found teaching children how to interact was more effective than simply having children listen to social stories.

Schwartzberg and Silverman (2013) led a randomized controlled to study to examine the effects of music-based social stories on the comprehension and generalization of social skills in

children with ASD. The data were collected during three one-week summer camps. Subjects were randomly selected and grouped to one of three non-music control groups, or to one of three experimental music therapy groups. The non-music control group had social stories read to them, while the music group had social stories sung to them. The subjects' parents completed the autism social skills profile (ASSP) at pre- and posttest and five comprehension checks. The effects of the comprehension check were significant with high scores on the post-test for children in the musical group. Limitations of the study also showed that results were confused by numerous interactions, which may have compromised the results.

### **Summary**

The literature review addressed one overarching theme, the response to intervention (RTI). Students served under IDEA can fall into any tier. The importance of a multi-tiered system in an education setting is to understand the needs of children, the possible reasons for their behaviors, and different ways teachers can offer direct individual support in working with children to replace interfering behavior with positive behavior. The common theme in the research literature was the use of positive behavior reinforcement interventions both in and out of the classroom to help students improve their social skills.

Many authors discussed the importance of effective communication and collaboration between educators, educators and parents, and parents and doctors. Many reported intervention strategies that were multi-tiered and offered multiple forms of support and therapeutic approaches. Examples of these interventions included: animal therapy, video modeling, and positive behavior support systems. This program evaluation extends the literature by

documenting student progress to goals in a classroom setting. Limited data are available on program effectiveness. The present study documents student progress toward goals in one specialized school setting, where information from the perspective of the researcher is included using the RTI approach. Data included descriptions of student performance based on the intensity of the intervention needed, interventions used in the classroom, and how successful those interventions were towards shaping student behavior.

## **Chapter 3 Method**

### **Research Approach**

This is a program evaluation study, using formative and summative data from an intact group, a special day class with nine students (Patten, 2014). The teaching strategy used for these students emerged from video modeling, social stories, and other strategies that address social interaction skills. These approaches emerged from the research as “evidence based practice” (Trochim, Donnelly & Arora, 2016, p. 9). “Evidence based practice” is when the researcher applies documented strategies for instruction, forming a mixed methods study using qualitative and quantitative data, comparing student progress to goals from March 2015-July 2015.

### **Ethical Standards**

This paper adheres to the ethical standards for protection of human subjects of the American Psychological Association (2010). As a program evaluation study, the researcher only reported formative and summative assessment data with the intent of assessing instructional practices. The researcher, a teacher with both general and special education credentials, completed an advanced graduate program of study and is certified to teach in the State of California. Additionally a research proposal was submitted and reviewed by two members of the faculty, and approved.

### **Sample and Site**

Eagle Elementary (a pseudonym) serves and instructs students in Kindergarten through 12th grades with individualized academic programs that meet state standards and utilize state adopted curriculum. The classroom programs are data driven, with measurable and observable

goals for students based on formal and informal assessment. Goals are continually revised as students demonstrate improvement. The student study team provides therapeutic support, in and outside the classroom with professionals that include: Occupational Therapists, Speech and Language Therapists, and Social Cognition Specialists. The students receive a variety of services that are offered to support their Individualized Education Plan (IEP) goals.

The researcher worked in a Special Day Class for students with Asperger's and/or Autism Spectrum disorders. She had 3 assistants serving under her in the classroom. She had a classroom coordinator who was in charge of running the classroom while she attended IEP meetings, and was also the lead behavior assistant in the classroom you worked with students with challenging behaviors. There were two other behavior assistants who managed less severe behaviors and helped students stay on task. All staff in the classroom were responsible for documenting students' progress towards goals. Students were placed in this school setting as a result of the review team that developed the IEP. The IEP team at the school site recommended the special class setting as the least restrictive environment (LRE) to meet children's social, emotional and academic needs.

Data were collected on four students through teacher observation. The students under study fell into the grade range from 1<sup>st</sup> grade to Grade 3. Among the 4 students, 2 were female and 2 were male. Students' ability levels ranged in variety both academically and socially. All students were able to write their names, but only 2 of the 4 could write a full sentence with capital letters and correct punctuation. Motivating students who are not proficient readers and writers was difficult. Students had high expectations and many felt that they could never

improve or master their skills. They were often embarrassed by their inefficiencies. For the purpose of the study, students worked on balancing the academic demands of school with positive reinforcement to increase self-confidence and self-esteem.

### **Access and Permissions**

The researcher was the assigned teacher at the school site, and these students were her responsibility for the academic year. Additionally, the school site administrator received a letter explaining the purpose of the project and approved the study.

### **Data Gathering Procedures**

Eagle Elementary (a pseudonym) is a non-public school (NPS). NPS is a separate designation under the Education Code 56365. A NPS must be made available if no appropriate public education program is available for the child. When an appropriate public education program is not available and a NPS program exists that is appropriate for the child, then the district, SELPA or county office must pay the full amount of the tuition. Once the child is enrolled in a NPS that NPS must provide all services specified in the IEP, unless the NPS and LEA agree otherwise.

Students who attend Eagle Elementary have an IEP. An IEP is a written statement of the education program designed to meet a child's individual needs. Every student who receives special education services must have an IEP. Students that attend Eagle Elementary are covered under the Individuals with Disability Education Act (IDEA) which ensures students with a disability are provided with free and appropriate public education that are tailored to their individual needs. The Eagle Elementary student population is generated from referrals from public school settings and early intervention programs. The Director observed all students

referred to Eagle Elementary. Once accepted into the program the student had a 30-60 day review meeting. At a 30/60-day IEP meeting student goals were reviewed. Goals that follow the student to the school are either kept or rewritten to meet student ability level, by designated staff, who are specialists in their given fields. Once goals are established, the teacher of record and para-professionals collect data on all students' goals daily. Data are collected for each student during a specific time sample, which could be as short as 30 minutes or as long as the whole school day. Classroom data varies depending on students' individual education goals. The data are tallied at the end of each month. Data are then calculated and show the students' progress towards their goals. Student progress toward goals is documented and distributed every 3 months to parents/guardians/caregivers and sent to the home school.

### **Data Analysis Approach**

Once data were collected at the conclusion of the study, the researcher organized information in a visual display and examined student results looking for patterns of growth over time. Charts and graphs were created to provide a visual understanding of each child's instructional plan.

A total of four students participated in the study. These students attended school from April 4 through July 30, 2015, enabling the researcher and teaching assistance the opportunity to collect data on goals that were specific for each of the students.

Goals:

Student A (Anonymous, Individualized Education Plan, Jan 2015)-

**Behavior: Waiting turn**



**Baseline:** 4/30/2015: Student A uses coping, calming and communication techniques to wait his turn and accept a denied request to reduce disruptive verbal outburst behaviors to fewer than 23 times per week on average across school settings as measured by data collection and observation. He has been working on this goal and April was 12 times per week.

**Summary of Progress 7/30/15:** Student A uses coping, calming and communication techniques to wait his turn and accept a denied request to reduce disruptive verbal outburst behaviors to fewer than 21 times per week on average across school settings as measured by data collection and observation.

**Behavior: Leaving the group**

**Baseline 4/30/2015:** After a conflict with a peer, a denied request or difficult social interaction, Student A communicates his need for space to reduce the rate of leaving the group to 9.5 incidents or fewer per week on average across school settings, as measured by data collection and observation.

**Summary of Progress 7/30/15:** After a conflict with a peer, a denied request or difficult social interaction, Luis communicates his need for space to reduce the rate of leaving the group to 12 incidents or fewer per week on average across school settings, as measured by data collection and observation. Regression noted. The team will convene in the fall when student A return to school to discuss strategies to reduce the frequency of leaving the group.

**Behavior: Following Directions**

**Baseline:** 4/30/2015 After asking Student A for full body listening, he follows directions after 1 prompt during classroom activities in 46% of opportunities as measured by a daily time sample, classroom staff observation, and assessment of data by behavior analyst. In April this was 58%.

**Summary of Progress 7/30/15:** After asking Student A for full body listening, he follows directions after 1 prompt during classroom activities in 32% of opportunities as measured by a daily time sample, classroom staff observation, and assessment of data by behavior analyst.

Regression noted. The team will convene in the fall when Student A returns to school to discuss additional strategies.

#### **OT: Body Awareness**

**Baseline:** 4/30/15: Student A participates in 5 minutes of a group gross motor activity (yoga, exercises, ball play) with an average of 2 prompts for body awareness.

**Summary of Progress 7/30/15:** Beginning Progress. Student A participates in 5 minutes of a group gross motor activity (yoga, exercises, ball play) with an average of 2 prompts for body awareness. No change noted.

#### **OT: Self Regulation**

**Baseline:** 4/30/15: Baseline: Student A completes a 10 minute art activity with 3 prompts for sharing space and materials with a peer. He will often impulsively grab materials and touch others when sharing space with a peer.

**Summary of Progress 7/30/15:** Beginning Progress. Student A completed a 10-minute art activity with 1 peer, with 3 prompts for grabbing shared materials (glue, scissors, crayons) and

follow list of steps to complete the task. Luis continues to require a prompt to utilize sensory tools as needed (headphones, lap weight, deep breaths).

**Behavior: Raising a quiet hand to gain staff attention**

**Baseline** 4/30/15: Student A uses coping/calming tools and social thinking skills to get attention of peers and staff expectedly by raising his hand in 28% of opportunities, as measured by data collection, observation and analysis of data by Behavior Analyst. In April this was at 28%. Team will convene to discuss strategies to help Student A meet this goal!

**Summary of Progress** 7/30/15: Student A uses coping/calming tools and social thinking skills to get attention of peers and staff expectedly by raising his hand in 32% of opportunities, as measured by data collection, observation and analysis of data by Behavior Analyst.

**Speech: Determining the size of the problem**

**Baseline** 4/30/15: Student A determines the size of a problem with 65% accuracy. He needs support to determine certain emotions (e.g., embarrassed, bored). When discussing a problem that involves Student A, he struggles to identify the size of a problem (i.e., states that a small problem is medium).

**Summary of Progress** 7/30/15: Student A determines the size of a problem with 65% accuracy. He needs support to determine certain emotions (e.g., embarrassed, bored). No change due to high amount of absences.

**Speech: Pragmatic Language**

**Baseline** 4/30/2015: Student A provides two interpretations of a scene 55% of the time.

**Summary of Progress** 7/30/15: Student A provides two interpretations of a scene 55% of the time.

**Academic: Writing** 4/30/2015: Currently, Student A writes two sentences independently using 1/3 correct sentence conventions (correct capitalization, spacing and punctuation) in 5 out of 5 trials with no more than two teacher prompts. He gets frustrated with writing easily. He is working on staying focused on the activity to complete the full two sentences. Luis always remembers to use finger spaces, but will forget to capitalize the first letter at the start of his second sentence. He needs 1-2 teacher prompts to remind him to add the correct punctuation.

**Summary of Progress** 7/30/2015:

Currently, Student A can independently write one sentence independently using 3/3 conventions. He can write two sentences with 2/3 conventions with 2 teacher prompts. Luis continues to lose focus on all writing activities. He is able to stay on task with 1:1 teacher support.

**Academic: Sight Words**

**Baseline** 4/30/15: Student A reads the Pre-Primer sight word list with 90% accuracy in 4 out of 5 trials. He reads the Primer sight word list with 60% accuracy in 4 out of 5 trials. Student A is working on thinking first before answering. He will sometimes guess the word based on the first letter, but not on the other letters in the word. For example, what=where/when.

**Summary of Progress** 7/30/2015: Student A reads the Pre-Primer sight word list with 95% accuracy in 4 out of 5 trials. He reads the Primer sight word list with 60% accuracy in 4 out of 5

trials. Student A continues to make progress on his pre-primer sight words. He did not make progress toward his primer sight words, as he did not attend ESY.

### **Academic: Decoding**

**Baseline** 4/30/15: When presented with 25 CCVC and CVCC words, Student reads the words orally with 75% accuracy in 4 out of 5 trials when presented in word family groups. (i.e. same consonant blend prefix: ch, sh, br and consonant blend ending suffix: nt, nd, ck.) He has made great progress when presenting cvcc and ccvc words in word families. We are working on taking our time and noticing all the letter of the word. When presented randomly he has a harder time decoding each word based on the letters that make up the word. Examples when presented out of word families: what= when  
shut= sit

**Summary of Progress** 7/30/2015: When presented with 25 CCVC and CVCC words, Student A reads the words orally with 75% accuracy in 4 out of 5. Student A did not make progress toward this goal as he briefly attended ESY and chose to decode sight words over CVCC/CCVC words.

**Student B** (Anonymous, Individualized Education Plan March 2015).

### **Behavior: Aggressive Behavior**

**Baseline** 4/30/15: Student B engages in aggressive behavior 11 times per week.

**Progress Summary** 7/30/15: Student B uses coping skills or sensory strategies in order to reduce aggressive behaviors to 14.5 per week as measured by data collection, observation, an

behavior analyst analysis of data. Regression noted. Team will convene to continue to assess strategies to support Student B in making progress with this goal.

**Behavior: Disruptive Behavior**

**Baseline** 4/30/15: Student B engages in 13 disruptive outbursts per week.

**Progress Summary** 7/30/15: Student B uses her words to communicate her needs, difficulties, and desires to staff in order to reduce disruptive outbursts to 13 per week as measured by data collection, observation, and behavior analyst analysis of data. Although progress was not made, Student B has continued to build her tool box of coping strategies to utilize during moments of frustration.

**Behavior: Self-Care**

**Baseline** 4/30/15: Student B completes self-care tasks independently in 30% of all opportunities, averaged. She asks for assistance with wiping after defecation, opening her water bottle, tying her shoes, and other tasks that she may likely be able to perform independently.

**Progress Summary** 7/30/15: Student B independently completes self-care tasks that are developmentally appropriate in 68% of opportunities as measured by data collection, observation, and behavior analyst analysis of data.

**OT: Self-Regulation-Identify Sensory Tools**

**Baseline** 4/30/15: Student B has explored sensory tools and strategies at school. She is able to identify swing, yoga, and hugs as calming strategies

**Progress Summary** 7/30/15: Beginning Progress. Student B is able to identify the trapeze swing, frog swing, squish ball/fidgets, yoga, obstacle courses, gum, and reading as tools to help

stay in the "Green Zone" (calm and ready to learn). She continues to require assistance to identify when she needs a tool, and initiate use. Student B continues to explore tools and sensory strategies at school. She requires 1:1 facilitation with tool use due to decreased safety awareness and impulsivity.

### **OT: Tactile Dysfunction**

**Baseline** 4/30/15: Student B needs multiple prompts to utilize sensory tools to complete novel art tasks that include multiple materials. She has a history of tactile dysfunction/sensitivity.

**Progress Summary** 7/30/15: Beginning Progress. Student B completes a 2-step art project (cut and paste, fold a card, etc.) with extra time and 2 prompts for regulation, 60% of opportunities. 40% of opportunities, Student B is unable to complete the 2 part project as directed. She may move away from the work area, or scribble on the page. She has practiced a variety of seated fine motor activities in OT sessions for up to 5 minutes including: Handwriting Without Tears wood pieces and magnets, mazes, dot to dots, cut and paste activities, tweezer games, and rolling theraputty. She requires staff assistance to choose sensory tools, and express if she needs help or if she needs a break.

### **OT: Body Awareness**

**Baseline** 4/30/15: During sensory breaks and OT sessions, Student B is able to complete a 5-minute activity with a peer present without touching/bumping 25% of opportunities.

**Progress Summary** 7/30/15: Beginning Progress. Student B completes a 5-minute gross motor activity safely with 1 other peer on 1 out of 5 opportunities during OT breaks and OT groups.

**Behavior: Social Skills**

**Baseline** 4/30/15: Student B prefers to interact with adults at school. She struggles to take turns appropriately with peers and rarely initiates games or activities with classmates.

**Progress Summary** 7/30/15: Student B initiates play with a peer in 3/5 opportunities, given one or fewer adult prompts. She requires more facilitation to take turns with peers in 4/5 opportunities. She has improved on initiating play with peers! We are continuing to work on taking turns.

**Behavior: Unexpected Touch**

**Baseline** 4/30/15: Student B has unexpected touch about 50% of the time.

**Progress Summary** 7/30/15: Student B will uses her words to engage in expected touch in expected touch with peers or adults in 55%.

**Student C:** (Anonymous, Individualized Education Plan, May 2015.)

**Speech: Articulation**

**Baseline** 4/30/15: Student C produces /l/ in 90% of opportunities given minimal cuing in structured therapy; /sh/ and /ch/ in 50% of opportunities given minimal cuing in structured therapy. In connected speech, she substitutes /w/ for /l/ in the word-medial position and in blends. /s/, /sh/, and /ch/ are distorted due to changes in airflow secondary to missing dentition. Voiced and unvoiced /th/ impossible to produce without teeth. She demonstrates frustration and resistance to articulation tasks due to missing dentition. Recommend targeting this goal when appropriate.



**Summary of Progress 7/30/15:** Student C produces /l/ in 90% of opportunities given minimal cuing in structured therapy; /sh/ and /ch/ in 50% of opportunities given minimal cuing in structured therapy. In connected speech, she substitutes /w/ for /l/ in the word- medial position and in blends. /s/, /sh/, and /ch/ are distorted due to changes in airflow secondary to missing dentition. Voiced and unvoiced /th/ impossible to produce without teeth. She demonstrates frustration and resistance to articulation tasks due to missing dentition.

### **Speech: Pragmatic Communication**

**Baseline 4/30/15:** Student C identifies a problem, states two interpretations of the scene, and determines the best solution in at least 80% of opportunities in the structured setting. Outside of the structured 1:1 setting, She continues to display big reactions to perceived problems in the classroom/group setting. She has received support in learning to choose tools to decrease the size of her reaction. She is resistant to revisiting a problem after the fact in a structured setting.

**Summary of Progress 7/30/15:** Student C identifies a problem, states two interpretations of the scene, and determines the best solution in at least 80% of opportunities in the structured setting. Outside of the structured 1:1 setting, she continues to display big reactions to perceived problems in the classroom/group setting. She has received support in learning to choose tools to decrease the size of her reaction. Student C is resistant to revisiting a problem after the fact in a structured setting. She continues to struggle in this area and requires support from classroom and clinical staff. Baseline was maintained during ESY.

**Speech: Pragmatic Language**

**Baseline** 4/30/15: Student C requires moderate prompting to follow the lead of a peer in 2/4 opportunities. She prefers to lead peers in play or play alone.

**Summary of Progress** 7/30/15: Student C requires moderate prompting to follow the lead of a peer in 2/4 opportunities. She prefers to lead peers in play or play alone.

**Behavior: Self- Soothing Strategies**

**Baseline** 4/30/15: Averaged, when emotionally upset, Student C complies with adult assistance to use self-soothing strategies in 53% situations, as measured by data collection and observation.

**Summary of Progress** 7/30/15: When emotionally upset, Student C complies with adult assistant to use self-soothing strategies in 39% of situations as measured by data collection and observation. Regression noted. Team will convene to discuss strategies for teaching additional self-soothing strategies to Student C.

**Behavior: Compliance**

**Baseline** 4/30/15: Averaged, Student C follows one step directions given by teacher, staff or other adults with two prompts or less for non preferred tasks in 55% of opportunities as measured by data collection and observation.

**Summary of Progress 7/30/15:** Student C follows one step directions given by teacher, staff, or other adults with 1 prompt or fewer for non- preferred tasks in 59% of opportunities as measured by data collection and observation.

### **OT: Handwriting**

**Baseline 4/30/15:** Student C writes the upper case alphabet and lower case letters from a model and with 3 prompts (demonstration of letter formation). She has improved participation in pre writing and fine motor tasks such as dot to dots, mazes, directed drawing and word searches to improve fine visual motor skills. She is able to copy simple words and 1 simple sentence with demonstration. She continues to avoid writing tasks within the classroom and often complains of fatigue when practicing handwriting in OT.

**Summary of Progress 7/30/15: Beginning Progress.** Student C has practiced handwriting within the classroom and within individual OT sessions. In class, she is reviewing Handwriting Without Tears capital and lowercase formation. In individual sessions, she copies simple words and short sentences 90% letter legibility. She loses attention on directed writing activities after 5 minutes. When completing a task tables should be cleared of distractions, provide a choice of seating/standing, use small pencils/crayons, review/demonstrate letter formation, and practice handwriting for 3- 5 minutes. Provide praise for work completed. Mazes, dot to dots or directed drawing are other ways to practice pencil control and handwriting skills.

**Behavior: Transition from preferred activities**

**Baseline 4/30/15:** Averaged, Student C will stop a preferred task with two prompts or less from staff by transitioning at the appropriate time to the next activity 57% of the given opportunities across three consecutive days, as measured by data collection and observation.

**Summary of Progress** Student C stops a preferred task with two prompts or less from staff by transitioning at the appropriate time to the next activity 64% of the given opportunities across three consecutive days as measured by data collection and observation.

**Behavior: Self-Advocacy**

**Baseline 4/30/2015:** Averaged, Student C requests help or self-advocates when faced with a real or perceived challenge or when she perceives her work as inadequate in 38% of opportunities as measured by data collection and observation.

**Summary of Progress 7/30/15:** Student C requests help or asks for an alternative option or plan when faced with a real or perceived challenge or when she perceives her work as inadequate in 38% of opportunities as measured by data collection and observation. Although progress was not made, Student C is continuing to practice this skill by building her replacement phrases such as "Can I do this later?" or "Can I have more information?"

**Behavior: FERB-using words to express her emotions, wants and needs instead of physical aggression.**

**Baseline 4/30/15:** Averaged over the past quarter, Student C uses her words to express her emotions, wants, and needs instead of physical aggression (kicking, hitting, spitting, biting, pinching) in 80% of opportunities, as measured by data collection and observation.

**Summary of Progress 7/30/2015:** Student C uses her words to express her emotions, wants, and needs instead of physical aggression (kicking, hitting, spitting, biting, pinching) in 82% of opportunities as measured by data collection and observation.

### **OT: Ball Skills**

**Baseline 4/30/15:** Student C often avoids ball play and gross motor activities with peers at school. Differences in processing touch, movement, auditory, and visual input impact attention for ball play. She has improved tolerance of ball play in OT sessions, but continues to have a low frustration tolerance. Using a choice of balls (bean bags, playground ball, different textures/colors) and opportunities to practice in a quiet environment has helped her explore gross motor skills. Improving attention and motor skills for ball skills can improve body awareness and confidence in gross motor activities.

**Summary of Progress 7/30/15:** Beginning Progress. Student C has participated in short sessions of catch and throwing games with beanbags and beach balls in OT sessions. She is improving 2 hand catch and attention/regulation. She is frequently prompted to ask for a break, before physically leaving the activity. She is improving asking for a break.

### **OT: Body Awareness**

**Baseline 4/30/15:** Student C has participated in an short obstacle course with a peer on 3 out of 5 trials. She was able to complete 2 minutes of structured ball play with a peer on 3 out of 5 trials. She has improved tolerance for sharing equipment during sensory breaks within the OT room. She continues to require a high level of support and assistance to manage regulation when sharing space during OT breaks and OT sessions. She has a low frustration tolerance with new/novel activities, and continues to be sensitive to loud environments.

**Summary of Progress 7/30/15:** Beginning Progress. Student C is able to participate is turn taking gross motor activities such as obstacle courses or simple catch activities for up to 5 minutes with an average of 3 prompts. Checking in with Zones of Regulation visual helps her identify how she is feeling and if she is ready to play. She is given a "tool break" to help her get to the Green Zone before joining in a group activity.

### **OT: Self-Regulation**

**Baseline 4/30/2015:** Student C has improved attention and participation in staff directed fine motor tasks in individual OT sessions, using sensory tools to stay regulated. She continues to have difficulty completing fine motor table tasks with a peer present. She utilizes headphones, oral input from a chewy tube or water bottle, lap weight and choice of seating to stay calm and regulated.

**Summary of Progress 7/30/15** Moderate Progress! Student C has participated in a weekly OT group within her classroom including; cut and paste activities, fine motor games and manipulatives, handwriting practice, and using Handwriting Without Tears materials

(chalkboard, magnets, wood pieces). She has participated for 5 minutes with an average 2 prompts to stay at her table, utilize a tool, or ask for a break.

### **Speech: Social Communication**

**Baseline 4/30/15:** Student C can participate in two circles of conversation with a peer with a direct verbal prompt to make a related comment or question that indicates listening. She attempts to ask general questions when prompted minimally.

**Summary of Progress 7/30/15:** Student C can participate in two circles of conversation with a peer with a direct verbal prompt to make a related comment or question that indicates listening. She attempts to ask general questions when prompted minimally. This goal was not formally targeted over ESY. She has maintained prerequisite skills including accepting prompts to stay with the group during learning and play activities. This remains an area of difficulty and will be formally measured in the fall.

**Student D** (Anonymous, Individualized Education Plan, April 2015.):

### **Academic- Addition**

**Baseline 4/30/2015:** When presented with 10 addition problems with sums to 15, Student D solves with 70% accuracy in 4 out of 5 trials when using visual pictures and up to one teacher prompt.

**Summary of Progress 7/30/15** When presented with 10 addition problems with sums to 15, Student D solves with 70% accuracy in 4 out of 5 trials when using visual pictures and up to one

teacher prompt. Due to multiple absences and not attending ESY, Student D has not produced enough sufficient academic work to judge progress for this period.



**Academic: Decoding**

**Baseline** 4/30/15: Student D reads the Pre-Primer and Primer sight word lists with 20% accuracy in 4 out of 5 trials when presented in word families.

**Summary of Progress** 7/30/15: Student D reads the Pre-Primer and Primer sight word lists with 20% accuracy in 4 out of 5 trials when presented in word families. Due to multiple absences and not attending ESY, Student D has not produced enough sufficient academic work to judge progress for this period.

**Academic: Reading Comprehension**

**Baseline** 4/30/15: When read a grade level passage at least two times, Student D answers 1 "who, what, when or where" question about the passage with 50% accuracy in 4 out of 5 trials. Student D is unable to make an educated guess on who, what, when, or where questions when read a 1st-3rd grade reading passage. When being read 1st-3rd grade passage he is unable to stay on task or stay focused. When read a Pre-Primer 1-3 Leveled Passage he can correctly recall the information (who, what, when or where) 2 out of 5 trials with no teacher prompting.

**Summary of Progress** 7/30/15 When read a grade level passage at least two times, Student D answers 1 "who, what, when or where" question about the passage with 50% accuracy in 4 out of 5 trials. Student D is unable to make an educated guess on who, what, when, or where questions when read a 1st-3rd grade reading passage. When being read 1st-3rd grade passage he is unable to stay on task or stay focused. When read a Pre-Primer 1-3 Leveled Passage he can correctly

recall the information (who, what, when or where) 2 out of 5 trials with no teacher prompting.

Due to multiple absences and not attending ESY, Student D has not produced enough sufficient academic work to judge progress for this period.

### **Academic- Subtraction**

**Baseline** 4/30/15: When presented with 10 subtraction problems with sums to 20, Student D solves with 50% accuracy in 4 out of 5 trials when using visual pictures and up to one teacher prompt.

**Summary of Progress** 7/30/15: When presented with 10 subtraction problems with sums to 20, Student D solves with 50% accuracy in 4 out of 5 trials when using visual pictures and up to one teacher prompt. Due to multiple absences and not attending ESY, Carden has not produced enough sufficient academic work to judge progress for this period.

### **OT: Motor Planning**

**Baseline** 4/30/2015: Student D has participated in yoga in a small group and individual setting. He has improved regulation and effort. He copies poses with 2-3 prompts and demonstration. He has practiced child's pose, mountain pose, cat and cow, and follows a simplified sun salutation. Obstacles courses, twister, yoga, climbing on a jungle gym or play structure, martial arts, and Simon says are games that encourage bilateral coordination and balance.

**Summary of Progress 7/30/15:** Student D copies 4 yoga poses with an average of 1 lose of balance and 2 prompts per pose. He has improved participation and confidence in attempting new exercises and yoga poses. He did not attend ESY.

### **OT- Postural Control**

**Baseline 4/30/2015:** Student D is able to hold prone extension for 4 seconds and supine flexion for 5 seconds with encouragement and demonstration.

**Summary of Progress 7/30/15:** Student D is able to hold prone extension for 6 seconds and supine flexion for 11 seconds with encouragement and demonstration. He has difficulty lifting his arms and legs off

### **OT- Self Regulation**

**Baseline 4/30/2015:** Student D is able to list 1 tool per "Zone" with 1 prompt. He is able to identify when he is in the Green zone. He enjoys utilizing a variety of sensory motor equipment in the OT room and classroom.

**Summary of Progress 7/30/15:** Moderate Progress! Student D is able to Identify his "Zone" using a visual with 1 or less prompt. He is able to choose a tool with 2 or less prompts. He continues to need assistance choosing a tool that matches his "Zone", but readily accepts tools. He utilizes fidgets, noise canceling headphones, running breaks outside, swings, yoga ball,

resistance band, catch with a heavy ball, weighted blanket as tools to help stay in the "Green"/ready to learn zone.

### **OT- Fine Visual Motor Skills**

**Progress Report 1:** 4/30/2015: When prompted to draw a picture of himself Student D draws a person with 13 features provided with a model. He has improved use of color and details, and rarely adds violent features. He is improving confidence and effort in drawing skills.

**Summary of Progress** 7/30/15: Moderate Progress. Student D draws himself with 10 out of 13 features listed above, but no longer includes violent features. He has correction orientation, but requires prompts to include ears, hands, and correct number of fingers. He has been taught to draw a person from the top down using "Mat Man", then adding details.

### **Behavior: Unexpected or Strange Behaviors**

**Baseline** 4/30/2015: Student D uses coping and calming strategies, social thinking skills and problem solving techniques to reduce unexpected or strange behavior to 7 per week, as measured by data collection and observation, averaged over the past quarter. Regression noted. Team will convene to discuss strategies to meet this goal.

**Summary of Progress** 7/30/15: Student D uses coping and calming strategies, social thinking skills and problem solving techniques to reduce unexpected or strange behavior to 6 per week, as measured by data collection and observation, averaged over the past quarter.

**Behavior: Coping Skills**

**Baseline** 4/30/2015: With 1 verbal prompt, Student D identifies his "zone" on the Zones of Regulation and then independently choose a corresponding tool or coping technique (i.e. If he is in the "red zone", he chooses a calming tool and if in the "blue zone" choose a tool to help him energize) in 44% of all opportunities, as measured by data collection and observation.

**Summary of Progress** 7/30/15: With 1 verbal prompt, Student D identifies his "zone" on the Zones of Regulation and then independently choose a corresponding tool or coping technique (i.e. If he is in the "red zone", he chooses a calming tool and if in the "blue zone" choose a tool to help him energize) in 44% of all opportunities, as measured by data collection and observation. Team will convene to continue to discuss strategies to meet this goal.

**Behavior: Strange Comments**

**Baseline** 4/30/15: With 1 verbal prompt, Student D identifies his "zone" on the Zones of Regulation and then independently choose a corresponding tool or coping technique (i.e. If he is in the "red zone", he chooses a calming tool and if in the "blue zone" choose a tool to help him energize) in 44% of all opportunities, as measured by data collection and observation.

**Summary of Progress** 7/30/15: With the use of social thinking skills to identify expected language and topics for school class periods, Student D engages in a rate of .25 strange comments per 45 minute class period as measured by data collection and observation.

**Behavior- Following Directions:**

**Baseline** 4/30/2015: Student D complies with 80.6% of adult instructions within 2 minutes of the request with verbal and visual prompting/cues as needed as measured by a 30 minute daily time sample and observation, averaged over the past quarter.

**Summary of Progress** 7/30/15: Student D complies with 90% of adult instructions within 2 minutes of the request with verbal and visual prompting/cues as needed as measured by a 30 minute daily time sample and observation, averaged over the past quarter.

**Speech- Articulation:**

**Baseline** 4/30/15: During structured activities at the sentence level, Student D produces the /th/ sound with 100% accuracy in the word-initial position, 67% accuracy in the word-medial position, and 64% accuracy in the word-final position.

**Summary of Progress** 7/30/15: During structured activities at the sentence level, Student D produces the /th/ sound with 100% accuracy in the word-initial position, 67% accuracy in the word-medial position, and 64% accuracy in the word-final position. He maintained levels during May and June but has not attended ESY.

**Speech- Articulation**

**Baseline** 4/30/15: Student D produces the /l/ phoneme with 90% accuracy in all positions of words at the sentence level. We have been focusing on /th/ sounds and maintaining /l/ at its current accuracy level. Will introduce /l/ generalization activities over the coming months.

**Summary of Progress 7/30/15:** Student D produces the /l/ phoneme with 90% accuracy in all positions of words at the sentence level. He maintained levels during May and June but has not attended ESY.

### **Speech- Pragmatic Language**

**Baseline 4/30/15:** Student D participates in a 2-minute conversation by asking frequent wh-questions. He struggles to wait for a response from his partner before repeating his question.

**Summary of Progress 7/30/15** Student D participates in a 2-minute conversation by asking frequent wh-questions. He struggles to wait for a response from his partner before repeating his question. Student D maintained levels during May and June but has not attended ESY.

### **Behavior- Self-Advocacy**

**Baseline 4/30/15:** Student D will learn and use social thinking skills to self-advocate for his needs in 67% of all opportunities, as measured by data collection, observation and Behavior Analyst analysis of data.

**Summary of Progress 7/30/15:** Student D will learn and use social thinking skills to self-advocate for his needs in 79% of all opportunities, as measured by data collection, observation and Behavior Analyst analysis of data.

**OT: Handwriting**

**Baseline:** 4/30/2015: Student D is able to copy a 3 word sentence with 50% accuracy, after demonstration. He continues to require prompts for spacing between words and placement of letters.

**Summary of Progress** 7/30/15: Student D is able to copy a 3 word sentence with 70% accuracy, after demonstration. He continues to require prompts for spacing between words and placement of letters.

Students were assessed at the beginning of the study, to establish a baseline of performance. Students' were assessed at the end of the study, July 2015. Data were evaluated for each student on each goal and displayed in graphs and charts.



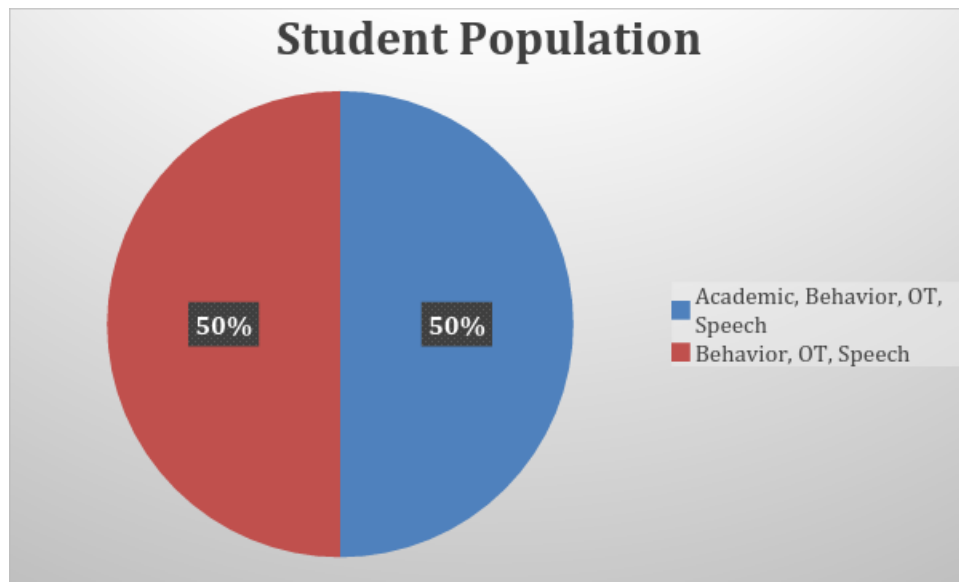
### **Chapter 4 Results**

The purpose of the study was to evaluate the impact of direct teaching instruction on increasing student ability to use words to verbalize feelings, following the use of specially designed social thinking curriculum. Data indicated that students showed moderate gains in improving their social and emotional needs following the period of 4 months.

It is evident from the research literature that children on the autism spectrum need specific instruction to improve their socialization skills with peers. The social thinking curriculum in place for the month period promoted increased socialization between and among students through the use of social stories, and increased opportunities to work and play in small groups. The researcher collected observational data on students' progress toward goals from March 2015-July 2015. The data showed that students on the autism spectrum disorder who had academic goals in addition to behavior, occupational therapy, and speech goals were more likely to reach their positive language support goal, compared to students who had only occupational therapy, behavior and speech goals.

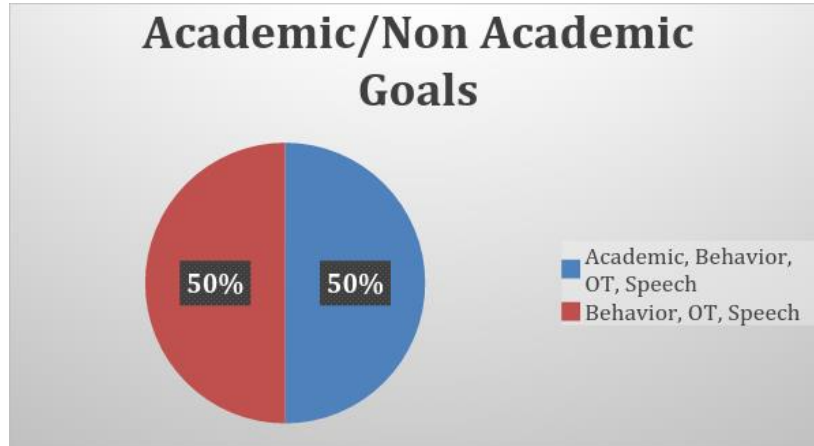
The following charts display baseline data in March 2015 and summative data at the conclusion of the study in July 2015 for each child. Pie charts displayed a snapshot view for students' goals and eligibility.

Table 1: Student Population



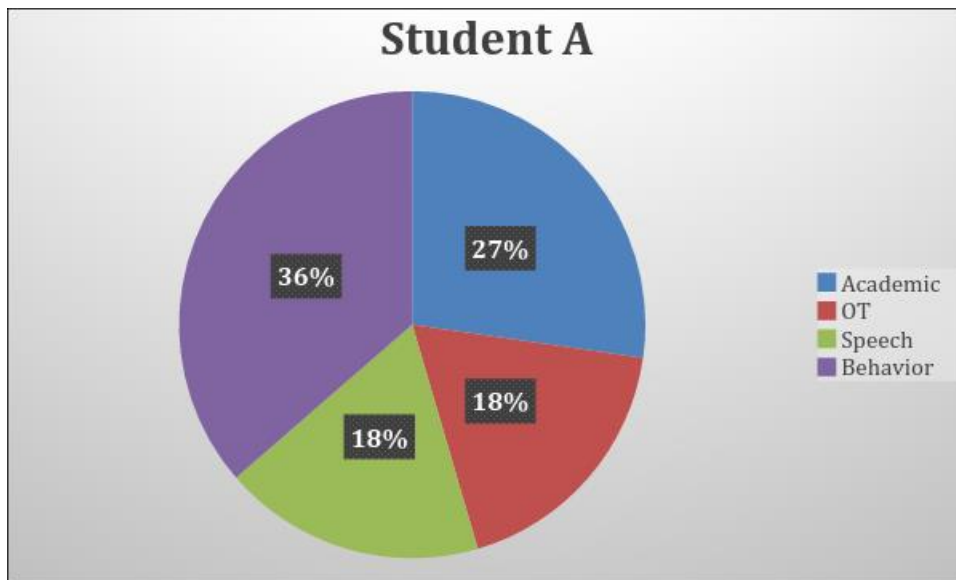
Four students were included in the study, 2 boys and 2 girls, ages 7-9.

Table 2: Academic/Non Academic Goals



Of the four students in the study two students had academic, behavior, OT, and speech goals and two students had behavior, OT and speech goals.

Table 3: Student A



	Number of Goals
Academic	3
OT	2
Speech	2
Behavior	4
Total	11

Student A’s IEP dated January 11, 2015 states that he is eligible for special education services under the category of Other Health Impaired due to “inattentive, distractible, hyperactive, and impulsive behaviors. He often displays hyperactivity, impulsivity, difficulty sustaining attention and restlessness. He often becomes easily distracted by extraneous stimuli in the classroom. He unexpectedly gets up from his chair during lesson time when he would be expected to remain seated. He is talkative, often talking at unexpected times and in an unexpected vocal volume. He receives OT services for difficulties with sensory processing and sensory regulation. He receives speech and language services weekly and demonstrates deficits in pragmatic language.”

(Anonymous, Individualized Education Plan, Jan 2015)

Student A was absent 20 days of the four months and showed the most regression of all students in the program study. He did make progress in decoding pre-primer and primer words, but showed no change with his writing and decoding CVCC/CCVC words. He made progress toward his disruptive behavior and his ability to raise a hand before speaking. He regressed in the amount of times he left that group, and his ability to follow directions after one prompt. He made no advancements in Speech or OT.

Table 4: Student A Baseline and Progress

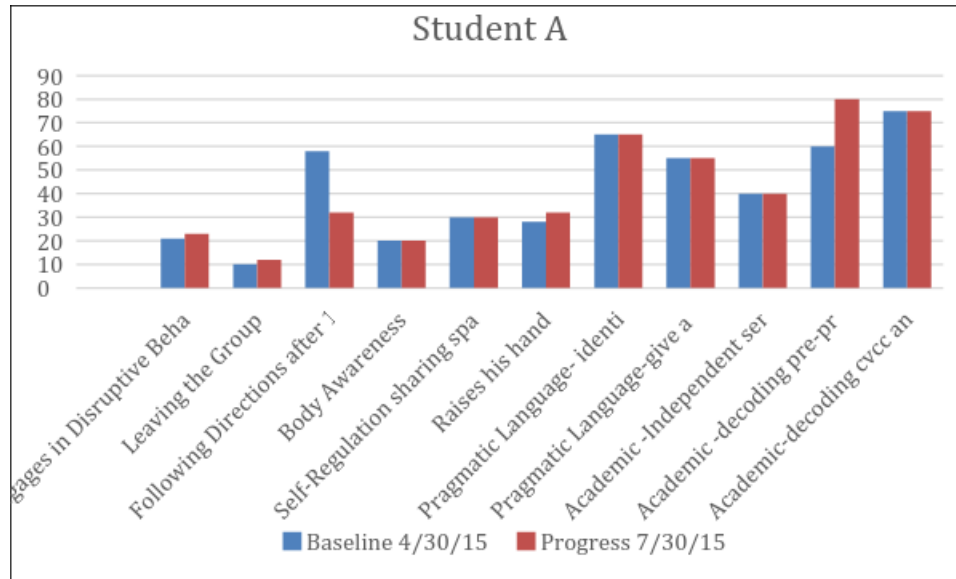
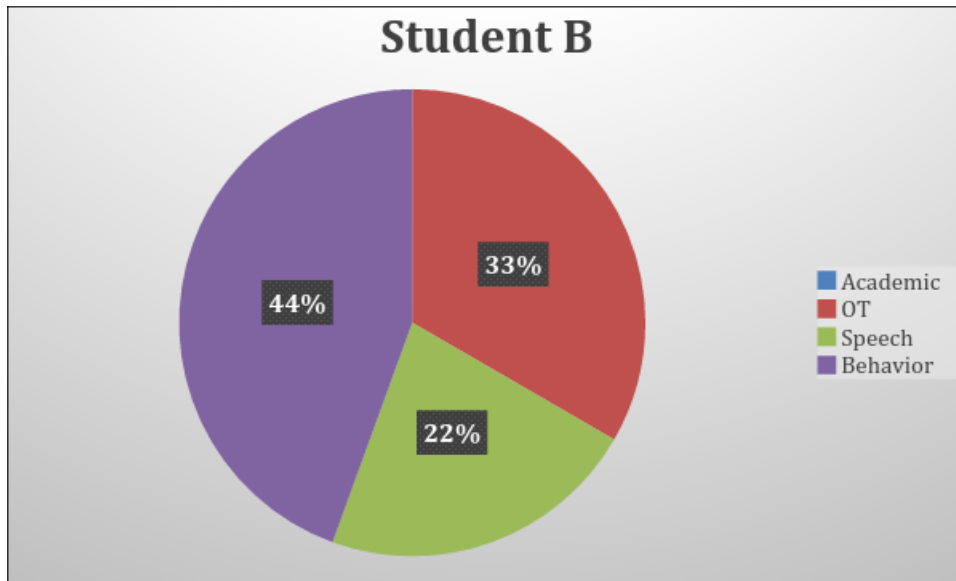


Table 5: Student A Baseline in April and Progress in July 2015

Student A	Baseline 4/30/15	Progress 7/30/15	Progress (P) Regression (R)
Engages in Disruptive Behaviors	21	23	P
Leaving the Group	10	12	R
Following Directions after 1 prompt	58	32	R
Body Awareness	20	20	No change
Self-Regulation sharing space and materials	30	30	No change
Raises hand	28	32	P
Pragmatic Language- identifying the size of the problem	65	65	No change
Pragmatic Language-give a realistic interpretation of a problem	55	55	No change
Academic -Independent sentence Writing with 2 prompts	40	40	No change
Academic -decoding pre-primer/primer sight words	60	80	P
Academic-decoding cvcc and cevc words	75	75	No change

Table 6: Student B Goals



	Number of Goals
Academic	0
OT	3
Speech	2
Behavior	4
Total	9

Student B’s IEP dated March 10, 2015 states her learning needs “prevents her from accessing the general education curriculum without the support of specialists. She has never been in a general education setting.” (Anonymous, Individualized Education Plan March 2015). Reports on Student B from parents, school assessment team and prior teacher reports; indicates that she has a history of aggressive behavior towards others.

Student B had 5 absences total during the four-month period, but spent the most time outside of the classroom due to disruptive behaviors. She was removed from the classroom for an average of 1.5 times per day. Although student B spent an average of 30% of her day outside the classroom, progress towards her behavior goals were not drastically affected.

Student B showed progress towards all her speech goals, here self-care goal and unexpected touch goal. She showed no change with disruption and self-regulation goals, and regressed on aggressive behaviors by 5 percent.

Table 7

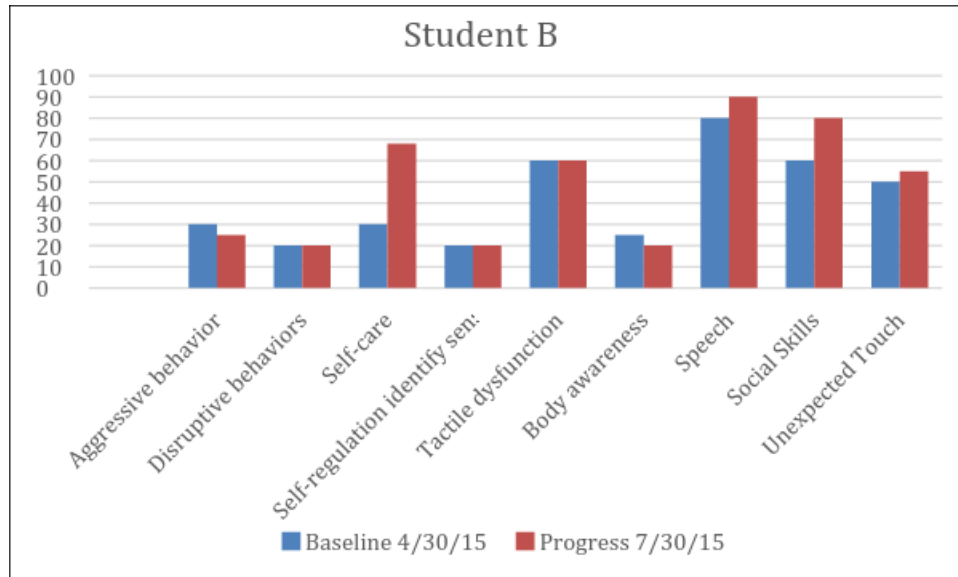
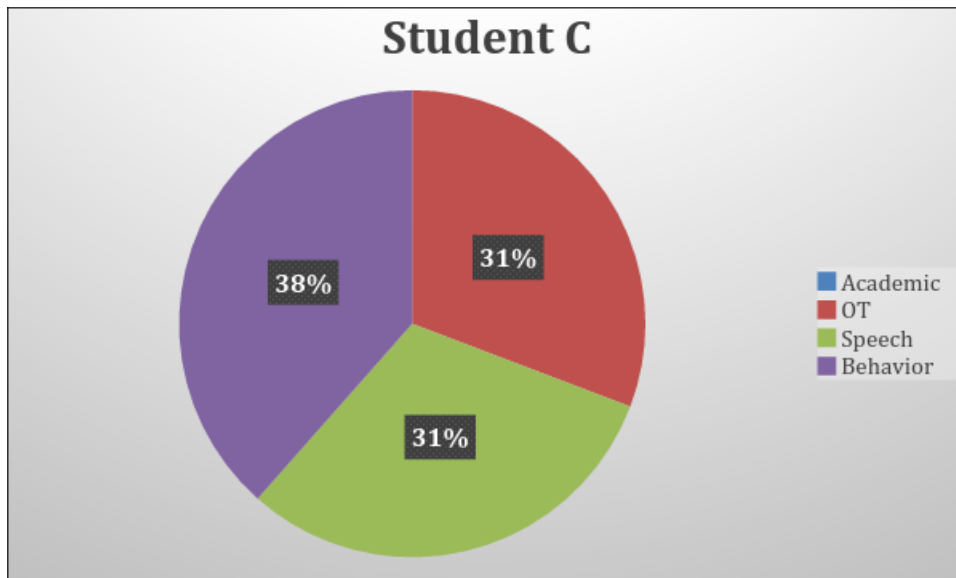


Table 8: Student B Baseline in April and Progress in July 2015

Student B	Baseline 4/30/15	Progress 7/30/15	Progress (P) Regression (R)
Aggressive behavior	30	25	R
Disruptive behaviors	20	20	No change
Self-care	30	68	P
Self-regulation identify sensory tools	20	20	No change
Tactile dysfunction	60	60	No change
Body awareness	25	20	R
Speech	80	90	P
Social Skills	60	80	P
Unexpected Touch	50	55	P

Table 9: Student C Goals





	Number of Goals
Academic	0
OT	4
Speech	4
Behavior	5
Total	13

Student C's IEP dated May 19, 2015 states her disability "impacts her ability to interact socially with peers and adults within age appropriate levels, to engage in reciprocal communicative exchanges, consistently transition between activities, consistently participate and engage in small and large group classroom activities." (Anonymous, Individualized Education Plan, May 2015.)

Student C had 5 absences during the four month period, but had to leave the classroom an average of .5 times per day due to her deficit in self-regulation. Progress towards her behavior goals were not drastically affected even though she was removed from the classroom daily for 8% of the school day.

Student C demonstrated progress with compliance, transitions, using words to express needs and self-regulation. She showed no change with self-advocacy. She did show a regression of 14% in self-soothing strategies. She showed no change in any speech goals.

Table 10: Student C Baseline in April and Progress in July 2015

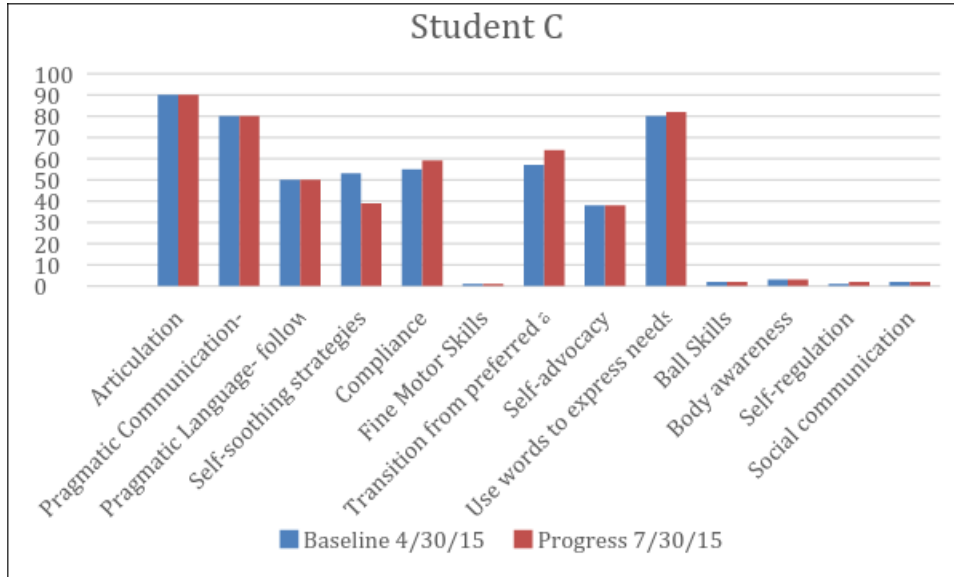
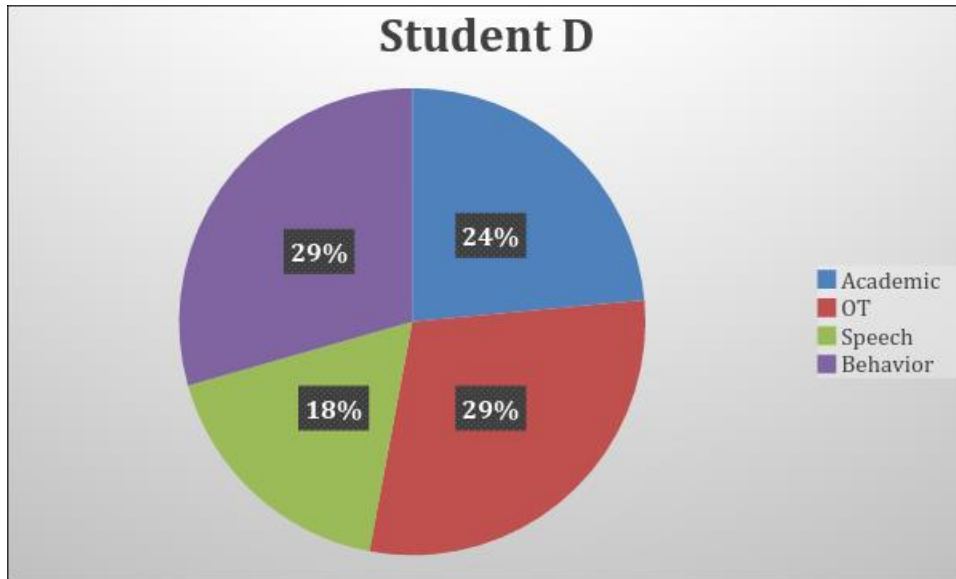


Table 11: Student C Baseline in April and Progress/Regression in July 2015

Student C	Baseline 4/30/15	Progress 7/30/15	Progress (P) Regression (R)
Articulation	90	90	No change
Pragmatic Communication- identify the problem	80	80	No change
Pragmatic Language- following the lead	50	50	No change
Self-soothing strategies	53	39	R
Compliance	55	59	P
Fine Motor Skills	1	1	No change
Transition from preferred activities	57	64	P
Self-advocacy	38	38	No change
Use words to express needs	80	82	P
Ball Skills	2	2	No change
Body awareness	3	3	No change
Self-regulation	1	2	P
Social communication	2	2	No change

Table 12: Student D Goals



	Number of Goals
Academic	4
OT	5
Speech	3
Behavior	5
Total	17

Student D IEP date April 21, 2015 states that he displays a number of social-emotional challenges in the classroom. He exhibits high levels of anxiety and physical symptoms. He has sensory challenges. He demonstrates an inability to build and maintain satisfactory relationships with the majority of peers. “He demonstrates inappropriate behaviors and feelings, as seen in his fairly frequent strange comments about violent scenarios and other scary topics as well as having anxiety about social situations. He also perseverates on topics, is resistant to changes, and has

unusual responses to sensory experiences.” (Anonymous, Individualized Education Plan, April 2015.)

Student D was absent for 35 days of the four months. He was the only student who showed no change or regression with his individual goals.

Table 13: Student D Baseline in April and Progress in July 2015

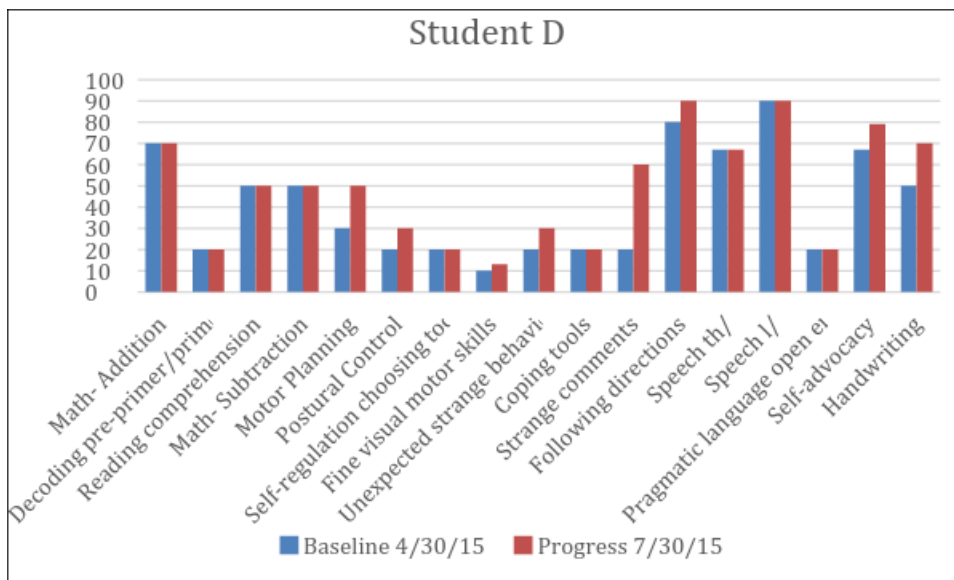


Table 14: Student D Baseline in April and Progress/Regression in July 2015

Student D	Baseline 4/30/15	Progress 7/30/15	Progress (P) Regression (R)
Math- Addition	70	70	No change
Decoding pre primer/primer	20	20	No change
Reading comprehension	50	50	No change
Math- Subtraction	50	50	No change
Motor Planning	30	50	P
Postural Control	20	30	P
Self-regulation choosing tool	20	20	No change
Fine visual motor skills	10	13	P
Unexpected strange behaviors	20	30	P
Coping tools	20	20	No change
Strange comments	20	60	P
Following directions	80	90	P
Speech th/	67	67	No change
Speech l/	90	90	No change
Pragmatic language open ended questions	20	20	No change
Self-advocacy	67	79	P
Handwriting	50	70	P

**Summary**

In a class serving the needs of students on the autism spectrum, many factors have an effect on student progress. Eligibility did not play a factor as all students made progress in one or more areas of needs. One possible factor was students’ attendance including whether or not students attend school at all. The attendance fluctuated greatly by each student in the classroom. In order for students to be in this program students need to be in attendance. Students may attend, but due to behavior needs needed to leave the learning environment. In both examples,

students lose instructional time on academics, positive behavior support, and social skills. These students need the repetition of attending school daily, participating in classroom instruction to build and retain their skills.

A second factor is how the disability interferes with their learning. Of the four students in my study two students had obsessive-compulsive disorder that interfered with their ability to work because it was not, “right or perfect.” All four students did not have the social skills to ask for help, so unless the students were participating in a 1:1 teaching environment, students’ social or academic needs may not have been met.

A final factor was the accuracy of data collection on goals. Data were collected at the end of the day. All four students’ goals were measure at the end of the day. In addition to goals that were tracked all day, other goals of the four students were tracked for a random 30-minute time sample. Although the time sample was made clear at the beginning of the day, teacher error can become a factor when calculating totals at the end of the day.

## Chapter 5 Discussion/Analysis

### Summary of Major Findings

The purpose of this study was to evaluate student progress towards their behavior goals that focus on using language to promote positive interactions between peers and staff. The researcher wanted to know the impact of direct teaching instruction through modeling on increasing the ability of students identified on the autism spectrum to use words to verbalize feelings, following the use of specially designed social thinking curriculum. Progress towards goals varied for each student. There were no patterns found in student data that led to progress towards goals. Attendance and eligibility were analyzed as a potential factor. Students' absences ranged from 5 days to 35 days during the 4-month period.

The impact on student progress in improving social skills through modeling became evident when more opportunities to improve their social skills presented itself. Students received additional social skills classes, in addition to their once a week social thinking class. Classes were led by the behavior analyst and focused on understanding others and their feelings. Students were read social stories about bucket fillers and were asked questions about the character and his actions. Students also participated in role-playing opportunities to practice the socially appropriate way to speak to their peers.

The data from this study is limited and the results need to be interpreted carefully. There is variance in students' needs and their school and home environments. This makes it difficult to apply specific data to similarly focused programs. Limitations of this study included factors in the students' home environment or events that happened prior students coming to school for the

day. A program of this nature requires professional staff. The accuracy of data collection and consistency of teaching were impacted due to staff absences and being understaffed.

### **Comparison of Findings to the Literature**

The data collected on the present study were consistent with results reported in the literature. Positive similarities included a limited amount of students in each case, which led to a lot of individual attention, overall positive results when working with a small self-contained group, and participants in the study worked with highly trained staff. Students who participated in video modeling, social stories, and animal therapy were all able to achieve at least one of the desired results. Another positive similarity between the present study and literature was that all interventions had an adult figure who was familiar to the subject. The subject already had developed a relationship with the adult, which led to a higher rate of success. A common finding between the researchers found success in the results of their study, was that they all agreed further research, larger samples and better designs in collecting data would need to happen in order to strengthen the need to promote it for a targeted or specialized intervention.

Negative similarities between the present study and the research was the validity of the research due to the limited amount of studies, the attendance of the participants in the study, and the length of the studies. This led to researchers being unable to produce definite results. Funahashi, Gruebler, Aoki, Kadone, & Suzuki (2014) only had two children serve as the sample for their study, which limited the generalizations on the effectiveness of video modeling as an instructional practice that can be effective in working with large groups of students on the autism spectrum. McClean and Grey (2012) found that these students with ASD had many variables



that affected their behavior ratings, which included frequency, severity of behavior, how the behavior was managed. Evans (2014) stated that in order for students to become successful members of their schools Special Education teachers and General Education teachers need to work together to collaborate on a weekly basis. Neitzel (2010) seconded the importance of working as a team when he specified that team members need to meet and re-evaluate identified triggers that might be influencing the behavior, gather additional assessments, evaluate student behavior patterns under past interventions, and develop a more detailed idea regarding the function of the student's behavior. There is a need for more evidence of measuring student social skills due to unpredictable behaviors, or factors outside of the school's' control. Although, benefits of intervention strategies are consistently produced in small groups of students with ASD, the authors in the literature noted that it is unclear of what aspects of the interventions are necessary for continued success. The researcher found from her experience in the classroom that validity of results was hard to determine due to the select student population, history of prior interventions used and their successes, and student unpredictable behavior, which would impact the data collected during that time period. These findings were consistent to articles written by McClean and Grey and Funahashi, Gruebler, Aoki, Kadone, & Suzuki. Both Researchers found that when working with students with ASD there were many variables that affected their students' outcomes. These variables included lack of control in their behavior, which included frequency, severity of behavior, how the behavior was managed. They also found that working with a small group of students with ASD generalizes the effectiveness of intervention strategies.

**Limitations/Gaps in the Research**

The common gap in the research was the limited student population. Students were placed under the umbrella term on ASD. Students were then grouped together based on this diagnosis, but their abilities differed greatly. Attendance in this study was sporadic, which caused less intervention opportunities to be available. Parents were also one of the main evaluators of subjects' behaviors after interventions were used either in a different setting or a home setting. The researcher had no control group so she was unable to compare student progress. In addition she could not prevent staff absences, which would lead to not being in proper ratio to serve students with disabilities. Lastly, the size of the sample and the length of study did not allow for much change in results.

**Implications for Future Research**

The results of this study indicated that children on the autism spectrum gain social skills through multiple interventions, which include modeling. Future research is needed to closely examine the effect of specific curriculum models on increasing positive interpersonal communication skills with the population of students who are diagnosed on the autism spectrum. Researchers need to collect baseline, or formative data as well as summative data to evaluate the effectiveness of instructional programs. Parents, guardians, and caregivers continue to be an important source of information on their child's history. Additionally, research studies are needed that examine therapies in settings other than school or home such as home hospital care, and general education settings, that may offer opportunities for children to improve their communication skills. Future studies could also include the use of control groups, longitudinal

studies to track progress over longer periods of time, alternate therapies such as animal or music therapy, social stories, and video modeling.

### **Overall Significance of the Study**

In the past decade there has been an increase in the percentage of students identified with ASD. The Center for Disease Control reports that 1 in 68 children are identified on the autism spectrum. (U.S. Department of Health and Human Services, 2015). With this increase in identification, professionals need to attend to social skills interventions as an important instructional strategy. Children on the autism spectrum need instruction in appropriate social skills if they are to successfully transition to mainstreamed classrooms. Students on the autism spectrum already feel isolated, which impacts their social emotional well-being. Limited social skills have a major effect on student success. The Researchers observed that within a non-public school setting there is an increase in bullying for students who act outside what may be considered normative behavior. These students often do not have the social skills to label their feelings.

Effective social skill interventions such as social stories, video modeling, and role playing have been successful in improving social interaction skills. Additional research is needed on improving peer interactions, teaching students how to take turns and providing them with opportunities to practice these skills in a generalized setting.

A systematic approach such as the use of modeling and teaching social skills along with documentation of student progress towards goals illustrate that students can improve in their

social interaction skills. Effective social skills interventions need to be implemented and evaluated to help the growing number of children identified with ASD.

**About the Author**

Julia Ries is a Special Education teacher who worked at a non public school setting that served children diagnosed on the autism spectrum, from August 2014- July 2015. She taught a K-3 class of 8 students, which included 5 boys and 3 girls. Her main interest during this phase of her career was using technology and music to promote positive social interactions between and among students.

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