An Efficacy Study of School Based Social Interventions Administered to Students with Autism

Carmine Peluso
St. John Fisher College

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Abstract
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Department
Executive Leadership

First Supervisor
Ray Giamartino

Second Supervisor
John Mavromatis

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An Efficacy Study of School Based Social Interventions
Administered to Students with Autism

By

Carmine Peluso

Submitted in partial fulfillment of the requirements for the degree Ed.D. in Executive Leadership

Supervised by
Dr. Ray Giamartino, Dissertation Chair
Dr. John Mavromatis, Committee Member

Ralph C. Wilson, Jr. School of Education
St. John Fisher College

August 2009
We recommend that the dissertation by

Carmine P. Peluso

Entitled: An Efficacy Study of School Based Social Interventions Administered to
Students with Autism

Be accepted in partial fulfillment of the requirements for the Education Doctorate degree.

Ray Giamartino, Jr. Ed. D., Dissertation Chair

John Mavromatis, Ph. D., Committee Member

Date 20 January 2010
Dedication

The completion of my dissertation is dedicated to my wife, Tiffani, and children Nicholas and Michael. They are my inspiration everyday to work and push to be the best at whatever it is I do. Thank you for bearing with me while I finished this journey. Also, special thank you to Dr. Giamartine and Dr. Mavromatis for guiding me through the process.
Biographical Sketch

Carmine Peluso is the Assistant Principal of a school district in Western New York. Mr. Peluso’s professional experience includes teaching in both urban and suburban schools in Rochester, New York. He has been an Assistant Principal for five years. He holds New York State Certification as a public school teacher and a school administrator. He graduated with a Bachelor of Science Degree in Business and Distributive Education from Nazareth College in 1998. He earned a Masters Degree in Educational Administration from St. John Fisher College in 2003. Mr. Peluso began doctoral studies at St. John Fisher College in 2007 and received his Ed. D. Degree in 2009. He pursued his research on the topic of school based interventions delivered to students on the spectrum of autism under the direction of Dr. Ray Giamartino and Dr. John Mavromatis.
Abstract

In an effort to comply with the Individuals with Disabilities Education Act 2000 (IDEA, 2004), schools are moving toward full inclusion in classrooms to offer students with disabilities the least restrictive environment. This has led to an influx of students on the spectrum of autism in general education classrooms at the middle school level. Students on the spectrum of autism are receiving social interventions as indicated on their Individualized Education Plan. There has been no use of consistent measures to establish if social interventions are effective and generalizable. A study consisting of 7 middle school students in a suburban school district in Western New York was conducted to measure if the social skill interventions being administered to students with autism are effective. Parents and teachers were interviewed and rated students’ social interactions during the course of a school year.

Results indicated that school based interventions delivered at Green Hill Middle School are effective in helping students on the spectrum of autism navigate their social interactions. It was also determined that they were able to transfer the learning to other environments such as home and settings, without a special education teacher. The results also indicated that the students’ Individualized Education Plan goals were not aligned to where the students’ greatest gains were socially. Therefore, recommendations for pre/post test along with a better assessment method are necessary for schools to accurately measure student success.
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Chapter 1: Introduction

Introduction and Purpose

In an effort to comply with the Individuals with Disabilities Education Act (IDEA, 2004), schools are moving toward full inclusion in classrooms to offer students with disabilities the least restrictive environment. This has led to an influx of students on the spectrum of autism in general education classrooms at the middle school level (Odom, Zercher, Li, Marquart, Sandall & Brown, 2006). According to the Federal Center for Disease Control and Prevention, 1 in every 150 children is affected by autism spectrum disorder. Learners with autism struggle socially to gain and maintain friends as well as experience positive social interactions throughout the school day. Durrand and Carr (1987) explain that children with autism behaviors create social stigma and reduce the opportunities for them to be accepted and socially included. It is clear that students with autism will not gain acceptance simply by being included in general education settings. Trying to improve social skills by increasing the proximity to peers without disabilities is not enough (Licciardell, Harchik, & Luiselli, 2008; Roeyers, 1996).

According to Delano and Snell (2006), the deficits that children with autism face often lead to social withdrawal and isolation. To help students gain acceptance socially and to feel part of the school environment, schools deliver social interventions. Schopler and Mesibov (1986) state that there needs to be an increase in the amount of importance placed on the delivery of social interventions for students with autism. Students with autism need help acquiring functional and age appropriate social skills. Delano and Snell
(2006) state that improving social functioning for students with autism needs to be the most important intervention outcome.

The difficulty for schools is to decide what interventions should be offered to what students. According to Olley (1999), the multiple interventions that are available for families and schools to choose from give minimal guidelines and rarely are supported by empirical evidence. Lurd and Pelios (2001) conclude that, school districts and even schools within the district are left to select which interventions to administer due to the fact that there has been no research that supports interventions for all students on the spectrum of autism. The present study will help determine if the social interventions delivered are differentially effective for students on the autism spectrum comparing students identified with autism, Asperger Syndrome and PDD-NOS.

Theoretical Rationale

According to Capps and Losh (2006) autism is a genetically based neurodevelopmental disorder characterized by qualitative impairment in social interactions and communication. The cause of autism has been difficult to identify, but research has stated that the difficulties in social interactions can be attributed to deficiencies in theory of mind, executive functioning skill and the inability to recognize and read emotions.

According to Solomon, Goodlin-Jones and Anders (2004), theory of mind is the ability to acknowledge that others’ thoughts and beliefs are distinct from one’s own. It includes the ability to make inferences about what others are thinking and feeling and to predict behavior accordingly.
Executive functioning skills involve the ability to use a problem solving set to attain goals. Pennington and Oznoff (1996) explain that executive functioning skills include planning, impulse control, and the ability to have flexibility and control in their thoughts. The deficiency in executive functioning has led children with autism to not remember facts or solutions to social problems.

Emotional understanding is the third area that researchers have attributed to the cause of poor social interactions for students with autism. Hobson (1990) explains that children with autism have a distinctive way of understanding emotions. Children with autism display a lack of actions and reactions necessary to develop reciprocal, affectively charged interpersonal relationships with others. Even though researchers have a difference in opinion about whether one of the theories, or a combination of theories, is the reason why children with autism have social difficulties, they all feel that social interventions are critical to help children with the disability.

Recently, there has been a heightened public awareness of autism along with reports of the increased prevalence estimates of autism spectrum disorders (Noland and Gabriels, 2004). As students with autism enter classrooms, schools recognize the importance of delivering social interventions to these students. A student’s Individualized Education Plan goals are set based on the student’s perceived current levels. These goals are agreed upon at the Committee of Special Education meeting and documented in the student’s Individualized Education Plan. During the course of the year the teachers and support personnel work with the student and evaluate how the child is doing based on the agreed upon goals. One example of an individualized educational plan goal in the area of social development could be: Using learned strategies, student will effectively
communicate his thoughts, feelings and emotions with the special education teacher, mental health provider, or speech language therapist with an 80% success rate over 2 weeks. Another sample goal may state: Student will appropriately respond, initiate and maintain conversations with peers for three conversational turns by addressing comments or asking questions (targeted conversations to include school subjects, activities, and personal interests) by the end of the school year with a 70% success rate over 2 weeks. These goals are assessed by teachers in a structured environment. Students with autism face many of their struggles outside of structured environments. The measure of how they are doing in the classroom is not a true measure of success. In many cases teachers are not formally assessing the number of positive interactions students with autism have. With this disability where the major deficiency is social interactions there needs to be a more consistent way of ensuring and measuring success.

Research Methods

The research conducted would be a mixed method study with the use of quantitative and qualitative data to measure the effectiveness of the interventions. Qualitatively, observations and interviews will need to be administered in order to gather information about the students and their current social abilities. To quantify where each student is currently in regard to social interactions, a social aptitude test, the Vineland Adaptive Behavior Scales II, will be administered. According to Volkmar, Carter, Sparrow, and Cicchetti (1993), the Vineland Adaptive Behavior Scale II is a useful measure for gathering data about a variety of disabilities, and it provides a unique opportunity for examining social dysfunction in autism. The Vineland Adaptive Behavior Scale II will consist of questions focusing on the social skills domain. Parents will answer
100 questions. Which pertain to three categories: *Interpersonal Relationships, Play,* and *Adapting and Coping.* Parents will give their child a score of 2 for usually, 1 for sometimes or partially, or a 0 for never. The parent answers will measure if the skills being taught in school are being transferred outside of the school setting. Teachers will answer 60 questions relating to *Interpersonal Relationships, Play, Adapting and Coping* skills. Teachers will rate students by giving them a score of 2 for usually, 1 for sometimes or partially, or a 0 for never. In addition, teachers will answer questions about student strengths, weaknesses and special characteristics of the student, along with additional observational data. These data will be used to determine the success of social interventions in the school environment. Both tests will be administered three times over the course of the study. The first will be administered within the first month of school. The second administration will come at the half-way mark of the study and one last time at the end of the study.

Rogers (2000) states that there is a need in the field for efficient and effective measurement systems to assess outcomes of social interactions in natural environments and within natural interactions. The use of the Vineland Adaptive Behavior Scales II in the study will help alleviate the measurement problem identified in many of the studies.

*Significance of the Study*

The researcher is employed as an assistant principal in a middle school in Western New York. The middle school consists of 750 students in grades 6-8. The school educates approximately 80 students identified with special needs. Out of the 80 identified with special needs, approximately 11% are classified with autism. The role of the researcher is to help run and manage the day to day operations of the school. The information
gathered from administering the Vineland Adaptive Behavior Scales II in the beginning of the study as well as end will help provide specific measurable data about how students with autism transfer the social skills they learn. It will provide a scientific measure of progress. The information will then be shared with the Director of Special Education and Superintendent to help train, develop and inform decisions with regard to guidelines, policy and practice.

Problem Statement

Autism is the only classification that has seen a steady increase over the last five years in the Green Hill Central School District. In 2003, there were 34 students classified with autism. Today there are 57 students which shows a comparative increase of approximately 60%. There has been a reduction in all other special education classifications. Luckett, Bundy and Roberts (2007) state that a large amount of money is spent annually on interventions aimed at teaching children with autism to play. Play, in and of itself, is social in nature. Green Hill Middle School is currently delivering an average of 1-4 hours of direct social interventions per week for students diagnosed with autism. The frequency and intensity of the service delivery is determined at the student’s committee on special education annual review meeting. There is limited research on the effectiveness of social interventions delivered to the learners on the autism spectrum in middle level education. This has led to further investigation of the following problem statement. Green Hill Middle School students on the autism spectrum receive social intervention as indicated on their Individualized Education Plan. However, there has been no systematic evaluation of the social interventions’ effectiveness or consistently agreed
upon measure or data collection method that would indicate if social, developmental, and skill transferability are demonstrated.

Statement of Purpose

The purpose of this study is to measure if the social interventions that are delivered to students on the spectrum of autism are effective in a middle school in Western New York. The findings will help inform practice and policy in the future. It will also determine if financial resources are being used appropriately.

Research Questions

The following primary research questions will be examined: Question 1, Are the social interventions currently administered at Green Hill Middle School effective for students with autism, Asperger Syndrome and PDD-NOS? Question 2, are the measure and data collection methods currently used to assess progress effective? Question 3, are there measures in place to accurately measure if the social skills being taught are transferred into other learning environments?

In order to answer the research questions, an efficacy study will be conducted to determine whether or not the social interventions being administered at Green Hill Middle School are effective and if they are measuring the same progress indicated on the students’ Individualized Education Plans. A mixed-method study will be conducted to answer the research question. Mixed method is appropriate for this study because of the ability to take the small number of students involved and enrich the quantitative data with qualitative data. Quantitative data will assess progress using the Vineland Adaptive Behavior Scales II. Qualitatively, the small number of students will allow the researcher to learn more about the students through interviews with parents and teachers which will
enhance the study. Parents and teachers will answer questions qualitatively two times throughout the study. This information will help establish baseline data and also determine whether what is being taught in school is being transferred to the home environment. A social aptitude test, the Vineland Adaptive Behavior Scales II, will be administered by a certified school psychologist two times over the course of the study to gather baseline data and to determine the individual student’s progress.

Definitions

The following are definitions that will be used for the purpose of the dissertation:

Autism Disorder, according to the Diagnostic and Statistical Manual – IV- TR (2000), is defined as having impairments in social interactions, impairments in communication through delays in speech, inability to initiate and sustain conversations with others, repetitive language, lack of varied spontaneous play and restrictive, repetitive patterns of behaviors, interests, and activities. Autism disorder is characterized by delays or abnormal functioning in at least one of the following categories with onset prior to age three: social interactions, language use in social communication or symbolic imaginative play, and the disturbance is not better accounted for by Rett’s disorder or childhood disintegrative disorder (APA, 2000).

Asperger Syndrome, according to the Diagnostic and Statistical Manual – IV –TR (2000), is defined as severe and sustained impairment in social interaction and the development of restricted, repetitive patterns of behavior, interests, and activities. The disturbance must cause clinically significant impairment in important areas of functioning. In contrast to Autistic Disorder, there are no clinically significant delays in language. In addition, there are no clinically significant delays in cognitive development
or in the development of age-appropriate self-help skills, adaptive behavior, and the curiosity about the environment in childhood. The diagnosis is not given if the criteria are met for any other specific pervasive developmental disorder or for schizophrenia (APA, 2000).

Pervasive developmental disorder-not otherwise specified (PDD-NOS) is a diagnosis given to a child who exhibits impairment in the development of reciprocal social interaction, verbal and non-verbal communication, or when stereotyped behavior or activities are present. However, the child does not meet the criteria for any specific pervasive developmental disorder (APA, 2000).

Social Interventions are any interventions that are administered in the classroom, in a 1:1 environment, or in small groups that are designed to help students target specific social difficulties.

Least Restrictive Environment is a mandate that all students with disabilities be taught in an environment that most resembles a general education setting in which they could still be successful. Schools need to rationalize any placement that is not a regular education classroom.

Inclusion is a commitment to educate each child, to the maximum extent appropriate, in the school and classroom he or she would otherwise attend. In most cases it involves bringing the support services to the child. There are some instances where students with disabilities are pulled out for smaller classes (Friend, 2006).

Social Skills are a set of competencies that include the ability to facilitate the initiation and maintenance of positive social relationships and the ability to contribute to
peer acceptance and friendship development that result in satisfactory school adjustment (Walker, Ramsey & Gresham 2004).

Applied Behavior Analysis provides intense therapy in the form of specific training techniques and consists of one on one training delivered approximately forty hours a week (Stillman, 2007).

Sensory Integration involves using sight, smell, taste and hearing to receive input and information about the world. It increases the brain’s capacity to perceive and organize sensory information, to provide a more normal and adaptive response and to provide the foundations to successfully master academic tasks (Leemrijse, Meijer, Veemer, Adier & Dieml, 2000).

Social Interactions is a reciprocal process in which children effectively initiate and respond to social stimuli presented by their peers (Shores, 1987).

Social Skills Groups provide students with information about why certain skills are important. These groups provide opportunities to practice those skills using role play, modeling, video recording and constructive feedback (Attwood, 2000).

Social Stories is an intervention where a story is written with the intention of providing information about what people are doing, feeling and thinking during a particular situation. The purpose of social stories is to provide students with information that they are missing in order to help them navigate social situations (Attwood 2000; Reynhout & Carter, 2007).

Self Management is an intervention strategy where children with autism are taught to monitor the frequency of responses and to solicit rewards when the criterion is met. The therapy includes oral motor facilitation, articulation, social pragmatics and
language. Self management involves activities designed to change or maintain one’s behavior. Students are instructed to observe specifics of their own behavior and provide an objective recording of the occurrence. A cue is provided, and the students need to determine if they engaged in a certain behavior when the cue was given (Wilkinson, 2008).

Video Modeling is a technique used for self observation. It is used to show unedited behaviors and gives the participant an opportunity to receive feedback that is both positive and negative (Buggey, Toombs, Gardener & Cervetti, 1999).

Individuals with Disabilities Education Act (IDEA, 2004) is a law ensuring services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities (IDEA, 2004).

Individualized Education Plan (IEP) is a document that is put in place in order to meet the IDEA regulations and to help kids succeed in school. An IEP describes the goals the team sets for a child during the school year, as well as any special support needed to help achieve them (IDEA, 2004).

Summary of Remaining Chapters

Chapter 2 describes the problem statement and research questions of the study, and includes a topic analysis supported by the literature. Chapter 3, research design methodology describes the general perspective of the study, and includes the problem statement, research context and participants, and data analysis and collection procedures.
Chapter 4, describes the research questions, and includes the presentation and summary of data analysis and findings. Lastly, Chapter 5 describes the significance and implications of the findings, discusses limitations, and provide recommendations for future research and actions.
Chapter 2: Review of the Literature

Introduction and Purpose

The history of special education dates back to at least the 1800’s. In 1800, a physician named Jean-Marc-Gaspard Itard was hired to work with a 12 year old boy named Victor. Victor, who lived in the woods similar to an animal, was referred to as the Wild Boy of Aveyron. For five years Itard worked with Victor on functional skills. Although his efforts were at first considered a failure, the physician looked at the gains Victor had made since he had started working with him. Itard then realized that Victor’s growth could only be measured by looking at where he started and could only be measured in comparison to himself. This effort resulted in the belief that every child with special needs could benefit from instruction (Friend, 2006).

Since the 1800’s special education has evolved as a result of multiple court cases. Brown v. Board of Education (1954) raised the question about separate being equal for African American students. This led people to question whether separate classes and schools were equal for students with disabilities. After the ruling that separate was not equal, education for students with disabilities was looked at through another perspective. In 1968, Lloyd Dunn wrote Special Education for the Mildly Retarded: Is Much of it Justifiable? Lloyd Dunn challenged educators to use emerging technology and research on effective teaching to educate students with disabilities.

In 1972, there were two critical court cases in the advancement of the delivery of special education services. The first case, Pennsylvania Association for Retarded
Children v. the Commonwealth of Pennsylvania, ruled that students with disabilities could not be denied access to public schools and free education. The case also ruled that schools needed to tailor education to the needs of the child (Katsiyannis, Yell, & Bradley, 2001).

The second major case was Mills v. Board of Education (1972). This class action lawsuit was on behalf of 18,000 students with disabilities in the Washington D.C. area. The court ruled that school districts needed to educate all students with disabilities. Furthermore, specific procedures needed to be followed to determine what services needed to be delivered (Katsiyannis, Yell, & Bradley, 2001).

In 1965, the federal government took the first step toward trying to help states develop programs to educate elementary and secondary special education students by providing them with federal funds. This was referred to as the Elementary and Secondary Act of 1965. In 1974, the Education for all Handicapped Children Act charged states with the task of creating full education opportunities for students with disabilities. In 1975, the act was amended and referred to as P.L. 94-142, Education of the Handicapped Act. These amendments became the basis for all future special education practices.

Since 1965, the federal government has made many changes to special education law. In 1986, the federal government included services to infants and young children. Also in 1986, Madeline Well, Assistant Secretary for Special Education and Rehabilitation in the United States Department of Education, created the Regular Education Initiative. This initiative urged general education and special education personnel to work together to educate all children. In 1990, students with autism, traumatic brain injury, and support for post secondary or vocational options was added.
The name of the law was changed to the Individuals with Disabilities Education Act (IDEA). In 1997, the federal government added more information to help clarify the 1990 IDEA regulations. This included requirements about discipline, parent participation, role of general education teacher, paraprofessional, along with the mandatory assessment of academic progress for students with disabilities (Friend, 2006).

Currently schools are under the IDEA (2004) regulations. These regulations were changed to make IDEA (2004) consistent with other Federal Education Law. In addition, IDEA (2004) regulations reduced paperwork and modified options for identifying students with disabilities. IDEA (2004) has outlined the principles about how students with disabilities should be educated. Many of the principles are terms that are common to schools. Zero Reject states that students with disabilities are entitled to an education regardless of their disability. After Zero Reject it was determined that not only are students with disabilities entitled to an education, but schools were required to provide a Free Appropriate Public Education (FAPE). The FAPE established rules that schools could not charge parents for special education services. FAPE mandated that if a school district cannot deliver the services to the child, the district must pay for a placement that is equipped to deliver the services to the child. Least restrictive environment (LRE) was also established through IDEA. This mandated that all students with disabilities be taught in an environment in which they could be successful that most resembled a general education setting. Schools need to rationalize any placement that is not a regular education classroom. Parent and Family Rights to Confidentiality also came from the IDEA regulations. This requires school districts to limit the access of students with disabilities information to only school personnel that are directly involved with and
working with the student. Lastly, *Procedural Safeguards* was established to ensure that parents are involved and knowledgeable about special education services and the rights they are given (Katsiyannis, Yell, & Bradley, 2001).

The Individuals with Disabilities Education Act has challenged schools to educate students with disabilities in the least restrictive environment. The regulations have led to schools becoming more inclusive in their practices. Inclusion, for the purpose of this paper is defined as a commitment to educate each child, to the maximum extent appropriate, in the school and classroom he or she would otherwise attend. In most cases it involves bringing the support services to the child. There are some instances where students with disabilities are pulled out for smaller classes (Friend, 2006).

Inclusion has led to an influx of students on the spectrum of autism in general education classrooms. Students on the autism spectrum are characterized by severe and pervasive impairment in several areas of development including reciprocal social interaction skills, communication skills, or the presence of stereotyped behaviors, interests, and activities. Autism, Asperger Syndrome and pervasive developmental disorder not otherwise specified (PDD-NOS) are all categories on the spectrum. School districts focus their efforts on developing successful academic interventions to help these students succeed. There is little research on the social successes of students on the spectrum of autism in middle school. Social skills, for the purpose of this paper, will be defined as a set of competencies that include the ability to facilitate the initiation and maintenance of positive social relationships and the ability to contribute to peer acceptance and friendship development that result in satisfactory school adjustment (Walker, Ramsey & Gresham 2004).
Definitions of Autism Spectrum Disorder

Children with autism, or who fall within the spectrum of autism, are diagnosed by a doctor or other professionals using the guidelines set forth by the *Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV-TR)*. Children are diagnosed on the spectrum of autism in categories of autism, Asperger Syndrome, or pervasive developmental disorder not otherwise specified. All of these subcategories are placed under a larger umbrella of Pervasive Developmental Disorder (PDD). According to the Diagnostic and Statistical Manual – IV-TR (2000), Pervasive Developmental Disorders are characterized by a severe pervasive impairment in several areas of development: reciprocal social interactions skills, communication skills, or the presence of stereotyped behaviors, interests, and activities. Autism Disorder, according to the Diagnostic and Statistical Manual – IV-TR (2000), is defined as having impairments in social interactions, impairments in communication through delays in speech, inability to initiate and sustain conversations with others, repetitive language, lack of varied spontaneous play and restrictive, repetitive patterns of behaviors, interests, and activities. Autism disorder is characterized by delays or abnormal functioning in at least one of the following categories with onset prior to age three: social interactions, language use in social communication or symbolic imaginative play, and the disturbance is not better accounted for by Rett’s disorder or childhood disintegrative disorder (APA, 2000).

According to the Diagnostic and Statistical Manual – IV-TR (2000), Asperger syndrome is defined as severe and sustained impairment in social interaction and the development of restricted, repetitive patterns of behavior, interests, and activities. Essentially, there is a comparative lack of social emotional abilities which must cause
clinically significant impairment in important areas of functioning. In contrast to Autistic Disorder, there are no clinically significant delays in language. In addition, there are no clinically significant delays in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior, and the curiosity about the environment in childhood. The diagnosis is not given if the criteria are met for any other specific pervasive developmental disorder or for schizophrenia (APA, 2000).

Pervasive developmental disorder-not otherwise specified (PDD-NOS) is a diagnosis given to a child who exhibits impairment in the development of reciprocal social interaction, verbal and non-verbal communication, or when stereotyped behavior or activities are present. However, the child does not meet the criteria for any specific pervasive developmental disorder (APA, 2000).

**Intervention Strategies**

According to Smith and Gilles (2003) poor social interactions with peers consistently result in peer relationship difficulties for students with autism. With the regulations from IDEA and the movement toward more inclusive schools and practices, there has been an increase in the number of students with disabilities entering public schools in their neighborhood. For students with autism who are deficient in social and communicative competencies, this can lead to difficulty in forming friendships, as well as, maintaining friendships (Koegel, Koegel, Frea & Fredeen, 2001). Bauminger (2002) further explains that children with autism are caught in a vicious circle of isolation. The desire to develop and have friends is there, but the ability to interact with their peers because of limited social understanding is missing.
Students with autism are in need of intervention strategies to effectively help them manage positive interactions with their peers. Placing students with autism in inclusive schools and classrooms does not guarantee an increase of positive interactions and eliminate the need for social skills interventions (Koegel et al. 2001). Schools must identify strategies to help students with autism navigate their way through school. Attwood (2000) states that there is a need to develop strategies to encourage greater competence in the skills that are necessary to help students with autism improve social interactions. He further states that there is a lack of independent studies to determine what strategies are effective and which are not. In addition, there has been no concrete evidence or insights related to specific interventions’ working for diagnostic subtypes (Stitcher, Randolph, Gage, & Schmidt, 2007).

Multiple interventions have been used to help students improve social skills. According to Stillman (2007), Applied Behavior Analysis (ABA), the most heavily researched intervention method to help students on the spectrum of autism socially and academically, provides intense therapy in the form of specific training techniques. Applied Behavior Analysis consists of one on one training that is delivered approximately forty hours a week.

Sensory Integration is defined by the Autism Education Network as using touch, sight, smell, taste and hearing to receive input and information about the world. Leemrijse, Meijer, Veemer, Adier and Dieml (2000) explain that sensory integration increases the brain’s capacity to perceive and organize sensory information, to provide a more normal and adaptive response and to provide the foundations to successfully master academic tasks.
Social Skills Groups provide students with information about why certain skills are important. These groups also provide opportunities to practice those skills using role play, modeling, video recording and constructive feedback (Attwood, 2000).

Social Stories is an intervention where a story is written with the intention of providing information about what people are doing, feeling and thinking during a particular situation (Atwood, 2000; Reynhout & Carter, 2007). The purpose of social stories is to provide students with information that they are missing in order to help them navigate social situations. The story should involve a scenario where a child with autism is confused or has trouble understanding what they are supposed to do. According to Ali and Frederickson (2006), social stories need to be personal and written by someone that works closely with the child. They need to include information that describes where the activity will take place, when it will occur, and who will be participating.

Self management is described by Weiss and Harris (2001) as an intervention strategy where children with autism are taught to monitor the frequency of responses and to solicit rewards when the criterion is met. Individual speech and language therapy is based on individual needs. The therapy includes oral motor facilitation, articulation, social pragmatics and language. Self management involves activities designed to change or maintain one’s behavior. Students are instructed to observe specifics of their own behavior and provide an objective recording of the occurrence. A cue is provided and the students need to determine if they engaged in a certain behavior when the cue was given (Wilkinson 2008).

Video taping has become a more popular intervention as video technology has improved and become more easily accessible. Buggey, Toombs, Gardener and Cervetti
(1999) define video taping as a technique used for self observation. It is used to show unedited behaviors and gives the participant an opportunity to receive feedback that is both positive and negative. Delano (2007) explains that video modeling capitalizes on the potency of observational learning and that it fits well with the preferential learning style of students on the spectrum of autism. Videotaping is individualized and may be created to address a wide variety of skills in a wide variety of settings.

Synthesis of Literature

There is a need to first examine the history of social interaction trainings on students with emotional disabilities and more specifically the generalization of those skills. According to Smith and Gilles (2003), in order for generalization of a skill to occur, children must be able to transfer what they have learned to a non-trained situation. It is extremely difficult to measure the efficacy of the generalization of social skills training. Long-term maintenance and generalization of learned skills remains largely unknown, and there is little empirical data to show efficacy (Smith & Gilles 2003). Bellini, Peters, Benner and Hopf (2007) conducted a meta-analysis that concluded there is a lack of quantitative measures in place to evaluate treatment effectiveness.

According to a study conducted by Solomon, Goodlin-Jones and Anders (2004) emotion recognition, mental state and problem solving deficiencies may be linked to the inability to interact socially. The study examined children ages 8-12 with Asperger Syndrome, high-functioning autism and Pervasive Developmental Disorder. The children participated in a social adjustment enhancement program over a 20 week time period. The curriculum was designed to target the three areas of Autism Syndrome Disorder. A quantitative study was conducted measuring the progress of emotion
recognition, mental state and problem solving skills. The study found that it is possible to teach facial expression recognition and problem solving to children with Asperger Syndrome, high-functioning autism or Pervasive Developmental Disorder. Bauminger (2002) conducted a similar study with 15 students between the age range of 8-17 in a large suburb of Israel. Bauminger’s (2002) findings indicated that children with autism need help broadening their repertoire of emotions and in linking those emotions to a variety of social situations. During the seven month study, Bauminger did indicate students showed improvement in overall positive interactions.

Social stories, an intervention to help students with autism adjust behaviors, is gaining popularity. Reynhout and Carter (2007) conducted a study to examine the efficacy of social stories and the generalization of the social story. The study consisted of an 8 year old boy who was delivered social story intervention. The intervention was administered in pull out sessions outside of the classroom. The study identified one behavior, tapping during reading, to address. The study was administered during phonics lessons over 44 days. The social story was administered in three different phases. During phase A the story was read prior to the lesson, comprehension questions were asked, and correct responses were given if the student did not correctly answer the question. Phase B consisted of the story being read prior to the lesson with no questions or reference to it during the lesson. In Phase C, the story was read, no comprehension questions were given, but the story was referred to during the lesson. During the three phases the frequency of tapping varied. During Phase A, there was an increase in the amount of tapping. Phase B only lasted for five days because of the ineffectiveness. Phase C was administered over the longest period and saw the greatest decline in tapping. Overall,
there was a decline in the amount of tapping during phonics lessons, which indicates that social stories, especially used in Phase C, may have an impact over an extended period of time.

Amanullah, Alisanski and Church (2000) examined the variability and consistency of characteristics that children with Asperger Syndrome exhibit during preschool, elementary, middle, and high school. The study was a chart review and a descriptive study of 40 children with Asperger Syndrome between the ages of 3-15. The children were given a multitude of questions to answer. The data were examined quantitatively and then given to parents to review qualitatively. The study illustrates the variability and consistencies of the disorder over time and within similar age groups. The results indicated that social skills were highly variable but remained the greatest life challenge for children with Asperger Syndrome. With or without social training, peer relationships continued to be a major source of frustration, anxiety, and confusion leading to inappropriate behaviors. The chart review continues to illustrate the difficulties that learners with autism have with social interactions.

Koegel, Koegel, Hurley and Frea (1992) conducted research to determine whether self-management could be used as a technique for children with autism to produce improvements in responsiveness to verbal initiations from others without the presence of treatment. The study consisted of four children with autism. The results of the study showed that lack of social responsivity in children with autism can be successfully treated by self-management and with minimal presence of a treatment provider. The study did consist of children across a wide age group. The average IQ of each student with autism was relatively low. Stahmer and Schribman (1992) used the self management
intervention to teach three children with autism how to play in the absence of adults in 20
minute intervals. Stahmer and Schribman’s (1992) results indicated that self management
was an effective method to help children with autism improve social interactions. They
also stated that in two out of three children the skills were able to be transferred to new
environments. The study does demonstrate some success within social skills intervention.
It also indicates positive results in relation to social skill transferability.

Kamps, Leonard, Vernon, Dugan and Delquardi (1992) researched the
effectiveness that social skills groups have on children with Asperger Syndrome and
high-functioning autism to see if there was an improvement in social interactions. The
study utilized 3 male students with autism, 11 students without handicaps, one teacher
and one teacher assistant. Training consisted of 10 minute sessions focusing on social
skills. These were held during 20 minute play groups four times a week. The qualitative
data collected during the play groups was transformed quantitatively. The results
indicated that when the social skills training for students with autism was compared to
non-handicapped peers there was an increase in the frequency and duration of social
interactions. Attwood (2000) states that there is little evidence that social groups can
change or alter specific skills, but the opportunity for students with autism to meet similar
people and share their stories and experiences can lead to friendships and a support
group.

Downs and Smith (2004) examined whether poor social interactions of children
with Asperger Syndrome and high-functioning autism was due to global development
delays or autism-specific deficits. Ten children with autism, along with 16 children with
Attention Deficit/Hyperactivity Disorder (ADHD) and Oppositional Defiant Disorder
(ODD), and 10 typically developing children were compared based on cooperation, emotional understanding, personality characteristics and social behaviors. The study was conducted using mixed methods of observations, testing and questionnaires. The results illustrated that children with autism demonstrate social-emotional deficits when measured against the typical developing children. Children with ADHD/ODD demonstrated more social-emotional and behavioral deficits than the children with autism. The study was conducted with 10 children varying in age. The children with autism selected had 2-3 years of social intervention training prior to the study.

Greenspan and Wieder (1997) studied the charts of 200 of their patients diagnosed with autism spectrum disorders between the ages of 22 months and 4 years of age. The patients selected also needed to have participated in evaluations and interventions for two or more years. The review was conducted to gather information on the efficacy of a variety of intervention strategies. The results indicated that children who had been in intense behavior programs could increase performance with rote memorization and perform well on IQ tests but lacked the ability to participate in spontaneous conversations with adults and peers. The study stressed the importance of tailoring intervention strategies to the individual. The study further indicated that many of the patients were able to make improvements with intense interventions.

Reed, Osborne and Corness (2007) studied the effectiveness of three intervention strategies amongst children. The 53 participants in the study ranged between the ages of 2.5 and 4 years and were located in the southeast of England. Applied behavior analysis, special nursery placement and portage were the three interventions explored. Applied behavior analysis consisted of one to one teaching with an intensity of 20-40 hours per
week. Special nursery placement occurred across several schools with class ratios of 6-8 students and with an intensity of 3-23 hours per week. Portage was a home based teaching program in which parents were trained to administer the interventions. The results indicated that applied behavior analysis had an impact on cognitive gains, and special nursery had an impact on adaptive behavior. Portage showed slight gains in both adaptive behavior and cognitive ability. The results indicated that the more intense interventions had more of an impact on educational gains. The question as to which is more important to school functioning, the educational skills or the behavioral skills, needs to be explored further. The efficacy study was not conducted here in the United States which may lead to different results.

Lovaas (1986) conducted a behavioral intervention project which consisted of 38 children with autism under the age of four. Participants were placed into one of two groups. The first group was an intensive treatment group consisting of 40 hours of one to one treatment per week. The second group received ten hours or less of one to one treatment per week. Both groups received treatment for over two years. The children participated in free play and were videotaped. The videotape was then scored based on self-stimulatory behaviors, appropriate play behaviors, and recognizable words. Interviews with parents were also conducted to help gather information. The results indicated that the children participating in the intensive program made more gains. Lovaas (1986) also states that children will continue to manifest similar severe psychological handicaps later in life unless subjected to intensive behavioral treatment that can alter that outcome. Webster, Webster, Feiler & Lovell's, (2004) research demonstrated how Applied Behavior Analysis can have positive gains in social
interactions for children with autism. However, it can be extremely exhausting to the family. There needs to be consideration of the intensity of the program and the impact it can have on a family and child. Applied Behavior Analysis is extremely intensive and often makes strong assertions for all children with autism. These researchers state that the research has yet been able to identify specific details about which treatments are effective for which children in which contexts. Furthermore, the researchers indicated that medical therapies are not successful and that gains in social behavior need to come from social skill interventions.

Koegel and Frea (1993) conducted an experiment about the feasibility of modifying social behaviors in individuals with autism. They wanted to examine whether or not there could be a carry over to other social communicative behaviors if they targeted one or two pivotal behaviors. Two children participated in the study, a 13 year old boy and a 16 year old boy. The Vineland Adaptive Behavior Rating Scale was given to identify the children’s scores in the following domains: communication, socialization, daily living and adaptive behavior. Two behaviors were identified by both teachers and parents in both of the participants. The results indicated that students with autism were able to carry over the interventions they received for the two pivotal behaviors to other social communicative behaviors after training. Koegal and Frea suggest that children with social problems characteristic of autism can respond well to treatment.

Buggey et al. (1999) explored videotaping as an intervention strategy for students with autism. The study utilized 3 children, 2 boys and 1 girl, ranging in age from 7 to 12. The study was based on the success videotaping had on children with autism to teach vocabulary and colors along with other cognitive information. The success with the
intervention was attributed to a reduction in stress that children with autism have when interacting with others. Secondly, research determined that because children with autism are highly visual, video is a useful teaching tool. The video can also be edited to make learning easier for a child with autism. A quantitative study was conducted by collecting baseline data during a 4 to 6 week period where a rater videotaped the children. After baseline data were collected, exemplary segments of the videos were used to create an intervention tape. The intervention tape was shown to the students over a 2-4 week period. The results indicated that there was an increase in desired behaviors. The increase was detectable soon after the intervention started. The appropriate response mean in all three participants doubled.

*Topic Analysis*

Each of the studies identified social interactions as a critical problem for students that are diagnosed on the spectrum of autism. The studies tried to establish a clear relationship between a method of social skills training and an improvement in positive social interactions. According to Bauminger (2002), only recently have studies emerged that focus exclusively on specific needs of autism. Each study tried to identify one or more possible interventions to improve social skill deficits in students on the spectrum of autism. Furthermore, the literature supports the importance of matching the design of the intervention program to the individual needs of the child opposed to trying to have a child match or fit the program (Bellini, Peters, Benner & Hopf, 2007; Marans, Rubin & Laurent, 2005). Throughout the research articles there has been discussion about which intervention strategy was the most effective. The preliminary review of the literature has identified pivotal behaviors, selective nursery, portage, videotaping, and intense applied
behavioral analysis as social intervention strategies for students on the spectrum of autism. The research exhibits a lack of agreement as to whether or not social intervention can be an effective measure to improve social behaviors for students on the spectrum of autism. There is considerable debate as to whether or not intensive interventions, such as the applied behavior analysis offered in the Lovaas (1986) studies, are more effective than the less intensive, developmental, "wait and see" methods, offered by Greenspan (1997). Gresham, Sugai and Homer (2001) conducted a meta analysis that concluded that social interventions range from ineffective to highly effective.

Children in most of the studies are put into heterogeneous groups. Children with Asperger Syndrome, high functioning autism and Pervasive Developmental Disorder are all included in the studies and are not differentiated. The studies omit the ability to look at the different disorders on the spectrum of autism and work with each individually. Methodologically, the studies worked with either younger children or a wide range such as preschool to adults. The discrepancy between the number of males on the spectrum of autism in comparison to females created mostly all male studies. Most of the studies conducted were qualitative in nature.

The research already conducted also consisted of small sample sizes. Only a few of the studies consisted of numbers over 10. There is limited research on students that are in middle or high school. Middle school tends to be a difficult period for most children. Little, if any research has been conducted to determine the impact middle school has on students with autism. Only one or two studies examined school settings and the impact that the service delivery has on developing positive social interactions. Gresham, Sugai
and Homer (2001) also noted that social interventions yield weak results because they occur in contrived, restricted and decontextualized settings.

The literature raises some important questions about students with autism and social interactions. First, can social interactions of students with autism be treated with social intervention? Is there a difference in the degree of social deficiencies across the spectrum? Do students with high-functioning autism, PDD-NOS and Asperger Syndrome respond to social intervention in the same way? Which social interventions are successful for students on the spectrum of autism? Is videotaping a successful intervention strategy for students in the middle school setting? These questions clearly support a need for future research on this topic.

**Summary**

Children on the spectrum of autism can be identified by a wide range of diagnoses. These diagnoses include Asperger Syndrome, autism, and PDD-NOS. Within the classification of Asperger Syndrome there may be varying levels and degrees that should be explored separately. The research establishes conflicting opinions as to whether the social interactions of students with Asperger Syndrome along with other diagnoses on the autism spectrum can improve with social intervention. There is no clear answer as to where the deficiency occurs in students on the spectrum. Is it due to a lack of emotional recognition, mental state, or problem solving skills? Throughout the research, it is evident that there is not one program or method to help middle school children on the spectrum of autism improve socially. According to Rogers (2000), students with autism are responsive to a wide variety of social skills intervention strategies. Rogers (2000) stated that these strategies include pivotal response training, adult prompting, social stories,
social groups, video modeling and peer mediated instruction. The importance of using
natural settings, targeting specific interactions, and arranging the environment to support
students on the spectrum of autism with their social interactions was a common theme
(McConnel, 2002; Hansen, Nangle, & Meyer, 1998). But, as indicated by Iovanno,
Dunlap, Huber and Kincaid (2003), there is a need to conduct further research that
measures the effectiveness of programs. It is clear that there is no fool proof plan or
guaranteed method to answer which intervention program works best for students on the
spectrum of autism (Stitcher et. at., 2007). They further state the need to use data for the
selection of specific interventions for specific children. This identifies a need to research
what works for students with Asperger Syndrome, high-functioning autism and PDD-
NOS both as a whole and individually.
Chapter 3: Methodology

. General Perspective

In order to answer the research question, an efficacy study was conducted to determine whether the social interventions being administered at Green Hill Middle School are effective and if they are measuring the same progress indicated on the student’s Individualized Education Plan. Mixed methods were used to answer the research question. Mixed methods are appropriate for this study because using just qualitative data, in and of itself, could lead to a biased study.

The study contained many characteristics outlined by Creswell (2007). Qualitatively, the study took place in the natural setting; the researcher collected data from parents and teachers. The focus remained on the students and their ability to learn and transfer social skills. Parents and teachers answered questions qualitatively two times throughout the study. This information helped establish baseline data and determined whether what is being taught in school is being transferred to the home environment.

Using the one group pretest - posttest design explained by Campbell and Stanley (1963), the researcher quantified the information gathered from the Vineland Adaptive Behavior Scales II. From a social aptitude test, the Vineland Adaptive Behavior Scales II, that was scored by a certified school psychologist two times over the course of the study in order to gather baseline data and determine the individual student’s progress. Conducting a study using both quantitative and qualitative data addressed the need for results to
determine effectiveness as noted by previous research (Iovanno, Dunlap, Huber and Kincaid 2003).

Research Context

The study took place in a suburban middle school in Western New York. The mission of the district places a strong emphasis on learning and the acceptance of all students. The mission of the special education department is for children with special needs to have access to the general education curriculum to the fullest extent possible. This has fostered an environment at Green Hill Middle School where including students with varying needs is important to the social development of all students. Multiple district values are entrenched in the culture of the Green Hill Middle School. They include the following: each student possesses unique abilities and talents, strength and opportunity come from a diverse community, culture and climate foster responsibility, respect, trust and pride, and all students should be successful and reach their potential. Green Hill Middle School recognizes the mission, values and goals as important pieces to a successful learning environment.

The district consists of approximately 6100 students. There are 557 students, approximately 9%, that qualify for special education services. Over the course of the last five years, autism has increased by about 60%. At Green Hill Middle School, which consists of 750 students, there are 81 students, approximately 11%, that qualify for special education services. Eleven of the 81, about 14%, are students classified with autism. Five out of the 11 students are integrated into the school day through a modified schedule. The students take some classes in a 15:1:1 environment, which consist of one special education teacher and one classroom paraprofessional. The class size is small and
is never above 15 students. The other classes are mainstreamed settings which consist of both special education and general education students along with a special educator and a content area teacher. The mainstreamed classes average 25 students and include students from the special education population along with the general education population. The other six students are mainstreamed in all classes. The study took place over the 2008-2009 school year.

Research Participants

The study consisted of the 7 male students that are diagnosed with autism and qualify for special education services at Green Hill Middle School. Although the students are classified on their Individualized Education Plans as students with autism, they will include students with Asperger Syndrome and Pervasive Developmental Disorder – Not Otherwise Specified. The breakdown included 2 students in 6th grade, 5 students in 7th grade and 1 student in 8th grade. The students ranged in age from 11-14. The students were selected because of their classification and their enrollment in Green Hill Middle School. Parents were included in the study and were selected because of their role with the children and the intimate knowledge they have about their child’s behaviors. Information about interactions that they witness at home as well as areas of difficulty was collected. Parents were an important source of data when it came to determining whether there has been a change in their child’s social interactions over the course of the interventions. Teachers at Green Hill Middle School were included in the survey. Teachers included general area teachers which, for the purpose of the study, included math, science, social studies, and English teachers. Special area teachers, for the purpose of the study, included technology, music, art, family life and consumer sciences, physical
education and world language teachers. Special educators, for the purpose of the study, included speech pathologists along with special education teachers. Information from school counselors and other specialists was included. The information that the teachers acquire throughout the day working with the students was critical to the study.

Instrument Used in Data Collection

The Vineland Adaptive Behavior Scales II was administered to quantify baseline data and progress in regard to social interactions. According to Volkmar, Carter, Sparrow, and Cicchetti (1993), the Vineland Adaptive Behavior Scales II is a useful measure for gathering data about a variety of disabilities and provides a unique opportunity for examining social dysfunction in autism. The Vineland Adaptive Behavior Scales II is one of the national standards to measure personal and social skills needed for daily living. The Vineland Adaptive Behavior Scales II is used in the field for identifying individuals with mental retardation, developmental delays, and autism spectrum disorder. It has been used in schools to help school personnel develop educational plans as well as identify areas of weakness to help establish effective interventions.

Students with autism were assessed based on questions asked to parents and teachers using the Vineland Adaptive Behavior Scales II. The Vineland Adaptive Behavior Scales II focuses on the students’ ability to interact socially. The test was administered and scored by the school psychologist two times. Each time the test was administered, the school psychologist collected, analyzed and scored the results.

Parents answered a portion of the Vineland Adaptive Behavior Scales II consisting of 100 questions. These questions pertain to three categories: Interpersonal Relationships, Play, and Adapting and Coping. These categories focused on social
interactions and are used to rate the child in social skills and relationships. Sample questions from the Interpersonal Relationship category will include: Shows desire to please others (example, shares a snack or toy, tries to help even if not capable) and demonstrates friendship seeking behaviors with others the same age (for example, says “Do you want to play?” or takes another child by the hand). Sample questions for the category Play consist of: Takes turns when asked while playing games or sports and follows rules in simple games (relay races, spelling bees, electronic games etc.) The last category, “Adapting”, contains some of the following questions: Thinks about what could happen before making decisions (for example, refrains from acting impulsively, thinking about important information) and shows understanding that gentle teasing with family and friends can be a form of humor or affection. Parents also answered questions about problem behaviors and had the opportunity to answer questions regarding students’ strengths, weaknesses and characteristics as well as make recommendations for working with their child. Parents gave their child a score of 2 for usually, 1 for sometimes or partially or a 0 for never. The school psychologist collected and analyzed the results. The parents’ answers measured if the skills being taught in school are being transferred outside of the school setting.

The teacher portion of the Vineland Adaptive Behavior Scales II consisted of 60 questions relating to Interpersonal Relationships, Play, Adapting and Coping skills. Sample questions from the Interpersonal Relationships category included: Discusses personal issues discreetly and starts small talk when meets people he or she knows (for example, says “How are you?”; “What’s up?” etc.). Questions from the category Play consisted of: Refrains from entering group when nonverbal cues indicate that he or she is
not welcome and asks permission before using objects that belong to or are being used by another. *Adapting and Coping* Skills is the last category that teachers answered questions from. Some of the questions will include: accepts mild teasing without getting upset and talks with others without interrupting them or being rude. Teachers rated students by giving them a score of 2 for usually, 1 for sometimes or partially or a 0 for never. In addition, teachers answered questions about student strengths, weaknesses and special characteristics of the student, along with additional observational data. These data will be used to determine the success of social interventions in the school environment. Both tests were administered two times over the course of the study. The first was administered within the first month of school. The second administration occurred at the end of the study.

*Procedures Used*

The first step in the study involved identifying the students based on the classification on their Individualized Education Plan. Next, signed consent was obtained from the parents and teachers. Parents and teachers were informed that the research falls under standard daily practice and is within the realm of informing instruction and professional practice. Parents and teachers were also informed that if at any time during the study they begin to feel uncomfortable, or desire not to answer any further questions, they may choose to end the interview. If this occurred, the interview data would not be used in the study. Parents and teachers were reassured that none of the information obtained during the study was attributable to them, their child or anyone in their family. All data and associate information was and is kept in confidence and was not student or
teacher specific when reporting the data for the study. The data was accessible only to approved members of the research team.

The Vineland Adaptive Behavioral Scales II was administered to parents and multiple teachers to establish baseline data. Parents of students with autism were asked to answer interview questions from the Vineland Adaptive Behavior Scales II. The interview was completed by the parents with the support of the school psychologist if necessary to maintain consistency. Next, several teachers of the students with autism were asked to complete the rating scale. Teachers included counselors, special educators, general education teachers along with special area teachers.

Students received social intervention strategies as indicated on the student’s Individualized Educational Plan. The social intervention strategies were administered by the speech pathologist and included: push in, pull out, small group and 1:1 treatments. The frequency and methods were outlined on the student’s Individualized Educational Plan. The speech pathologist used a variety of methods to deliver the instruction including social stories, social groups and video-modeling along with other methods. The treatments were administered for nine months. The parents and teachers were administered the Vineland Adaptive Behavior Scales II again at the end of the ninth months. Parents were interviewed using the same questions completed at the beginning of the year. Teachers of students with autism also completed the rating scales again to determine whether or not they felt the students made progress over the course of the nine months. This information was compared to the progress that students with autism made as indicated by teachers on the student’s Individualized Education Plan comments.
Parents and teachers were made aware that all data and associated responses (to include potentially identifiable respondents and/or student specific information) remained in strict confidence. The data was only used for the purpose of this dissertation research and considered for use in follow-up publication as related to implications for practice and possibilities for policy application.

Data Analysis

The preliminary benchmark data was collected by the school psychologist. This was done through the interview questions answered by the parents as well as an examination the teacher rating scales administered in the beginning of the school year. The data was scored according to the Vineland Adaptive Behavior Scales II scoring manual. Since only a portion of the test was administered, the students were rated in the area of social skills. The scores were analyzed by the school psychologist along with the speech pathologist. The data and information were used to help identify what interventions could be effective for each student. Social interventions were delivered to students with autism to help them manage social difficulties identified by their disability and the Vineland Adaptive Behavior Scales II. The tests were administered again at the end of the nine months. The data at the end of the study was evaluated to determine if the student made social gains and if the skills were transferred into other settings. Then a comparison to the students’ Individualized Education Plan goals was conducted to identify if Individualized Education Plan goals were measured correctly.

Summary of Methodologies

Iovanno, Dunlap, Huber and Kincaid (2003) state the need to conduct further research that measures the effectiveness of social intervention programs. They further
state the importance of using data for the selection of specific interventions for specific children. This outlines the importance of researching what interventions are successful for students with Asperger Syndrome, high-functioning autism and PDD-NOS both as a whole and individually.

The study outlined above determined if interventions delivered at Green Hill Middle School were effective. It helped determine how to deliver services in the future. It answered questions about school based interventions delivered to middle school students (grades 6-8), an area that has been missing in the literature. It included students in a mid-sized suburban school in Western New York where students with autism have increased by nearly 60% over the last few years. Information was collected using the Vineland Adaptive Behavior Scales II rating scales. Parents and teachers were included to gather accurate information about where students with autism scored in the beginning of the year as well as at the midpoint and end of the study to determine progress towards meeting Individualized Education Program goals. The information was scored and analyzed by a school psychologist and researcher.

The above general perspective, problem statement, research questions, research context, research participants, instrument used for data collection, procedures for conducting the study and how the data will be analyzed outline the framework of how to answer the following research question: Are the social interventions currently administered at Green Hill Middle School effective for students with autism, Asperger Syndrome and PDD-NOS?
Chapter 4: Results

Introduction

The purpose of this study was to examine the efficacy of targeted social interventions, as aligned with student Individual Education Plan (IEP) goals delivered to students who are identified on the autism spectrum at Green Hill Middle School. It is of note that literal IEP goals verbiage is utilized and has thus been embedded in this research to clearly articulate student’s actual needs. This chapter is organized based on the three primary research questions posed in Chapter 1. It first presents information about the students identified within the research study. This includes the student’s age, frequency of social interventions received and the social goals on the student’s Individualized Education Plan. Next, the parent and teacher baseline data results will be shared. Beginning with the teachers, the chapter reports the teacher’s ratings on the Vineland Adaptive Behavior Scales II and their perceptions of the learners with autism in their classroom. Next, the parent baseline data, as scored on the Vineland Adaptive Behavior Scale, will be reported. Finally, the end of the year data will be shared, and the results of a full year of social interventions delivered at Green Hill Middle School will be evaluated.

Learners with Autism

Student one henceforth (S1) is a 13 year old male who is in 8th grade at Green Hill Middle School. S1 is identified as a young man with Asperger Syndrome. The student currently has the following supports in place to help his ability to interact with his
peers. S1 meets with an autism consultant five times during the school year. Each visit consists of an hour long session. S1 has counseling for 20 weeks during the school year. Each of the 20 sessions are 30 minutes long with the school psychologist. The sessions are targeted based on the IEP social goals. S1 receives social interventions delivered by the speech language pathologist once a week for 30 minutes during a one on one session and then two times weekly for 39 minutes in a classroom setting.

S1’s Individualized Education Plan consists of three social goals. The first goal states: Student will use targeted behaviors to improve social thinking skills. The targeted behaviors identified are: distinguishing between “expected” and “unexpected”, labeling his own behaviors, labeling others behaviors, guessing/predicting how others might feel based on his behaviors and modifying his behaviors with no more than one teacher prompt. The goal will be evaluated quarterly with an accuracy of 8 out of 10 tries. S1’s second social IEP goal states: Given visual cues, he will effectively communicate his thoughts, feelings and emotions with the special education teacher, mental health provider or speech language therapist with an accuracy of 8 out of 10 tries over two weeks. S1’s last Individualized Education Plan goal that focuses on social interactions is: Given visual cues and self monitoring strategies, S1 will reduce his number of class interruptions to no more than two during a lesson with 80% accuracy by the end of the school year.

Student two henceforth (S2) is a 12 year old male who is in the 7th grade at Green Hill Middle School. He has a diagnosis of Pervasive Development Disorder, Not Otherwise Specified. The student currently has the following supports in place to help his ability to interact with his peers. S2 meets with an autism consultant ten times during the
school year. Each visit consists of an hour long session. S2 receives social interventions delivered by the speech language pathologist once a week for 30 minutes during a three on one session. These sessions are delivered in the speech pathologist’s office. S2 also receives social interventions one time weekly for 39 minutes in a classroom setting. The Individualized Education Plan has one goal that focuses on social interactions. It states that S2 will describe the steps of personal problem solving and then will use the steps to consider solutions to the problem (organizational and social) with three prompts during the first marking period, two prompts during the second marking period, one prompt during the third marking period and independently during the last marking period. Steps to solving a problem include: identifying the problem, explore why it became a problem, consider the problem from other people’s perspective, consider solutions, try a solution and then evaluate the effectiveness of the solution. This goal will be evaluated with a success rate of 80% over a two week period.

Student three henceforth (S3), is an 11 year old male who is in 6th grade at Green Hill Middle School. The student has a diagnosis of Pervasive Development Disorder, Not Otherwise Specified. The student currently has the following supports in place to help his ability to interact with his peers. S3 meets with an autism consultant 20 times during the school year. Each visit consists of an hour long session. S3 has counseling for ten weeks during the school year. Each of the ten sessions is 30 minutes long with the school psychologist and meets monthly. The sessions are targeted based on the IEP social goals. S3 receives social interventions delivered by the speech language pathologist twice a week for 30 minutes during a small group (3:1) session and then three times weekly for 39 minutes in a classroom setting. S3’s Individualized Education Plan goals include: To
further develop target behaviors to improve social thinking skills relative to middle school scenarios/situations, given no more than one prompt when necessary per target. Target behaviors may include some or all of the following: a) distinguishing between "expected" and "unexpected" behaviors, b) labeling own behaviors, c) labeling others' behaviors, d) guessing/predicting how others may feel based on his behaviors, e) choosing appropriate behavioral alternatives, and f) modifying his behavior. The goal will be evaluated on a monthly basis with an accuracy of four out of five tries.

Student four henceforth (S4), is a 13 year old male in the 7th grade at Green Hill Middle School. He is diagnosed with autism. The student currently has the following supports in place to help his ability to interact with his peers. S4 meets with an autism consultant forty times during the school year. Each visit consists of an hour long session. S4 receives social interventions delivered by the speech language pathologist twice a week for 30 minutes during small group (3:1). S4’s Individualized Education Plan goals centered on social interactions include the use of target strategies to participate in conversational discourse with peers and adults with no more than 1 teacher prompt. Target strategies will include, distinguishing between expected and unexpected verbal behaviors, labeling others' verbal behavior as expected or unexpected, labeling own verbal behavior as expected or unexpected, guessing or predicting how others may feel based on his verbal behaviors and adjusting his verbal behavior to be more appropriate or expected. The goal will be measured quarterly for 80% accuracy over a two week period. The second Individualized Education Plan goal for social behavior states that S4 will follow classroom expectations set forth by the teacher (e.g., sit correctly at his desk with his head up, raise his hand before speaking, refrain from inappropriate actions/speech
toward other students and teachers) with no more than 1 teacher prompt. The goal will be measured quarterly for 80% accuracy over a two week period. S4’s last goal to increase positive social behavior is: S4 will accept help from adults when offered. The goal will be measured quarterly for 80% accuracy over two week periods.

Student five henceforth (S5), is an 11 year old male in 6th grade at Green Hill Middle School. He has a diagnosis of Asperger Syndrome. The student currently has the following supports in place to help his ability to interact with his peers: S5 meets with an autism consultant 20 times during the school year. Each visit consists of an hour long session. S5 receives social interventions delivered by the speech language pathologist twice a week for 30 minutes during small group (5:1) along with support once a week for 39 minutes in the classroom setting. The social goals outlined on the Individualized Education Plan include: S5 will use age appropriate target communication skills when interacting with peers; with 2 teacher prompts in structured social activities by the first marking period, with 4 adult prompts when interacting with peers in cooperative groups by the second marking period, with 2 prompts when interacting with peers in cooperative groups by the third marking period, and with 2 prompts when interacting with peers in unstructured social situations by the end of the school year. Target skills include: introducing appropriate topics, taking turns, maintaining topic, respecting personal space, recognizing and responding to nonverbal communication (facial expressions, tone of voice, body language), and being an active listener. The goal will be measured quarterly with an accuracy of four out of five trials during a two week period. S5’s second goal indicates that the student will respond appropriately during times of frustration or upset by recognizing the physical and emotional symptoms within himself and using those as
cues to implement coping and problem solving strategies (verbal expression of feelings, taking perspective of others, removing self from situation, implementing relaxation techniques, seeking adult assistance) with 3 prompts by the second marking period and one prompt by the end of the school year. The goal will be measured on a monthly basis with an accuracy of four out five trials.

Student six henceforth (S6), is a 12 year old male who is in 7th grade at Green Hill Middle School. He has a diagnosis of Asperger Syndrome. The student currently has the following supports in place to help his ability to interact with his peers. S6 meets with an autism consultant fifteen times during the school year. Each visit consists of an hour long session. S6 receives social interventions delivered by the speech language pathologist twice a week for 30 minutes in a small group (3:1) along with support once a week for 39 minutes in the classroom setting. The first social goal outlined on the Individualized Education Plan states: S6 will use four target behaviors to improve social thinking skills. Target behavior include: distinguish between "expected" and "unexpected" behaviors in others, distinguish between "expected" and "unexpected" behaviors in himself; predict how others may feel and/or respond based on his behaviors and modify his behavior. The goal will be measured quarterly for eighty percent success over a two week period. The second social goal on the Individualized Education Plan is: During classroom instruction, S6 will reduce the frequency of times he gets "stuck" on a topic or concept by developing strategies to allow him to have his question answered and information explained at another time, such as during independent work times or core support (e.g. write down questions, take a quick break). The goal will be assessed by the teacher using two prompts over a two week period of time. The goal will be measured quarterly. The third
goal on S6’s Individualized Education Plan with a focus on social interactions is: S6 will use age appropriate target communication skills 80% of the time when interacting with peers and adults in a variety of settings. Target skills include: introducing appropriate topics, taking turns, maintaining topic, speaking clearly and at an adequate rate, respecting personal space, recognizing and responding to nonverbal communication (facial expressions, tone of voice, body language), and being an active listener. The goal will be assessed by the teacher using two prompts over a two week period of time. The goal will be measured quarterly. The last goal on S6’s Individualized Education Plan is to advocate for himself in the general education setting by directing clarifying questions and concerns to the general education teacher instead of the paraprofessional. The goal will be measured for success quarterly with accuracy on four out of five trials in a two week period.

Student seven henceforth (S7) is a 13 year old 8th grade male at Green Hill Middle School. He has a diagnosis of Asperger Syndrome. The student currently has the following supports in place to help his ability to interact with his peers. S7 meets with an autism consultant five times during the school year. Each visit consists of an hour long session. S7 receives social interventions delivered by the speech language pathologist twice a week for 30 minutes in a small group setting. The first social goal on S7’s Individualized Education Plan is to use strategies to handle day to day social interactions in an expected way. These strategies include: distinguishing between expected and unexpected verbal/nonverbal behaviors, labeling others' verbal/nonverbal behavior as expected or unexpected, labeling own verbal/nonverbal behavior as expected or unexpected, guessing or predicting how others may feel based on his verbal/nonverbal
behaviors and modifying his verbal/nonverbal behavior. The goal will be assessed quarterly for 80% accuracy over a two week period. The second social goal in the Individualized Education Plan is: S7 will identify triggers that cause him to feel anxious or angry and use strategies to problem solve and reduce anxiety and anger. These strategies include: positive self talk, graphic organizer for plan of actions, big deal/little deal attitude. The goal will be assessed quarterly for 80% accuracy over a two week period. The last social goal on the students Individualized Education Plan is: S7 will identify rules for unstructured situations, describe expected behavior for various situations, problem solve ways to handle problems that occur when he or other students break the rules, carry out his selected plans and then evaluate the effectiveness of his plan of action. The goal will be assessed quarterly for 80% accuracy over a two week period.

*Individual Student Data*

To answer the three research questions, are the social interventions currently administered at Green Hill Middle School effective for students with autism, Asperger Syndrome and PDD-NOS?, are the measure and data collection methods currently used to assess progress, effective and are the delivery of interventions assessed accurately to measure if social skills being taught are transferred into other learning environments? Data was collected on each student using the Vineland Adaptive Behavior Scales II. The researcher collected data from two teachers and the parents of each child. Whenever possible data was collected from a structured classroom environment without a special education teacher (technology, math, science, social studies, etc.) and then from an environment that would be considered less structured such as physical education. Collecting the information from the parents and classes that did not have special
education teachers helped determine if the social skills taught were transferred to other environments. The students were rated on three areas. Interpersonal Relationships Skills second was Play and Adapting and Coping Skills. The data will be reported as a raw score, v-scale score and then an adaptive level. The adaptive levels are reported as high for a v-scale score of 21-24, moderately high for a v-scale score of 18-20, adequate for a v-scale score of 13-17, moderately low for a v-scale score of 10-12 and low for a v-scale score of 1-9. The number of questions that the student scored a zero on will also be reported.

For S1, the first administration of the rating form resulted in scores between low and moderately low. Table 4.1., table 4.2, table 4.3 and table 4.4 illustrate the student ratings. The lowest rating for S1 was in the area of Play. Answers to qualitative questions regarding S1’s behavior were reported as follows: Teacher 1 stated “student speaks out of turn, blurts out inappropriate things, usually is late to class and does not know how to (normally) socially interact with students.” Teacher 1 also indicated that the student is “often in his own world, wandering around by himself and talking to himself.” Teacher 1 indicated that “when another student talks to him, he gets really excited and usually replies with something (weird) inappropriate.” Teacher 1 also indicated that “S1 needs more social interaction with his own peers. He needs to know how to respond and how to initiate (normal) conversations.”

Teacher 2 added that “S1 works well independently, loves to read and is good at advocating for himself.” Teacher 2 stated that “he has difficulties raising his hands and following directions. He often shouts in class and interrupts his peers. Once he begins talking, he has a hard time stopping and will disrupt others.” Teacher 2 also included that
“S1 struggles with following directions and changes them to what he views as better. If an unexpected event occurs, he will struggle and not be able to perform.” Teacher 2 concluded her comments by stating that “S1 does not perform assignments well because he is often talking uncontrollably and not following directions.”

S1 scored zero on many of the questions rated by teacher 1. Teacher 1’s class is in a less structured environment. The questions in the Interpersonal Relationship subdomain that S1 scored zeros on are as follows: Demonstrates friendship seeking behaviors with others the same age, recognizes happiness, sadness, fear and anger in others, recognizes the likes and dislikes of others, has best friends or shows preference for certain friends over others, acts when another person needs a helping hand, identifies people by characteristics other than by name, participates in class discussion without monopolizing, cooperates with others to plan or be part of a group assignment or activity, initiatives conversation on topics of particular interest to other, goes on group dates and goes on single dates.

In the Play subdomain, S1 was rated as a zero on 12 of the questions. The questions were as follows: plays simple interaction games with others, shows preference for certain people and objects, uses common household objects or other objects for make-believe activities, protects self by moving away from those who destroy things or cause injury, seeks out others for play or companionship at school, asks permission before using objects that belong to or are being used by others, engages with others in elaborate make believe activities involving more than one role, refrains from entering group when nonverbal cues indicate that he or she is not welcome, and plays simple games that require keeping score.
In the subdomain of *Adapting and Coping*, S1 scored zeros on five questions. These questions are: controls anger or hurt feelings when plans change for reasons that can’t be helped, changes voice level depending on location or situation, thinks about what could happen before making a decision and shows respect for co-workers.

The results of the second administration in relationship to the first administration showed the following in the area of *Interpersonal Relationships*. Teacher 1’s May scores indicated a raw score increase of +4, a v-scale increase of +1 and a decrease in the amount of zeros of 2. Teacher 2’s ratings showed an increase of +2 in the raw score, no change in the v-scale score and no change in the amount of zeros. The parent’s May data showed a +8 increase in raw score, a +2 increase in v-scale and no change in the number of zero’s. S1’s adaptive levels remained the same, ranging from low to moderately low. The two questions which S1 scored a zero on in the September rating and not in the May rating were the following: participates in class discussions without monopolizing and cooperates with others to plan or be part of a group assignment or activity. Table 4.1 illustrates the changes.
Table 4.1

**Student 1 Interpersonal Relationship Subdomain Scores**

<table>
<thead>
<tr>
<th></th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>18</td>
<td>22</td>
<td>30</td>
<td>32</td>
<td>58</td>
<td>66</td>
</tr>
<tr>
<td>v-Scale</td>
<td>8</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>9</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relation to the first administration showed the following in the area of **Play**. Teacher 1’s May scores indicated a raw score increase of +3, a v-scale increase of +1 and a decrease in the amount of zeros by 2. Teacher 2’s ratings showed an increase of +2 in the raw score, no change in the v-scale and no change in the amount of zeros. The parent’s May data showed a +16 increase in the raw score, a +6 increase in the v-scale and no change in the number of zero’s. S1’s adaptive level had no change for teachers 1 and 2. There was a change in the area of **Play** rated by parents. S1 was originally rated low by the parents in the September administration and had a rating of adequate in the May administration. The two questions which S1 scored a zero on in the September rating and not in the May rating were the following: plays with others with minimal supervision and refrains from entering group when nonverbal cues indicate that he or she is not welcome. Table 4.2 illustrates the changes.
Table 4.2

*Student 1 Play Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 1</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>10</td>
<td>13</td>
<td>25</td>
<td>27</td>
<td>40</td>
<td>56</td>
</tr>
<tr>
<td>v-Scale</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>10</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Adequate</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of *Adapting and Coping*. Teacher 1’s May scores indicated a raw score increase of +2, a v-scale increase of +1 and a decrease in the amount of zeros by 1. Teacher 2’s ratings demonstrated an increase of +3 in the raw score, no change in the v-scale score and no change in the amount of zeros. The parent’s May data showed a +10 increase in the raw score, a +1 increase in the v-scale and -2 change in the number of zero’s. S1’s adaptive level had no change for teacher 1. Teacher 2’s May ratings indicated an adaptive level change from moderately low to adequate.

There was no change in the adaptive level in the area of *Adapting and Coping* reported by the parents. The question which S1 scored a zero on in September as rated by teacher one and not on the May rating was: changes voice level depending on location or situation.

The two questions which the parents rated him a zero in September but not in May were: controls anger or hurt feelings when he or she does not get his or her way and shows respect for co-workers. Table 4.3 illustrates the changes.
Table 4.3

_SStudent 1 Adapting and Coping Subdomain Scores_

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T1</th>
<th>T2</th>
<th>T2</th>
<th>P1</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>September</td>
<td>May</td>
<td>September</td>
<td>May</td>
<td>September</td>
<td>May</td>
</tr>
<tr>
<td>Raw Score</td>
<td>22</td>
<td>24</td>
<td>28</td>
<td>31</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>v- Scale</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>13</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Adq</td>
<td>Adq</td>
<td>Adq</td>
</tr>
</tbody>
</table>

Note. Mod = moderately; Adq = adequate

To provide an overall rating of S1’s performance in the _Socialization_ Domain an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents rating. The September and May administrations were compared. S1’s September Teacher scores resulted in an average raw score of 70 and an adaptive level of low, which translated to a percentile rank of 2%. The parents’ September rating was equivalent to a raw score of 71, an adaptive level of moderately low and a percentile rank of 3%. The May administration reported an increase in the Teacher’s raw score to 74 and an overall adaptive level of moderately low. The percentile rank increased to 4%. The parent’s May administration increased the raw score to 85, with an adaptive level of adequate and a percentile rank of 16%. Table 4.4 illustrates the overall _Socialization_ Domain changes.
Table 4.4

*Student 1 Socialization Domain Score*

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>70</td>
<td>74</td>
<td>71</td>
<td>85</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Mod</td>
<td>Mod</td>
<td>Adequate</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>2%</td>
<td>4%</td>
<td>3%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

S2 was rated by all three raters with scores that fell in the range of low to adequate on the first administration of the Vineland Adaptive Behavior Scales II in September. Table 4.5, table 4.6, table 4.7 and table 4.8 illustrate the student ratings. The lowest rating for S2 was in the area of *Interpersonal Relationships*. Answers to qualitative questions regarding S2’s behavior was reported as the following: Teacher 1 stated that “S2 is extremely respectful of his teachers as well as others in the class. He seems to be focused on classroom tasks.” Teacher 1 also indicated that “the student is quiet and does not seem to interact with other students.” Teacher 1 indicates that “S2 is very focused when working on computers.”

Teacher 2 added that “S2 keeps to himself and follows the guidance of other students when he is unsure what is required of him. S2 is very respectful and doesn’t get caught up in social aspects of school.” Teacher 2 stated that “changes in routines and reading non verbal cues are difficult for him.” Teacher 2 also included that “S2 sometimes is unaware that classmates are teasing him and even flirting with him.”
S2 scored zero on fifteen questions in the *Interpersonal Relationship* subdomain. Teacher 2 gave S2 zeros on four questions and S2's parents gave him a zero on 11 questions. The following are the questions in which S2 scored a zero: demonstrates friendship-seeking behaviors with others the same age, starts small talk when meets people he or she knows, demonstrates understanding of hints or indirect cues in conversation, discusses personal issues discreetly, has best friend or shows preference for certain friends, recognizes the likes and dislikes of others, imitates relatively complex actions several hours after watching someone else perform them, talks with others about shared interests, meets with friends regularly, understands that others do not know his or her thoughts unless he or she says them, goes on group dates, goes on single dates, and starts conversations by talking about things that interest him.

In the *Play* subdomain, S2 was rated as a zero on nine of the questions. Three zeros came from Teacher 2, and six zeros were given by the parents. The questions were as follows: protects self by moving away from those who destroy things or cause injury, seeks out others for play or companionship at school, goes places with friends during the day with adult supervision, goes places with friends in the evening with adult supervision, goes places with friends during the day without adult supervision, plans fun activities with more than two things to be arranged and goes places with friends in the evening without adult supervision.

In the subdomain *Adapting and Coping*, S2 was rated as a zero on two questions by Teacher 2. The questions were the following: changes easily from one activity to another and changes voice level depending on the location or situation.
The results of the second administration in relationship to the first administration showed the following in the area of Interpersonal Relationship. Teacher 1’s May scores indicated a raw score increase of +5, a v-scale increase of +1 and a decrease in the amount of zeros by 1. Teacher 2’s ratings show an increase of +2 in the raw score, no change in the v-scale score and a decrease in the amount of zeros by 2. The parent’s May data showed a +3 increase in the raw score, +1 increase in the v-scale and a -4 difference in the number of zeros. The student’s adaptive level changed from low to moderately low in Teacher 1’s rating. Teacher 2 and the parents’ ratings both remained at the same adaptive level. The one question which S2 scored a zero on in the September rating and not in the May rating by Teacher 1 was: demonstrates friendship seeking behaviors with others the same age. The two questions that were reported as zeros by Teacher 2 in the September administration and not the May administration were: demonstrates friendship seeking behaviors with others the same age and demonstrates understanding of hints or indirect cues in conversations. The four questions which the parents scored as zeros in September but not in May were the following: demonstrates friendship seeking behaviors with others the same age, imitates relatively complex actions several hours after watching someone else perform them, recognizes the likes and dislikes in others and talks with others about shared interests. Table 4.5 illustrates the changes.
showed the following in the area of Play. Teacher 1’s May scores indicated a raw score increase of +1, no change in the v-scale score and no change in the amount of zeros. Teacher 2’s ratings demonstrated no change in the raw score, no change in the v-scale and a difference of -1 in the number of zeros. The parents’ May data showed a +3 increase in the raw score, +1 increase in the v-scale and difference of -1 in the number of zeros. S2’s adaptive level had no change by any rater. One of the questions that S2 scored a zero in September but not in May was protects self by moving away from those that destroy things or cause injury. The other question in which S2 was rated a zero by the parents on the first administration but not on the second administration was goes places with friends in evening with adult supervision. The Table 4.6 illustrates the changes.

<table>
<thead>
<tr>
<th>Student 2</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>24</td>
<td>29</td>
<td>26</td>
<td>28</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>v- Scale</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of Play. Teacher 1’s May scores indicated a raw score increase of +1, no change in the v-scale score and no change in the amount of zeros. Teacher 2’s ratings demonstrated no change in the raw score, no change in the v-scale and a difference of -1 in the number of zeros. The parents’ May data showed a +3 increase in the raw score, +1 increase in the v-scale and difference of -1 in the number of zeros. S2’s adaptive level had no change by any rater. One of the questions that S2 scored a zero in September but not in May was protects self by moving away from those that destroy things or cause injury. The other question in which S2 was rated a zero by the parents on the first administration but not on the second administration was goes places with friends in evening with adult supervision. The Table 4.6 illustrates the changes.
showed the following in the area of Adapting and Coping. Teacher 1’s May scores indicated a raw score increase of +1, a v-scale increase of +1 and no change in the number of zeros. Teacher 2’s ratings showed an increase of +1 in the raw score, a v-scale increase of +1 and a decrease in the number of zeros by 2. The parent’s May data showed no increase in the raw score, v-scale or number of zeros. S2’s adaptive level had no change for either Teacher 1 or the parent. Teacher 2’s May ratings indicated an adaptive level change of moderately low to adequate. The two questions which S2 scored a zero on in September as rated by Teacher 2 and not on the May rating was: changes easily from one activity to another and changes voice level depending on location or situation. Table 4.7 illustrates the changes.

Table 4.6

*Student 2 Play Subdomain Score*

<table>
<thead>
<tr>
<th></th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>21</td>
<td>22</td>
<td>25</td>
<td>25</td>
<td>44</td>
<td>47</td>
</tr>
<tr>
<td>v-Scale</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of *Adapting and Coping*. Teacher 1’s May scores indicated a raw score increase of +1, a v-scale increase of +1 and no change in the number of zeros. Teacher 2’s ratings showed an increase of +1 in the raw score, a v-scale increase of +1 and a decrease in the number of zeros by 2. The parent’s May data showed no increase in the raw score, v-scale or number of zeros. S2’s adaptive level had no change for either Teacher 1 or the parent. Teacher 2’s May ratings indicated an adaptive level change of moderately low to adequate. The two questions which S2 scored a zero on in September as rated by Teacher 2 and not on the May rating was: changes easily from one activity to another and changes voice level depending on location or situation. Table 4.7 illustrates the changes.
Table 4.7

**Student 2 Adapting and Coping Subdomain Scores**

<table>
<thead>
<tr>
<th>Student 2</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>34</td>
<td>35</td>
<td>28</td>
<td>31</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>v- Scale</td>
<td>14</td>
<td>15</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Mod = moderately; Adq. = adequate.

To provide an overall rating of S2’s performance in the *Socialization* Domain an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents’ rating. The September and May administrations were compared. S2’s Teachers’ scores resulted in an average raw score of 76 and an adaptive level of moderately low which translated to a percentile rank of 5%. The parents’ September rating was equivalent to a raw score of 70, an adaptive level of low and a percentile rank of 2%. The May administration increased the Teachers’ raw score to 79. The overall adaptive level remained at moderately low, and the percentile rank increased to 8%. The parents’ May administration increased the raw score to 75, with an adaptive level of moderately low and a percentile rank of 5%. Table 4.2.4 illustrates the overall *Socialization* Domain changes.
Table 4.8

**Student 2 Socialization Domain Score**

<table>
<thead>
<tr>
<th>Student 2</th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>76</td>
<td>79</td>
<td>70</td>
<td>75</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>5%</td>
<td>8%</td>
<td>2%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

S3 was rated by all three raters with scores that fell in the range of low to moderately low. Table 4.9, table 4.10, table 4.11 and table 4.12 illustrate the student ratings. The lowest rating for S3 were in the subdomain *Play*. Answers to qualitative questions regarding S3’s behavior was reported as the following: Teacher 1 stated that “S3 will only participate in class discussion if it is a topic he has interest in or is called on by a teacher. His interactions are appropriate but brief. He prefers to play/work independently but is cooperative when pairing up is encouraged or required.” Teacher 1 also indicated that “social interactions are challenging for S3. He will often need prompts to communicate with peers or engage in conversation. Last minute changes in routine are disruptive and cause anxiety. S3 will become preoccupied with assignments/tests and his ability to focus on a task at hand becomes challenging.” Teacher 1 indicated that “S3 needs reminders to use eye contact.”

Teacher 2 added that “S3 is friendly, outgoing, happy and enthusiastic.” Teacher 2 also stated that “S3 is in need of constant reminders to stay on task in group activities and games.”
S3 scored zero on 17 questions in the *Interpersonal Relationship* subdomain. Teacher 1 gave S3 a zero on one question, Teacher 2 gave a zero on five questions and the parents gave zeros on 11 questions. The following are the questions in which S3 scored a zero: has best friend or shows preferences for certain friends, demonstrates friendship seeking behaviors with others the same age, acts when another person needs a helping hand, shows desire to please others, starts small talk when meets people he or she knows, imitates relatively complex actions several hours after watching someone else perform them, imitates relatively complex actions as they are being performed by another person, talks with others about shared interests, starts small talk when meets people he or she knows, meets with friends regularly, places reasonable demands on friendships, goes on group dates, goes on single dates, and starts conversations by talking about things that interest him.

In the *Play* subdomain, S3 was rated a zero on 23 of the questions. Two zeros came from Teacher 1, 9 from Teacher 2 and 12 from the parents. The questions were as follows: seeks out others for play or companionship at school, engages with others in elaborate make-believe activities involving more than one role, plays cooperatively with one or more students for up to 5 minutes, plays cooperatively with more than one student for more than 5 minutes, plays with others with minimal supervision, shares toys or possessions without being asked, takes turns without being asked, plays simple games that require keeping score, uses common household objects or other objects for make-believe activities, plays simple make-believe activities with others, plays informal, outdoor group games, plays more than one, board, card, or electronic game requiring skill and decision making, follows rules in complex games or sports, goes places with friends.
during the day with adult supervision, goes places with friends in the evening with adult supervision, goes places with friends during the day without adult supervision, plans fun activities with more than two things to be arranged and goes places with friends in the evening without adult supervision.

In the subdomain of *Adapting and Coping* S3 was rated a zero on four questions. One zero was given by Teacher 2 and three were given by the parent. The questions were as follows: copies or imitates appropriate behavior of others when unsure of correct action, says he or she is sorry after hurting another’s feelings, says he or she is sorry after making unintentional mistakes or errors in judgment, and controls anger or hurt feelings when he or she does not get his or her way.

The results of the second administration in relationship to the first administration showed the following in the area of *Interpersonal Relationship*. Teacher 1’s May scores indicated a raw score increase of +7, a v-scale increase of +2 and no change in the number of zeros. Teacher 2’s ratings showed an increase of +1 in the raw score, no change in the v-scale score and a decrease in the amount of zeros by 2. The parents’ May data showed a +1 increase in the raw score, a -1 change in the v-scale and no change in the number of zeros. The student’s adaptive level changed from low to moderately low in Teacher 1’s rating. Teacher 2 and the parents rating both remained at the same adaptive level. The one question which S3 scored a zero on in the September rating and not in the May rating by Teacher 2 was: initiates conversations on topics of particular interests to others. Table 4.9 illustrates the changes for S3 in the *Interpersonal Relationship* subdomain.
Table 4.9

*Student 3 Interpersonal Relationship Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 3</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>23</td>
<td>30</td>
<td>30</td>
<td>31</td>
<td>45</td>
<td>46</td>
</tr>
<tr>
<td>v- Scale</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relations to the first administration showed the following in the area of *Play*. Teacher 1’s May scores indicated a raw score increase of +2, a change of +1 in the v-scale score and no change in the amount of zeros. Teacher 2’s ratings demonstrated a +4 change in the raw score, a +1 increase in the v-scale score and a decrease in the number of zeros by 5. The parents’ May data showed a +2 increase in the raw score, no change in the v-scale and a decrease in the number of zeros by 1. S2’s adaptive level had no change. In the May administration, Teacher 2 changed five of the zeros from the original administration in September. The questions were as follows: plays with more than one student for more than five minutes, plays with others with minimal supervision, shares toys or possessions without being asked, takes turns without being asked and plays simple games that require keeping score. The other question in which S3 was given a zero by the parents in the first administration but not in
the second administration was seeks out others for play or companionship. Table 4.10 illustrates the changes in the *Play* subdomain.

Table 4.10

*Student 3 Play Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 3</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Score</td>
<td>17</td>
<td>19</td>
<td>13</td>
<td>17</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>v- Scale</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>4</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The results of the second administration in relationship to the first administration showed the following in the area of *Adapting and Coping*. Teacher 1’s May scores indicated a raw score increase of +7, a v-scale increase of +2 and no change in the number of zeros. Teacher 2’s ratings showed an increase of +2 in the raw score, a v-scale increase of +1 and a decrease of 1 in the number of zeros. The parents’ May data showed a +3 increase in the raw score, no change in the v-scale and a decrease of 1 in the number of zeros. S3’s adaptive level had no change for either Teacher 2 or the parent. Teacher 1’s May ratings indicated an adaptive level change of moderately low to adequate. The one question which S3 scored a zero on in September as rated by Teacher 2 and not on the May rating was: copies or imitates appropriate behavior of others when unsure of “correct” actions. The change of the zero given by the parents in the September rating and not in May was: controls anger or hurt feelings when he or she does not get his or her way. Table 4.11 illustrates the changes.
Table 4.11

*Student 3 Adapting and Coping Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 3</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>24</td>
<td>31</td>
<td>26</td>
<td>28</td>
<td>32</td>
<td>35</td>
</tr>
<tr>
<td>v-Scale</td>
<td>11</td>
<td>13</td>
<td>11</td>
<td>12</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Adequate Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod is abbreviated for moderately

To provide an overall rating of S3’s performance in the *Socialization* Domain, an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents’ rating. The September and May administrations were compared. S3’s September Teacher scores resulted in an average raw score of 75 and an adaptive level of moderately low, which translated to a percentile rank of 4%. The parents’ September rating was equivalent to a raw score of 64, an adaptive level of low and a percentile rank of 1%. The May administration increased the teachers’ raw score to 78. The overall adaptive level remained at low, and the percentile rank increased to 7%. The parents’ May administration resulted in the raw score of 64, an adaptive level of low and a percentile rank which remained at 1%. Table 4.12 illustrates the overall *Socialization* Domain changes.
Table 4.12

**Student 3 Socialization Domain Scores**

<table>
<thead>
<tr>
<th>Student 3</th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>74</td>
<td>78</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>4%</td>
<td>7%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

S4 was rated by all three raters with scores that fell in the low range. Table 4.13, table 4.14, table 4.15 and table 4.16 illustrate the student ratings. The lowest rating for S4 was in the subdomain *Interpersonal Relationship*. Answers to qualitative questions regarding S4’s behavior were reported as follows: Teacher 1 stated that S4 has difficulties working together with other students. During team activities he often struggles with sportsmanship and losing.” It was also stated that socially “S4 has trouble getting along with peers in class.” Teacher 1 also stated that “in some of the observations, competitive games are difficult for S4.”

Teacher 2 added that “S4 is creative. S4 has a good sense of humor.” Teacher 2 also stated that “S4 does not get along with others and has difficulties following directions.” Teacher 2 also included that “S4 opposes authority but can generate quality work when he focuses.”

S4 scored zero on 18 questions in the *Interpersonal Relationship* subdomain. Teacher 1 rated S4 as a zero on eight questions, Teacher 2 on ten questions and the parents on eight questions. The following are the questions in which S4 scored a zero:
makes or tries to make social contact, verbalizes relationships of familiar people to self, has best friend or shows preferences for certain friends, demonstrates friendship seeking behaviors with others the same age, acts when another person needs a helping hand, identifies people by characteristics other than by name, uses words to express happiness or concern for others, talks with others about shared interests, discusses personal issues discreetly, initiates conversation on topics of particular interests of others, meets with friends regularly, repeats phrases heard spoken by adults, goes on group dates, goes on single dates, cooperates with others to plan or be part of a group assignment, is careful when talking about personal things, chooses not to say embarrassing or mean things or ask embarrassing questions in public, and shows the same level of emotions as others around him.

In the Play subdomain S4 was rated a zero on 18 of the questions. Three zeros came from Teacher 1, 12 from Teacher 2 and three from the parents. The questions were as follows: play simple interaction games, seeks out others for play or companionship at school, engages with others in elaborate make-believe activities involving more than one role, plays cooperatively with one or more students for up to 5 minutes, plays cooperatively with more than one student for more than 5 minutes, plays with others with minimal supervision, shares toys or possessions when asked, shares toys without being asked, takes turns without being asked, takes turns when asked while playing games or sports, uses common household objects or other objects for make-believe activities, plays simple make-believe activities with others, protects self by moving away from those that destroy things or cause injury, shows good sportsmanship, follows rules in simple games, follows rules in complex games or sports, goes places with friends during the day.
without adult supervision, plans fun activities with more than two things to be arranged and goes places with friends in the evening without adult supervision.

In the subdomain of *Adapting and Coping* S3 was rated a zero on 20 questions. Seven zeros were given by Teacher 1, eight by Teacher 2 and five by the parent. The questions were as follows: ends conversations appropriately, says “thank you” when given something, says “please” when asking for something, says that he or she is sorry for unintended mistakes, changes behavior depending on how well he or she knows another person, copies or imitates appropriate behavior of others when unsure of correct action, accepts helpful solutions or suggestions from others, changes voice level depending on location or situation, talks with other without interrupting them or being rude, controls anger or hurt feelings when he or she does not get his or her way, accepts mild teasing without getting upset, thinks about what could happen before making a decision, keeps secret in confidence for longer than one day, keeps secrets in confidence for as long as needed, shows respect for co-workers.

The results of the second administration in relationship to the first administration showed the following in the area of *Intrapersonal Relationships*. Teacher 1’s May scores indicate a raw score decrease of -1 and no change in the v-scale or the number of zeros. Teacher 2’s ratings showed an increase of +2 in the raw score and no change in the v-scale score or the number of zeros. The parents’ May data showed a +10 increase in the raw score, a +2 increase in the v-scale and a decrease in the number of zeros by 2. S4’s adaptive level remained at low for Teacher 1 and moderately low for Teacher 2. The parents’ rating moved S4’s adaptive level from low to moderately low. The four questions which S4 scored a zero on in the September rating and not in the May rating by
the parents were: has best friends or shows preferences for certain friends over others, meets with friends regularly, chooses not to say embarrassing or mean things or ask rude questions in public and goes on single dates. Table 4.13 illustrates the changes for the *Interpersonal Relationship* subdomain.

Table 4.13

**Student 4 Interpersonal Relationship Subdomain Scores**

<table>
<thead>
<tr>
<th>Student 4</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>16</td>
<td>15</td>
<td>16</td>
<td>18</td>
<td>48</td>
<td>58</td>
</tr>
<tr>
<td>v-Scale</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of *Play*. Teacher 1’s May scores indicated no change in the raw score, v-scale or number of zeros. Teacher 2’s ratings demonstrated no change in the raw score, v-scale or number of zeros. The parents’ May data showed a +2 increase in the raw score, a +1 change in the v-scale and no change in the number of zeros. S4’s adaptive level had no change for either Teacher 1 or Teacher 2. The parents’ ratings resulted in an adaptive level change of low to moderately low. Table 4.14 illustrates the changes in the *Play* subdomain.
Table 4.14

*Student 4 Play Subdomain Scores*

<table>
<thead>
<tr>
<th></th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>16</td>
<td>16</td>
<td>6</td>
<td>6</td>
<td>46</td>
<td>48</td>
</tr>
<tr>
<td>v- Scale</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>12</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of *Adapting and Coping*. Teacher 1’s May scores indicated a raw score increase of +1, no change in the v-scale score and a decrease in the number of zeros by 1. Teacher 2’s ratings reported no change in the raw score, v-scale or number of zeros. The parents’ May data showed no change in the raw score, v-scale or number of zeros. S4’s adaptive level had no change from any of the raters. The one question which S4 scored a zero on in September as rated by Teacher 1 and not on the May rating was: says he or she is sorry for unintended mistakes. Table 4.15 illustrates the changes on the *Adapting and Coping* subdomain.
Table 4.15

*Student 4 Adapting and Coping Subdomain scores*

<table>
<thead>
<tr>
<th>Student 4</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>13</td>
<td>14</td>
<td>11</td>
<td>11</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>v~ Scale</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

To provide an overall rating of S4’s performance in the *Socialization* Domain an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents’ rating. The September and May administrations were compared. S4’s September Teacher scores resulted in an average raw score of 60 and an adaptive level of low which was translated to a percentile rank of <1%. The parents’ September rating was equivalent to a raw score of 69, an adaptive level of low and a percentile rank of 2%. The May administration reported no change in the Teachers’ raw score, overall adaptive level or percentile rank. The parents’ May administration increased the raw score to 75, with an adaptive level of moderately low and a percentile rank of 5%. Table 4.16 illustrates the overall *Socialization* Domain changes.
Table 4.16

*Student 4 Socialization Domain Scores*

<table>
<thead>
<tr>
<th>Student 4</th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>60</td>
<td>60</td>
<td>69</td>
<td>75</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
<td>2%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

SS was rated by all three raters with scores that fell between moderately low and low. Table 4.17, table 4.18, table 4.19 and table 4.20 illustrate the student ratings. SS was rated lowest in the subdomain of *Adapting and Coping*. Answers to qualitative questions regarding SS’s behavior were reported as follows: Teacher 1 stated that “SS joins groups but often needs assistance to actually be part of the game or sport.”

Teacher 2 added that “SS’s ability to adapt to social situations is extremely limited. He does not understand social cues, calls out in class and speaks condescendingly to his peers.” Teacher 2 included that “SS stims when eagerly engaged in an activity with absolutely no regard for anyone else. He comes off as an elitist to his peers as he revels in winning and captivates on their deficiencies. He is clearly not in control of his emotions or behavior during these moments. At times he inserts himself into a group without realizing that he has not been invited to collaborate and has to be redirected. SS never modulates the tone and pitch to his voice and is prone to emotional outbursts.” Teacher 2 has “never observed SS exhibiting any “social graces” in every day, situations such as saluting or thanking.” Teacher 2 included that “SS is a bright, cheerful
and motivated young man. S5 is uninhibited socially, calling out frequently which
distracts others from learning. He appears condescending, juvenile and egocentric to his
peers. He is difficult for students to work with because he monopolizes the conversation.”
Teacher 2 also indicated that “S5 finds his niche and then fixates on his role in “the
story” that is our class. He presents as narcissistic to his peers. When adopting Roman
names, he digresses at length about the intrinsic meaning (and superiority of his) and
later, after presenting an audio-visual project, continually clamored to view and review it
to the chagrin of the class.” Lastly, it was stated that “S5’s organizational and time
management skills are limited, which impairs his ability to transition from class to class,
activity to activity, and situation to situation.”

S5 scored zero on 28 questions in the Interpersonal Relationship subdomain.
Teacher 1 rated S5 as a zero on one question, Teacher 2 on 14 questions and the parents
on 13 questions. The following are the questions in which S4 scored a zero: recognizes
happiness, sadness, fear and anger in others, uses words to express happiness or concern
for others, recognizes the likes and dislikes of others, acts when another person needs a
helping hand, shows the same level of emotion as others around him or her, keeps
comfortable distance between self and others around him or her, identifies people by
characteristics other than by name, participates in class discussions without
monopolizing, cooperates with others to plan or be part of a group assignment or activity,
starts small talk when meets people he or she knows, understands that others do not know
what he or she is thinking unless he or she tells them, demonstrates understanding of
hints or indirect cues in a conversation, discusses personal issues discreetly, meets with
friends regularly, chooses not to say embarrassing or mean things or ask rude questions in
public, places reasonable demands on friendships, starts conversations by talking about things that interest others, goes on group dates, and goes on single dates.

In the Play subdomain, SS was rated a zero on 12 of the questions. Two zeros came from Teacher 1, three from Teacher 2 and seven from the parents. The questions were as follows: takes turns when asked while playing games or sports, uses common household objects or other objects for make-believe activities, takes turns without being asked, engages with others in elaborate make-believe activities involving more than one role, refrains from entering groups when nonverbal cues indicate he or she is not wanted, shares toys or possessions without being asked, asks permission before using objects belonging to or being used by others, shows good sportsmanship, goes places with friends in evening with adult supervision, goes places with friends during the day without adult supervision, goes places with friends in evening without adult supervision.

In the subdomain of Adapting and Coping, SS was rated a zero on 28 questions. Twelve zeros were given by Teacher 2, and 16 were given by the parent. The questions were as follows: ends conversations appropriately, says “thank you” when given something, says “please” when asking for something, says that he or she is sorry for unintended mistakes, changes behavior depending on how well he or she know another person, copies or imitates appropriate behavior of others when unsure of correct action, controls anger or hurt feelings when plans change for reasons that can’t be helped, accepts helpful solutions or suggestions from others, changes voice level depending on location or situation, talks with other without interrupting them or being rude, controls anger or hurt feelings when he or she does not get his or her way, thinks about what could happen before making a decision, chews with mouth closed, responds appropriately to
reasonable change in routine, says he or she is sorry for unintended mistakes, chooses not
to taunt, tease or bully, acts appropriately when introduced to strangers, refrains from
talking with food in mouth, talks with others without interrupting or being rude, tells
parents or caregiver about his or her plans, thinks about what could be happen before
making a decision, and shows respect for co-workers.

The results of the second administration in relation to the first administration
showed the following in the area of Interpersonal Relationships. Teacher 1’s May scores
indicated a raw score increase of +2, no change in the v-scale, and a decrease in the
number of zeros by 1. Teacher 2’s ratings show an increase of +8 in the raw score, a +1
change in the v-scale score and a decrease in the number of zeros by 8. The parents’ May
data showed a +6 increase in the raw score, no change in the v-scale score and a decrease
in the number of zeros by 5. S5’s adaptive level remained the same with no change. The
one question which S5 scored a zero on in the September rating and not in the May rating
as given by Teacher 1 was: initiates conversations on topics of particular interest to
others. Teacher 2 decreased the number of zeros by giving a rating of 1 on the following
questions: uses words to express happiness or concern for others, recognizes the likes and
dislikes of others, shows the same level of emotion as others around him or her, keeps
comfortable distance between self and others in social situations, identifies people by
characteristics other than by name, participates in class discussions without
monopolizing, cooperates with others to plan or be part of a group assignment or activity
and starts small talk when meets people he or she knows. S5’s parents rated the following
five questions higher than zero during the May administration: recognizes the likes and
dislikes of others, keeps comfortable distance between self and others in social situations,
chooses not to say embarrassing or mean things or ask rude questions in public, places reasonable demands on friendship, and demonstrates understanding of hints or indirect cues in conversations. Table 4.17 illustrates the changes for S5 in the *Interpersonal Relationship* subdomain.

Table 4.17

*Student 5 Interpersonal Relationship Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 5</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>34</td>
<td>36</td>
<td>15</td>
<td>23</td>
<td>38</td>
<td>44</td>
</tr>
<tr>
<td>v-Scale</td>
<td>12</td>
<td>12</td>
<td>8</td>
<td>9</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>1</td>
<td>0</td>
<td>14</td>
<td>6</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of *Play*. Teacher 1’s May scores indicated a +1 change in the raw score, a v-scale increase of +1 and no change in the number of zeros. Teacher 2’s ratings demonstrated a +3 change in the raw score, a +1 change in the v-scale score and a decrease in the number of zeros by 2. The parent’s May data showed a +7 increase in the raw score, a +1 change in the v-scale and a decrease in the number of zeros by 2. S5’s adaptive level had no change for either Teacher 1 or the parents. Teacher 2’s ratings resulted in an adaptive level change from low to moderately low. The two questions which S5 was rated a zero by Teacher 2 in the September administration and not in the
May administration were: takes turns when asked while playing games or sports and refrains from entering group when nonverbal cues indicate that he or she is not welcome. The two questions that the parents rated as zeros on the September administration and not the May administration were: shows good sportsmanship and goes places with friends in evening with adult supervision. Table 4.18 illustrates the changes in the \textit{Play} subdomain.

Table 4.18

\textit{Student 5 Play Subdomain Scores}

<table>
<thead>
<tr>
<th>Student 5</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>28</td>
<td>29</td>
<td>20</td>
<td>23</td>
<td>34</td>
<td>41</td>
</tr>
<tr>
<td>v- Scale</td>
<td>11</td>
<td>12</td>
<td>9</td>
<td>10</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relationship to the first administration showed the following in the area of \textit{Adapting and Coping}. Teacher 1’s May scores indicated a raw score increase of +1, no change in the v-scale score and no change in the number of zeros. Teacher 2’s ratings reported a +3 change in the raw score, a +1 increase in the v-scale rating and a decrease in the number of zeros by 2. The parent’s May data shows a +6 increase in the raw score, a +1 in the v-scale and a decrease in the number of zeros by 5. S5’s adaptive level had no change. The two questions which S5 scored a zero on in September as rated by Teacher 2 and not on the May administration were: ends
conversations appropriately and changes behavior depending on how well he or she knows another person and says he or she is sorry for unintended mistakes. The following questions were rated as zeros in September and not in May by the parents: says that he or she is sorry for unintended mistakes, changes voice level depending on location or situation, controls anger or hurt feelings when plans change for reasons that cannot be helped, says he or she is sorry after making unintentional mistakes or error in judgment, tells parents or caregivers about his or her plans, controls anger or hurt feelings when he or she does not get his or her way and thinks about what could happen before making decisions. Table 4.19 illustrates the changes on the Adapting and Coping subdomain.

Table 4.19

<table>
<thead>
<tr>
<th>Student 5 Adapting and Coping Subdomain Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 5 Tl T1 Tl T2 T2 P1 P1</td>
</tr>
<tr>
<td>September</td>
</tr>
<tr>
<td>Raw Score</td>
</tr>
<tr>
<td>v-Scale</td>
</tr>
<tr>
<td>Number of Zeros</td>
</tr>
<tr>
<td>Adaptive Level</td>
</tr>
</tbody>
</table>

Note. Adq. = adequate

To determine an overall rating for S5’s performance in the Socialization Domain, an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents’ rating. The September and May administrations were compared. S2’s September Teacher scores resulted in an average raw score of 72 and an adaptive level of moderately low which translated to a
percentile rank of 3%. The parents’ September rating was equivalent to a raw score of 57, an adaptive level of low and a percentile rank of <1%. The May administration increased the teachers’ raw score to 76. The overall adaptive level remained at moderately low and the percentile rate increased to 5%. The parents’ May administration resulted in a raw score of 61, the adaptive level remained at low and the percentile rank remained at <1%. Table 4.20 illustrates the overall Socialization Domain changes.

Table 4.20

**Student 5 Socialization Domain Scores**

<table>
<thead>
<tr>
<th></th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>72</td>
<td>76</td>
<td>57</td>
<td>61</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod low</td>
<td>Mod low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>3%</td>
<td>5%</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

S6 was rated by all three raters with scores that fell between moderately low and low. Table 4.21, table 4.22, table 4.23 and table 4.24 illustrate the student ratings. S6 was rated lowest in the subdomain of *Play*. Answers to qualitative questions regarding S6's behavior were reported as follows: Teacher 1 stated that “S6 is bright and will focus on computer based projects.” Teacher 1 stated that “S6 sometimes does not know when to stop talking about a topic and move on. S6 likes to engage in conversation with adults and can socialize more with students his age but doesn’t.”

Teacher 2 added that “S6 communicates well at times with teachers and classmates.” Teacher 2 also stated that “S6 will get into everyone’s business, correct
them, and “tattle tail” all the time. This causes other students to respond negatively towards S6.” Teacher 2 indicated that “if it is not an activity that he enjoys, S6 will withdraw himself or not try as hard during the activity.”

S6 scored zero on seven questions in the *Interpersonal Relationship* subdomain. Teacher 2 rated S6 as a zero on five questions and the parents on two questions. The following are the questions in which S6 scored a zero: verbalizes relationships of familiar people to self, demonstrates friendship seeking behavior with others the same age, has best friends or shows preference for certain friends, chooses not to say embarrassing or mean things or ask rude questions, identifies people by characteristics other than by name, goes on group dates, and goes on single dates.

In the *Play* subdomain, S6 was rated a zero on seven of the questions. Three zeros came from Teacher 2, and four came from the parents. The questions were as follows: uses common household objects or other objects for make believe activities, takes turns without being asked, engages with others in elaborate make-believe activities involving more than one role, plays simple games that require keeping score, goes places with friends in evening with adult supervision, goes places with friends during the day without adult supervision, goes places with friends in evening without adult supervision and plans fun activities with more than two things to be arranged.

In the subdomain of *Adapting and Coping*, S6 was rated a zero on three questions. All three zeros were given by Teacher 2. The questions were as follows: copies or imitates appropriate behavior of others when unsure of “correct” action, changes voice level depending on location or situation and accepts mild teasing without getting upset.
The results of the second administration in relation to the first administration showed the following in the area of *Interpersonal Relationships*. Teacher 1’s May scores indicated a raw score increase of +4, no change in the v-scale, and no change in the number of zeros. Teacher 2’s ratings show an increase of +2 in the raw score, no change in the v-scale score and a decrease in the number of zeros by 1. The parents’ May data showed a +5 increase in the raw score and no change in the v-scale score or in the number of zeros. S6’s adaptive level remained the same with no change for Teacher 1 and 2. The adaptive level, as rated by the parents, went from low to moderately low. The one question which S6 scored a zero in the September rating and not in the May rating as given by Teacher 2 was: chooses not to say embarrassing things or ask rude questions in public. Table 4.21 illustrates the changes for S6 in the *Interpersonal Relationship* subdomain.

Table 4.21

*Student 6 Interpersonal Relationship Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 6</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>30</td>
<td>34</td>
<td>22</td>
<td>24</td>
<td>54</td>
<td>59</td>
</tr>
<tr>
<td>v-Scale</td>
<td>11</td>
<td>11</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately
The results of the second administration in relationship to the first administration showed the following in the area of Play. Teacher 1’s May scores indicated a +1 change in the raw score, a v-scale increase of +1 and no change in the number of zeros. Teacher 2’s ratings demonstrated a +2 change in the raw score, a +1 change in the v-scale score and no difference in the number of zeros. The parent’s May data showed a +5 increase in the raw score, a +2 change in the v-scale and a decrease in the number of zeros by 1. S6’s adaptive level had no change for Teacher 1. Teacher 2 and the parents’ ratings resulted in an adaptive level change from low to moderately low. The one question which S6 was rated a zero by his parents in the September administration and not in the May administration was: goes places with friends in evening with adult supervision. Table 4.22 illustrates the changes in the Play subdomain.

Table 4.22

Student 6 Play Subdomain Scores

<table>
<thead>
<tr>
<th>Student 6</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>29</td>
<td>30</td>
<td>22</td>
<td>24</td>
<td>47</td>
<td>52</td>
</tr>
<tr>
<td>v-Scale</td>
<td>11</td>
<td>12</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Mod Low</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

The results of the second administration in relation to the first administration showed the following in the area of Adapting and Coping. Teacher 1’s May scores
indicated a raw score increase of -1, no change in the v-scale score and no change in the number of zeros. Teacher 2’s ratings reported no change in the raw score, v-scale rating or number of zeros. The parents’ May data showed a +9 increase in the raw score, a +2 in the v-scale and no change in the number of zeros. S6’s adaptive level remained the same for Teacher 1 and Teacher 2. The parents’ ratings on the May administration moved S6’s adaptive level from moderately low to adequate. Table 4.23 illustrates the changes on the Adapting and Coping subdomain.

Table 4.23

Student 6 Adapting and Coping Subdomain Scores

<table>
<thead>
<tr>
<th>Student 6</th>
<th>T1 September</th>
<th>T2 September</th>
<th>T1 May</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>32</td>
<td>24</td>
<td>31</td>
<td>24</td>
<td>39</td>
<td>48</td>
</tr>
<tr>
<td>v-Scale</td>
<td>13</td>
<td>11</td>
<td>13</td>
<td>11</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Adq.</td>
<td>Mod Low</td>
<td>Adq.</td>
<td>Mod Low</td>
<td>Adq.</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately; Adq. = adequate

To determine an overall rating of S6’s performance in the Socialization Domain, an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents’ rating. The September and May administrations were compared. S6’s September Teacher scores resulted in an average raw score of 76 and an adaptive level of moderately low which was translated to a percentile rank of 5%. The parents’ September rating showed a raw score of 78, an
adaptive level of moderately low and a percentile rank of 4%. The May administration increased the teachers’ raw score to 78. The overall adaptive level remained at moderately low and the percentile rank increased to 7%. The parents’ May administration increased the raw score to 82. The adaptive level remained at moderately low, and the percentile rank increased to 12%. Table 4.24 illustrates the overall Socialization Domain changes.

Table 4.24  

*Student 6 Socialization Domain Scores*

<table>
<thead>
<tr>
<th>Student 6</th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>76</td>
<td>78</td>
<td>73</td>
<td>82</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>5%</td>
<td>7%</td>
<td>4%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

S7 was rated by all three raters with scores that fell between low and adequate. Table 4.25, table 4.26, table 4.27 and table 4.28 illustrate the student ratings. S7 was rated lowest in the subdomain of *Adapting and Coping*. Answers to qualitative questions regarding S7’s behavior were reported as follows: Teacher 1 stated that “S7 is a very good problem solver. He is able to follow directions and work through a problem with minimal help. S7 struggles when his first attempt at a solution is unsuccessful.” Teacher 2 stated that “S7 usually needs a few prompts to try different solutions before he is able to proceed on his own. S7 is very personable and enjoys engaging adults in conversation.
He has a good sense of humor and works well in small group when the group members are as motivated as he is.”

Teacher 2 added that “S7 has a positive attitude with willingness to take risks and try new things.” Teacher 2 also included that “S7 can be timid initially.” Teacher 2 concluded that “S7 is more of a creative thinker and engages in social dialogue with classmates.”

S7 scored zero on three questions in the Interpersonal Relationship subdomain. All three zeros were rated by the parents. The following are the questions in which S7 scored a zero: demonstrates understanding of hints or indirect cues in conversation, goes on group dates, and goes on single dates.

In the Play subdomain, S6 was rated a zero on six of the questions. All zeros were rated by the parents. The questions were as follows: refrains from entering group when nonverbal cues indicate that he or she is not welcome, goes places with friends in evening with adult supervision, goes places with friends during the day without adult supervision, goes places with friends in evening without adult supervision and plans fun activities with more than two things to be arranged.

In the subdomain of Adapting and Coping, S7 was rated a zero on two questions by his parents. The questions were as follows: says he or she is sorry after making unintentional mistakes or errors in judgment and controls anger or hurt feelings due to constructive criticism.

The results of the second administration in relation to the first administration showed the following in the area of Interpersonal Relationship. Teacher 1’s May scores indicate a raw score of -1, no change in the v-scale, and no change in the number of
zeros. Teacher 2’s ratings demonstrated no change in the raw score, v-scale or number of zeros. The parent’s May data showed a +1 increase in the raw score, a +1 v-scale score and no change in the number of zeros. The student’s adaptive level remained the same with no change for Teacher 1 or 2. The adaptive level, as rated by the parents, went from low to moderately low. Table 4.25 illustrates the changes for S7 in the Interpersonal Relationship subdomain.

Table 4.25

**Student 7 Interpersonal Relationship Subdomain Scores**

<table>
<thead>
<tr>
<th>Student 7</th>
<th>T1 September</th>
<th>T1 May</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>43</td>
<td>42</td>
<td>46</td>
<td>46</td>
<td>55</td>
<td>56</td>
</tr>
<tr>
<td>v-Scale</td>
<td>14</td>
<td>14</td>
<td>19</td>
<td>19</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Adq.</td>
<td>Adq.</td>
<td>Mod High</td>
<td>Mod High</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
</tbody>
</table>

Note. Mod = moderately; Adq. = adequate.

The results of the second administration in relation to the first administration showed the following in the area of Play. Teacher 1’s May scores indicated no change in raw score, v-scale or number of zeros. Teacher 2’s ratings demonstrated no change in the raw score, v-scale score or number of zeros. The parents’ May data showed no change in the raw score, v-scale or the number of zero’s. S7’s adaptive level had no change for Teacher 1, Teacher 2 or the parents. Table 4.26 illustrates the changes in the Play subdomain.
Table 4.26

*Student 7 Play Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 7</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T1 May</td>
<td>T1 May</td>
<td>T2 September</td>
<td>T2 May</td>
<td>P1 September</td>
<td>P1 May</td>
</tr>
<tr>
<td>Raw Score</td>
<td>35</td>
<td>35</td>
<td>36</td>
<td>36</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>v- Scale</td>
<td>15</td>
<td>15</td>
<td>17</td>
<td>17</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Note. Adq = adequate.

The results of the second administration in relationship to the first administration showed the following in the area of *Adapting and Coping*. Teacher 1’s May scores indicated no change in the raw score, v-scale score or the number of zeros. Teacher 2’s ratings reported no change in the raw score, v-scale rating or number of zeros. The parents’ May data showed a +8 increase in the raw score, a +2 in the v-scale and a decrease in the number of zeros by 1. S7’s adaptive level remained the same for Teacher 1 and Teacher 2. The parent rating on the May administration moved S7’s adaptive level from moderately low to adequate. The one question in which S7 scored a zero in the September administration and a one in the May administration was: controls anger or hurt feelings due to constructive criticism. Table 4.27 illustrates the changes on the *Adapting and Coping* subdomain.
Table 4.27

*Student 7 Adapting and Coping Subdomain Scores*

<table>
<thead>
<tr>
<th>Student 7</th>
<th>T1 September</th>
<th>T1 (May)</th>
<th>T2 September</th>
<th>T2 May</th>
<th>P1 September</th>
<th>P1 May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>32</td>
<td>32</td>
<td>37</td>
<td>37</td>
<td>38</td>
<td>46</td>
</tr>
<tr>
<td>v- Scale</td>
<td>13</td>
<td>13</td>
<td>16</td>
<td>16</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Number of Zeros</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Mod = moderately; Adq. = adequate

To determine an overall rating of S7’s performance in the *Socialization* Domain, an average of Teacher 1 and Teacher 2’s raw score, adaptive level and percentile rank were determined. The same was completed for the parents’ rating. The September and May administrations were compared. S7’s September Teacher scores resulted in an average raw score of 98, an adaptive level of adequate and a percentile rank of 45%. The parents’ September rating resulted in a raw score of 71, an adaptive level of low and a percentile rank of 3%. The teachers’ May administration increased the raw score to 98 and the overall adaptive level to adequate. There was no change in the percentile rank of 45%. The parents’ May administration increased the raw score to 76, the adaptive level to moderately low and the percentile rank to 5%. Table 4.28 illustrates the overall *Socialization* Domain changes.
Table 4.28

*Student 7 Socialization Domain Scores*

<table>
<thead>
<tr>
<th>Student 7</th>
<th>Teachers September</th>
<th>Teachers May</th>
<th>Parents September</th>
<th>Parents May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>98</td>
<td>98</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Low</td>
<td>Mod Low</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>45%</td>
<td>45%</td>
<td>2%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

*Diagnosis Data*

The seven students on the spectrum of autism at Green Hill Middle School have the following diagnoses: 1 student is diagnosed with autism, 2 students are diagnosed with Pervasive Developmental Disorder – Not Otherwise Specified and 4 students are diagnosed with Asperger Syndrome. Examining the raw score of each sub group will help identify which group benefits the most from the social interventions delivered at Green Hill Middle School. To determine the average raw scores, the raw scores from Teacher 1 and Teacher 2 as well as the parents were calculated for September and then May. The percent of change was then reported. The one student diagnosed with autism made the greatest change in the raw score with an increase of 10%. The four students with a diagnosis of Asperger Syndrome increased the raw score by 7.5%. Lastly, students with a diagnosis of Pervasive Development Disorder- Not Otherwise Specified had a 2.9% increase in the overall raw score. Table 4.29 illustrates the changes.
Students on the spectrum of autism were also evaluated by the changes in their adaptive levels over the course of the school year. The student with a diagnosis of autism had a September average v-scale score of 8 which is categorized as a low adaptive level. The May administration moved the v-scale score to 10 which is an adaptive level of moderately low. Students with a diagnosis of Pervasive Development Disorder - Not Otherwise Specified had a v-scale rating of 10 in September, which falls in the moderately low range. The May administration showed no increase in v-scale score or adaptive level. In the September ratings students with a diagnosis of Asperger Syndrome had a v-scale rating of 11 and an adaptive level of moderately low. The May administration showed a v-scale average of 12 with no change in the adaptive level. Table 4.30 illustrates the changes.
Table 4.30

Diagnosis Average v-scale Analysis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>N</th>
<th>v-Scale September</th>
<th>v-Scale May</th>
<th>Adaptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>1</td>
<td>8</td>
<td>10</td>
<td>+1</td>
</tr>
<tr>
<td>Asperger</td>
<td>4</td>
<td>11</td>
<td>12</td>
<td>NC</td>
</tr>
<tr>
<td>PDD-NOS</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>NC</td>
</tr>
</tbody>
</table>

*Individualized Education Plan Goal Alignment*

To answer the research question, “Are the measure and data collection methods currently used to assess progress, effective?”, students’ IEP goals were coded in one of three categories. The categories align with the three Vineland Adaptive Behavior Scales II subdomains: *Interpersonal Relationships, Play* and *Adapting and Coping*. The ratings from teachers and parents were averaged together and compared to the Vineland Adaptive Behavior Scales II ratings to measure results.

S1’s IEP goal was: Student will use targeted behaviors to improve social thinking skills. The targeted behaviors identified are: distinguishing between “expected” and “unexpected”, labeling his own behaviors, labeling others behaviors, guessing/predicting how others might feel based on his behaviors and modifying his behaviors with no more than one teacher prompt. The goal is evaluated quarterly with an accuracy of 8 out of 10 tries. Goal one was coded as *Adapting and Coping*. S1’s second social IEP goal states: Given visual cues, he will effectively communicate his thoughts, feelings and emotions with the special education teacher, mental health provider or speech language therapist.
with an accuracy of 8 out of 10 tries over two weeks. The second goal was coded as

*Interpersonal Relationships.* S1’s last Individualized Education Plan goal that focuses on social interactions is: Given visual cues and self monitoring strategies, S1 will reduce his number of class interruptions to no more than two during a lesson with 80% accuracy by the end of the school year. S1’s last goal was coded as *Adapting and Coping.* S1 had two goals in the subdomain *Adapting and Coping* and one goal in *Interpersonal Relationships.* S1 demonstrated growth in all subdomains. In the *Interpersonal Relationships* subdomain there was an increase in the raw score and v-scale score. In the *Play* subdomain there was an increase in the raw score, v-scale and adaptive level. The *Adapting and Coping* subdomain showed an increase in raw score and v-scale. Table 4.31 below illustrates the progress made by S1 in each of the subdomains.

Table 4.31

**Student 1 Subdomain Average Analysis**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>35</td>
<td>40</td>
<td>25</td>
<td>32</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>v-Scale</td>
<td>10</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod</td>
<td>Mod</td>
<td>Low</td>
<td>Mod</td>
<td>Mod</td>
<td>Adq.</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

Note. Mod = moderately; Adq. = adequate.

S2’s first social IEP goal states: S2 will describe the steps of personal problem solving and then will use the steps to consider solutions to the problem (organizational
and social) with three prompts during the first marking period, two prompts during the second marking period, one prompt during the third marking period and independently during the last marking period. Steps to solving a problem include: identify the problem, explore why it became a problem, consider the problem from other people’s perspective, consider solutions, try a solution and then evaluate the effectiveness of the solution. This goal will be coded as *Adapting and Coping*. S2 increased raw scores in all subdomains. The greatest increase in raw score was in the *Interpersonal Relationship* subdomain. S2 increased the v-scale score in the *Play* and *Adapting and Coping* subdomains. The adaptive level in *Play* went from moderately low to adequate. Table 4.32 below illustrates the progress made by S2.

Table 4.32

*Student 2 Subdomain Average Analysis*

<table>
<thead>
<tr>
<th>Student 2</th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>32</td>
<td>36</td>
<td>30</td>
<td>31</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>v-Scale</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>Adq</td>
<td>Adq</td>
</tr>
<tr>
<td>Note. Mod = moderately; Adq = adequate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S3’s Individualized Education Plan goals include: further develop target behaviors to improve social thinking skills relative to middle school scenarios/situations, given no more than one prompt when necessary per target. Target behaviors may include
some or all of the following: a) distinguishing between "expected" and "unexpected" behaviors, b) labeling own behaviors, c) labeling others' behaviors, d) guessing/predicting how others may feel based on his behaviors, e) choosing appropriate behavioral alternatives and f) modifying his behavior. The goal is evaluated on a monthly basis with an accuracy of four out of five tries. The goal was coded as an *Adapting and Coping* goal.

The results show positive increases in raw score and v-scale scores in each subdomain. There was a change in the adaptive level in the *Interpersonal Relationship* subdomain.

Table 4.33 illustrates the results of each subdomain.

Table 4.33

*Student 3 Subdomain Average Analysis*

<table>
<thead>
<tr>
<th>Student 3</th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>33</td>
<td>36</td>
<td>20</td>
<td>22</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>v-Scale</td>
<td>9</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Mod</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>Mod</td>
</tr>
</tbody>
</table>

Note. Mod = moderately

*S4's Individualized Education Plan goals centered on social interactions include: use of target strategies to participate in conversational discourse with peers and adults with no more than 1 teacher prompt. Target strategies will include, distinguishing between expected and unexpected verbal behaviors, labeling others' verbal behavior as expected or unexpected, labeling own verbal behavior as expected or unexpected,*
guessing or predicting how others may feel based on his verbal behaviors and adjusting his verbal behavior to be more appropriate or expected. The goal will be measured quarterly for 80% accuracy over a two week period. This goal will be coded in the *Interpersonal Relationship* subdomain. The second Individualized Education Plan goal for social behavior is: S4 will follow classroom expectations set forth by the teacher (e.g., sit correctly at his desk with his head up, raise his hand before speaking, refrain from inappropriate actions/speech toward other students and teachers) with no more than 1 teacher prompt. The goal is measured quarterly for 80% accuracy over a two week period. S4’s last goal to increase positive social behavior is: S4 will accept help from adults when offered. The goal is measured quarterly for 80% accuracy over two week periods. The last two goals will be coded in the *Adapting and Coping* subdomain. S4 demonstrated increases in raw scores in each subdomain. The v-scale score increased 1 in the *Interpersonal Relationship* subdomain. Table 4.34 illustrates the changes in the subdomains.
Table 4.34

**Student 4 Subdomain Average Analysis**

<table>
<thead>
<tr>
<th>Student 4</th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>27</td>
<td>30</td>
<td>23</td>
<td>23</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>v-Scale</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The social goals outlined on S5’s Individualized Education Plan include: S5 will use age appropriate target communication skills when interacting with peers; with 2 teacher prompts in structured social activities by the first marking period, with 4 adult prompts when interacting with peers in cooperative groups by the second marking period, with 2 prompts when interacting with peers in cooperative groups by the third marking period, and with 2 prompts when interacting with peers in unstructured social situations by the end of the school year. Target skills include: introducing appropriate topics; taking turns, maintaining topic, respecting personal space, recognizing and responding to nonverbal communication (facial expressions, tone of voice, body language), and being an active listener. The goal is measured quarterly with an accuracy of four out of five trials during a two week period. This goal is coded in the *Interpersonal Relationship* subdomain. S5’s second goal indicates: The student will respond appropriately during times of frustration or upset by recognizing the physical and emotional symptoms within himself and using those as cues to implement coping and problem solving strategies (verbal expression of feelings, taking perspective of others, removing self from situation,
implementing relaxation techniques, seeking adult assistance) with 3 prompts by the second marking period and one prompt by the end of the school year. The goal is measured on a monthly basis with an accuracy of four out of five trials. This goal was coded in the *Adapting and Coping* subdomain. S5's raw scores show an increase in each subdomain. The v-scale scores in the subdomains *Play* and *Adapting and Coping* both increased. The adaptive levels in *Play* and *Adapting and Coping* went from Low to Moderately Low. Table 4.35 illustrates these changes.

Table 4.35

**Student 5 Subdomain Average Analysis**

<table>
<thead>
<tr>
<th></th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>29</td>
<td>34</td>
<td>27</td>
<td>31</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td>v-Scale</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>Low</td>
<td>Mod</td>
</tr>
</tbody>
</table>

Note. Mod. = moderately

S6's first social goal outlined on his Individualized Education Plan states: S6 will use four target behaviors to improve social thinking skills. Target behaviors include: distinguish between "expected" and "unexpected" behaviors in others, distinguish between "expected" and "unexpected" behaviors in himself; predict how others may feel and/or respond based on his behaviors and modify his behavior. The goal is measured quarterly for 80% success over a two week period. This goal was coded as *Adapting and*
Coping. The second social goal on the Individualized Education Plan is: During classroom instruction, S6 will reduce the frequency of times he gets "stuck" on a topic or concept by developing strategies to allow him to have his question answered and information explained at another time, such as during independent work times or core support (e.g. write down questions, take a quick break). The goal is assessed by the teacher using two prompts over a two week period of time. The goal is measured quarterly. The second goal was coded as Adapting and Coping. The third goal on S6’s Individualized Education Plan with a focus on social interactions is: S6 will use age appropriate target communication skills 80% of the time when interacting with peers and adults in a variety of settings. Target skills include: introducing appropriate topics, taking turns, maintaining topic, speaking clearly and at an adequate rate, respecting personal space, recognizing and responding to nonverbal communication (facial expressions, tone of voice, body language) and being an active listener. The goal is assessed by the teacher using two prompts over a two week period of time. The goal is measured quarterly. S6’s third goal was coded in the Interpersonal Relationship subdomain. The last goal on S6’s Individualized Education Plan is: to advocate for himself in the general education setting by directing clarifying questions and concerns to the general education teacher instead of the paraprofessional. The goal is measured for success quarterly with an accuracy of four out of five trials in a two week period. This goal was coded as Adapting and Coping. S6 increased raw scores in all subdomains. The v-scale scores increased by 1 in both the Play and Adapting and Coping subdomains. The adaptive level in the Adapting and Coping subdomain increased from moderately low to adequate. Table 4.36 illustrates the changes.
Table 4.36

Student 6 Subdomain Average Analysis

<table>
<thead>
<tr>
<th></th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>35</td>
<td>39</td>
<td>33</td>
<td>35</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>v-Scale</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Low</td>
<td>Mod Adq.</td>
<td>Adq.</td>
</tr>
</tbody>
</table>

Note. Mod. = moderately; Adq. = adequate

The first social goal on S7’s Individualized Education Plan is: to use strategies to handle day to day social interactions in an expected way. These strategies include: distinguishing between expected and unexpected verbal/nonverbal behaviors, labeling others' verbal/nonverbal behavior as expected or unexpected, labeling own verbal/nonverbal behavior as expected or unexpected, guessing or predicting how others may feel based on his verbal/nonverbal behaviors and modifying his verbal/nonverbal behavior. The goal is assessed quarterly for 80% accuracy over a two week period. This goal, for the purpose of the study, was coded as Interpersonal Relationship. The second social goal in the Individualized Education Plan is: S7 will identify triggers that cause him to feel anxious or angry and use strategies to problem solve and reduce anxiety and anger. These strategies include: positive self talk, graphic organizer for plan of actions, big deal/little deal attitude. The goal is assessed quarterly for 80% accuracy over a two week period. This goal was coded as Adapting and Coping. The last social goal on the
student's Individualized Education Plan is: S7 will identify rules for unstructured situations, describe expected behavior for various situations, problem solve ways to handle problems that occur when he or other students break the rules, carry out his selected plans and then evaluate the effectiveness of his plan of action. The goal is assessed quarterly for 80% accuracy over a two week period. The last goal was coded as *Interpersonal Relationship*. S7 increased the raw score in the *Adapting and Coping* subdomain. There was no change in v-scale or adaptive level. Table 4.37 illustrates the changes.

Table 4.37

*Student 7 Subdomain Average Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Interpersonal Relationship September</th>
<th>Interpersonal Relationship May</th>
<th>Play September</th>
<th>Play May</th>
<th>Adapting &amp; Coping September</th>
<th>Adapting &amp; Coping May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Score</td>
<td>48</td>
<td>48</td>
<td>39</td>
<td>39</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>v-Scale</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Adaptive Level</td>
<td>Adq</td>
<td>Adq</td>
<td>Adq</td>
<td>Adq</td>
<td>Adq</td>
<td>Adq</td>
</tr>
</tbody>
</table>

Note. Adq = adequate

*Summary of Results*

This Chapter presented the results of a mixed-methods study involving rating forms from teachers and parents. Data were presented and organized based on the three primary research questions of the study. The data indicated the following in regard to the effectiveness of social interventions administered to individual students with autism as well as the effectiveness of social interventions delivered to students with Asperger
Syndrome or PDD-NOS. Lastly, the research measured if social interaction progress was aligned with IEP social goals.

The data indicated that social interventions delivered to students with autism did increase their social ratings as scored by the Vineland Adaptive Behavior Scales II. Each student increased the Socialization Domain. S1’s raw score increased as rated by both teachers and parents. The adaptive level moved from low to moderately low as rated by the teachers and moderately low to adequate as rated by the parents. S2’s raw scores increased as administered by both teachers and parents. S2 increased the adaptive level from low to moderately low as rated by the parents. S3 increased the teachers’ raw score. There was no change in the adaptive levels or the parents’ raw score. S4 increased the raw score as rated by the parents. The adaptive level, as rated by the parents, increased from low to moderately low. S5 increased the raw score as rated by both teachers and parents. There was no change in the adaptive level. S6 increased in raw score as rated by both teachers and parents. There was no change in the adaptive level. S7’s raw score increased as rated by the parents. The parent rating also increased the adaptive level from low to moderately low.

Overall, the student with autism had the biggest social gains with a 10% increase in the raw score, an increase in the v-scale score by 1 and a change in the adaptive level from low to moderately low. Students with Asperger Syndrome increased their raw score by 7.5% and had no change in the v-scale score or adaptive level. Students with PDD-NOS had the third greatest gains with an increase of 2.7% in raw score and no change in v-scale or adaptive level.
To measure alignment between the social intervention and IEP goals, the students' goals were coded and then compared to subdomain scores. S1 had one goal in *Interpersonal Relationships* and two goals in *Adapting and Coping*. S1 increased the adaptive level as rated by Teacher 2 from moderately low to adequate in the *Adapting and Coping* subdomain. S1’s parents’ adaptive level rating increased from low to adequate in the *Play* subdomain. S2 had one social goal which was coded as *Adapting and Coping*. S2 was rated with two adaptive level changes. Teacher 1 increased S2’s adaptive level from low to moderately low in the *Interpersonal Relationship* subdomain. Teacher 2’s ratings indicated a change of moderately low to adequate in the *Adapting and Coping* subdomain. S3 had one social goal coded as *Adapting and Coping*. S3 increased the adaptive level as rated by Teacher 1 from low to moderately low in the *Interpersonal Relationship* subdomain. Teacher 1 also indicated a change in adaptive level from moderately low to adequate in the *Adapting and Coping* subdomain. S4 had three social goals on his IEP. Two were coded as *Adapting and Coping*, and the other was coded as *Interpersonal Relationships*. S4 had two adaptive level changes as rated by the parents. The first adaptive change was in the subdomain *Play*. S4 moved from a rating of low to moderately low. The second change was in the subdomain *Interpersonal Relationships*, from low to moderately low. S5 had two social goals on his IEP. The first was coded as *Interpersonal Relationships*, and the other was coded as *Adapting and Coping*. S5 had one subdomain change in adaptive levels as rated by Teacher 2 in the subdomain *Play*. S5’s ratings moved the adaptive level from low to moderately low. S6’s IEP had four social goals. Three of the goals were coded as *Adapting and Coping* and the other one as *Interpersonal Relationships*. S6’s ratings increased the adaptive level in four of the
ratings. The parents' ratings increased the adaptive level from low to moderately low in the Interpersonal Relationship and Play subdomains. The parent rating also changed the Adapting and Coping adaptive level from moderately low to adequate. Teacher 2's rating also changed S6's adaptive level on the subdomain Play from low to moderately low.

Lastly, S7's IEP had two social goals coded as Interpersonal Relationships and one goal coded as Adapting and Coping. S7's parents' ratings increased adaptive levels in the subdomain of Interpersonal Relationships from low to moderately low and the subdomain Adapting and Coping from moderately low to adequate.

Overall, this Chapter presented results from parent and teachers rating forms. Chapter 5 will discuss the implications of the findings in terms of the literature and professional practice, and will offer recommendations for future research and actions.
Chapter 5: Discussion

Introduction

In an effort to comply with the Individuals with Disabilities Education Act 2000 (IDEA, 2004), schools are moving toward full inclusion in classrooms to ensure that students with disabilities are educated in the least restrictive environment. This has led to an influx of students on the spectrum of autism in the general education classrooms. There is limited research on the success of school based intervention at the middle school level. Therefore, the current research consisted of an efficacy study of seven male students on the spectrum of autism in a suburban school in Western New York. This chapter will explore the implications of the findings of the current research in order to give meaning to the data and understand the findings. Recommendations for future research and actions based on the findings will be suggested. Further, limitations to the study involving sample size and no control group, will be discussed. The chapter will conclude with a summary of the study.

The research questions for this study were:

Are the social interventions currently administered at Green Hill Middle School effective for students with autism, Asperger Syndrome and PDD-NOS?

Are the measure and data collection methods currently used to assess progress, effective?

Is the delivery of interventions assessed accurately to measure if social skills being taught are transferred into other learning environments?
Implications and Recommendation for Future Research

To answer the first research question regarding the effectiveness of social interventions delivered at Green Hill Middle School, the results indicated effectiveness by either increasing the students’ raw scores, adaptive levels, social skills percentile ranks, or by decreasing the number of zeros administered between the September and May ratings. Each student demonstrated progress in one of the subdomains, Interpersonal Relationships, Play, or Adapting and Coping. The results and data are consistent with the research that reinforces that social skill interventions are imperative for students on the spectrum of autism in order for them to be successful in social settings (Rogers, 2000; Rao, Beidel, & Murray, 2007). However, when examining the Socialization domain as a whole, the students’ progress was not as evident. One student, based on the teachers’ ratings, increased their adaptive level. Five out of the seven increased their raw score and five of the students increased their percentile rank for the teachers’ ratings. For the parents ratings, four out of the seven students increased their socialization adaptive level, six of the students increased their raw score and five students increased the social percentile rank. Based on this information, it is evident that the students’ parents believed their child made more progress than what the teachers believe was evident. This may be due to the fact that the students on the spectrum of autism have more opportunities to interact with their peers during the school day than when they are at home with their parents.

To measure overall student success on each subdomain, the scores of all students were averaged and then compared from September to May. In the Interpersonal Relationships subdomain, the average increase in raw score was +5. The average increase
in v-scale was +1, and there was no change in the adaptive level. In the Play subdomain, the average increase in raw score was +7. The average increase in v-scale was +2 and the average adaptive level went from low to moderately low. Lastly, in the Adapting and Coping subdomain, the average raw score increase was +5. The average increase in v-scale was +2, and the average adaptive level increased from moderately low to adequate. The students’ greatest increase as a whole was in the subdomain Play. However, looking at the students’ Individualized Education Plans and their social goals, none of the students had goals that were coded as Play.

As for student success based on diagnosis, one student was diagnosed with Autism and his v-scale score increased by +2, and the adaptive level went from low to moderately low. Students with Asperger Syndrome increased their v-scale score by +1 and had no change in the adaptive level. Students diagnosed with PDD-NOS demonstrated no change in v-scale or adaptive levels.

Further research trying to connect the intervention to the success in the subdomain will help develop interventions that can target specific deficiencies. For example, targeted interventions for specific areas such as Interpersonal Relationships, Play, and Adapting and Coping may help. This would help with the delivery of the interventions and the ability to address specific deficiencies.

The second research question examined whether or not the current method of assessing success is an effective one. According to the research, there is a need to assess outcomes in the students’ natural setting (Rogers, 2000). The current method and data collections for students with Individualized Education Plans are based on anecdotal evidence collected by teachers. These goals are usually measured over a two week period.
of time. In reviewing the data collected from the Vineland Adaptive Behavior Scale, students did increase their social domain scores in either the Interpersonal Relationship, Play or the Adapting and Coping subdomains that were used to measure social skill progress. But, in most cases, the students’ greatest gains were not in the subdomain that was targeted based on the Individualized Education Plan goals. This is an area that needs to be investigated in much further detail. In order for students on the spectrum of autism to be successful in school, there is an obligation and need for schools to ensure that the social interventions training being delivered is aligned and measured accurately. This further supports the research that there is no one specific social intervention program or strategy that works best for specific individual disabilities (Borden & Ollendick, 1994; Fien et al, 1999).

The third research question examined if the delivery of interventions are assessed accurately to measure if social skills being taught are transferred into other learning environments. In order for students on the spectrum of autism to be successful in school, there needs to be a means for measuring students’ success in environments that are not monitored by a special educator. The students in this research study performed much better in their ratings in May from their parents than they did from the teachers. Four of the students increased their adaptive level as scored by parents. Six students increased their raw score, and six students increased their social percentile ranking. It is clear that the parents thought that their child’s social interactions improved from September to May. However, the increase in performance was not always in the area identified in the student’s Individualized Education Plan. It is important to note that the parents of students with autism feel their child is making progress both at school and at home. The
research states that parents are an integral part of intervention success (Marans, Rubin & Laurant, 2005).

*Implications and Recommendations for Professional Practice*

The researcher is a public school administrator in a Western New York school district. The district had seen an influx of students identified on the spectrum of autism entering general education classrooms. Some of the students are identified as being socially successful, while others have difficulty navigating the social interactions of middle school. According to Fisher and Meyer (2002), as students on the spectrum are included more and more in general education classrooms, their social skills deficits become more evident. In order to help students on the spectrum of autism enjoy their experience in the general education setting, the researcher thought it was necessary to examine the efficacy of the social interventions delivered to students on the spectrum of autism. The data gathered from the study will help determine what methods and assessments are necessary to help students on the spectrum of autism as they enter middle school. It was identified from previous research that it is important to use assessments that utilize pre and post data along with an instrument that accurately and precisely measures social skills (Stitcher et al., 2007). Incorporating a tool and method such as the Vineland Adaptive Behavior Scales II provides the individual delivering the social interventions an opportunity to examine a student’s success through a different lens. The ability for the individual who delivers the intervention to measure the success using in depth data collected from this study, versus the anecdotal evidence collected from the Individual Education Plan goals, allows for a more thorough analysis of progress. Based on the research and resultant data and related feedback from parents, it is the contention
of this researcher that the parents need to be an active participant in the student’s social skills evaluation. Parent input is necessary for school districts to evaluate if the targeted skills for students on the spectrum of autism are generalized outside of the classroom. Parents need to be included as part of the overall assessment of progress during the course of the year.

Limitations

The limitations of the study are due to the nature of educational research and were beyond the control of the researcher for this type of study. The study included students from a singular building in a suburban school district. The students received interventions as outlined on the students’ Individualized Education Plans. There was no control group to measure if the students have shown growth due to the intervention or from maturation. The study consisted of all boys due to the fact that all the students with autism in this building are male. Another limitation is specific to the teachers responding to the rating forms. They were employees of the building where the study was conducted, and they worked with the students. They were not responsible, however, for providing the interventions. As a result, it could be suggested that there may be a differential in respondent information based on the fact that the teacher is not directly providing the intervention to the student. Due to the nature of the study, results cannot be generalized to a greater population outside of Green Hill Middle School. This is due to the fact that the sample size was a convenience sampling of students that were enrolled in Green Hill Middle School and were also receiving social interventions because of their diagnosis as a student with autism. Finally, the rating forms, when compared to each other, may be subject to different interpretations. Each parent and teacher may have interpreted the
questions and used the rating scales differently. The parents’ observations with the student are limited to home and other public specific social interactions. Responses may not align directly with the Vineland Adaptive Behavior Scales II. Equally, the interactions may be such that parent and teacher interpretations are skewed based specifically on their role with the student. However, when the scores are compared against themselves, they were able to validate and explain the success for the particular student.

**Recommendations for Action**

The current study pointed out some areas of concern regarding the social skill interventions delivered to students at Green Hill Middle School. First, the data indicated that the assessment tool used was not an accurate measure of students’ progress. The data also demonstrated that student success on social interventions needs to be measured using methods more accurately than pass/fail. Although time consuming, if students with autism are to be included in a general education setting, they need to be provided with targeted interventions to help them with their social deficiencies. This needs to include a pre and post test in order to accurately measure students’ yearly progress. For example, prior to developing the goals for the school year, the parents and teachers should complete an assessment and agree on the targeted behaviors that need to be addressed during the school year. This score will provide the baseline and will help measure progress. Often teachers in the classroom guess where a student started and where they ended.

Next, the providers of the social skills training should be tailoring the delivery of instruction to the targeted behaviors. Having a clear identification of behaviors that need
to be addressed from the pre test will help with the delivery of the social skills training. This will help correctly identify what interventions need to be implemented to ensure success. Although there is no blueprint for what intervention to deliver to each student, it does allow all the people involved with the delivery and assessment of the social interventions an opportunity to have information regarding where the student was at the start of the year.

Next, it is extremely important to develop assessment opportunities for students to be assessed in their normal environment. The researcher was able to gather data about the students in 3 completely different environments on most occasions. Information from a structured environment and an unstructured environment in the school, as well as data from the parents, allowed the researcher to see where the student was successful and where the student was still struggling. This information is imperative if you want to accurately assess student progress and success.

Lastly, the implication for current school district policy is in changing how Individualized Education Plan social goals are written and assessed. Methods used should be consistent across buildings throughout the district. The research has demonstrated that in order to ensure progress, the method for assessing must be aligned to measure effectiveness. Further, on a larger scale, this research may have implications regarding potential legislation. As more students on the spectrum of autism are entering the general education classroom due to IDEA 2000, there should be legislation to ensure that schools are meeting students’ needs and improving their ability to interact socially.
Conclusion

The prevalence of students being diagnosed with autism has increased dramatically over the course of the last ten years. Coupled with the IDEA 2004 regulations, schools are starting to see more and more students on the spectrum of autism enter the general education classroom. Social interventions and social skills training are delivered to help the students on the spectrum of autism learn how to interact socially. Determining the effectiveness of these strategies, and determining what strategies to use with what student, is still in the beginning phases for educators. Most of the research on the social skills training and school based interventions are conducted at the elementary level. However, because students with autism are just starting to enter the middle school and high school level there is limited research regarding the success of school based social interventions.

The purpose of the study was to measure if the social interventions that are delivered to students on the spectrum of autism are effective in a middle school in Western New York. The findings will help Green Hill Middle School inform practice and policy in the future. It will help determine if methods of assessment accurately measure the efficacy of social interventions. It will also help determine if financial resources are being used appropriately. This will be done by reviewing the results with the Director of Special Education, Superintendent of Schools and eventually the Board of Education. The Vineland Adaptive Behavior Scales II rating forms were completed by two teachers and the parents for each student on the spectrum of autism that attends Green Hill Middle School. The teachers were selected from structured (technology, math, science etc.) and less structured classroom environments (physical education, music, and
art). The rating forms were completed based on their observations during the beginning of the school year. The Vineland Adaptive Behavior Scales II rating forms were then administered again in May. The students' Individualized Education Plan goals were coded into the following subdomains: *Interpersonal Relationships, Play, and Adapting and Coping*, based on the Vineland Adaptive Behavior Scales II rating form. The progress in each subdomain was compared to the student's Individualized Education Plan goals to assess if the goals were a good measure for success.

Results were presented and organized based on the three research questions of the study. Results indicated that school based interventions are effective for helping students on the spectrum of autism at Green Hill Middle School increase their ability to appropriately interact with peers inside and outside the classroom. All the students in the study improved in some capacity. Some students made larger gains, such as increased adaptive levels in the overall socialization domain. Other students increased their adaptive level in one of the subdomains, while others increased their raw score. All of the students increased their overall socialization percentile rank as rated by teachers, parents or both.

Results also indicated that the assessment methods currently being utilized to measure the effectiveness of social interventions at Green Hill Middle School are not effective. Although all students increased their abilities to interact socially with their peers, the gains were not always aligned with what the interventions were targeting based on the Individualized Educational Plan goals. The data gathered from the study also indicated that if Green Hill Middle School wants to ensure that the social interventions delivered are effective, there needs to be a more accurate tool to measure the
effectiveness. The pass/fail methods currently used do not give enough data as to whether or not there is progress.

Finally, there are several implications for the findings of the current study in relation to the knowledge base. For example, school based interventions are necessary to help foster positive social interaction for students on the spectrum of autism. This is consistent with other research that demonstrates the importance of social skills training.

The research also shows that when delivering social interventions to students on the spectrum of autism, it is imperative that assessments use other methods beyond the pass/fail on Individualized Education Plan goals. As students on the spectrum of autism are entering the middle level, it is imperative that the social interactions being delivered are measured using methods and tools that will accurately identify growth in the targeted areas. More and more financial resources are being used to help students on the spectrum succeed socially in middle school. It is important to collect data from sources outside the classrooms. It is imperative that parents be included to assess whether the skills being taught are transferred outside the classroom. The delivery of social interventions to students on the spectrum of autism at Green Hill Middle School is imperative for their success. As more and more students diagnosed with autism enter the middle school, it is necessary to ensure that, as a school, we are delivering interventions that are effective. In order for this to occur, we need to assess differently using pre-assessment to determine baseline data along with an assessment that can target the behavior which needs improvement. School based interventions at the middle level for students with autism are in the infancy stages. Middle schools and high schools are starting to see the impact of IDEA 2000 and 2004. These students are just starting to enter our schools, and schools
must be ready to help students with autism interact with their peers so they do not feel rejected or isolated.
References


Appendix A

Consent Form

PARENT/TEACHER CONSENT TO PARTICIPATE IN RESEARCH

Interviews on the efficacy of social interventions administered to students with autism in middle school.

You are being asked to participate in a research study being conducted by Carmine Peluso, doctoral candidate at the Ralph C. Wilson, Jr. School of Education at St. John Fisher College. Your assessment of the daily interactions with students on the spectrum of autism is important information when measuring progress. Your participation in this research study is completely voluntary.

PURPOSE OF THE STUDY

The purpose of the current study is to examine the efficacy of social interventions administered to students with autism in a school setting and to determine if social IEP goals are an accurate measurement tool. The information gathered in this study may assist in future intervention efforts.

PROCEDURES

The questions are drawn from the Vineland Adaptive Behavior Scales II. Parents and Teachers will answer questions rating the child from the sections of the II that refer to socialization. Parents and teachers will not complete the whole rating scale. The Vineland Adaptive Behavior Scale will be scored by a school psychologist. The results will be used to assess progress.

COSTS AND BENEFITS OF PARTICIPATION:

There is no cost for participating in this study, nor will you be compensated in any way for participating. Benefits of participating include contributing to knowledge and understanding of the efficacy of social skills administered to students with autism in the school environment. Research to date has not yet included information involving middle level students and social intervention efficacy in schools.
POTENTIAL RISKS AND DISCOMFORTS:

The survey instrument and data analysis procedures being used in this study have been carefully developed to minimize risks and discomfort. The research falls under standard daily practice and is within the realm of informing instruction and professional practice. If at any time during this study you begin to become uncomfortable, or desire not to answer any further questions, you may choose to end your participation in the study. If this occurs, the data will not be used in the study.

CONFIDENTIALITY OF RECORDS AND DATA:

None of the information obtained in the course of this study will be attributable to you or the school. All data and associate information will be kept in confidence and will not be student or teacher specific when reporting the data for the study. The data will be accessible only to approved members of the research team.

PARTICIPATION, WITHDRAWAL AND RIGHTS

All data collected will in no way be used as an evaluation of your teaching. Your decision to participate in the study will have absolutely no bearing on your employment. You can choose whether or not to participate in this study, and you may withdraw your consent at any time without consequences of any kind. You are not waiving any legal rights because of your participation in this research study.

IDENTIFICATION OF RESEARCH INVESTIGATORS

If you have any questions or concerns about the research please feel free to contact:

Carmine Peluso  
Assistant Principal  
Calkins Road Middle School  
Ed.D. Candidate, St. John Fisher College  
Phone (585) 797-4441

I hereby consent to take part in this research project.

Name: ____________________________

__________________________  _____________
Signature                     Date