ACCEPTANCE

This dissertation, THE BENEFIT OF A SOCIAL LEARNING INTERVENTION TO INCREASE SELF-EFFICACY, ENGAGEMENT AND SOCIAL INCLUSION FOR STUDENTS WITH AUTISM, was prepared under the direction of the candidate's Dissertation Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree of Doctor of Education in the School of Education, Concordia University Irvine.

Belinda Dunnick Karge, PhD
Committee Chair

Teresa Hess, PhD
Committee Member

Ann McKellar, PhD
Committee Member

The Dissertation Committee, the Dean, and Executive Director of the Doctor of Education Program of the School of Education, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

Kent Schlichtemeier, Ed.D
Dean

Dwight Doering, PhD
Executive Director of the Doctor of Education Program

See the next page for the Copyright Permission Agreement. Your dissertation will be auTOMatically copyrighted by ProQuest Publishing Company when it is published.

COPYRIGHT PERMISSION AGREEMENT

Concordia University Library

1530 Concordia West

Irvine, CA 92612

www.cui.edu/library

librarian@cui.edu

I, Elizabeth Burke, warrant that I have the authority to act on any copyright related matters for the work, THE BENEFIT OF A SOCIAL LEARNING INTERVENTION TO INCREASE SELF-EFFICACY, ENGAGEMENT AND SOCIAL INCLUSION FOR STUDENTS WITH AUTISM, dated December 14, 2019 to be included in the Concordia University Library repository, and as such have the right to grant permission to digitize, republish and use the said work in all media now known or hereafter devised.

I grant to the Concordia University Library the nonexclusive worldwide rights to digitize, publish, exhibit, preserve, and use the work in any way that furthers the educational, research and public service purposes of the Concordia University.

This Agreement shall be governed by and interpreted in accordance with the laws of the State of California. This Agreement expresses the complete understanding of the parties with respect to the subject matter and supersedes all prior representations and understandings.

ACCESS RESTRICTIONS

My electronic thesis or dissertation can be made accessible via the Concordia University Library repository with the following status (select one):

☑ Option 1: Provide open access to my electronic thesis or dissertation on the internet

☐ Option 2: Place an embargo on access to my electronic thesis or dissertation for a given period from date of submission (select one):

                                 ☐ 6 months   ☐ 1 year   ☐ 3 years

Permission Granted By:

Elizabeth Ann Burke

Candidate's Name

Elizabeth Ann Burke

Signature of Candidate

[Address redacted]

Address

4/6/2020

Date

[redacted]

Phone Number or E-mail address

[redacted]

City/State/Zip

VITA

Elizabeth Ann Burke

ADDRESS
1530 Concordia West
Irvine, CA 92612
elizabeth.burke@cui.edu

EDUCATION

EdD	2020	Concordia University Irvine Educational Leadership
MA	2014	Concordia University Texas Master of Education – Differentiated Instruction
BA	1990	University of Houston- Downtown Liberal Arts

PROFESSIONAL EXPERIENCE

2018 – Current	Charter School Orange County, CA
2010 - 2017	Special Education Teacher Miller Middle School Cupertino Union School District

THE BENEFIT OF A SOCIAL LEARNING INTERVENTION
TO INCREASE SELF-EFFICACY, ENGAGEMENT AND SOCIAL INCLUSION FOR
STUDENTS WITH AUTISM.

by

Elizabeth Ann Burke

A Dissertation

Presented in Partial Fulfillment of
Requirements for the
Degree of
Doctor of Education
in
Educational Leadership
May 2, 2020

School of Education
Concordia University Irvine

ABSTRACT

The literature on Autism indicates a need for evidence-based practices to be implemented in the classroom. The prevalence of Autism is increasing as well as social learning demands embedded in both Common Core State Standards and Social Emotional Learning in preparation for college and career readiness. However, individuals with Autism are not automatically wired for the social demands which negatively impact their experiences and often manifests as behavior in the classroom. Meeting the needs of all students while creating positive learning experiences that build self-efficacy needed for motivation and increased student outcomes can be challenging.

This study built on Bandura's Social Learning Theory, and the role self-efficacy plays in student achievement. Understanding the impaired cognitive processes in students with Autism supports the need for intervention such as Social Thinking® methodology to teach social competencies. This study includes three components: teacher intervention, student intervention and student perspectives toward inclusion.

Quantitative and qualitative methods were utilized, and data analyzed to provide evidence of 1) a shift in the perspective of teachers supporting students with Autism as a result of teacher training to increase understanding of students with Autism, building self-efficacy through the use of Social Learning Tools (Social Thinking® and Reflection Journal) to support social emotional learning and increasing social acceptance; 2) Social Learning Intervention for students with Autism (Social Learning Tools: Social Behavior Map and Reflection Journal) increased self-efficacy, engagement and social inclusion; 3) Embedding a phenomenological design identified student perspectives to be used to further guide instructional practices toward fostering Social Inclusion to build self-efficacy and increase academic achievement for all students.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGMENTS

CHAPTER 1: INTRODUCTION

The Center for Disease Control (CDC) released their findings in 2018 that one in 59

children are identified as having Autism. This poses a challenge for educators in providing an

equal opportunity for all students as outlined by Every Student Succeeds Act (ESSA) (2015).

Provisions of the act include but are not limited to: protections for America's disadvantaged and

high-need students; all students be taught to high academic standards that will prepare them for

success to college and careers; vital information provided by statewide assessments that measure

progress on these standards, support efforts of local leaders and educators to implement evidence

based and place based interventions, emphasis for improvements in lowest-performing schools,

students with minimum progress and low graduation rates (U.S. Department of Education,

retrieved from https://www.ed.gov/essa?src=rn). Not only is the prevalence of Autism

increasing but educators are facing high levels of accountability in providing quality education

for all students.

One of the challenges for educators is the varying levels of need or presentation of

Autism: mild, moderate or severe (See Table 1.1 showing mild, moderate and severe

presentations of Autism). According to the Diagnostic and Statistical Manual of Mental

Disorders: Fifth edition (DSM V), "Severity is based on social communication impairments and

restricted, repetitive patterns of behavior" (p. 50). Autism Spectrum Disorder is characterized by

"persistent deficits in social communication and social interaction across multiple contexts" and

"restricted repetitive patterns of behavior, interests, or activities" including two current

manifestations or past history (DSM V, 2013, p. 50). Furthermore, the DSM V specifies it may

occur with or without accompanying intellectual and/or language impairment, and may be

concurrent with other medical, and neurodevelopmental, mental or behavior disorders. (DSM V,

2013, p. 51). It is also important to note that Autism is one of several neurodevelopmental disorders which are "characterized by developmental deficits that produce impairments of personal, social, academic or occupational functioning" (DSM-V, 2013, p. 31). This category includes Autism, ADHD, Social (Pragmatic) Communication Disorder, Developmental Coordination Disorder, and Unspecified Communication Disorder. For the purpose of this study, "individuals with social cognitive challenges" will be the term used to identify individuals that fall under this category without cognitive or language impairment.

Social communication difficulties for individuals with Autism negatively impact their social learning experiences in the classroom. For example, they may have difficulty with collaborative experiences, explaining thinking behind ideas and/or opinions, being flexible to consider other's ideas and/or multiple possibilities of solving one problem (Garcia-Winner, 2006, 2007, 2008, 2018; Crooke & Winner, 2011, 2016). This is problematic for students with the embedded social learning demands in the Common Core Learning Standards. Voluntarily adopted by more than forty states and the district of Columbia between 2009-2010 with the implementation deadline of 2014-2015, Common Core State Standards was constructed by governors and state school officials, with input from a wide range of educators, content experts, national organizations including National Education Association, and community groups in response to the imperative need of students to develop skills for the 21st century (Bidwell, 2014, Karge & Moore, 2015, Walker, 2013).

Social skills associated with social learning are not automatically acquired for individuals with Autism. Smith-Myles defines these social nuances as the hidden curriculum: the do's and don'ts of social engagement that most people know and take for granted but for individuals with Autism must be taught (2001). Some of these hidden rules include situations as when to raise

your hand in class to ask a question, how to join a group, and the use of formal or informal language based on who you are talking to. These are just a few examples. Additionally, knowing when to teach the hidden curriculum may be difficult for many educators because individuals with social cognitive challenges concurrent with high cognitive ability and language may appear neuro-typical at first glance. Although, considered academically strong, these students are often described as "loner, distracted, disorganized, uncaring or even rude and annoying" and are the students "who are great risk for social, emotional and academic problems" (Crooke and Winner, 2016, p. 52). By developing social awareness through teaching "critical thinking tools" of when, where and how to use social skills in real-time interactions students with Autism can engage in social learning to increase social competencies" (Crooke & Winner, 2016). Social learning components embedded in CCSS include collaboration, speaking and listening, understanding character perspective etc. require intervention with explicit instruction, strategies and visual supports to access and demonstrate proficiency (Sugita, 2016; Winner & Crooke, 2015).

Impaired social skills impact students' abilities to engage in social learning and manifest in disruptive behaviors such as blurting out, disrupting class with emotional dysregulation events, creating frustration with peers when working in a group and/or class activity (Goh, Lim, Ooi, Sung, Tan, Sung, 2011). Studies indicate teacher-student relationships are influential in positive inclusion experiences for students with Autism (Chamberlain, Kasari, and Robertson, 2003). However, the student-teacher relationship can be impaired when a student engages in disruptive behavior (Brown & McIntosh, 2012). White's (1959) effectance theory of motivation proposed, to be motivated, individuals must believe they are being effective (White, 1959; Busby et al., 2012). An increase of self-efficacy has been observed with teachers with experience with Autism in the classroom (Burnes & Buchard, 2016). With tools to facilitate success, teachers

develop self-efficacy, a belief in overcoming the challenges of teaching students with Autism

and other disabilities (Busby et al., 2012). The success of educating individuals with Autism is

dependent on the preparedness and experience of educators in pedagogy intervention

methodologies and positive behavior support interventions (Loiacono & Valentini, 2010).

Children with Autism who are included in the classroom benefit behaviorally, affectively and

cognitively (Yeo & Teng, 2015).

Table 1 1

Severity Levels for Autism Spectrum Disorder

Severity Level	Social Communication	Repetitive Behaviors
Level 3 *"Requiring very substantial support"*	• Severe deficits in verbal and non- verbal social communications skills cause severe impairments in functioning. • Very limited initiation of social interactions, and minimal response to social overtures from others. • For example, a person with few words of intelligible speech who rarely initiates interaction and, when he or she does, makes unusual approaches to meet needs only and responds to only very direct social approaches.	• Inflexibility of behavior, extreme difficulty coping with change or other restricted/repetitive behaviors markedly interfere with functioning in all spheres. • Great distress /difficulty changing focus or action.
Level 2 *"Requiring substantial support"*	• Marked deficits in verbal and non- verbal social communications skills; social impairments apparent even with supports in place. • Limited initiation of social interactions and reduced or abnormal responses to social overtures from others. • For example, a person who speaks simple sentences, whose interaction is limited to narrow special interests, and who has markedly odd nonverbal communication.	• Inflexibility of behavior, difficulty coping with change, or other restricted/repetitive behaviors appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. • Distress and/or difficulty changing focus or action.
Level 3 *"Requiring support"*	• Without supports in place, deficits in social communication cause noticeable impairments. • Difficulty initiating social interactions, and clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions.	• Inflexibility of behavior causes significant interference with functioning in one or more contexts. • Difficulty switching between activities.

• For example, a person who is able to speak in full sentences and engages in communication whose to-and-fro conversation with others fails, and whose attempts to make friends are odd and typically unsuccessful.	• Problems of organization and planning hamper independence.

Note: Severity levels for Autism spectrum disorder under two qualifying areas of social communication and restricted, repetitive behaviors (DSM-V, 2013, p. 52).

Statement of the Problem

In addition to behavioral challenges in the classroom, children with Autism have difficulty meeting proficiency in Common Core State Standards requiring intervention and strategies to engage in social learning demands (Sugita, 2016). Self-efficacy and motivation are contributing factors toward student learning outcomes for academic achievement (Bandura, et al., 1996; Green, 2003). Awareness of and development of self-efficacy in the classroom is a powerful predictor of academic achievement (Green, 2003). Students with Autism have varying experiences with inclusion (Brown & McIntosh, 2012; Robertson et al, 2003; Yeo & Teng, 2015). These experiences may be further impacted as inclusive practices are contingent on teacher's preparedness and training with behavior support interventions (Busby et. al, 2012; Loiacono & Valenti, 2010). Therefore, interventions and strategies are needed to build self-efficacy in students with Autism and the teachers who teach them, improving social communication needed for collaboration, problem solving and expressive dialogue in the general education setting.

Purpose of the Study

The intent of this concurrent mixed methods study is to identify interventions for individuals with Autism as needed to increase social inclusion. In this study, self-efficacy surveys, classroom observations and social emotional behavior rating scales were used to measure the relationship between the Social Learning Intervention and increased self-efficacy and social communication outcomes. At the same time, the perspective of individuals with

Autism in the inclusion experience and the teachers who teach them in a general education setting are explored using samples of student work, interviews and a focus group. The reason for combining both quantitative and qualitative data is to better understand the research problem, individual student and educator experiences, by converging both quantitative (numeric trends) and qualitative (detailed view) data and to advocate for interventions as needed for individuals with Autism for social inclusion.

Research Questions

1. Can teacher training and coaching shift teacher's perspectives and beliefs toward supporting students with Autism in the classroom?

2. Is there an increase in social interactions for academic learning among students with Autism who participate in the social learning tools intervention?

3. Can an increase in social emotional learning lead to an increase in self-efficacy, engagement and social inclusion for students with Autism in the General Education Setting?

4. Can the Social Behavior Map™ and Reflection Journal© as interventions increase social awareness and social inclusion in students with Autism?

5. What is the social inclusion perspective of individuals with Autism and their peers?

Theoretical Framework

Individuals with Autism have difficulty with theory of mind, central coherence and executive function impacting their ability to communicate and relate to others effectively (Happé & Frith, 2006). Michelle Garcia-Winner's Social Thinking® © provides a mechanism of teaching social awareness, breaking down the understanding of the thinking behind the social skills needed for effective social communication (Volkmar, et. al, 2014). Social awareness and

understanding are a valuable intervention for individuals with Autism as their social cognitive difficulties can often impair social interactions and negatively impact personal beliefs in their ability to interact with peers and adults in the educational setting. Also important is the role self-efficacy plays for an individual in pursuing socially valued outcomes and having a sense of control to forestall negative ones. Albert Bandura (1977) is instrumental in bringing awareness of the cognitive processes which determine "which external events will be observed, how they will be perceived, whether they leave any lasting effects, what valence and efficacy they have, and how the information they convey will be organized for future use" (Bandura, 1986, p. 160). Social Learning Theory recognizes that "change is mediated through cognitive processes, but the cognitive events are induced and altered most readily by experiences of mastery arriving from successful performance" (Bandura, 1977, p. 79). This study looks at the educational value of Social Thinking® and self-efficacy in the context of understanding cognitive challenges associated with Autism as a foundation for why social learning tools should be used to build self-efficacy in students with Autism.

Bandura's Social Learning Theory

Bandura's social learning theory (1977) was instrumental to the educational community in shifting a mindset toward understanding learning as more than behavior. Bandura states, "Theories that seek to explain human behavior as solely the product of external rewards and punishments present a truncated image of human nature because people possess self-directive capabilities that enable them to exercise some control over their thoughts, feelings and actions by the consequences they produce for themselves" (Bandura, 1986, p. 335). His research provided valuable information in understanding the cognitive processes involved in learning. One of which is self-regulation, "paying close attention to one's thought patterns and actions can

contribute to self-directed change" (Bandura, 1986, p. 337). Feedback, motivation, and modeling influences are a few components engaged in social learning. However, according to Bandura, "Among the different aspects of self-knowledge, perhaps none is more influential in people's everyday lives than conceptions of their personal efficacy" (Bandura, 1986, p. 390).

Self-Efficacy

According to Bandura, "The capability to produce valued outcomes and to prevent undesired ones, therefore, provides powerful incentives for the development and exercise of personal control" (Bandura, 1995, p.1). The idea of personal agency in pursuing desired outcomes is foundational to the idea of "people's belief of personal efficacy" or as Bandura states, "Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations. Efficacy beliefs influence how people think, feel motivate themselves, and act" (Bandura, 1995, p.2). According to Bandura, sources of creating and strengthening beliefs include mastery experiences, vicarious experiences, social persuasion and rely "partly on their physiological and emotional states in judging their capabilities" (Bandura, 1995, p. 2).

Mastery Experiences

"The most effective way of creating a strong sense of efficacy is through mastery experiences" (Bandura, 1995, p. 2). An individual develops a sense of their own abilities through personal experience. According to Bandura there is a balance of success being too easy or being too hard. If too easy, an individual may begin to expect quick results, and if too hard an individual may develop a sense of failure. There are benefits to having successes and struggles that you are able to overcome. According to Bandura, resiliency comes from experiences "in overcoming obstacles through perseverant effort". When an individual has a belief of their

ability to succeed, "they persevere in the face of adversity and quickly rebound from setback" (Bandura, 1995, p.3). It is through personal experience each individual develops a sense of efficacy.

Vicarious Experiences

Efficacy can also be developed by observing others. "The second influential way of creating and strengthening efficacy beliefs is through the vicarious experience provided by social models" (Bandura, 1995, p.3). The effectiveness of this path to develop self-efficacy is relational to the individual's "perceived similarity to the models". This is a two-way process where individual seek to find examples of people who demonstrate the capability they desire and "competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands" (Bandura, 1995, p.4). Bandura proposed that a model demonstrating an undaunted attitude toward overcoming the obstacle has a greater impact than the actual skill being modeled (Bandura, 1995).

Social Persuasion

Verbal persuasion that someone has the capability to succeed is a way of strengthening their beliefs. It is harder to "instill high beliefs of personal efficacy by social persuasion than to undermine them" (Bandura, 1995, p.4). Another caution is that unrealistic beliefs can be undermined when an individual has a different experience. In contrast, effective efficacy builders raise the belief system of the individual while at the same time "they structure situations for them in ways that bring success and avoid placing people in situations prematurely where they are likely to fail often" (Bandura, 1995, p.4).

Physiological and Emotional States

Simultaneously with the above processes, individuals "rely partly on their physiological and emotional states in judging their capabilities" (Bandura, 1995, p.4). "They interpret their stress reactions and tension as signs of vulnerability to poor performance" (Bandura, 1995, p. 4). Ewart (1993) states people judge their fatigue, aches and pains as sign of physical weakness. Additionally, mood, both positive and negative, can influence the perception of self-efficacy (Kavanagh & Bower, 1985). Therefore, enhancing physical status by reducing stress and negative emotional tendencies with correct interpretations of bodily states can have a positive influence in altering efficacy beliefs.

Efficacy-Activated Processes

Sources of self-efficacy gains its significance through cognitive processing (Bandura, 1995). According to Bandura efficacy beliefs regulate human functioning through four major processes: cognitive, motivational, affective, and selection processes (1977, 1986, 1995). These processes do not operate in isolation; they operate interactively "in the ongoing regulation of human functioning" (Bandura, 1995, p. 5).

Cognitive Processes

The mental processes involved in behavior and learning takes many forms. According to Bandura, human behavior is regulated through considering and formulating goals. Bandura proposed that a correlation existed between self-efficacy and the goals people set for themselves (1995). In other words, "Those who have a sense of efficacy visualize success scenarios" which positively influence performance as compared to "those who doubt their efficacy visualize failure scenario and the many things that can go wrong" (Bandura, 1995, p. 6).

Similarly, Bandura determined the major function of thought was to "to enable people to predict events and develop ways to control those that affect their lives" (Bandura, 1995, p. 6). In the event of challenging situations and experiences having "social and personal repercussions" the level of self-efficacy influences the quality of performance from low self-efficacy translating to "lower aspirations", and poor analytic thinking resulting in less quality performance. On the other hand, those with "resilient sense of efficacy" set goals, demonstrate analytical thinking resulting in higher performance.

Motivational Processes

"Efficacy beliefs play a key role in self-regulation of motivation" (Bandura, 1995, p. 6). By forming beliefs about what they can or cannot do they put into motion actions and plans to attain success. For example, people who "distrust their capabilities" when faced with obstacles will limit their efforts and give up quickly as compared to individuals who "have a strong belief in their capabilities" and respond to failure with greater effort to "master the challenge" (Bandura, 1995, p. 8).

Affective Processes

Based on efficacy beliefs individuals may respond to stressors differently. Perceived threats or inability to control stressors can create anxiety. A perception of the "environment fraught with danger" can impacts the individual's level of functioning (Bandura, 1995, p. 8). The same stressors may have less impact on the individual who is confident in their abilities to cope or handle the situation. "A low sense of efficacy to exercise control breeds depression as well as anxiety" (Bandura, 1995, p. 9).

A low sense of social efficacy can also impact mental states. Social relationships bring personal satisfaction and can help to minimize the negative effect of stressors (Bandura, 1995,

1996). Social efficacy influences one's ability to develop social supports and yet social supportive relationships actual help to build social efficacy. Thought control efficacy is linked to depression. (Bandura, 1995, 1996). Bandura suggests that "human depression is cognitively generated by dejecting ruminative thoughts" (Bandura, 1995, p. 10). A cycle of low self-efficacy and mood with each influencing the other in a vicious cycle.

Selection Processes

Self-efficacy has a direct influence in the types of activities and settings an individual chooses to be involved in (Bandura, 1995, 1996). Bandura highlights the diverse effects of perceived personal efficacy. People with low sense of efficacy pursue easier tasks, requiring low goals and weak commitments. When faced with challenges they tend to dwell on their deficiencies, the obstacles they will most likely face and focusing on potential negative outcomes. There is a tendency to give up quickly when challenges occur, have difficulty recovering from setbacks, and losing faith in their abilities negatively impacting stress levels and causing depression.

In contrast, a strong sense of efficacy has a more positive influence toward accomplishments and personal well-being. With confidence in their abilities, difficult tasks become challenges to be mastered rather than threats to be avoided. There is a tendency to have a stronger commitment to higher goals that is sustained during difficulties. When experiencing setbacks or failures, they are perceived to be caused by factors that are acquirable. Strong self-efficacy impacts a positive outlook producing personal achievements, reduces stress and well-being (Bandura, 1996).

Adaptive Benefits of Optimistic Efficacy Beliefs

The ability to accurately appraise one's capabilities is influenced by efficacy beliefs. An optimistic belief in one's ability can provide the influence an individual need to overcome obstacles and "take an optimistic view of their personal capabilities to exercise influence over events that affect their lives" (1995, p. 13). This combination can foster well-being and personal accomplishments.

In summary, Bandura (1995) addresses that cognitive behavior therapy relies on more than "verbal analysis of thought processes" as the individual must act on the new beliefs to be able to implement change. "The successes achieved will depend on a number of factors: the extent to which individuals are provided with the cognitive and social skills and the self-beliefs of efficacy required to perform effectively, judicious selection and structuring performance tasks to confirm misbeliefs and to expand competencies, incentives to put behavioral prescriptions into practice, and social supports for personal change" (p. 520).

Self-Efficacy in Education

According to Bandura, the school setting provides optimal opportunities for students to develop personal efficacy during their formative years. However, not all students walk into the classroom with the same advantages as their peers. It becomes the role of the teacher to facilitate experiences where all students can develop self-confident in their abilities and develop coping skills and strategies for overcoming challenges. "Classroom structures affect perceptions of cognitive capabilities, in large part, by the relative emphasis they place on social comparative versus self-comparative appraisal" (Bandura,1986, p. 417). Although students benefit from awareness of where they are in their learning and where they need to go, practices that undermine a student's belief in their abilities has the potential for impacting their current and

future academic progress (Bandura, 1986). In contrast, a classroom with diversified structure and individualized instruction to students understanding and skill levels has greater potential for developing self-confidence. Not only does the student have a higher perception of their capabilities, there is a greater focus on personal growth and less dependence on the opinions of teachers and peers (Bandura, 1986).

Cognitive Deficits Associated with Autism

Extensive research intended to explain the connection between brain and behavior has been conducted since American psychiatrist, Leo Kanner's, first labeling of Autism to a group of children exhibiting difficulty with social interaction and repetitive behaviors (1944) and Hans Asperger, Austrian pediatrician in 1944 (Hill, and Frith, 2003). Three cognitive processes have evolved with consistent research and evidence to connect deficits in cognitive process with behaviors associated with Autism Spectrum Disorders (ASD). These processes are impaired Theory of Mind, Weak Central Coherence Theory and Deficient Executive Functioning of which are needed for social communication.

Theory of Mind

In 1985, Simon Baron-Cohen, Alan Leslie and Uta Frith first posed the question, "Does the Autistic Child have a theory of mind? The findings of their study using the infamous Sally Ann test gave evidence to the belief "that autistic children did not appreciate the difference between their own and the doll's knowledge" (Baron-Cohen, et al.., 1985, p. 3). As of November 24, 2018, Google Scholar indicates this study has been cited 8,651 times. Continued research has expanded the concept of Theory of Mind (TOM) to include, "By theory of mind we mean being able to infer the full range of mental states (beliefs, desires, intentions, imagination, emotions, etc.) that cause action. In brief, to be able to reflect on the contents of

one's own and other's minds" (Baron-Cohen, 2000). As frequently discussed, difficulty with TOM has significant negative impact in social communication. TOM is a core component in one's ability to infer meaning from another person's communicative intent, recognizing what the other person doesn't know and knowing what information to share and can be summarized as having difficulty engaging in pragmatics of communication.

Neurotypical development of theory of mind is initially identified as "joint attention" around the age of nine months. An example of this is an eleven-month-old may point to the light and uttering a semblance of the word light, then will simultaneously look at the other person to see if they are also noticing the light. Neurotypical children demonstrate an ability to engage in pretend play around age 24 months. Children with Autism show less pretend play, or their pretense is limited to more rule-based formats (Baron-Cohen, 1987). Neurotypical children are able to pass the "seeing leads to knowing test: understanding that merely touching a box is not enough to know what is inside" (Pratt & Bryant, 1990). The neurotypical four-year-old child "passes the false belief test, recognizing when someone else has a mistaken belief about the world" (Wimmer & Perner, 1983). Children identified with ASD are delayed in their ability to pass the above tests following the neurotypical timeline above (Baron-Cohen, 2009).

Ula Frith has been a key player in researching the underlying cognitive process impacting individuals with Autism over the past 30 years (Frith, 2008). Frith, Morton and Leslie (1991) hypothesized a causal relationship between biological impairments and cognitive process that results in social difficulties for individuals with Autism. In reviewing critical analysis of TOM, evidence indicates over time, individuals with Autism show an increased ability to engage in activities requiring TOM such as "lying". Frith credits this increased ability to show TOM over time due to an increased capacity for mentalization, as a neurocognitive mechanism, resulting in

changes in social behavior (Frith, 2012). However, this mentalization process is not an

automatic occurrence in individuals with ASD, highlighting the intuitive or implicit ability to

mentalize versus the learned (explicit) ability to mentalize concepts (Frith, 2012). In summary,

she proposes "many to one mapping from brain to cognition and one-to many mappings from

cognition to behavior", this image "captures a typical causal chain in the cognitive explanation of

the social impairments of Autism through mentalizing failure" (p. 2082). See Figure 1.1 for

understanding of this "Three Level Framework" (Frith, 2012).
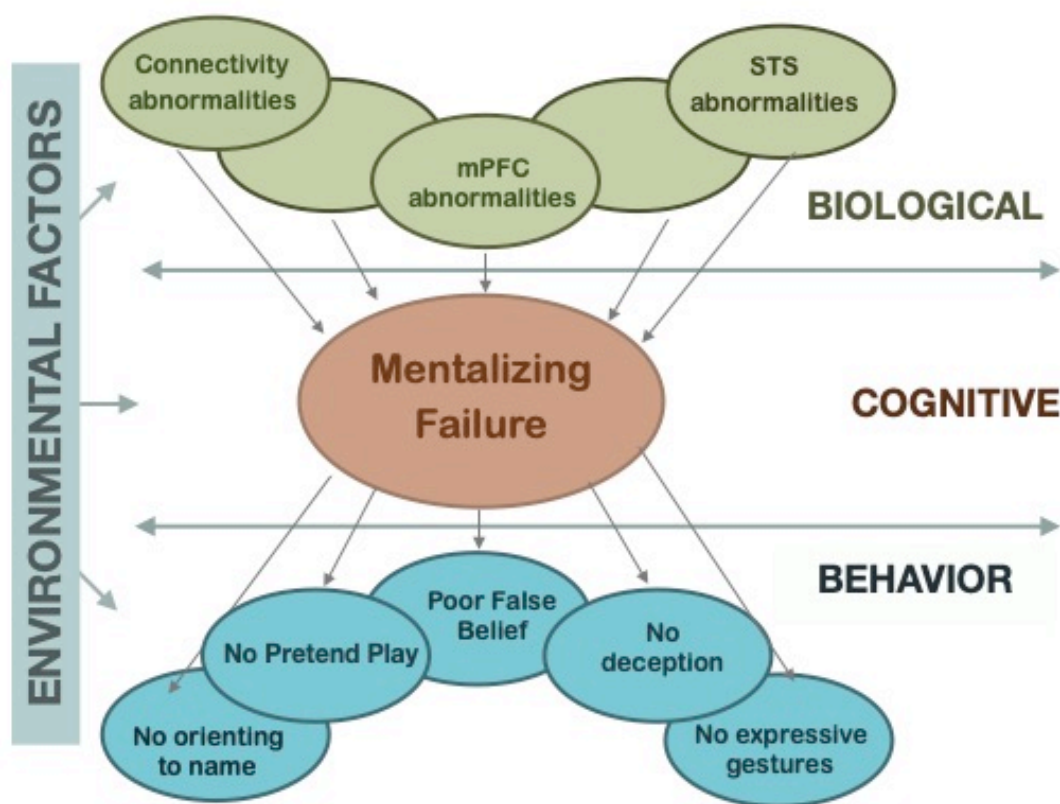
*Figure 1.*Three Level Framework.

The Empathizing-Systemizing (E-S) Theory

Baron-Cohen later research proposed a variance of the Theory of Mind as the

Empathizing-Systemizing (E-S) theory. This theory explains the social and communication

difficulties in Autism and Asperger syndrome as caused by two physiological factors: 1)

difficulties with empathy and 2) strength or skill in systemizing (Baron-Cohen, 2001, 2009*).*

The E-S theory looks at difficulty for individuals with ASD to demonstrate *affective empathy*,

the "response element: having an appropriate reaction to another person's thoughts and feelings"

(Baron-Cohen, 2009, p71). At the same time, a strength in systemizing drives the individual to

"to identify the rules that govern the system, in order to predict how that system will behave

(Baron Cohen 2009, p. 71). Baron-Cohen provides examples of kinds of systems: collectible

systems (e.g. distinguishing between types of stones), numerical systems (e.g. a video-recorder),

numerical systems (e.g. a train timetable), abstract systems (e.g. the syntax of a language),

natural systems (e.g. tidal wave patterns), social systems (e.g. a management hierarchy) and

motoric systems (e.g. bouncing on a trampoline)" (2009). Numerous accounts and testimonials

support this concept with experiences of an individual with Autism's above average ability to

engage in the above tasks, yet, have difficulty with appropriate emotional responses in social

communication. This perspective speaks to the strengths and limitations as a contrast to the

perception of a diagnosis of Autism as a negative. Instead it views ASD as a "difference in

cognitive style that is part of a continuum of such differences found in everyone, rather than a

disease" (Baron-Cohen, 2009).

Weak Central Coherence Theory

Another cognitive process, termed central coherence by Uta Frith (1989), highlights the

tendency" for typically developing children and adults to process incoming information for

meaning and gestalt (global form) often at the expense of attention of our memory for details and surface structure" (Happe & Frith, 2006). An example of this may be for a child to hear the request of "cleaning your room" and thus miss the details of specifics the parent requested such as make bed, put books on the shelf. Therefore, the misunderstanding of what is clean is a product of hearing the main message and missing the details of what was said. It was hypothesized at that time, that individuals with ASD "having weak central coherence". An example of the impact central coherence has on communication would be to hear someone say, "Come over here" and be able to determine they are being inviting verses commanding based on their body language and tone of voice. An individual with weak central coherence may hear the words (the details) but miss the intended message due to lack of connection with the nonverbal communication (friendly or non -friendly tone of voice) and the context (Is this a friend talking or a parent talking?). Weak central coherence theory highlights the tendency for individuals with Autism to focus on the details and miss the bigger picture.

However, this theory has evolved from the perspective of cognitive deficit toward the more current view of cognitive preference (Frith, 2012). This concept indicates that individuals with ASD have a superior ability for detail processing focus and this tendency represents more of a "processing bias or cognitive style, which can be overcome in tasks with explicit demands for global processing" (Happe & Frith, 2006, p. 6). In summary, "the notion of weak coherence as a processing bias, rather than deficit, lends itself to a continuum approach, in which weak coherence is seen as one end of a normal distribution of cognitive style, and people with ASD, and perhaps their relatives, are placed at the extreme end of this continuum" (Happe & Frith, 2006, p. 15). Preferences for focusing on details at the expense of understanding the big picture (weak coherence) or the strong tendency focusing on the big picture (strong coherence) at the

expense of remembering details can, according to Happe & Frith be overcome with determination and exertion of will (2006). Furthermore, central coherence is considered to occur alongside of Autism and does not cause TOM or other cognitive deficits (Happe & Frith, 2006, Baron-Cohen, 2009).

Deficient Executive Functioning

"Executive function is an umbrella term for functions such as planning working memory, impulse control, shifting set and the initiating and monitoring action as well as for the inhibition of prepotent responses" (Hill & Frith, 2003, p. 285). Considering there are other accounts for executive dysfunction outside of Autism such as attention deficit disorders and obsessive-compulsive disorders as well as acquired injury to frontal lobe (Shallice, 1988), Hill and Frith propose that executive dysfunction may be a universal feature more than a causal factor. Effective dysfunction can impact performance on certain tasks. In the context of Autism, this may contribute to difficulty with planning, inhibition of prepotent responses, and perseveration.

<div align="center">

Social Thinking

</div>

The methodology for Social Thinking® was developed as an intervention for parents, educators, speech and language pathologists, and school psychologist, and others to teach students with social cognitive challenges the skills needed to acquire both problems solving and communication competencies (Wimmer, 2006/2007, 2007/2002). As a Speech and Language Therapist, Michelle Garcia-Winner recognized that students with average and above average cognitive abilities had the ability to learn the thinking behind the social skills we do as a more meaningful way to construct social competencies that aligned with cognitive behavior practices as on option to reinforcement theory to modify behavior (Crooke, Winner, & Olswang, 2016; Crooke, & Winner, 2011). By understanding the cognitive deficits that impair social

communication, Garcia-Winner empowers educators, parents and therapists to better understand core deficits that impact their ability to connect and relate and provides a methodology that provides meaningful intervention that is responsive to the needs of children, students and adults. Today, she and her team affiliated with Social Thinking.com is recognized all over the world for their innovative approach that is making a difference and is readily available through books, conferences, ongoing research and practitioners.

Social Thinking® and Academic Learning

The Social Thinking Learning Tree, ILAUGH model and Social Thinking Vocabulary illustrate ways Social Thinking® can support academic learning in the classroom.

ILAUGH Model

The I LAUGH model provides a conceptual framework for identifying Social Thinking® concepts that support areas impacting individuals with social cognitive challenges needing to develop skills needed for problem solving and communication. The framework does not include deficits with sensory integration and fine/gross motor skills (Garcia-Winner, 2000/2002/2006; Crooke and Garcia-Winner 2012). Students with social cognitive challenges may demonstrate varying levels of difficulties within the conceptual framework. Tables 1.1 thru 4.1 explain the type of deficit as well as how it may impact the student socially, classroom functioning and Social Thinking® concepts to teach as an intervention to strengthen their skills and ability to navigate social and educational settings (Garcia-Winner, 2000/2002/2006, Crooke and Garcia-Winner 2012).

Table 2 1

Summary of the "I" and the "L" in the ILAUGH" Model and Corresponding Treatment Ideas

Type of Deficits	How it affects social interaction	How it affects classroom functioning	Treatment Ideas (*Social Thinking® ©)
I= Poor **Initiation** of Communication or Action *"Initiation of communication and language refers to the ability to seek assistance or information" (2012)*	• Does not initiate appropriate social interactions or begin working on a novel activity	• Does not ask for help. • Sits and does nothing when others are doing something. • In group work, may not participate or only know how to direct the others; weak negotiator	• Teach a clear initiation response. Reinforce success by helping them gain access to information they do not know or just need to clarify. • Build initiation into routines. • Establish time lines to get started with activities. • Specifically teach how a student can "ask for help". • *Four steps to communication
L= **Listening** with Eyes and Brain *"Listening requires the integration of information the student sees and hears to understand the deeper concept, or to make an educated guess about what is being said when the message cannot be interpreted literally." (2012)*	• Does not observe others' social cues. • Does not process the meaning of other's messages. • May not "think with eyes" (e.g. poor eye contact)	• Does not easily process the meaning of spoken messages. • Does not predict people's unstated plans. • Poor sustained eye contact diminishes understanding of total communicative message. • Difficulty functioning in large groups; needs more direct instruction.	• Break information into smaller parts to increase attention. • Check comprehension by asking the student to repeat the same message. • Use visual strategies to help alleviate auditory overload. • *Teach the idea of "listening with your eyes." Seeing what is going on around you connects you to what is being said. • Teach how we "read people's plans (intentions).

Note: Reprinted and adapted from Thinking about you thinking about me by Michelle Garcia Winner (2002), San Jose, CA: Think Social Publishing; Social Thinking® ®: A developmental treatment approach for students with social learning/social pragmatic challenges by Michelle. Garcia Winner and Pam Crooke (2012) retrieved from https://www.socialthinking.com/Articles?name=Social%20Thinking%20A%20Developmental%20Treatment%20Approach%20for%20Students. Inside out: What makes a person with social cognitive deficits tick by Michelle Garcia Winner, (2000/2002/2006)

Table 3.1

Summary of the "A" and the "U" in the ILAUGH" Model and Corresponding Treatment Ideas

Type of Deficits	How it affects social interaction	How it affects classroom functioning	Treatment Ideas (*Social Thinking® ©)
A= **Abstract** and Inferential *"Abstract and inferential meaning occurs subtly through verbal and nonverbal communication and analyzing the language in context" (2012)*	• Does not infer meaning from social cues or decipher meaning from words/languages. •	• Is limited in the ability to infer meaning from books, teacher's lectures or conversation. • Literal in interpretation of all modes of communication (verbal, non-verbal, written, etc.) • Be aware that students may provide odd responses when not clearly interpreting abstract information	• Teach the difference between figurative and literal language. • Teach prediction and inference (start by encouraging "making a smart guess") • .Teach about the different aspects of language that need to be interpreted (body language, facial expression, tone of voice, etc.) • Work on students understanding and interpretation of others' intentional and unintentional communication.
U= **Understanding** Perspective *"The ability to interpret others' perspectives or beliefs, thoughts and feelings across contexts is a critical social learning skill. Individuals with social cognitive challenges are often highly aware of their own perspective but may struggle to see another's point of view" (2012).*	• Difficulty recognizing and incorporating other person's perspectives to regulate social relationships or just share space effectively. •	• Difficulty understanding the perspective of characters in literature. • Difficulty regulating classroom behavior according to the needs of others. • Difficulty working in small and large groups. • Understand the reading comprehension challenges associated with inefficient perspective taking.	• Teach what it means to "make impressions". • Teach "think with our eyes." • *Four steps to perspective taking • Teach recognition of others' emotional states and what others expect from you in those states. • Explore what expectations come to the context based on past memories, gender, age, present contextual cues, etc. • Explore reading comprehension through the changing perspectives of characters in books

Note: Reprinted and adapted from Thinking about you thinking about me by Michelle Garcia Winner (2002), San Jose, CA: Think Social Publishing; Social Thinking® ®: A developmental treatment approach for students with social learning/social pragmatic challenges by Michelle. Garcia Winner and Pam Crooke (2012) retrieved from https://www.socialthinking.com/Articles?name=Social%20Thinking%20A%20Developmental%20Treatment%20A

pproach%20for%20Students. Inside out: What makes a person with social cognitive deficits tick by Michelle Garcia Winner, (2000/2002/2006). San Jose, CA: Think Social Publishing.

Table 4 1

Summary of the "G" and "H" in the ILAUGH" Model and Corresponding Treatment Ideas

Type of Deficits	How it affects social interaction	How it affects classroom functioning	Treatment Ideas (*Social Thinking®)
G= **Gestalt** Processing: Getting the Big Picture *"Many students with social learning issues are highly skilled at obtaining and retaining factual information related to their particular area of interest. However, both written and conversational language is conveyed through concepts, not just facts. Further, organizational skills fall within this area and are critical for completing homework, preparing written assignments, cleaning a household and finishing tasks at work. These skills require us to "see the big picture" (2012).*	• Not good at tracking how language fits into the overall concept being discussed. • Tangential. • Off topic remarks.	• Attends to details but misses the underlying concept of assignments. • Writing can be tangential or misses the point. • Difficulty staying with the concept of group work and cooperative learning. • Difficulty seeing the big picture also relates to problems with organization and prioritizing.	• Use graphic organizers to break information down into visual, concrete parts. • Break information down and then help the student see how it all goes back together. • Use visual imagery to demonstrate how the "whole" and the "pieces" work as one. • Teach overtly how to discern the "main idea", etc. • *Social Behavior Map • Buy and USE an academic planner to see how projects unfold over time. • Prioritize home and school activities in the same planner.
H= **Humor** and Human Relatedness *"Many individuals with social challenges often exhibit an excellent sense of humor, but feel anxious as they miss many of the subtle cues that would help them understand ways to participate more successfully with others in a social context. Emotional processing is also at the heart of human relatedness" (2012).*	• Students usually have a great sense of humor, but may miss the subtleties of humor. • May not understand if they are being laughed at or laughed with. • Above deficits contribute to difficulties relating to others.	• They respond well to a teacher who has a bit more of a relaxed, humorous style, but is still able to follow a fairy structured routine. • The student may produce inappropriate humor in the class in an attempt to engage others. • Be aware: these kids get teased and bullied NON-STOP!	• Teach that humor has a time, place, and a person! • Differentiate friendly teasing from "mean-spirited teasing • Incorporate anti-teasing programs into your classroom and school! • Laugh at your mistakes!

Note: Reprinted and adapted from Thinking about you thinking about me by Michelle Garcia Winner (2002), San Jose, CA: Think Social Publishing; Social Thinking® ®: A developmental treatment approach for students with social learning/social pragmatic challenges by Michelle. Garcia Winner and Pam Crooke (2012) retrieved from https://www.socialthinking.com/Articles?name=Social%20Thinking%20A%20Developmental%20Treatment%20Approach%20for%20Students. Inside out: What makes a person with social cognitive deficits tick by Michelle Garcia Winner, (2000, 2002, 2006). San Jose, CA: Think Social Publishing.

Social Thinking® Vocabulary

Social Thinking® Vocabulary is a key part of the Social Thinking® ® methodology to teaching the thinking behind the social skills we do (Crooke & Winner, 2009). By providing visual language to individuals with social cognitive challenges, abstract concepts involved in social interactions are clarified in a meaningful way. "Our teaching focus shifts from telling a student what to do in a social interaction (traditional "social skills" program), to helping him learn why he needs to do it and then how he can demonstrate what he knows through his behavior" (Winner, 2007, p. 14). A foundational concept is the recognition that we all have thoughts and feelings about each other's social behavior (2009); the Social Thinking® vocabulary provides common language to be used by teachers, parents, speech and language pathologists, etc. as a way "to describe and explain our social expectations and related social thoughts and emotions" (2009, para. 15). The following is only a sample of vocabulary used to teach Social Thinking® concepts.

Think with Your Eyes. "For the typical social communicator, the information gained through directed eye-gaze is critical to social communicative success. Eyes feed the brain information about the possible thoughts and/or reactions of others" This concept can be taught by breaking it down into units of understanding: 1) "Eyes are like arrows, teaching students to localize what others are seeing"; 2) "Teach that what a person is looking at is often what they are thinking about"; 3) "Putting it together: I can see what you think"; 4) "The speaker versus the listener: Define the difference in the use of meaningful eye contact" (2007, p.105-109). Although not inherently understood for individuals with social cognitive challenges, breaking

down the concept into skill steps creates a footstool for understanding the concept of "joint attention".

Expected/Unexpected Behavior. The concepts of expected and unexpected behaviors are what generates different types of thoughts. "When a behavior is expected for a situation it encourages us to have good or okay or normal thoughts and feelings: when a behavior is unexpected, we tend to have uncomfortable or weird thoughts and related feelings. "How we think about someone over time affects our social memory of them" (2009). This can be a challenging concept as the expected and unexpected behaviors are often unique to the context or situation. Furthermore, the concepts of expected (socially appropriate) and unexpected (socially inappropriate) behaviors and how they influence how others see and feel about us is often misunderstood by individuals with Autism. Understanding this concept and how other's treat us based on how we make them feel is presented in the Social Behavior Map found in Appendix D. The graphic organizer provides the visual support in understanding the chain reaction initiated by our behaviors and resulting in how we feel about ourselves based on the experience (Garcia-Winner, 2007). This tool is beneficial for students who tend to focus on how others treat them but miss their part in the sequence of events. Most importantly, it provides students with the tools needed to build social awareness and influence outcomes by understanding what they can do differently based on the situation. This concept further supports the "why" behind the social skills we choose to execute and when we choose to execute them as needed for fluid social interactions.

Smart guess/wacky guess. The concept of smart guess is foundational for being a social detective and being able to determine hidden meanings, intentions of others, and recognizing that social skills we choose to do are influenced by the situation we are engaged in. Making the

connection of understanding the context of a conversation, where it takes place, who is involved and assumed purpose of the social interaction. For our literal thinkers, it gives permission to take a chance and engage in the interaction based on the information at hand. Wacky guesses imply the possibility of making a mistake (aka social mistake) and opens the door for repairing social mistakes. For our weak social communicators, recognizing that others may make social mistakes provides an opportunity to be flexible with others' behaviors and being open to consider possible intentions or unintended actions.

Social Thinking® Social Learning Tree

The Social Learning Tree is a visual model that demonstrates how Social Thinking® interventions combat core deficits in social cognition. Consider the analogy of a tree and how the root system, although invisible under the surface, is an integral part of the health of the tree and its ability to produce healthy branches and leaves. The I LAUGH framework is the trunk of the Social Thinking® Social Learning Tree and provides the support needed to produce the branches and leaves representing the various concepts and skills needed for social communication and problem solving (Winner, 2011, 2015). This conceptual framework is a tool for considering treatment options for individuals with social cognitive defects that are focused on understanding underlying concepts that are not inherent to how their mind is wired as needed to execute appropriate social interactions.

The Root System. Winner bases the concept of the root system as "the foundation from which all our social learning grows" (2011, 2015). Table 5.1 illustrates social learning components, citing the research to support each cognitive function of which is needed for social communication, forming the root system of the social learning tree and includes: joint attention,

emotional sharing and reciprocity, central coherence, determining relevance, Theory of mind, executive function and sensory integration.

 The Trunk.   Moving up from the root system and merging together to form the trunk of the tree is representational of the ability to "dynamically and synergistically apply the concepts of the root system in daily life. The developmental processes that occur at the root level stimulate our brain in such a way that we learn to interpret socially based information and participate in a range of ways in specific situations because we demonstrate an understanding of others' thoughts, intentions, emotions which help us relate and respond to others" (2015, para. 10). The I LAUGH Model, as a framework for social learning and forms the trunk of the Social Learning Tree and includes: Initiating language; Abstract thinking; Understanding perspective; Gestalt processing, and Humor and human relatedness. Focusing learning to build competencies in the above areas produces the branches and leaves in the Social Learning Tree.

 The Branches.   The branches represent the emergence of concepts (key social knowledge) that is acquired as a result of interventions using the I LAUGH framework. To name just a few: "reading comprehension of literature (analyzing protagonists and antagonists in a story, predicting their future actions, interpreting their meaning, etc.); written and oral expression (writing to support main ideas, summarizing, being sensitive to one's audience, taking the perspective of the teacher to better understand expectations, etc.); self and project organization (time management, planning and preparations, managing homework assignments, etc.); playground play/hanging out; conversation, participating as a member of the classroom or a group" (2015, para. 11). This is just one example of teaching skills to build understanding of social learning concepts has a greater outcome than teaching the direct social skill.

The Leaves. The leaves represent the various skills used to engage in each of the larger concepts that are represented by a branch (2015). An example of playground play is provided in Michele Garcia Winner's article on the Social learning Tree. Skills involved in playground play (represented by the leaves) include: Turn-taking, allowing a person to choose a game, coping with rule changes, determining if the group welcomes you, using language that keeps others having good thoughts about you to avoid being rejected or taunted, etc. As mentioned in her article, our tendency is to write treatment goals around the weak growth of the leaves. By focusing on teaching and building social learning knowledge the root and trunk system is strengthened which in turns promotes stronger branches and healthy leaves.

Table 5.1

Social Thinking® Social Learning Tree: Root System

Part of Tree	Cognitive Process	Research
Root System: *Foundation from which all our social learning grows*	**Joint Attention**: Includes: reading intentions of others and paying attention to others and the environment.	Laurent, Prizant, Rubin, Rydells, Wetherby, 2006.
	Emotional Sharing and Reciprocity	Happe & Frith, 2006, Lang, Bouma, Systema, Kraier & Minderaa, 2006
	Central Coherence: getting the gist of a message, determining relevance.	Baron-Cohen, Leslie, & Frith, 1985; Flavell, 2004; Hale & Tager-Flusberg, 2005; Frith & Frith, 2010
	Theory of Mind: involves interpreting that you know something different from me.	Hill, 2004; Happe, Booth, Charlton, & Hughes, 2006
	Executive Functioning: the ability to process and respond to many stimuli simultaneously.	Winner, 2011, 2015
	Sensory Integration: the ability to integrate the signals coming into our sensory systems, which keeps us aware and active at a level where we can comfortably participate as needed in the environment, cognition and language	Winner, 2011, 2015

Note: Michele Garcia Winner, 2015, para. 10.

Significance of the Study

Although Autism appears to be increasing, the awareness of and inclusion of individuals with Autism is a relatively new practice in the history of public education (Donvan & Zucker, 2016). Research indicates the benefits of inclusive practices and yet teacher's may not receive adequate training or be proficient using interventions for positive inclusive practices (Busby et al., 2012; Robertson et. al, 2003). Currently, students with Autism are most frequently referred to outside services such as speech and language, counseling, and physical therapies to support social skills development and emotional regulation (Whitman & DeWitt, 2011). However, clearly, students develop increased ability to generalize skills when acquisition of skills is embedded in real-world context (Vermeulen, 2012). By equipping teachers with the knowledge and inclusive practices they can more readily facilitate improved learning outcomes for students with Autism (Nishumura, 2014).

Reflective practices are considered foundational in developing life-long learners, (Ghaye, (2010). Individuals with Autism are not excluded from the potential benefits but lack the automatic process for engaging in reflective practice (Atwood, 2007, Siegel, 2012). However, with intervention and skill developments, students with Autism without cognitive impairment are able to develop this ability to engage in "social autopsy*"* (Myles & Adreon, 2001), a systematic was of analyzing social interactions, contributing to their ability to perceive the intentions of others and build their capacity for perspective taking and appropriate social interactions.

Therefore, by implementing interventions that directly correlate to greater perspective taking and self-reflection, individuals with Autism can enhance their strengths and unique abilities with increased self-efficacy and positive engagement, motivational factors for success in learning and college and career readiness.

Definition of Terms

Autism: A developmental disorder characterized by social impairment, both communication and interaction, and restricted repetitive patterns of behaviors, interests or activities. Considered a "spectrum disorder" as severity can vary based on level of impairments in the two qualifying areas. Autism can exist co-morbidly with various other conditions such as specific learning disability, intellectual disability, attention deficit disorders, mood disorders, anxiety, depression, etc. (American Psychiatric Association, 2013).

Central Coherence Theory: *"*The brain's ability to process multiple chunks of information in a global way, connecting them and viewing them in context, in order to determine a higher level of meaning. Poor central coherence can make it difficult to generalize" (Buron & Wolfberg, 2008, p.367).

Context Blindness: "A deficit in the ability to use context spontaneously and subconsciously to determine meanings" (Vermuelen (2012, Loc 4252 of 5969).

Evidence Based Practices: "For an intervention to be labeled as evidence based, at least three good research studies are needed to back the interventions effectiveness. Emerging practices show promise but need to be studied to determine validity" (LaPage & Courey, 2014, p. 100).

Executive Functioning: "Higher-ordered cognitive skills that include organization planning, problem solving self-regulation and inhibitory control" (Buron & Wolfberg, 2008, p.369).

Mentalizing: *"*It is the process by which we make sense of each other and ourselves, implicitly and explicitly, in terms of subjective states and mental processes" (Bateman & Fonagy, 2013, p. 595).

Mindset: How students perceive their abilities plays a key role in motivation and achievement. A growth mindset is used to describe beliefs around growing the brain as compared to fixed mindset which views their intelligence as fixed (Dweck, 2015).

Social Autopsy: A systematic way of analyzing a social interaction developed by Myles using the following steps: 1) Review what happened; 2) Identify the mistake; 3) Identify who was hurt; 4) Identify what to do to fix the mistake; 5) Identify what to do next time; 6) role play. (Myles & Adreon, 2001).

Social Inclusion: "Inclusion is viewed as a desirable outcome or as a strategy to combat social exclusion, whereas exclusion is viewed as an expression of poor social cohesion" (Rimmerman, 2013, p. 34).

Self-Efficacy: Beliefs involving one's confidence in engaging in activities and learning that contribute to positive outcomes and progress toward personal goals (Bandura, 1977).

Self-Regulated Learning: The individual takes control and ownership in their learning using a variety of strategies in learning and applying the content (Zimmerman & Shunk, 2008).

Social Cognition: "Social Thinking® . How a person processes and interprets information about other people and their interactions" (Buron & Wolfberg, 2008, p. 375).

Social Communication Disorder: "Social communication disorder is characterized by difficulties with the use of verbal and nonverbal language for social purposes. Primary difficulties are in social interaction, social cognition, and pragmatics" (ASHA, 2019).

Social Learning Theory: Albert Bandura's theoretical framework for analyzing human thought and behavior as a "continuous reciprocal interaction between cognitive, behavioral, and environmental determinants" (Bandura, 1977, p. vii).

Summary

It is critical to consider the underlying impaired cognitive processing that impact students with social cognitive challenges (e.g. Autism, Social Communication Disorder) and their ability to engage in social learning proficiencies outlined with common core standards. Another consideration is the importance of developing self-efficacy in both teachers and students and increase positive experiences that benefit all learners. Most importantly, individuals with Autism are individuals with Autism. Along with their challenges, there are also exceptionalities inspiring us to understand and facilitate meaningful learning experiences that foster engagement, self-efficacy and social inclusion.

CHAPTER 2: REVIEW OF LITERATURE

This chapter will be divided into five sections. The first section on Autism in public education explores Autism as a disability, Free and Appropriate Education, and the Development of Special Education. The second section on Social Inclusion includes the Ecology of Inclusion, Influencing Circles, and Behavior Considerations. The third section addresses the Need for Intervention including Academic Learning, Differentiated Instruction and Social Emotional Learning. The fourth section on Developing social competencies looks at Social Stories and Comic Strip Conversations, Cognitive Behavior Therapy and Social Thinking®. The fifth section highlights the need for evidence-based practices when providing intervention in the educational setting.

Autism in Public Education

This section will include a history of Autism as a disability, free and appropriate education, and the development of special education.

Autism as a Disability

Evidence of individuals with autistic like behaviors, such as the wild boy of Avalon, who after being found at the possible age of 12 living in the woods, support the idea of the occurrence of Autism as early as the 1800's or before (American Psychological Association, 2018) However, it was in 1943 that Autism was identified and labeled with Kanner's claim of Autism as a separate disability identified by failure to develop social abilities Goldstein & Ozonoff, 2009; Donvan & Zucker, 2016). Previously individuals with behaviors exhibiting social difficulty were assumed to have childhood schizophrenia (Goldstein, Naglieri & Ozonoff, 2009; Happe & Frith, 2006). Fortunately, our understanding of Autism as a developmental

neurological disorder has evolved over the years which has guided our response to and treatment of individuals with Autism and their families (DSM V, American Psychiatric Association, 2013).

Both awareness and identification of Autism has increased significantly since Kanner's initial report due to pioneers in science and psychology. During the mid-50's Bettelheim popularized the belief of mothers being the cause of Autism, comparing characteristics of Autism with descriptions of the mental breakdown observed in victims in Nazi concentration camps (Donovan & Zucker, 2016). In 1963, British psychologists Beate Hermelin and Neil O'Connor's research findings suggest the condition of Autism as having a biological rather than a psychogenic basis (Donovan & Zucker, 2016; Frith, 2012). The first genetic study in Autism in 1971 helped to shift society in understanding that Autism has a biological cause (Frith, 2012, Folstein & Rutter, 1977). Lorna Wing, an early pioneer in the awareness of Autism, introduced the concept of Autism as a spectrum disorder in the late 70's (Frith, 2012). Wing described a population of students who had fluent language and high measurable intelligence as distinctively active but odd (Frith, 2012, Wing & Gould, 1979). Although in 1944, a German pediatrician named Hans Asperger in Vienna introduced a condition he called autistic psychopathy in which the individuals he identified appeared to have normal intelligence but had difficulty understanding the behavior of others and develop social skills (Brooks & Goldstein, 2012, Donvan & Zucker, 2016, Frith, 2012), his work would not come to the attention of science until the late 70's, discovered by Lorna Wing (1979) and translated into English (1981) by Ulta Frith (Frith, 2012; Goldstein, Naglieri & Ozonoff, 2009). During that time in 1980 Autism was listed as a mental disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM), Lorna Wing was bringing awareness of a group of individuals showing intelligence and greater level of functioning as described in Hans Asperger's work. Eventually, Asperger's Syndrome was added

as a subset of Autism in 1994 by the American Psychiatric Association (Donavan & Zucker, 2016). The term "Asperger's Syndrome" became synonymous for individuals displaying higher functioning on the Autism spectrum (Attwood, 1998). The distinction becomes important when reviewing research studies for Autism because interventions may look different for a student who is non-verbal versus a student who is verbal and has high cognitive ability.

In 2013, the DSM-V revised the criterial for Autism, eliminating subgroups such as Pervasive Development Disorder- Not Otherwise Specified, Asperger's Syndrome and Rhett Syndrome. Instead, Autism, which is described as a neurological developmental disorder, has two identifying categories at three possible levels and a new category of Social Communication Disorder is added (APA, 2013). Some individuals who previously would have qualified under Autism (via subcategory) currently would meet the new category of Social Communication Disorder. Despite the changes in identifying criteria, the prevalence of Autism is increasing as evidenced by the reports published by the Center for Disease Control (Centers for Disease Control and Prevention, 2018). See Table 2.1 for overview of prevalence of Autism from 2000 – 2014. Prevalence as defined on their site "is the number of people in a population that have a condition relative to all of the people in the population. Prevalence is typically shown as percent (e.g. 1%) or a proportion (e.g. 1 in 100)" (CDC, 2018).

The increase in prevalence has significant economic impact with an estimated $11.5 billion - $60.9 billion dollars per year for children with ASD in the United States (Lavelle et. al, 2014). The largest cost component for children with Autism involve special education services and loss productivity for parents who may miss work in order to care for their child (Buescher, Cidav, Knapp, Mandell, 2014). The financial burden for families of children with Autism is

much higher than compared to other developmental disorders (Shah, 2016). The increased

prevalence of Autism has significant economic impact at a global level (Mona, 2012).

Free and Appropriate Education

The era between the origin of compulsory school attendance and the Individuals with

Disabilities Act (IDEA) is a time in history that is reflective of cultural perspectives toward

individuals with disabilities (Donovan & Zucker, 2016). Although IDEA is federal law,

education policies and law are implemented at the state level therefore, compulsory attendance

varies by state between the ages of five to seventeen. Massachusetts was the first state to

implement compulsory school attendance in 1852, which was eventually implemented by all

states by 1918 (Deffenbaugh & Keesecker, 1935; Find Law, nd). Historically, compulsory

attendance was put in place to protect against the use of child labor. During this time, between

1918 and 1965, institutions providing specialized instruction, asylums, and even custodial care

became popular (Donvan & Zucker, 2016; Rotatori, Bakken & Obiakor, 2011). A disability was

considered to be a burden to the family, yet treatment for Autism was not understood, resulting

in a mere existence for the child/adult and practices such as removing teeth due to excessive

biting were acceptable (Donavan & Zucker, 2016).

The National Society for Autistic Children (NSAC) is an active parent group and one of

several organizations that have been instrumental in shifting awareness and a catalyst for change,

and it was founded in 1965 for the purpose of advocating for the rights of children (Donvan &

Tucker, 2016; Wolff, 2004; White & Smith, Zager, Wehmeyer, & Simpson, 2011). It was

during the 1960's that educational programs for students with Autism began to develop

(Rotatori, Bakken, Obiakor, 2012). Lorna Wing discovered Asperger's work on Autism in the

late 80's. She was instrumental in translating his research into English (Goldstein, Naglieri &

Ozonoff, 2009). This marked the beginning of an era of research to better understand the science of Autism. In 2001, the Organization for Autism was founded for the purpose of funding research and assimilating information to the public. De-mystifying Autism is largely through the efforts of family involvement in both civil rights and science.

It was the Education for all Handicapped Children Act (Public Law 94-142), put in place in 1975, that as a civil rights measure secured school attendance for children with disabilities and a commitment for their development of personal achievement and community contributions (IDEA, 2019). Gaining access to public education begin with activists such as lawyer Tom Gilhool who in 1971 won a suit representing Pennsylvania Association for Retarded Children "demanding access to public education for children with developmental disabilities" (Donovan & Zucker, 2016, p. 56). In 1975 the Federal Education for All Handicapped Children Act (Pub. L. 94-142) passed and was later reauthorized as the Individual with Disabilities Education Act (IDEA) in 1990. It was reauthorized in 1997 and 2004, and it "guaranteed access to a free and appropriate public education (FAPE) in the least restrictive environment (LRE) to every child with a disability" (IDEA, 2018). Furthermore, reauthorizations and amendments have continued to protect the rights of children with disabilities and their families including but not limited to advancing expectations, more inclusive classrooms while meeting the individual needs and improving educational outcomes (IDEA, 2018). IDEA forced schools to consider academic progress and implemented accountability measures and emphasis on using research-based methodologies (Zager, Wehmeyer, & Simpson, 2012).

Table 6. 1

Prevalence of Autism Spectrum Disorder from 2000-2014.

Surveillance Year	Birth Year	Prevalence: *This is about 1 in x children…*
2000	1992	1 in 150
2002	1994	1 in 150
2004	1996	1 in 125
2006	1998	1 in 110
2008	2000	1 in 88
2010	2002	1 in 68
2012	2004	1 in 69
2014	2006	1 in 59

Note: This table is adapted from the CDC report published on their website. (CDC, 2018).

Development of Special Education

It is through Special Education that federal funds are distributed to provide specialized instruction for students with disabilities. As part of IDEA, Child Find is a legal requirement for educators to identify students suspected of having a disability and through an assessment process determine if they are eligible for receiving services (Ashbaker, 2011). This process ensures that data is used to evaluate and make determinations based on student needs. Currently, Autism is one of the thirteen qualifying categories. Once eligible, an Individual Education Plan is developed in collaboration with parents, educators and service providers which outlines goals, accommodations and services as needed for the student to make progress toward grade level

standards.   Services providers can include Speech and Language Pathologist, School Psychologist, Occupational Therapist, Adaptive Technology and Education Specialist. It is paramount that the IEP team be collaborative with administrators, general education teachers and care givers in implementing accommodations and services, monitoring progress, meeting annually and periodically to monitor progress and make adjustments as needed (Volkmar et. al, 2014).

Typically, the general education teacher is the expert on the academic content whereas the special education teacher is considered the intervention specialist providing specialized academic instruction for the student (Whitnew Moores-Abdool, 2010). Another key concept in Special Education is the importance of establishing the Least Restrictive Environment (LRE) for implementing services. Regardless of level of disability, whether considered mild-moderate or moderate-severe, it is reasonable that services are provided for the student that provides the most optimal growth and access to grade level peers (IDEA, 2014). Currently, determining the LRE is a controversial topic in education.

Social Inclusion

Inclusion in the general education setting, provides the best real-life practicum for students with autism in preparing for post high school, college and career readiness (Dillenburger et al., 2015; Steinbrenner & Watson, 2015). Teacher perspectives indicate mixed ability groups and teacher involvement improve learning outcomes (Strogilos & Stefanidis, 2015). However, children with learning disabilities and behaviors are at high risk for social exclusion (Krull, et al., 2014). This section looks at the ecology of inclusion, influencing circles and the behavior considerations that impact social inclusion.

The Ecology of Social Inclusion

According to Anderson, Boyle, and Deppeler, (2014) there are three factors that contribute to an inclusive education: the student should be participating, achieving and valued. What is the optimal environment to for achieving this goal? Bronfenbrenner's (1994) ecological structure describes five systems that contribute to student development: micro system – proximal processes, or face to face settings such as the classroom; Meso system interactions with two or more settings containing the developing person such as family and school and speaks to the relationship (communication and participation) of family and school.; Exo-system – two or more settings where one of the setting does not contain the developing child such as relationship between home and the parent workplace; Macro-system consists of containing all above systems and can be considered "a societal blueprint for a particular culture or subculture" (p. 40). Figure 2.1 illustrates this concept.

However, studies show that students with mild learning disabilities are "less accepted by their peers, have fewer friends and experience feelings of loneliness more often" (Pijl et. al, 2010, p. 61). This impacts student's self-concept development, as perceptions are often based on their experiences with teachers, parents, peers, friends (Bandura and Bussey, 2004; Festinger, 1954, Tice and Wallace, 2003). Self-evaluation as a process involves comparing one-self to a group which can drive the perceived need to belong or be part of a group (Festinger, 1954). This interaction with peers plays an important role in molding and validating self- efficacy beliefs (Banruda & Bussey, 2004).

Ecology of Inclusion
Based on the conceptual framework of Bronfenbrenner (1976)

Determinants of student learning: 1) Characteristics of the learner and the environments in which they exist; 2) relationships and interconnections between them (Anderson & Boyle, 2017).

Macro-System:
The environments that encompass the learning institution: social & political contexts, education systems, global & historical context.

Micro-System:
Immediate Environment includes both social and academic learning: teachers, peers, physical spaces, classroom culture & routines, etc.

Exo-System:
The environments that encompass the immediate learning environment: leadership structures, school culture & values, collaborative practices.

Meso-System:
Relationships and connections between systems and factors within each of the systems: family and school.

MACRO-SYSTEM
EXO-SYSTEM
MESO-SYSTEM
MICRO-SYSTEM
LEARNER
Participating
Achieving
Valued

CHRONO-SYSTEM
Education across time
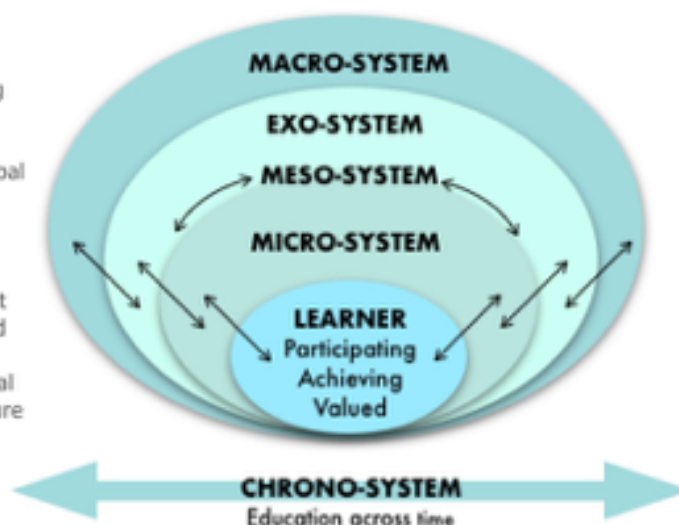
Figure 2.1. Ecology of Inclusion

Circles of Influence

As educators, our responsiveness to student needs matter. Considering the circles of influence, we can categorize our students in two groups: 1) having a healthy ecology or 2) having an unhealthy ecology. The concept of circles of influence results in students following into one of two categories (mentioned above) as illustrated in Figure 2.2. The impact for us as educators is the responsibility, we have in be a positive influence for our students. Not only being supportive and creating experiences for our students to have successes but also to facilitate and model peer acceptance and pro social values (Brendtro, 2006, 2010). For students who are missing family bonds and inconsistent discipline at home, we have an opportunity to expose them to something different in the school setting.

INFLUENCING CIRCLES

Based on Bronfenbrenner's framework (Brendtro, 2010)
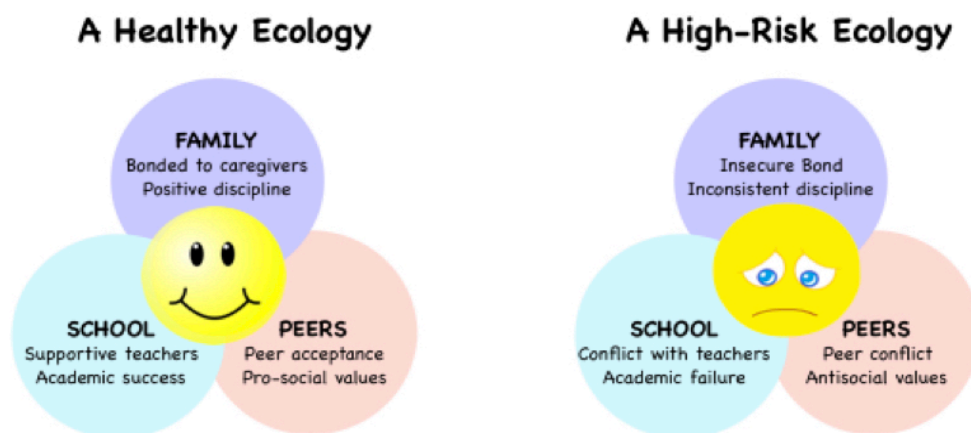
"The ecology of inclusive education presents a framework that, through its application, could lead to further progress in discovering the processes and conditions that enable a truly inclusive education to be provided for all"
(Anderson & Boyle, 2014),

Figure 2.2 1 Circles of Influence (Brendtro, 2010)

Goldstein inspires educators to shift their focus to student strengths, propelling students to focus on where they are going as compared to focusing on weakness and limitations of where they are (2019). This can be accomplished by helping students recognize and develop their *Island of Competence* (Goldstein, 2001). Bandura outlines the concept of mastery experiences as building blocks for developing self efficacy (1977). Activities that involve problem solving and decision making reinforce a sense of control and mastery and build a resilient mindset (Brooks, 1994; Brooks & Goldstein, 2008; Dweck, 2015; Goldstein, 2001). In fact, the growth-mindset approach provides strategies to help students "feel good in the short and long terms, by helping them thrive on challenges and setbacks on their way to learning (Dweck, 2015, p.20). In summary, there is much benefit to a "strength based approach to promoting successful interactions between youth and their context" (Lerner et al, 2013, p. 304). The teacher plays a significant role in the development of the inclusive classroom (Gordon, 2017).

Behavior Considerations

Inclusion is more than physical integration; it requires creating a culture of acceptance and social inclusion. Research indicates a relationship between behavior and social acceptance in the classroom exists (Bryan & Bryan, 1978; Asmus, Boyd, Conroy, Ladwig, Sellers, 2007; Pas et al, 2007). For example, students who are more cooperative have greater acceptance (social inclusion) in contrast to shyness leading to lower acceptance (social rejection) indicating prosocial behaviors as a greater predictor of acceptance or rejection as compared to disruptive behaviors (Jones & Frederickson, 2010). Building peer awareness and understand may contribute to more positive outcomes for students with autism in the mainstream classroom (Kremer-Sadlik, Ochs, Solomon, and Sirota, 2001; Jones & Frederickson, 2010); and may require direct teaching strategies that promote cooperation which can enhance experiences (Gibb,

Chua, Frederickson, Tunbridge, 2007). Therefore, most often, a positive inclusion experience is dependent on the teachers' preparedness to meet the complex needs of the child with Autism (Marshall & Goodall, 2015).

According to teachers, challenges of including children with ASD in the classroom are: "understanding and managing behavior, socio-structure barriers (i.e., school policy, lack of training and resources); and creating an accepting environment (i.e. lack of understanding from other teachers, students and parents)" (Lindsay, et al., 2013). Although a child's right to an education is clear (Bronagh, 2012), teacher training is key to meet the complex needs of the child with Autism (Loiacono, Valenti, 2010). Teachers lack efficacy in supporting students with ASD due to lack of preparedness (teacher credential programs) or personal experience, both professional developments, at the site and district level (Busby et. al, 2012). Therefore, collaboration with the special education teacher is needed and can overcome teacher unpreparedness and contribute to better student outcomes (Finch, MacGregor, Watson, 2013).

Without training and understanding how to support the child with Autism in the general education setting there is a tendency to place students with Autism in an alternative setting. There is provision in IDEA that allows instruction to be provided in a separate setting if the nature or severity of the child's disability impedes their learning. Therefore, some administrators may or not be supportive of inclusive practices (McCurdy & Cole, 2014). This is concerning for educators who through personal experience know that with accommodations and interventions students with Autism can be successful in the mainstream classroom. Furthermore, federal policies currently in place require accommodations and instructional strategies for equity in the classroom (IDEA, 2004; NCLB, 2002). In determining interventions and accommodations, both academic and social emotional learning needs should be considered.

The Need for Intervention

As previously discussed, challenges in Theory of Mind, Gestalt processing and executive functioning may impair students with Autism functioning ability to learn in the general education classroom. However, for students with Autism and a cognitive ability to learn the grade level content, interventions by both the general education and the special education teacher can positively influence and provide maximum benefit of the inclusion experience (Landora & Perepa, 2017). First of all, both a structured approach with explicit teaching (Volkmar, 2014), and a cognitive strategy instructional approach with instruction of the "how to's" for math, reading and writing may benefit the students with Autism (Harrick, Travers, Whitby 2009; Gelfer, Leytham, Nguyen & Whitby, 2015). Second, a comprehensive intervention program for individualized programming should be based on an assessment of skills, learning patterns/styles and ASD-specific behaviors (Hogan & Marcus, 2009). Once the needs of the student have been identified, teachers must implement evidence based practices in meeting the needs of the student (Gelfer, Leytham, Nguyen & Whitby, 2015; IDEA, 2014). Third, inclusion in the general education classroom helps to counter social skill deficits: behavioral, affective and cognitive (Yeo & Teng, 2015). Supportive teachers and academic success contribute to a healthy ecology in the classroom setting (Phelan, 2004).

Academic Learning

The adoption of Common Core state standards poses new challenges for both students with Autism and the teachers who teach them. Key components of Common Core include collaboration and problem solving, which require flexibility in understanding others' perspectives and the ability to express one's ideas clearly (CCS, 2013). Due to social cognitive challenges: a) delayed theory of mind (Baron-Cohen, 1995); b) weak central coherence theory

(Frith & Happe, 1994); and (c) impaired executive function (National Research Council, 2001), students with Autism require interventions and accommodations to support their learning including social cognitive development to show proficiency with standards requiring collaboration, problem solving and social communication (Constable, Grossi, Moniz and Ryan, 2013; Knight & Sartini, 2015).

For example, Common Core standard reading literature 2.3 states that students "should be able to describe how characters in a story respond to major events and challenges" by the end of second grade (CCSS, 2010). Because individuals with ASD do not understand how their actions may impact others, they may have difficulty trying to determine why a character responds to an event a certain way or even predict the behaviors of the characters of the story (Constable et. al, 2013). Utilizing interventions developed by Carol Gray such as "Social Stories™" (2000) and "Comic Strip Conversations" (1994), "students can develop the perspective taking and relatedness needed to support comprehension of the text" (Constable, 2013, p. 5). Students with Autism should be taught "to use both content enhancements and strategy instruction through the use of response prompting methods and explicit teaching of visual supports across content or text structures" (Knight & Satari, 2015, p. 1226).

In math, reading is a key component of Common Core which requires an ability to apply mathematical knowledge to real world problems (CCSS, 2010). Typical peers demonstrate a higher ability than individuals with Autism to solve word problems (Bae, Chiang & Hickson, 2015). Although there is agreement that the Common Core standards are designed to develop the skills needed for preparing students for college and careers, there is a concern that an alternative pathway for students to show proficiency was not considered (Sugita, 2016).

Therefore, it requires educators to respond to the individual needs of learners in assistance to meeting state standards.

Differentiated Instruction

Instructional strategies that supports the needs for all learners in the classroom is differentiated instruction (Tomlinson, 2005). A guiding principle behind differentiated instruction for educators is "providing consistent and robust plans in anticipation and in response to student learning differences" (Tomlinson, 2005, p. 9). Elements of differentiated instruction include: Attending to student differences, assessment and instruction are ongoing and diagnostic, teacher modifies content, process and products, all students participate, teacher and students collaborate in learning, teacher balances group and individual norms and work together flexibly (Tomlinson, 2005). Differentiated instruction is responsive to different learning systems and learning styles (Gregory, 2005). Restak (1994) identifies five systems that are constantly interacting, with multiple connections, as we accept, process, and interpret information (as cited in Gregory, 2005, p. 5). They are emotional learning system, the social learning system, the physical learning system, the cognitive learning system and the reflective learning system (Gregory, 2005). Differentiated instruction provides benefits for all learners.

The framework of Universal Design for Learning "provides guidance for creating flexible curricula and instructional environments, and for using technology to maximize success for all students, including those with physical and/or psychiatric disabilities" (Bernacchio & Mullen, 2007, p. 167). It is intended to be a guide for teaching and learning that can be customized and adjusted to meet individual needs (CAST, 2018). The framework provides three guiding principles providing multiple means of: 1) engagement (why): (recruiting interest, sustaining effort and persistence, options for self-regulation; 2) representation (what): provide options for

perception, provide options for language and symbols, provide options for comprehension; 3)

action and expression (how): provide options for physical action, expression and communication,

executive functions (CAST, 2018). The concept of Universal Design for Learning is that the

teacher will plan instruction that is responsive to the needs of learners, including Autism as an

alternative to considering the needs of students as an afterthought (CAST, 2018). Utilizing the

UDL framework, educators can provide interventions and responsive instruction based on a

student's Individual Education Plan (IEP), providing support for individuals with Autism that

aligns with legal policy and increases student outcomes (Boroson, 2017; Burgstahler, & Russo-

Gleicher, 2015; Goodall, 2015).

Social Emotional Learning

Without direct intervention and support, students with Autism and with social cognitive

challenges will not develop the skills and social emotional learning needed for college and career

readiness (Stichter et. al, 2016; Shochet et al, 2016; Yoon Phaik Ooi et al, 2011). In contrast,

with intervention and support, they have a greater capacity to live independently with minimal

mental health challenges, improving their quality of life and ability to contribute to society

(Locke et al, 2010; Shochet et al., 2016).

Social Emotional Learning (SEL) is an important component when considering student

learning influencing post high school outcomes. "SEL is the process through which children and

adults understand and manage emotions, set and achieve positive goals, feel and show empathy

for others, establish and maintain positive relationships and make responsible decisions"

(CASEL, 2019, What is SEL? Para 1). For individuals with Autism, this is especially

challenging due to an impairment in the cognitive system which regulates attention to emotional

or social events (Chilvers, Corden & Skuse). In fact, difficulty with social cognition, appraisal

of social situation in context including empathy, is a core feature of Autism (Melloni et. al, 2014). Emotion regulation difficulties are associated with deficits in perspective taking difficulties related to Theory of Mind (TOM) and cannot be explained by difference in emotional experiences or labeling of emotions (Samson et. al, 2012). Withdrawal, depression, social problems, thought problems and attention problems are associated with children with high functioning Autism (Yoon Phaik Ooi et. al., 2011). In fact, disengagement coping is associated with higher levels of behavior and emotional problems in adolescents with high functioning Autism indicate a need for intervention (Khor et al., 2014). For the individual with Autism, learning to communicate their needs is vital to long term success and adult life (Brown et. al, 2016). Social emotional learning is an important component of student learning requiring intervention for students with Autism.

Social skill deficits for individual with Autism persist into adulthood heightening their risk for developing depression, low self-esteem and anxiety (Lake, Perry, & Lunsky, 2014). Often anxiety is associated with social interactions as negative emotions and experiences tied to stress seem to occur in specific contexts (Bauminger, 2002). Studies indicate that social understanding can be improved as an outcome of social skills training involving three components: 1) social cognition, social problem solving; 2) understanding emotions; 3) social interactions (Bauminger, 2002). Interventions for autistic students that aim to improve their social interaction skills, particularly that focus on accurately identifying and acting on judgements can improve metacognitive control (Sawyer et. al, 2014). Facilitating friendship through instruction and peer sensitivity may assist feelings of loneliness (Chen, et al., 2016; Locke et. al, 2010). Disengagement as a means of coping in the classroom has been found to be associated with higher levels of behavior and emotional problems (Khor et. al, 2014). This is

possibly due to lower personal self-esteem in autistic people compared to general populations (Cooper, Russell & Smith, 2017). A need exists for social emotional learning in the school setting.

The introduction of SEL can improve behaviors for students with Autism (Adams, 2013). When considering a social skills intervention, consider a two-fold approach: Direct instruction for skill development prior to performing the learned skills in the natural setting (Bellini, 2017). By providing security, helping to connect and reducing tension in participation demands, social skills instruction can support mental health (Ratcliffe et al, 2015).

Developing Social Competencies

Social Learning Tools can be defined as interventions needed in order for students with social cognitive deficits to learn social competencies. Most often a combination of strategies, based on assessment of the student that target deficits underlying the visible behavior, are recommended and can include: cognitive behavior therapy, (CBT) applied behavior analysis (ABA); social skills taught by using social stories, comic strip conversations, video self-modeling with proactive accommodations/strategies (Hoffman, 2013). Regardless of the intervention chosen to build social competencies, consideration should also be given to identifying the function of the behavior or Functional Behavior Analysis (FBA) along-side interventions for shaping behaviors (Sansosti, Powell-Smith, Kincaid, 2004). Most importantly is understanding that each individual with Autism is unique and understanding the child's areas of needs and underlying skill deficits should serve as a guide in identifying the intervention needed.

Social Stories™ and Comic Strip Conversations

Carol Gray, a Special Education Teacher from Jenison, Michigan developed several approaches with her Comic Strip Conversations (1994) and Social Stories ™ (2003, 2010) (Carol Gray Social Stories, 2019). Utilizing both a narrative framework and visual supports, the students are placed in the story with context details they may be missing as needed to build social constructs for various situations. This is an interactive activity in which the facilitator and student are cooperatively engaged in the learning experience. "Comic Strip Conversations regard the thoughts and feelings of others as holding equal importance to spoken words and actions in an interaction" (Gray, 1994, p. 2). This aspect of the intervention provides context for the student to interpret both verbal and non-verbal communication and build competencies associated with TOM such as understanding the perspective of others.

Both of the approaches are designed to identify a target behavior that is negatively impacting the student ad used as an intervention for changing the behavior. Studies show that individuals with Autism can make progress with learning behaviors that demonstrate greater social awareness and ability to build connections with peers. Studies using comic strip conversations to shape social behavior targeted: 1) increasing ability to ask teacher for help, initiate conversations, making eye contact with teacher, respond appropriately to other students; and decreasing behaviors such as playing and/or fiddling with objects in lessons, making inappropriate comments in response to others, daydreaming staring into space (Ahmed-Husain & Dunsmuir, 2014); 2) increase in sharing, cooperating, turn taking and learning and following rules (Laba, 2015); 3) student requests use of comic strip conversations outside of the study in both the school and home setting as indicator of benefits (Rogers & Myles, 2001). Educational Psychology evaluated fifty studies using Social Stories from 1993 (when Gray initially

introduced Social Stories) to 2009 (Styles, 2011). Findings of the study indicate evidence of effectiveness, however additional research is needed that isolates the intervention as the only variable, implements structure control of the framework in order to recommend with confidence as an evidence-based practice (Styles, 2011). However, the National Professional Development Center on Autism Spectrum Disorder (NPCD) lists social narratives as an evidence-based practice in which studies citing social stories as the intervention provide evidence of effective practice (NPCD, n.d.)

Social stories and comic strip conversations were developed as a means of helping students with Autism in the school setting. When using the social learning tools, Carol observed progress with her students, which inspired her to continue her work and is now shared by parents, educators and clinicians for over twenty-five years. Gray's approach is grounded in an effective social philosophy; 'abandons all assumptions', regards both the typical and Autism perspective as 'equally valid', and recognizes the 'social impairment in Autism' as shared (including unintentional mistakes of parents and professionals) (Carol Gray Social Stories, n.d.). As an educator working with students with Autism, using both Social Stories™ and Comic Strip Conversations has been a useful tool in building social skills with students and has served as an inspiration for the development of the Reflection Journal™ (Burke, 2014).

Cognitive Behavior Therapy

The premise that individuals with Autism can re-conceptualize social interactions in order to learn how to read future social interactions is a cognitive behavior therapy approach for learning to monitor their behavior and adjust their responses to other people and situations (Briers, 2014; Gaus, 2007). Visualizing language is a key modification that helps individuals with Autism understand abstract concepts needed in restructuring belief systems (Ekman &

Hiltunen, 2015; Gaus, 2007). Studies indicate group CBT has the potential to reduce stress related symptoms in individuals with ASD (McGillivray & Evert, 2011; Reaven et al., 2012; Tait, 2013, Vasa, et. al, 2014). The process of examining and shifting beliefs (CBT) can break the cycle of low self-esteem (Briers, 2014). In the school setting, the teacher plays a critical role in understanding the needs of the student and appropriateness of CBT intervention (Tait, 2013). However, parent and family factors may have a greater impact on the effectiveness of CBT than student characteristics (van Steensel et. al, 2017). The next section will review interventions considered emerging practices supporting cognitive behavior therapy with visualizing components as a means of shaping behavior and developing social emotional skills appropriate to the school setting.

Social Thinking

In 1997, Michelle Garcia-Winner published the book titled *Thinking about you, Thinking about Me.* This began the development of Social Thinking®, a way of looking at being social as a cognitive process involving the development of awareness of self and others through a systematic teaching of the thinking behind social skills. Social Thinking® strategies have been recognized all over the world and have been adopted in Speech Therapy sessions, Counseling Therapy sessions, educational/instruction settings in private, public and home environments. Pamela Crooke and team initiated a study in 2007 offering data to consider Social Thinking® as an evidence-based intervention. The study showed that "teaching Social Thinking® for children with AS/HFA may be an effective approach for increasing positive social behaviors and decreasing less desirable social behaviors within this specific sub-population" (Crooke, et al, 2007, p. 11). This study highlights the use of Social Thinking® vocabulary, a visual language to help individuals understand the concepts that are more automatic in the neuro-typical mind.

Another visualization tool, the social behavior map helps individuals understand how their unexpected behaviors impact how others feel, which then influences how they respond to you and their response to you impacts how you feel about yourself. By using a graphic organizer format, a visual contrast is made from unexpected behavior to expected behaviors which help others feel more comfortable with you, which in turn influences how they respond to you and then you feel better about yourself (Winner, 2007). The availability of training and conferences supports the ease and availability for educators, school psychologist, speech therapists and family members in learning effective ways to use an array of social learning tools in building social communication skills.

Proficiency in implementing the Social Thinking® methodology has increased. Recognized in the *Journal of the American Academy of Child and Adolescent Psychiatry*, Volkmar & et. al (2014) includes Social Thinking® as a social communication intervention. Additional studies since Crooke and et. al (2008) promote Social Thinking® as a social communication intervention (See Table 2.1 for overview of peer review articles and studies on Social Thinking®). As of this time, studies focusing on the use of the framework of the Social Behavior Map (Social Thinking® framework) has not been released. The social behavior map will be an important component of the intervention used in this study. See Appendix A for an overview of peer reviewed articles, thesis and dissertations on Social Thinking®.

Part of the confusion in identifying appropriate interventions for individuals with Autism is that the level of impairment varies. As noted in the DSM V, there are variations of supports needed between Level 1, Level 2, and Level 3 based on the level of support needed (See Table 1.1). Thus, it is reasonable to consider that a child with more severe presentation (Level 3) less cognitive ability may receive a greater benefit from earlier and more intensive intervention such

as Applied Behavior Analysis. In contrast, an individual requiring less support (Level 1) with higher cognitive ability may benefit from cognitive behavior interventions that focus on changing behavior through cognitive restructuring or in simple terms changing their thinking. The change from DSM-IV to DSM-V allows for descriptive subtypes "including specifiers for the presence or absence of intellectual impairment, language impairment, catatonia, and known medical, genetic or environmental factors (Volkmar et. al, 2014, p. 239). As a teacher with reflective practices, recognizing the parallel between Autism as a spectrum disorder and an array of approaches for shaping behavior has provided a framework in selecting an intervention most responsive to the student's need. It is through this study, that observations from reflective practice as a teacher researcher, can be provided to support validity and positive outcomes of social learning tools as an intervention for developing social communication skills in students with Autism.

Evidence Based Practices

Evidence based practice refers to a three-element model including evidence-based assessment, evidence-based intervention and evidence-based analysis (Stichter, Riley-Tillman, & Jimerson, 2016). The evidence component refers to the use of data to determine and monitor practice and outcomes to determine effectiveness as shown through rigorous research trials. The current challenge is the confusion of popular, emerging and evidence-based practices (Courey & Le Page, 2014; Jimerson, Riley-Tillman, Stichter, 2016). Emerging practices refer to practices that are promising but need additional studies to determine validity as an evidence base practice (Courey & Le Page, 2014). To assist with educators in identifying practices based on evidence of effectiveness for individuals with Autism, The National Professional Development Center (NPDC) on ASD has identified twenty seven evidence based practices and provide resources on

how to plan, implement and monitor specific evidence based practices including Cognitive Behavior Interventions, Social Skills Training, Social Narratives, Visual Supports (NPDC, n.d.). What is agreed upon is the reality of increased prevalence of Autism and the challenges of supporting the social and cognitive development of children in the educational setting (Randolph, 2009, 2015, Riley-Tillman, 2016).

A great resource for educators who are choosing an intervention is published by The National Autism Center May Institute, "Evidence-Based Practice and Autism in the Schools: An Educator's Guide to Providing Appropriate Interventions to Students with Autism Spectrum Disorder, 2nd Edition" (Randolph, 2009, 2015). Findings of the study identified fourteen interventions: behavior intervention, cognitive behavior intervention packages, comprehensive behavioral treatment for young children, language training (production), modeling, naturalistic teaching strategies, parent raining package, peer training package, pivotal response, schedules, scripting, self-management, social skills package, and story-based interventions. Emerging practices relevant to this study include social communication intervention and theory of mind training.

Summary

As the prevalence of Autism increases, it is necessary for educators to understand the impact of Autism in education and how to teach and support this population in an inclusive classroom (Hendricks, 2011). By understanding the ecology of inclusion and circles of influence we can consider the limitations for students with autism and how this impacts their acceptance or degree of social inclusion and their dependence on teacher preparedness and mindset. Interventions are needed for both academic and social emotional learning. Therefore,

differentiated instruction and strategies for teaching social competencies and the need for evidence-based practices were discussed.

There is minimal research on the self-efficacy for students with Autism and their perspective of the inclusion experience (Koller, Pouesard, Rummens, 2018). A better understanding of student perspectives can guide future research and better inform caregivers and educators in supporting student achievement, well-being, and has the potential to guide future research and identification of practices that are responsive to the needs of the students.

By engaging in reflective practice on effective data driven instruction, educators can engage in action research as a means to contribute to the field of special education (Controy, 2014), and through inquiry, can change and improve practice (Lee, Sachs & Wheeler, 2014). The teacher as researcher provides an opportunity for action researcher in the educational setting (Vaughan & Burnaford, 2016). Additionally, the teacher as action researcher gives the teacher a voice and can be instrumental in becoming a teacher leader (Sharma, 2015).

Building on previous research that provides understanding of Autism, the deficits impacting learning and identifying effective practices while expanding reflective practices into action research is the driving force behind this study.

CHAPTER 3: INTERVENTION

This section will explore the learning processes of individuals with Autism as well as outline the intervention for both students and teachers used for this research study.

The Learning Process of Individuals with Autism

Research has provided a better understanding of the science of learning which should serve as a guide in identifying instructional strategies and interventions (Bandura, 1997; Goldstein & Ozonoff, 2018; Siegel, 2012). This section will look at several theorists, Arwood, Kaulitz and Vermeulen, and their contributions for understanding the learning process of individuals with Autism.

Learning Concepts is a Process

Individuals with Autism who have the capacity for learning the grade level content may have difficulty in the classroom behaviorally. This is largely due to the developmental disorder of Autism and requires accommodation for the student to be successful, Minshew and Williams (2008) stated, "Thinking differently is not a choice in Autism, but a consequence of very real differences in the brain" (p. 45). With continued research there is hope for cognitive interventions that will promote the "growth of underdeveloped brain circuitry and higher-level skills" (Minshew & Williams, 2008, p. 60).

Research indicates that children with Autism Spectrum Disorders (ASD) cannot always integrate patterns into concepts (Arwood & Kaulitz, 2007). From an early age, as patterns overlap to build concepts, a child begins to develop cognition. Language represents that cognition. Children with ASD may not be able to synthesize the sensory input (seeing, hearing, tasting, feeling smelling) into meaning the same way as neurotypical peers. Learning a concept is a process as illustrated in Figure 3.1. "The Learning System consists of layers of development:

(a) the senses receive input; (b) the sensory input creates patterns of input; (c) the neurological system recognizes these patterns; (d) the patterns form systems of pattern integration and inhibition; and the systems of patterns create concepts. Language patterns represent the underlying concepts" (Arwood & Kaulitz, 2007, p. 36 & 37).

This paradigm applies to learning behavior. "To learn to behave appropriately; the child with ASD must form visual concepts" (Arwood & Kaultiz, 2007, p. 119). To help with this process Arwood & Kaultiz model their method of helping the individual with Autism integrate neurological patterns with a multi-sensory approach. Combining cartoon illustrations of the child performing the activity as a means of the child seeing themselves in the activity is the first step. Next is providing visual descriptive or narrative language as a way of guiding the child to engage in the behavior kinesthetically. This involves more than just a command of *sitting down*. It may involve more instructions such as: I need you to sit in the chair with your bottom on the seat and your feet flat on the ground without making any sounds. By combining the physical act of following the verbal and visual directions helps the child integrate the experience into their understanding of what it means to sit down quietly.
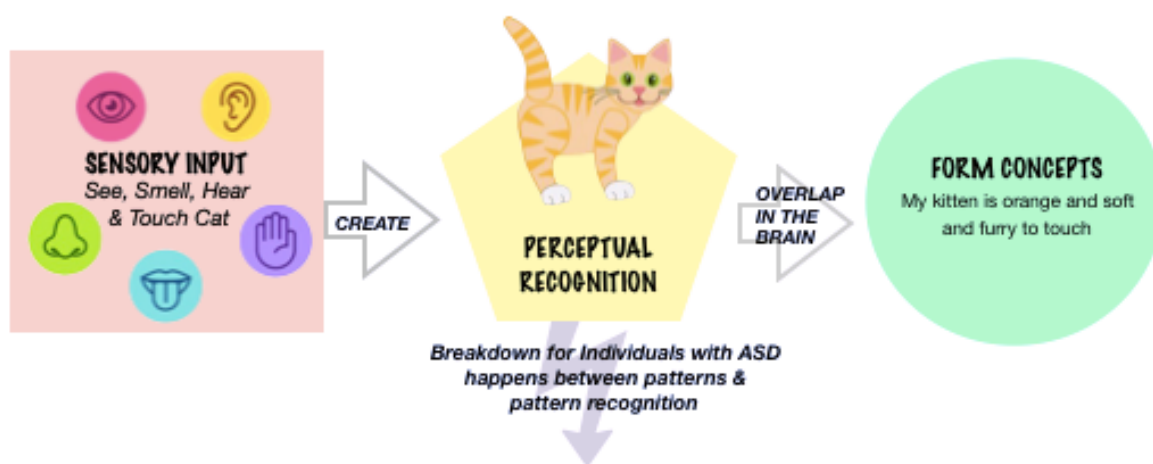
Figure 3.1. Learning System is a Process (Arwood & Kaulitz, 2007).

Autism as Context Blindness

      Vermeulen challenges us to consider Autism as context blindness, "Context is what is going on in the environment, outside and inside our brain, that influences our way of giving meaning to things" (Vermeulen, 2012, p. 37). The neurotypical brain is able to do this automatically and is referred to as context sensitivity. For example, consider a picture of an eel on land. It no longer looks like an eel, but rather looks like a snake. In his book, "Autism is Context Blindness" (2012), Vermeulen explores the role of context in cognitive functions such as perception, language, behavior and "development of world knowledge and common sense" (p. 307). Considering both the impact of weak Theory of Mind and Weak Central Coherence, it is understandable how the autistic mind would have difficulty with context sensitivity. Vermeulen proposes it is more than just having difficulty with imagining what others think, feel or know (TOM) and the built in propensity to "form coherence over as wide a range of stimuli as possible, and to generalize over a wide range of contexts as possible" (Vermeulen, 2012, p. 308). Vermeulen suggested, "More important than seeing the whole of the details is picking up what is relevant and being able to flexibly switch one's attention between the whole and the details" (p. 315). He defines context blindness as "a deficit in the ability to use context spontaneously and subconsciously to determine meanings" (Vermeulen, 2012, p. 318). This definition highlights the difficulty that individuals with Autism have the tendency "to think in fixed one-to-one relationships, not in contextually changing one-to-many relationships. For example, to someone with Autism, a book can only be a book. A world in which books can also be murder weapons, umbrellas, or stairs can be very confusing for people with Autism" (Vermeulen, 2012, p. 321). He suggests that concrete communication is helpful for the autistic mind to "not have to search for the concrete meaning of words, questions and instructions in the here and now" (Vermeulen,

2012, p. 366). Important questions to ask are "To what is this person blind? Which context does he not see or is not able to imagine?" (p. 368).

An intervention approach that focuses on a better understanding of the thinking of the individual versus the behavior of the individual is recommended for those who have context blindness. For social skills instruction he recommends, "start from concrete contexts and focus the attention of people with Autism on relevant contextual elements" (Vermeulen, 2012, p. 377). His example of this is to teach emotions from pictures or drawings that include the situation and not merely pictures or drawing that show the face. Additionally, he suggests teaching language with the understanding that words often do not have fixed meanings and instead focus on "how words and sentences in a paragraph give clues to the meaning of a word they do not yet know or a word that has multiple meanings (Vermeulen, 2012, p. 377). It is important to create an Autism-friendly environment "in which people with Autism are offered clarity about the many changing meanings in our world" (Vermeulen, 2012, p. 379). Helping individuals with Autism attach meaning within a given context is key to be able to demonstrate understanding of the autistic mind and provide practical approaches to help them build connections with the world around them.

<div align="center">**Intervention**</div>

Social Learning in the classroom involves both teacher and students. For the purpose of this study, there will be two separate interventions one for teachers and a separate intervention for students.

Teacher and Staff Intervention Description

In addition to the potential of increased self-awareness for the teachers as they complete the Inclusion survey located in Appendix B, the teacher intervention for the study will include, teacher training, coaching sessions and focus group at the end of the study.

Teacher Training

Professional development was provided on April 18, 2019 to build awareness of the needs associated with students with Autism and their social challenges. Presentation Document is located in Appendix C. The significance of this for educators is to discover their unconscious bias toward unexpected behaviors (rigid thinking, difficulty working in groups and communicating their ideas) and recognizing the underlying cause and skill deficits needed in order for students to appropriately engage in social learning experiences. Included in the training was an introduction to the social learning tools, Social Behavior Map™ and Reflection Journal© to be used in the student intervention. The purpose is to familiarize teachers with the interventions and common language they can use with students in generalizing the skills learned in the social skills intervention and provide greater capacity for responding and facilitating positive interactions.

Coaching Sessions. As needs were identified through classroom observations and teachable moments in the social skills session, the researcher provided coaching sessions with the teacher. This occurred through informal check-ins and scheduled meetings based on the needs of the teacher and or if insight into the student is revealed through the social skills intervention.

Focus Group. At the end of the school year, teachers were invited to participate in a focus group purposed in exploring teacher beliefs toward inclusion. Bringing the teachers

together provided an opportunity for them to exchange information with each other, share their experiences and insights gained providing the opportunity to expand their beliefs and learn from each other.

Student Intervention Description

The student intervention component of the study involved social skill groups utilizing social learning tools (Social Behavior Map™ and Reflection Journal™) and facilitating learning through experiences in a small group setting 60 minutes weekly. Utilizing Social Thinking® concepts, as previously defined, students learned key Social Thinking concepts and vocabulary and using the Social Behavior Map™ and Reflection Journal© increased their social awareness for various situations.

Social Behavior Map

The social behavior map (SBM) was developed Michelle Garcia-Winner (2007) to assist individuals with making the connections with emotions and behavior (See Appendix E). The graphic organizer provides a visual representation of the chain reaction in response to "expected" and "unexpected behavior" in the context of a given situation. The production of "expected or unexpected" behavior directly impacts how others feel and in turn influences their response. Often the individual with the behavior misses their contribution to the sequence of events and focus on what the other person did and how that made them feel. One of the benefits of the SBM as a teaching tool is for the student to see the possibility of a different outcome by their initiating an expected behavior as an alternative to the unexpected behavior. An important component of the SBM is teaching the hidden rules of different situations as to what is socially accepted "expected" and what behaviors can cause others to feel uncomfortable and have "weird thoughts" about you. Social Thinking® concepts such as having a flexible brain, thinking of

others, filtering thoughts, etc. provide cognitive understanding for the student in assisting them with making the changes needed for improving social outcomes. The author's intention of the SBM is to build observation and social awareness skills, thus implementation of the tool has a guided framework to implementation with fidelity. A guide for using the SBM to develop social awareness is included in the Appendix (See Appendix F).

The Reflection Journal©. The Reflection Journal© (Burke, 2020) was developed by the researcher in her work with students with Autism in helping them to make sense of their world and apply Social Thinking® concepts to real experiences (See Appendix G).

Journaling has been a traditional practice for self-reflection and personal growth. For students with Autism, labeling emotions, writing their ideas, putting details together to understand the big picture are challenges that interrupt the traditional journaling process. As an alternative, the Reflection Journal© provides the students with a reflective practice using pictures to analyze their experiences. Utilizing thought, speak and emotion bubbles, the student is guided to make connections with their thoughts, emotions and actions and builds capacity to interpret other's actions. By making smart guesses of what the other person may be thinking and feeling in a given context, the student can begin to learn how to interpret intentions as needed to guide future social interactions.

The Reflection Journal can provide meaningful information in guiding the student to developing problem solving skills as there is a teaching component of concepts and also applying understanding of concepts in teachable moments.

Instructional components of the Reflection Journal include: 1) Reflection is a tool; 2) Thought and Emotion Connection; 3) Emotion Scale (Vocabulary for labeling emotions with understanding of the level of emotion); 4) Understanding stages in changing behavior: self-

awareness, self-monitor, self-control (Winner, 2005); 5) Identify Goals (Winner, 2005); 6)

Reflecting on our own thoughts, words and feelings (Gray, 1994); 6) Reflecting on the thoughts,

words and feelings (Gray, 1994); 7) Reflecting on Social Interactions (Gray, 1994, Winner,

2008) Example of journal entry; 9) Daily journal entries for student reflection.

The journal also serves as a record of the student's social experiences and provides

information on the student's ability to interpret their social experiences and often demonstrates a

greater capacity after extended use of the Reflection Journal©.

Social Component. Additionally, the school intervention program included a social

component to build trust between researcher and students, as well as opportunities to for students

to connect their personal experiences with the process of reflection and analysis to build

strategies and practice skills need to improve social interactions in the general education setting.

Social Skills Session. The thirty-minute social skills session included an activity and skill

development component as illustrated in Figure 3.2. During the initial phase the activity

included a check-in which models self-reflection and beginning social awareness of events and

emotional response is a verbal group activity. Social Thinking® vocabulary was introduced as

part of discussion in context of teachable moments. The second phase moves from a verbal

check-in to individual processing through the use of the Reflection Journal and continues with an

instructional component.   There is an overlap between Phase One and Phase Two in pairing

teaching SBM with the Reflection Journal. Social Learning Tools is a phrase being used during

the intervention time to teach social learning concepts and includes Social Thinking®, Social

Behavior Map, and the Reflection Journal which contains materials adapted from Social

Thinking® and Comic Strip Conversations. Figures 3.2 and 3.3 illustrates how the activity and

skill development varied based on phase.

Each session had a clear activity, instructional component and learning objective assigned for each social skill session paired with week. Week One included introduction of the study and completing student survey and rating scales with the objective of "*I can reflect on my social communication skills and relationships with peers & I can reflect on my social emotional learning skills*." Figure 3.4 includes the Lesson Plans for Social Skill Sessions for Week one through four as the Instructional Phase and Week five beginning the Journaling Phase. Figure 3.5 includes the lesson plans for Social Skill Sessions during week six through week ten.

SOCIAL SKILLS SESSION: INSTRUCTIONAL PHASE		
ACTIVITY	DESCRIPTION	SKILL DEVELOPMENT
1) CHECK-IN	a) Students take turns sharing one item, can be something from current or previous day. b) Once emotion vocabulary is introduced will include level and label of emotion. (ie. Today, I was at a 3, frustrated when my mom was rushing me this morning).	Students practice speaking and listening skills. • Showing thinking of others by turning their body toward the speaker and keeping their eyes on the speaker. • Keeping the spotlight on the speaker (listening without commenting). • Eventually, will practice reflect and mirror (think about what was shared and share back, such as: "Sounds like you were upset when you didn't get to go". • Students encouraged to share experiences and relating comments outside of group time or during social time at the end of the session.
2) LESSON	a) Social Thinking® : Concepts/Vocabulary (i.e. expected and unexpected, flexible thinking, filtering thoughts, thinking of others, body in the group, brain in the group. b) Social Behavior Map: introducing chain reaction of behaviors and emotional response with given context or situation. c) Reflection Journal: reflection as a tool; emotion thought connection, level of emotion, changing behavior, setting goals, reflecting on self, others, interactions, example of how to use journal.	• Lessons may include an activity or visual support to understand concepts such as: demonstrate using a filter to keep grounds separated from drink when water is poured over (Winner,) • Examples used in teaching how to use the Social Behavior Map will come from teachable moments in the classroom (observations) or in the social skills session. • Lesson concepts in the Reflection Journal can overlap with above teaching moments. However, foundational concepts should be understood before students begin using the journal for personal reflection.

Figure 3.2.1. Social Skills Session Structure: Instructional Phase

SOCIAL SKILLS SESSION: JOURNALING PHASE		
ACTIVITY	DESCRIPTION	SKILL DEVELOPMENT
1) JOURNAL	a) Students will follow the prompts in the journal to reflect on an event.	• Students typically need scaffold support with initial use of journal. May need some ideas what to reflect on, may need prompts on interpreting emotions of others (was face friendly or unfriendly)
2) COACHING	b) Identify teachable moment and model social interaction reflection and how to learn from the experience for the whole group. c) Understanding the communication breakdown and making a plan for a different outcome. d) Some teachable moments revealed in the journal warrant a private one on one coach session outside of the group. e) Student work can be shared (with student permission) with teachers to better understand student thinking and how they can help student with future events.	• Modeling how to use the reflection including coaching prompts moving from more literal events to include inference components of the interaction. • Reflect on self: What did you say? What were you feeling? How did you look to them? Friendly or unfriendly? What were you thinking? • Reflect on others: (Who was involved? Where did this happen? What did they say? what did their body language look like? Did they look friendly or unfriendly? What do you think they were feeling? What do you think they were thinking about? (teaches understanding of intention) • Model/teach how to repair and make a plan for next time. (i.e. They may not have understood your plan. How can you use your words so they can know what you are thinking or feeling? (teaches concept of misunderstandings)

Figure 3.3.1. Social Skills Session Structure: Journaling Phase

Plans for Social Skill Session using Social Learning Tools to build Social Awareness				
Week #	Beginning Activity	Instructional Component	Description	Student Learning Objective
1	Check-In	Student Survey	Introduce study and role of participants. Allow time for students to ask questions.	I can reflect on my social communication skills and relationships with peers.
	Check-In	Student Rating Scales		I can reflect on my social emotional learning skills.
2	Check-In	RF: Thought-Emotion Connection	Introduce concept & make connections to student experience	I can understand how my perspective influences my emotional response.
	Check-In	Emotion Scale	Level of emotion and building vocabulary to use for reflecting	I can build emotional vocabulary to help with identifying how I feel
3	Check-In	Teacher Models: SBM – others & RF: Self Reflection	Introduce SBM and chain reaction focusing on other's behavior and how it makes us feel, Introduce Reflection Journal and using pictures to indicate thoughts, words and emotions. Use same situation to demonstrate both.	I can recognize how behaviors influence how I feel and respond to expected and unexpected behaviors of others.
	Check-In	Students Practice: SBM: others & RF: Self Reflection	Students practice using SBM to identify how they feel when others have unexpected and expected behaviors.	I can use pictures to reflect on an interaction and how the other person's behavior made me feel.
4	Check-In	Teacher models: SBM- self & Reflect on Others	Introduce SBM and chain reaction using our own behavior. Introduce RF: and using pictures to reflect on what others say, may be feeling and thinking.	I can develop awareness of how my expected and unexpected behaviors may influence how others feel and respond to me.
	Check-In	Students Practice: SBM: Self & Reflect on others	Students practice SBM focusing on their own behaviors	I can begin to understand how expected and unexpected behaviors differ based on the situation and the people involved.
5	Reflection Journal	RF: 3 Stages to changing behavior	Instruction on building understanding of 3 stages of changing behavior and teacher's role in developing awareness.	I can learn to develop social awareness with the help of my teacher and peers as needed to control my unexpected behaviors.
	Reflection Journal	RF: Identify Goals & Social Thinking® Strategy to use	Identify goals and Social Thinking® strategy for increasing expected behaviors (i.e. flexible thinking, thinking of others)	I can set goals and identify Social Thinking® strategies to help me reach my goals.

Figure 3.4.1. Lesson Plans for Week One Through Week Five: Instructional Phase and Week

Five is Beginning of Journaling Phase.

Plans for Social Skill Session using Social Learning Tools to build Social Awareness				
Week #	Beginning Activity	Instructional Component	Description	Student Learning Objective
6	Reflection Journal	SBM: RF: Social Interaction	Choose a situation for this lesson that was highlighted during observation.	I can put it all together and reflect on an interaction between myself and someone else.
	Reflection Journal	Students share their reflections	Choose one student reflection and using SBM model the situation and discuss the expected and unexpected behaviors for the context.	I can begin to understand how demonstrating expected can lead to a better outcome for me.
7	Reflection Journal	Lesson: Thinking is Not Knowing	Using our senses we take in information and based on the information we can make a smart guess about what others may be thinking or feeling.	I can learn to recognize that I need more information than my thoughts to make a smart guess about other's intentions.
	Reflection Journal	Students share their reflections	Choose one student reflection and using SBM model the situation and discuss the expected and unexpected behaviors for the context.	I can begin to understand how expected and unexpected behaviors differ based on the situation and the people involved. I can begin to understand how expected and unexpected behaviors differ based on the situation and the people involved.
8	Reflection Journal	Lesson: Base on recurring theme from student journals	Social Thinking® concept	I can learn Social Thinking® to build skills in showing thinking of others.
	Reflection Journal	Students share their reflections	Choose one student reflection and using SBM model the situation and discuss the expected and unexpected behaviors for the context.	I can begin to demonstrate Social Thinking® to build relationships with peers.
9	Reflection Journal	Reflecting on our personal goals. Student Survey	Students reflect on where they are in meeting personal goals. Students complete student survey.	I can evaluate where I am in meeting personal goals and make a plan for future success.
	Reflection Journal	Reflecting on stage. Student Rating Scale	Students reflect where they are in stages of changing behavior: Awareness, Monitor or Self-Control. Students reflect on personal growth when filling out rating scale.	I can reflect on my progress and be encouraged that I am making steps toward Social Learning.
10	Check-In	Celebration	Social Gathering to celebrate our time together and sharing the journey of Self-Awareness	I can learn to celebrate my victories and share the experience with others.

Figure 3.5.1. Lesson Plans for Week Six Through Week Ten: Continuation of Journaling Phase.

Summary

This chapter provided an overview of both the teacher and student intervention to be used in this study. First, we looked at how learning a concept is a process and for students with Autism, their mentalization abilities are impaired which impacts this process (Arwood & Kaulitz, 2007). We then looked at the concept of Autism as context blindness and the need for support with putting the details together to develop understanding and build connections (Vermeulen, 2012). Both provide the science behind how the visual supports and organizational components of both Social Learning Tools (SBM and Reflection Journal) benefit students with autism.

The teacher intervention included a survey (to build awareness of their personal beliefs), professional development (Building Self-Efficacy in Students with Autism), feedback form (to reflect on their own learning experience) and a focus group (reflect on their experiences in a group setting and learn from each other).

The student intervention included social skills sessions, thirty minutes for two times a week, over a ten-week period and included two Social Learning Tools, Social Behavior Map (Winner, 2007) and Reflection Journal© (Burke, 2020).

The next chapter provides an overview of the Methodology used for this mixed methods study including measures used and how the data was analyzed to answer each research question.

CHAPTER 4: METHODOLOGY

This quasi-experimental, mixed-methods research study used a combination of surveys, student work samples and observations, both qualitative and quantitative methods, to gather and analyze data in determining a relationship between interventions (social learning tools) and student outcomes (increased self-efficacy, student engagement and social inclusion). This chapter provides the setting and participants, sampling procedures, instrumentation, validity and reliability, data collection and data analysis methodology.

Setting and Participants

This study was conducted at a project-based learning charter school located in Orange County with a student population of 800 students, kindergarten through eighth grade. For the purpose of this study, participants were between age of ten to thirteen years of age (fifth and seventh grade) and received the social learning tools intervention in a social skills group format for 60 minutes per week. Participants were on a voluntary basis and all but one student participant in the social learning intervention was identified as being eligible for Special Education Services as outlined in an Individual Education Program (IEP). Student participants as peers in the study may or may not have been identified as being eligible for an IEP. All students participate in general education setting for academic instruction.

For the fifth-grade participants, six students with Autism on an IEP participated in the social skills intervention group and six peers without social skills intervention participated in the student survey. Their data (fifth grade peers not receiving social skills instruction) was only included for research question number five. For the seventh-grade participants there were two groups, social skills participants and their peers. Five student intervention participants are identified by their qualifying area for Special Education services: two students with Autism

(AU), two students with Other Health Impaired (OHI), one student with Specific Learning Disability (SLD) and Speech and Language Impairment for articulation (SLI), one student participant requested to be in the social skills group and does not receive Special Education Services and is identified as Neuro Typical Peer (NYP). In addition to the six intervention participants who participated in the survey, twenty-eight seventh grade students participated in the student survey. Three students from this group were eligible for an IEP but were not identified in the study.

Participating Kindergarten through eighth grade educators, including teachers, instructional facilitators and administrators were given the opportunity to participate anonymously with administration endorsement. The decision to participate was on a voluntary basis. Not all educator participants (to be identified as teachers for simplicity during the rest of this study) have students participating in the study. All participating teachers were eligible to participate in the study regardless of years of experience, gender or ethnicity.

Sampling Procedures

Both convenience and purposeful sampling were used for this study. Participants included teachers (which included instructional facilitators and administrators) and students from the school site. Students currently receiving social skills intervention were invited to participate in the data collection component of the study (student survey, rating scales, work samples and interview). Additionally, neuro-typical peers were recruited by invitation and on a voluntary basis to participate in the data collection component of the study (student surveys approximately April 1st and again at the end of the school year). Teachers, staff and administrators were invited by email to participate in a survey prior to the professional development given to all staff. Participants in the professional development were asked but not required to complete the

feedback survey. All staff was invited to participate in the focus group by email. The focus group was scheduled as a working lunch with sandwiches and beverages provided for convenience at the end of the school year. The study was at no financial cost and allowed for varying level of participation.

<center>**Instrumentation and Measures**</center>

Four quantitative pre and post social learning tool intervention measures were used to identify baselines and determine growth (progress): 1) Student Reflection of Social Learning, utilized a survey format created by the researcher to measure student beliefs (self-efficacy) about their ability to engage in Social Communication skills and Academic Learning, and includes socio metric scales, 2) Academic Interaction and Social Communication Skills (AISCS), teacher observation rubric created by the researcher of measuring student engagement in the general education setting, 3) Norms based behavior rating scale: Social Skills Intervention System – Social Emotional Learning (SSIS-SES) student rating scale measures social emotional competencies as outlined by CASL. 4) Norms based behavior rating scale: Social Skills Intervention System – Social Emotional Learning (SSIS-SES) teacher rating scale measures social emotional competencies as outlined by CASL.

Quantitative and qualitative methods were used with teacher participants measuring self-efficacy pre and post professional development during student intervention to measure increase in teacher self-efficacy as a contributing factor for increasing positive student outcomes in the classroom. A focus group with participating teachers post intervention provided a teacher lens in evaluating the experience of supporting this population of students in the inclusion setting.

Qualitative methods were used to analyze student work samples (Social Behavior Map ™ and Reflection Journal©) and audio recording of teacher-student discourse of student work were

used to gain insight into the effectiveness of the Social Learning Tools intervention. Open ended

survey questions following structure of sociometric scales were used to include student with

Autism and their peers' perspectives toward social inclusion. An overview of measures and

timeline in relation to both teacher and student intervention were provided in Table 7.1.

Table 7. 1

Timeline for Instruments and Measures Pre and Post Intervention.

TIMELINE	STUDENT PARTICIPANTS Receiving Intervention	STUDENT PARTICIPANTS Not Receiving Intervention	TEACHER PARTICIPANTS
Recruitment Phase:	Permission Slips Signed	Permission Slips Signed	Permission included in survey
Baseline Data	1) Student Self-Efficacy Survey 2) SSIS-SEL student rating scale 3) SSIS-SEL teacher rating scale 4) AISCS RUBRIC: Teacher Observation	1) Student Self-Efficacy Survey 2) SSIS-SEL student rating scale* 3) SSIS-SEL teacher rating scale* 4) AISCS RUBRIC: Teacher Observation*	3) Teacher self-efficacy Survey
Beginning Intervention Phase: 60 minutes weekly	Introduce SBM & Reflection Journal in Social Skill Groups		Professional Development on Building Self-Efficacy for Students with Autism *(includes feedback survey)*
End Intervention Phase	1) Student Self-Efficacy Survey 2) SSIS-SEL student rating scale 3) SSIS-SEL teacher rating scale 4) AISCS RUBRIC: Teacher Observation 5) Interview Students	4) Student Self-Efficacy Survey 5) SSIS-SEL student rating scale* 6) SSIS-SEL teacher rating scale* 7) AISCS RUBRIC: Teacher Observation*	1) Focus Group with teachers

Note: Description of tools and measures provided separately.
Note: * Data collected but not included in data analysis to answer research questions.

Self-Efficacy Surveys

Google form surveys, Teacher pre-intervention (Appendix B); Student pre intervention (Appendix H) and post-intervention survey (Appendix I) were designed to measure the self-efficacy of teachers and students. Both surveys used a Likert scale to measure questions associated with self-efficacy beliefs as outlined in Bandura's work (Bandura, 1977). However specific questions were designed to measure constructs associated with 1) teacher perspectives toward inclusion & student performance, and 2) student beliefs involving academic interaction and social communication skills, 3) sociometric scales. The researcher utilized best practices to construct a self-efficacy survey that included internal consistency using simplified language, inverse questions, and employed demographic questions designed to look at extraneous factors for teachers such as years teaching, professional development, perspectives toward inclusion, knowledge of Autism, etc.; for students extraneous factors such as gender and grade level were included.

Sociometric Measures

Peer reports can provide valid, real-time information on social competencies in the classroom (Asher & Coi, 1990; Coi & Dodge, 1988; McMullen et al., 2014). In particular, sociometric scales have the potential to measure social acceptance in the classroom. Studies suggest that "sociometric status in childhood is related to social adjustment in adolescence and adulthood" (Ollendick et al., 1992). This information is relevant for teachers in creating socially balanced groupings, seating arrangements and fostering inclusive learning environments. For the purpose of this study, sociometric scales were used to identify patterns of social interactions in the classroom and the ability to monitor if increased social skills influenced change in student perceptions and inclusion. Utilizing a nomination approach as opposed to rating peers as

outlined in a study by Bakker et al. (2007) which looked at sociometric status and self-image of children in both general education and special education classes was considered to be relevant to this study.

Sociometric scale used in this study was created by Burke (2019) after reading other surveys and determined process of nomination as being the preferred method for this study. Questions looked at three areas of nomination: academic (sit near), recess (hang out with) and outside of school day (invite to birthday party). Nominations of peers included a first choice and second choice for both a positive nomination opportunity and a non-positive nomination. The researcher considered the use of rating scales and nomination and determined based on McMullen's, (2014), "peer nominated sociometric methods provide more accurate discriminations between students who were perceived to have an elevated risk for problematic behavioral traits (e.g. rejected, controversial) and students without (e.g. popular, average) than most of the rating-based methods" (p. 634). Questions for Sociometric scales are listed in Table 8.1

Additional clarifying questions of, What it is about that person or how they make you feel that you would prefer to or not prefer to sit near them in class?, play with or not with at recess, invite to or not invite to a birthday party, followed each of the sociometric nominating questions to aid in self-awareness and identifying associating behaviors causing the favorable or unfavorable response for each question. This is an additional component added to contribute to the phenomenological component of this research in understanding perspectives of students regarding social inclusion. Care was given in advance to the confidentiality of responses with student participants. Sociometric scales were included in the student survey pre intervention (Appendix H) and post intervention (Appendix I).

Table 8. 1

Sociometric Scales: Nomination Questions Embedded in Student Survey Pre and Post

Intervention.

NOMINATION FOR	SETTING	NOMINATION NOT FOR
Name one student who you like to sit near in class?	Academic	Name one student who you prefer not to sit near in class?
Name another student who you like to sit near in class?		Name another student who you like to sit near in class?
Name one student who you prefer to hang out with during recess?	Non-Academic	Name one student who you prefer not to hang out with during recess?
Name another student who you prefer to hang out with during recess?		Name another student who you prefer not to hang out with during recess?
Name one student you would like to invite to do something outside of school such as come to your birthday party?	Outside of School Day	Name one student you would prefer to not spend time with outside of school such as invite to your birthday party?
Name another student you would like to invite to do something outside of school such as come to your birthday party?		Name another student you would prefer to not spend time with outside of school such as invite to your birthday party?

Academic Interaction and Social Communication Skills (AISCS). This observation

tool was used for one component of data collection to measure student engagement. Pre and post

intervention observations were used to identify baselines and post intervention outcomes. The

purpose of this component of the study was to clearly identify the observable social skill needed

to engage in social learning. Observations include social skill participants and classroom peers.

However, data collected using the AISCS with peers has not been included in the results as they

do not directly relate to the research questions posed in this study. The Academic Interaction

and Social Communication Skills (AISCS) teacher observation rubric (Appendix J) was

developed to identify observable behaviors in the classroom with the lens of understanding

relationship between skill deficits and compensatory behaviors when there is a "lagging skill or

unsolved problem" (Greene, 2014, p. 16). The AISCS was used to identify areas of need for

focused instruction using the Social Behavior Map and Reflection Journal and also for monitoring progress with consideration of Belllini (2006) separating out the difference between developing a skill and performing the skill; "The success of your social skills program hinges on your ability to distinguish between skill acquisition deficits and performance deficits" (p. 99).

Social Skills Improvement System™ Social-Emotional Learning (SSIS™ SEL)

Designed to measure student progress and acquisition of social emotional learning, the SSIS-SEL assessment looks at competencies aligned with the Collaborative for Academic, Social and Emotional Learning (CASEL) framework: Self-Awareness, Self-Management, Social Awareness, Relationship Skills, Responsible Decision Making. The SSIS SEL Edition Assessments used in this study included the student rating scale and a teacher rating scale on the student. Both rating scales, student and teacher, were used to assess student Social Emotional Learning pre and post intervention. "…provide a way to obtain a more in depth look at social emotional functioning of a student and allow for comparisons to a nationally representative sample of students" (Pearson Education, 2017, p. 3). Although a sample of the Score Summary Report is included in this study: Student rating scale (Appendix K) Teacher rating scale (Appendix L), only the scores were pulled from each student's summary report and used for data analysis.

Audio Recordings and Student Work Samples

Additional qualitative methods utilizing interview and observational narratives were used with student participants to describe evidence of increased ability to reflect on social interactions and acquired perspective taking skills through use of Social Learning Tools (Social Behavior Map ™ and Reflection Journal). Both the Social Behavior Map and Reflection Journal have a paper/pencil component that was collected throughout the intervention period and used for data

collection purposes in measuring developing perspective taking and self-refection skills. Video/ audio recording of one to one dialogue with students documented the learning process of utilizing the Social Behavior Map and Reflection Journal as students reflected on individual experiences. Both sources of data collection were used for analysis as part of the qualitative design of this study. Connecting personal experience (student participants) with use of Social Learning Tools, provided evidence to support claims of a valid intervention and also to gain insight into the perspective of students with Autism's experience with inclusion.

Focus Group

Bringing the teachers together as a focus group at the end of the study was used to gain insight into teacher perspectives. Teacher perceptions and self-efficacy can influence teacher and student outcomes. Measuring the changes in teacher's perception based on personal experience influencing self-efficacy of teaching this population of students in the general education setting is an important component of this study. A poster for each question was posted on the wall prior to the participants arrival to the focus group. Each participant was asked to write their responses on a post it notes and place on the corresponding question. Each poster was discussed by first reading the question, reading the responses, and then open discussion followed. An audio recording of was made of the discussion and photographs taken of each poster and post it note responses.

Reliability

A significant challenge of establishing reliability of the study were the varying abilities of the students with Autism. As the saying goes, "When you met one child with Autism, you have met one child with Autism" (Anonymous). Many factors go into the individual student's ability to engage socially and assimilate new learning and most importantly to generalize social skills

instruction in the general education setting. Although the outcome may vary depending on present levels of the student, a timeline of the intervention in relationship to assessments, structure of the intervention, breakdown of lessons and lesson objectives were included and followed during this study.

A key component to ensure reliability of the findings of the study was the triangulation of all quantitative and qualitative measures. For the quantitative analysis of the student intervention, four sources of data were considered for determining student outcomes. Two measures: student surveys and teacher observation rubric (AISCS) were measures created by Burke (2020) for this study. The two additional measures were criterion referenced rating scales (SSIS-SEL) teacher and student (self) rating scales. By using statistical analysis to determine p and r values, causal relationships were determined and support findings. In addition to the quantitative methods using the four measures, qualitative analysis of student work, open ended survey questions, and student interviews were included and compared. All of these measures were used to ensure consistency.

Validity

Tables and figures have been included to support validity of analysis including grouping questions into themes for scoring and presented in a table that clearly indicate how each construct was scored for sociometric scales (Figure 54.3), student survey (Table 18.1), and teacher pre-intervention survey (Figure 5.4.21). These tables allow a reader to replicate the work if necessary. Within the surveys, several questions per construct including inverse questions validate responses included thoughtful responses as compared to random responses. A table connecting components of the study (different measures) by seventh grade participants are listed in Tables 38.1., 39.1 and 40.1. support validity and reliability to the study by clearly connecting

components to the study. Exhibits including student and teacher surveys, observation rubric (AISCS), sample of SSIS-SEL score reports were utilized.

For the qualitative portion of the study a framework of identifiers was developed to interpret student work with strength and comparability between participants and also align with student outcomes. Consideration was given to Creswell and Poth (2018) summarization of various perspectives on the importance, definition of terms to describe and procedures for establishing. Of the ideas presented, Angen's (2000) interpretative approach most resonates with the researcher (cited by Creswell & Poth, 2018, p. 256). Angen (2000) suggested that within interpretative research, validation is "a judgement of the trustworthiness or goodness of a piece of research" and should provide transformative value, "leading to action and change" (p. 257). This applies to the purpose of the study to provide evidence of the effectiveness of an intervention for students with Autism that can easily be used by educators in the school setting. Self-reflection throughout the process was used to validate the strengths of the study. By documenting the chain of interpretations, others can judge the trustworthiness of the meaning arrived at the end of the study (Creswell & Poth, 2018). Thus, as Creswell mentions, "Written accounts must resonate with their intended audiences, and must be compelling, powerful, and convincing" (p. 258).

Utilizing audio recordings of sessions and student work samples to gather data were beneficial to use as a validation strategy. According to Gibbs. (2012), an important question to be considered is whether the study can be replicated, factors impacting the feasibility include: subject error (different results, different days); subject bias (try to please the researcher); observer error and bias (maintaining comfortableness and professionalism concurrently). Simultaneously if the outcomes of qualitative portion of the study align with the quantitative

data, measuring self-efficacy of students with Autism post intervention, correlate with the outcomes of increased positive perspective of their experience, (measured by qualitative component), would further validate the possible outcomes. This is the strength of the mixed methods approach utilized in this study.

Another important component of credibility is the relatedness of the study to the researcher. The researcher is currently an education specialist with a passion for supporting the whole child in the learning experience as a vehicle for developing their sense of who they are and how they relate to their world. The researcher's focus, and intent, is to impact positive change for students with Autism. Having field experience as a special education teacher, being on the front lines as to say, of this support for inclusion and student outcomes, the researcher hopes to be part of a pioneer movement that looks beyond academic performance as measures for success. Both the researcher's intent and personal experience should support credibility of the researcher's lens. According to Creswell and Creswell (2018), "The more experience that a researcher has with participants in their settings, the more accurate or valid will be the findings" (Page 200 of 278). However, exploring the researcher's lens was significant to this process ensuring identification of the student with Autism's experience outside of any personal bias of the researcher.

Data Collection`

Utilizing a complex design provides an opportunity for the researcher to collect and analyze both quantitative and qualitative data and integrate the information within an intervention time period (Creswell &Creswell, 2018, p. 228). This design allowed for an embedded phenomenological component qualitative data collection as a means for including the personal experience of the participants as part of the research (Worthington, 2012). Data

collection included students participating in the intervention, students not participating in the intervention, and classroom teachers who choose to participate in the study.

Teacher Participants

Quantitative and qualitative methods were used with study participants, general education teachers, pre and post intervention (training and coaching) measuring self-efficacy and attitudes toward inclusion using three data points: 1) Teacher self-efficacy survey pre teacher training; 2) feedback survey post teacher training; 3) focus group at the end of the student intervention period. Relationships between teacher and student beliefs and student outcomes were used to better understand teacher/student relationships with inclusion.

Student Participants

Pre and post data were collected utilizing four measures to determine student engagement, self-efficacy, social acceptance and social emotional learning. The Academic Interaction Social Communication Skills (AISCS), a teacher observation rubric was completed for student participants to measure student engagement. The Student Survey with both Likert scale and opened ended questions was collected pre and post intervention and used for determining self-efficacy and social acceptance (student beliefs of social learning and social inclusion). The SSIS-SEL teacher rating scales and student rating scales pre and post intervention to measure Social Emotional Learning. In addition, student work samples, Reflection Journal, and transcripts of audio recorded student-teacher interviews was used to determine effectiveness of Social Learning Tools Intervention for developing Social Awareness. Considered a convergent design, the researcher was able to determine the benefits of a social learning tools intervention to build social awareness and perspective-taking influencing an increase in self efficacy, social emotional learning and engagement. An embedded

phenomenological component of the study utilized student survey open ended questions involving sociometric scales to understand students with autism and peers' perspectives of social acceptance and the inclusion experience. Figure 4.1.1 illustrates the convergent mixed methods design with a phenomenological design embedded in the student intervention component of this study.

Embedding a phenomenological design provided the researcher with the opportunity to examine the personal experiences of students with Autism and their peers of the inclusion experience. The phenomenological focus is to describe "what all participants have in common as they experience a phenomenon (Creswell & Poth, 2018, p. 75). For this study the phenomenon being examined is social acceptance. Utilizing the nomination approach to identify students who they want to sit near in class, hang out at recess and spend time outside of school such as a birthday party, provided context for the student participate to identify the why they chose that persons. The same approach for why they do not want to sit near in class, hang out at recess or invite to a birthday party provides insight into the student with Autism and their peers for qualities or characteristics of peers that form the basis for acceptance and non-acceptance. The open-ended responses allowed the researcher to identify themes across all student responses then separate students with Autism and their peers for comparison.
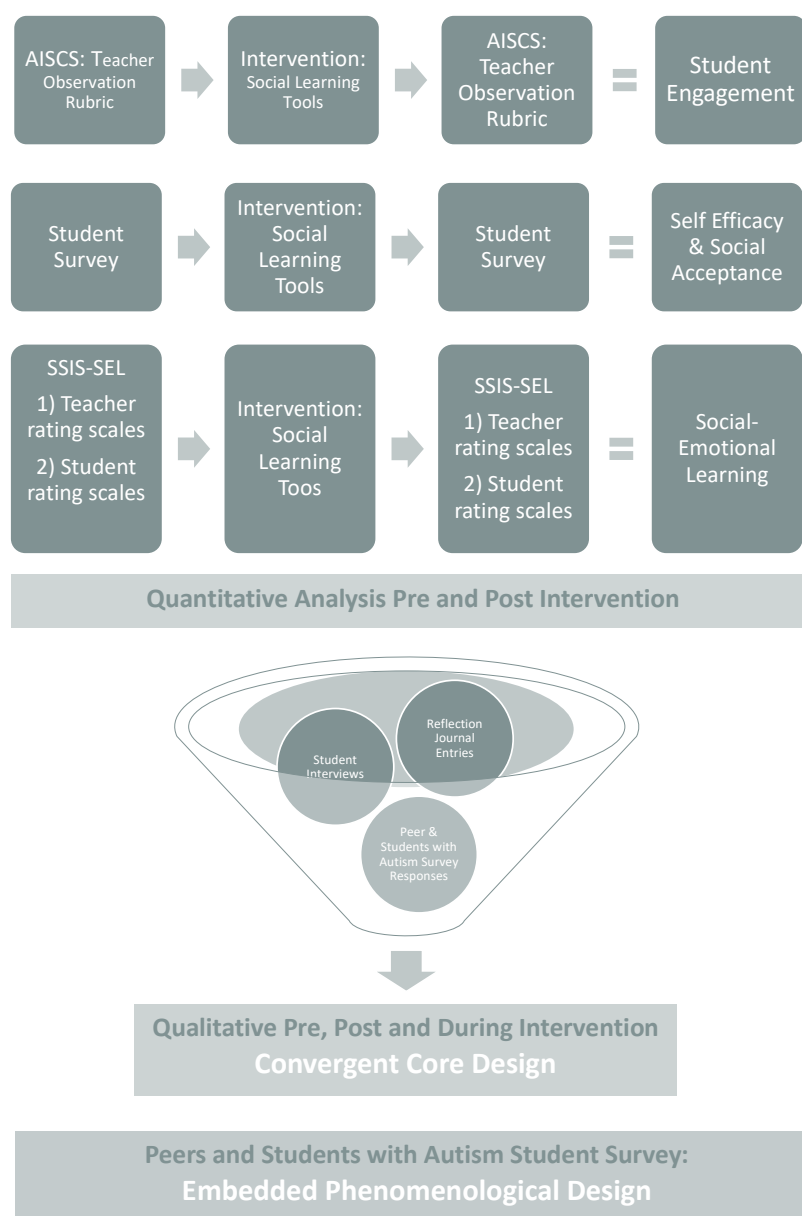
Figure 4.1.1. Embedded Research Design

Data Analysis

As for the analysis component of the study, the researcher used a combination of

software applications, JASP statistical analysis 0.10.2 for quantitative and MAXQDA 2020 for

both qualitative and quantitative analysis including hand selection of student work most representational of the shared experiences.

Teacher intervention

Descriptive analysis using inferential statistics were used to identifying teacher beliefs about inclusion using three measures, pre intervention survey, post intervention feedback form and transcript of audio recording and data samples of focus group. Qualitative Analysis was used for the open ended questions in the post intervention feedback form and focus group transcript. Using the coded segments, sample of teacher responses were included in the data analysis.

Student Intervention

This study uses quantitative and qualitative analysis to measure student engagement, self-efficacy, social inclusion, and social emotional learning of student participants: 1) Descriptive statistics was used to compare pre and post scores of the teacher observation rubric (AISCS) to determine increased student engagement outcomes; 2) Descriptive statistics was used to compare pre and post scores of the student survey to measure increase in Self Efficacy and Social Status (sociometric scales); 3) Descriptive statistics was used to compare pre and post scores of the SSIS-SEL teacher and student rating scales to measure increase in Social Emotional Learning. Utilizing JASP, a paired T Test of pre and post intervention for the above measures were utilized to determine significance of findings. Utilizing JASP, a correlation statistical analysis using the percentage of growth of each outcome: student engagement (AISCS), self-efficacy (student survey), and social emotional learning (SSIS-SEL student and teacher rating scales) was used to determine if a correlation exists between the four measures used: AISCS, Student Survey, SSIS-SEL teacher rating scale, SSIS-SEL student rating scale.

Following the convergent mixed methods design, qualitative methods utilizing MAXQDA were used with students with Autism participants to analyze the data collected of student work from the Reflection Journal and transcripts of audio recording of teacher-student interview. By reviewing student work samples (Reflection Journal) the researcher was able to identify trends which included type of interaction (positive or not positive), with who (friend, teacher, or family member) and where (in the classroom, at school or at home). The researcher was able to analyze the perspective taking ability of the student by analyzing the evidence of understanding of thoughts, feelings and words noted in the journal entry. Utilizing both the Reflection Journal Work samples and transcript of student interview, the researcher was able to analyze the participants ability to reflect on their identified social goals, strategies used and progress documenting their journey and personal growth. Utilizing the transcript of student interview, the researcher was able to identify increased social awareness and understanding through the use of the social behavior map. Coded segments were also used in selecting sample responses to include in the study for analyzing levels of perspective taking and types of responses given to determine an increase in perspective taking and social awareness in student participants as well as model how scaffolding questions can help the student to understand abstract concepts such as intention and utilizing language to express their thoughts and feelings. Student work samples and audio recordings of teacher and student dialogues provided the researcher with insight into the benefits of the Social Learning Tool Intervention for increasing Social Awareness and perspective taking.

Phenomenological Design

Embedding a phenomenological design provided the researcher with the opportunity to examine the personal experiences of students with Autism and their peers during the intervention. For this study the essence of the inclusion experience looked at is the concept of being accepted or not accepted.

As consistent with phenomenological studies outlined in Creswell and Poth based on Mostakas's (1994) approach, the following procedures were used in determining the "essence" of the inclusion experience (2018). First, the researcher determined that the concept of social inclusion, the reason why a student is accepted or not accepted is best understood using a phenomenological approach. Second, the use of sociometric scales to identify students who are accepted or not accepted have been used in previous research studies, but the understanding of they why behind social acceptance from a student perspective has not been looked at. Third, the best way to understand the student experience is for researcher to bracket out their own experience. Therefore, utilizing open-ended survey questions to understand the student experience focuses on the student experience without possible influence of researcher's involvement in the data collection. Fourth, collecting data from two grades, male and female students with multiple opportunities (pre and post intervention) allowed for the researcher to gather the textual descriptions of their experience to determine common perspectives of the participants. Fifth, the researcher was able to highlight significant statements, sentences or quotes that provided an understanding of student's perspectives of why accepted or not accepted to group significant statements into themes. MAXQDA was used to code the responses in identifying themes, or codes, then determine the frequency of each code. Descriptive statistics was used to quantify the results, coded segments representing samples of responses were also

included in the analysis. Sixth, the researcher was able to write descriptive of both the student with Autism and their peers and for some responses both. Examples of student responses were included to illustrate student perspective of the experience.

This mixed methods convergent design with an embedded phenomenological component was used to demonstrate an increase in Social Emotional Learning, engagement, self-efficacy and social inclusion. Additionally, qualitative data analysis supports the determination of increased social awareness and perspective taking of students with Autism as a result of Social Learning Intervention Tools (Social Behavior Map and Reflection Journal). The researcher used qualitative practice to research a phenomenon and discover the why and how and to interpret the findings based on the phenomena. This aligns with what Husserl (1970) originally introduced when he coined the term phenomenology. He was explaining that "his phenomenology was a descriptive philosophy of the essence of pure experiences" (Beck, 2020, p 11). This source for questioning the students and teachers leads to the implications for social inclusion. The embedded phenomenological design provides insight into student perspectives of why students are accepted or not accepted, providing valuable information in understanding the impact of social inclusion. Figure 4.2 demonstrates the connection between research question, instruments to be used and data analysis.

Research Questions	Instruments	Analyze Data
1 Can teacher training and coaching shift teacher's perspectives and beliefs toward supporting students with Autism in the classroom?	Teacher Survey (pre-teacher training Teacher Feedback (post teacher training) Focus Group: At the end of the study.	Quantitative and Qualitative Analysis will identify benefits of teacher training to shifting teacher beliefs. Quantitative and Qualitative Analysis will be used to identify collective beliefs: training, coaching and experience in a focus group.
2 Is there an increase in social interactions for academic learning for students with Autism who participate in social learning tools intervention?	Academic Interaction and Social Communication Skills (AISCS) Teacher Observation Rubric, (pre and post student intervention).	Quantitative Analysis to measure engagement in student participants.
3 Can an increase in social emotional learning lead to an increase in self-efficacy, engagement and social inclusion for students with Autism in the General Education Setting?	SSIS-SEL teacher and student rating scales	Quantitative Analysis to measure increase or decrease in social emotional learning.
	Self-Efficacy Survey including sociometric scale.	Quantitative Analysis to measure increase or decrease in self efficacy beliefs.
	AISCS Teacher Observation Rubric.	Quantitative Analysis to measure increase or decrease in social acceptance.
	SSIS-SEL teacher, SSIS-SEL student, Student Self Efficacy Survey, AISCS	Quantitative Analysis (Correlation Matrix) comparing Percentage of Growth between four measures.
4 Can the Social Behavior Map™ and Reflection Journal© as interventions increase social awareness and social inclusion in students with Autism?	Student Work Samples Reflection Journal	Qualitative Analysis to identify themes: settings, types of interactions and content of interactions.
	Audio Recordings of teacher-student interview and discussion of intervention	Qualitative Analysis of student interviews, beliefs toward the interventions and evidence of social awareness in students with Autism.
	Results of sociometric scales pre and post intervention	Quantitative and Qualitative Analysis of components of intervention: goals, progress of goals, beliefs toward Social Behavior Map and Reflection Journal, Social Inclusion Status Change.
5 What is the social inclusion perspective of individuals with Autism and their peers?	Student Survey Open Ended Questions: • Beliefs toward Learning • Beliefs toward Social Inclusion: Students with Autism as compared to peers. • Reflection of Past Year	Phenomenological Approach to analyzing data: themes, identify common experiences, describe "essence" of experience from student perspective.

Figure 4.2.1. Research Questions, Instruments & Data Analysis

Limitations

One of the challenges of this study, which also highlights the value of the proposed intervention "Reflection Journal", is the nature of Autism as a communication disorder. Considering the approach to gathering data for a phenomenological study is through inquiry and interview, there are some limitations for gathering perceptions of experiences as can be observed by comparing responses for students with Autism and responses of peers. With the "Reflection Journal" students were taught how to reflect on their experiences as a way to learn from their experiences as needed to grow social awareness and a greater ability to respond to future events in a more expected manner. The researcher was mindful of probing questions that focus on discovering deeper meaning or greater understanding of the situation (context) without leading the student to answer in a certain way. Additionally, the researcher was careful to respond in a neutral way when discussing with the student their individual reflections in order to minimize any indirect influence on the student to respond in a way could have been perceived as pleasing to the researcher. The goal was to facilitate an authentic expression of their experience.

As an observer/participant, the researcher had a greater ability to see multiple perspectives in any given situation and therefore maintained neutrality to truly represent the student with Autism's experience. The observer/participant has supported students with Autism for over 12 years utilizing interventions such as Social Thinking®, Social Behavior Map™, Reflection Journal©, and values each interaction as unique to the student in the reflective component of teacher-student interactions. Developing awareness of language that may influence unconscious bias is another component in establishing the researcher's lens. Awareness of personal experience using intervention tools, influential language, and representing the

participants perspective were necessary in reporting the objectivity of the student with Autism's experience.

Although the format of the intervention workshop may be a new experience for student participants, it is hard to measure what previous exposure to Social Thinking® concepts and related interventions or services the student may have had. Students participating in the study have various baselines of both understanding and performance of Social Thinking® Concepts.

Another limitation to the study is the both student and adult participants were limited to one school site.

Delimitations

In order to minimize potential limitations, the researcher developed a framework of interview/probing questions to guide teacher-student interactions as a consistent means to accessing student perceptions and reflective practices. By providing consistency, utilizing non-biased language, the researcher can better ensure authenticity of the student with Autism's experience.

Ethical Issues

Considering that minor children were participants and non-participants in the study, written permission from parents with clear description of the researcher's role in the study with the option of discontinuing with the intervention study with written notice was obtained (Appendix N and O). The researcher was diligent to delay introducing specific interventions for social skill groups that were in existent prior to the data collection period of the study and IRB approval.

Findings of the study kept the identify of participants private, referencing descriptive information outside of personal reference of both student, teacher and parents. Parent permission

has been granted for publishing this study. Respecting student privacy is an important consideration. Current law states that only individuals directly involved with student instruction are given access to the information about the student in his or her IEP. Therefore, when working with the student or speaking with teachers, placement in Special Education and/ or services were kept confidential throughout the implementation of this study. All information obtained about the students and teachers in the study were respected and not brought to the attention of an administrator for evaluative purposes unless it involves a student safety concern.

Social Thinking® is foundational to implementing both of the Social Learning Tools utilized in the student intervention focus to the study. To ensure concepts presented are aligned with Social Thinking®, consult with experts and acknowledging intellectual property will be implemented throughout the study.

As the researcher for this study, the time given outside of contract day were at researcher expense with no expectation of compensation from parents or district. Additionally, any components of the study implemented during contract day were with district permission. The researcher agreed to prioritize their work responsibilities as defined in employment contract.

Summary

Chapter 4 described the methodology for this study. Initially, the setting, selection of participants, and sampling procedures were listed. Then, instrumentation and measures including credibility and validity were addressed. Finally, data collection and analysis including ethical issues were considered. Details of findings of the study were included in the following chapters.

CHAPTER 5: FINDINGS

The purpose of this study was to determine if interventions (student and teacher)

contributed to increased academic and social learning outcomes in the inclusion setting.

Reflection is an important component of both student and teacher interventions as a process for

considering and shifting perspectives, both are captured through the use of surveys, rating scales

and interviews. Therefore, both quantitative and qualitative methods were used in determining

outcomes of the study. Findings are organized by research question, method of analysis and

participant groups.

Research Question Number One

1. Can teacher training and coaching shift teacher's perspectives and beliefs toward

    supporting students with Autism in the classroom?

    Three sources of data were used for measuring teacher perspectives. Initially, a survey

titled "Beliefs on Inclusion" was distributed through email to the school site supporting

Kindergarten through Eighth grade with twenty-eight responses between 4/9th and 4/ 17th.

Second, seventeen participants completed a feedback form after the researcher provided a school

wide professional development on "Building self-efficacy in students with Autism" 4/18th. Third

source of data collected was in the form of a focus group at the end of the school year on June

13th. Results of each measure are recorded below:

Pre-Intervention Survey

A total of twenty-eight surveys were completed anonymously by the school site: 71%

included teachers or student teachers, 10% were Instructional facilitators, 7% included

administrators and 12% included staff and others. Participants years of education included:

28.6% with 2-5 years' experience in education; 25% with 6-9 years in education; 25% with 10-

14 years in education; 21.4% with 15 or more years. In education. 35.7 % of the participants hold a bachelor's degree; 60.7% hold a master's degree; 0% hold a doctorate and 3.6% reported other. Ethnic demographics include 78.6% White Non-Hispanic; 10.7% Asian; and 10.7% Hispanic. Total years taught at the school: 32.1% report being their first year at the school, 53.6% two-five years, and 14.3% have been there for six to nine years. 96% of the participants are female.

Survey responses using the Likert scale with 1) being Completely Disagree and 5) being Completely Agree. Responses were grouped and scored as noted in the table below value ranging from 1 to 5 with 1 representing low self-efficacy beliefs and 5 high self-efficacy beliefs. Inverse questions received an inverse value. Seven themes were identified. The first theme of experience included two questions. The second theme of Implementing Accommodations included three questions. The third theme of parent communication included two questions. The fourth theme preparedness included two questions. Table 9.1 provides a list of questions, for the themes: experience, implementing accommodations, parent communication and preparedness.

The survey provided to the school site prior to the professional development included three additional themes: site support, social inclusion, and teaching students with Autism. The theme "site support" included four questions. The theme "social inclusion" included four questions. The theme "teaching students with Autism" included five questions. Table 10.1 lists the remaining questions by themes and scoring.

For the purpose of this study scores for each category were averaged among participants to identify collective beliefs of the school site. Subcategories include: A) Middle School: Sixth through Eighth grade (7 participants); B) Elementary: Kindergarten through Fifth Grade (21 participants); C) School Site: Kindergarten through Eighth grade (28 participants).

Table 9. 1

Pre-intervention Survey on Inclusion Beliefs at School Site for Themes: Experience,

Implementing Accommodations, Parent Communication and Preparedness

RESPONSE SCORE		Response: 1) Completely Disagree to 5) Completely Agree	1	2	3	4	5
	VALUE OF RESPONSE	Value of Inclusion Beliefs 1: low – 5: high					
THEME	#	QUESTION	SCORING				
Experience	12	I have more than one year's experience with having a student with Autism.	1	2	3	4	5
	30	I have personal experience (outside of my classroom) interacting with individuals with Autism.	1	2	3	4	5
Implementing Accommodations	10	I am comfortable with implementing accommodations and supports for students with Autism.	1	2	3	4	5
	19	I am comfortable implementing visual supports for students with Autism.	1	2	3	4	5
	25	I know how to provide accommodations and support students with Autism in my classroom.	1	2	3	4	5
Parent Communication	22	Having a student with Autism requires additional effort and time communicating with parents.	1	2	3	4	5
	32	I am confident when communicating with parents of students with Autism.	1	2	3	4	5
Preparedness (Previous Training)	18	I received relevant training in my teacher preparedness program to work with students with Autism.	1	2	3	4	5
	20	I have received relevant professional development regarding supporting students with Autism from my current school site.	1	2	3	4	5

Table 10. 1

Pre-Intervention Survey on Inclusion Beliefs at School Site for Themes: Site Support, Social

Inclusion, and Teaching Students with Autism.

RESPONSE SCORE		Response: 1) Completely Disagree to 5) Completely Agree	1	2	3	4	5
VALUE OF RESPONSE		Value of Inclusion Beliefs 1: low – 5: high					
THEME	#	QUESTION	SCORING				
Site Support	21	Currently, I have the necessary resources for supporting students with Autism in my classroom.	1	2	3	4	5
	24	I currently receive support from my current Special Education Team Member (ie. School Psychologist, Speech and Language Pathologist or Education Specialist) with implementing an IEP for students with Autism.	1	2	3	4	5
	28	My input is valued and considered by the IEP team when developing an IEP for students with Autism.	1	2	3	4	5
	29	When faced with a challenging situation involving students with Autism, I have someone at my site who can provide me with support.	1	2	3	4	5
Social Inclusion	13	I am able to model inclusion and acceptance for students with Autism as an example for teachers and students.	1	2	3	4	5
	15	It is difficulty to facilitate classroom discussions involving students with Autism.	5	4	3	2	1
	16	I am able to support neuro-typical students learning (students without Autism) while supporting student's with Autism	1	2	3	4	5
	17	I am able to facilitate collaborative interactions between students with Autism and their peers.	1	2	3	4	5
Teaching Students with Autism	9	Having students with Autism is difficult for me.	5	4	3	2	1
	14	I am comfortable with addressing behaviors for students with Autism.	1	2	3	4	5
	23	Having students with Autism negatively impacts my ability to support all students.	1	2	3	4	5
	26	I am comfortable with teaching academics to students with Autism.	1	2	3	4	5
	27	I would like more training on instructional strategies for students with Autism.	5	4	3	2	1
	31	I would like more training on managing challenging behaviors with students with Autism.	5	4	3	2	1

Results of the study indicate participants average at least one-year teaching experience

and/or personal experience with individuals with Autism was consistent across grade levels

averaging 4.5 on a 5point Likert scale. School site beliefs of preparedness for working with

students with Autism varied: Middle School team averaged 3.3 as compared with Elementary

school team at 2.8 with a combined belief of 2.8. School site beliefs of site support was similar

across grades: Middle school with 3.8 and Elementary at 3.6 with overall school beliefs of 3.6.

School site beliefs around the ability to communicate with parents was consistent with an

average of 4.5. School site beliefs around the ability to implement accommodations for students

with Autism was consistent at 4.7. School site beliefs around creating a social inclusion

experience for all students was similar with middle school averaging 3.9 and elementary 3.8 for

an overall school site belief of 3.8. School site beliefs around teaching students with Autism was

similar between middle and elementary teams with Middle school 3.1 and elementary at 3.2

averaging 3.2 across school. Figure 5.1.1 illustrates the outcome of the Pre teacher intervention

survey indicating school site beliefs with supporting students with Autism. Using 5 point Likert

scale with 1 indicating low beliefs and 5 indicating high beliefs are as follows: School site (28

participants) average 2.8 in preparedness; average in 3.2 on their ability to teach students with

Autism; average 3.6 in beliefs of school site support; average 3.8 on their abilities to

model/facilitate social inclusion; average 4.5 in their ability to communicate with parents;

average 4.5 in having one year experience in the classroom and/or personal experience with

individuals with Autism; average 4.7 in their ability to implement accommodations as outlined in

student's IEP.
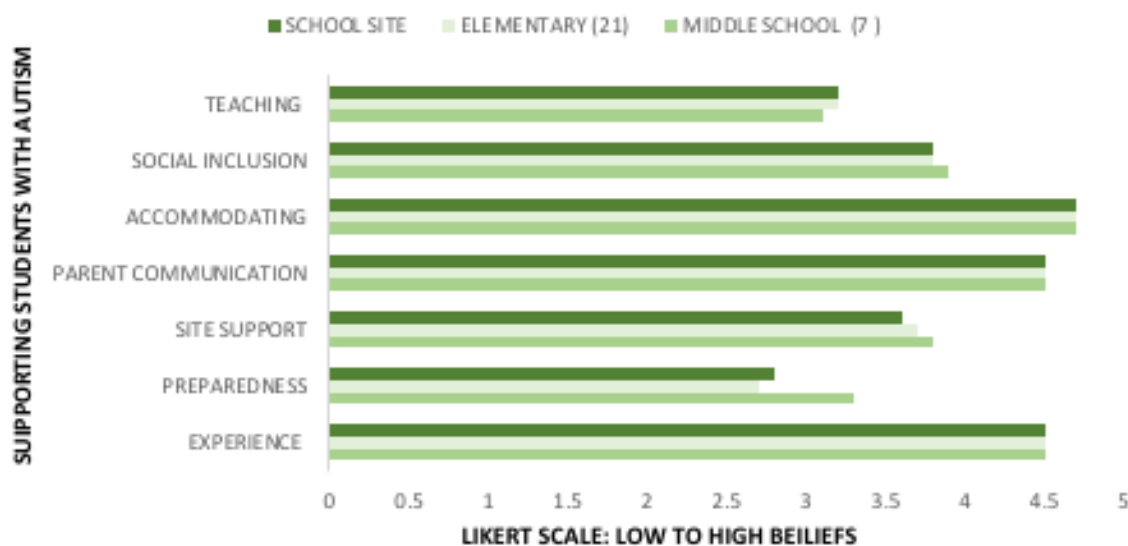
Figure 5 1.1 Teacher Survey on Beliefs of Supporting Students with Autism.

Post Teacher Intervention Survey

Researcher provided a school site professional development titled, "Social Learning Tools: Building Self-Efficacy in Students with Autism". Topics included in the training: Autism in education; Social Learning Theory; Sources for creating self-efficacy; Ecology of inclusion; Influencing circles; Understanding the autistic mind; Cognitive Link between the brain and behavior; Cognitive Deficits Impact Social Communication; Social Thinking® : Social Learning Tree; ILAUGH framework; Vocabulary; Social Learning Intervention to Increase Self-Efficacy, Engagement & Social Inclusion for students with Autism: Social Behavior Map; Reflection Journal, Academic Interaction and Social Communication Skills Rubric (Appendix C). The training was presented on April 18th, starting at 1:15 at ending at 2:45. Thirty-seven teachers, administrators and staff attended the training. Sixteen participants completed a feedback form at the end of the training. Participants were asked to circle the statement that is most relevant for their beliefs. Participants who selected between two responses were scored as the higher

response such as between two and three scored as a three. Results of the feedback form are provided below each section of the form below:

Question One

The first question indicated to the participate their understanding of students with Autism. "I understand the challenges for students with Autism and how I can support them in the classroom". Table 11.1 outlines the rubric for question one on understanding Autism.

Table 11. 1

Q #1: I understand the challenges for students with Autism and how I can support them in the classroom.

TARGET	1	2	3	4
Understanding Autism	I am unclear on the needs of students with Autism	I have a better understanding of Autism but still have some questions	I feel more confident in supporting students with Autism after today's presentation	I have a strong understanding of Autism and how to support their learning needs.

Based on a total of 18 participants, zero participants selected 1; seven participants (38%) selected 2; nine participants (50%) selected 3; and one (6%) selected between 3 and 4; one participant selected 4th (6%) question measuring beliefs on understanding Autism. Figure 5.2 illustrates the responses to question number one on understanding Autism.
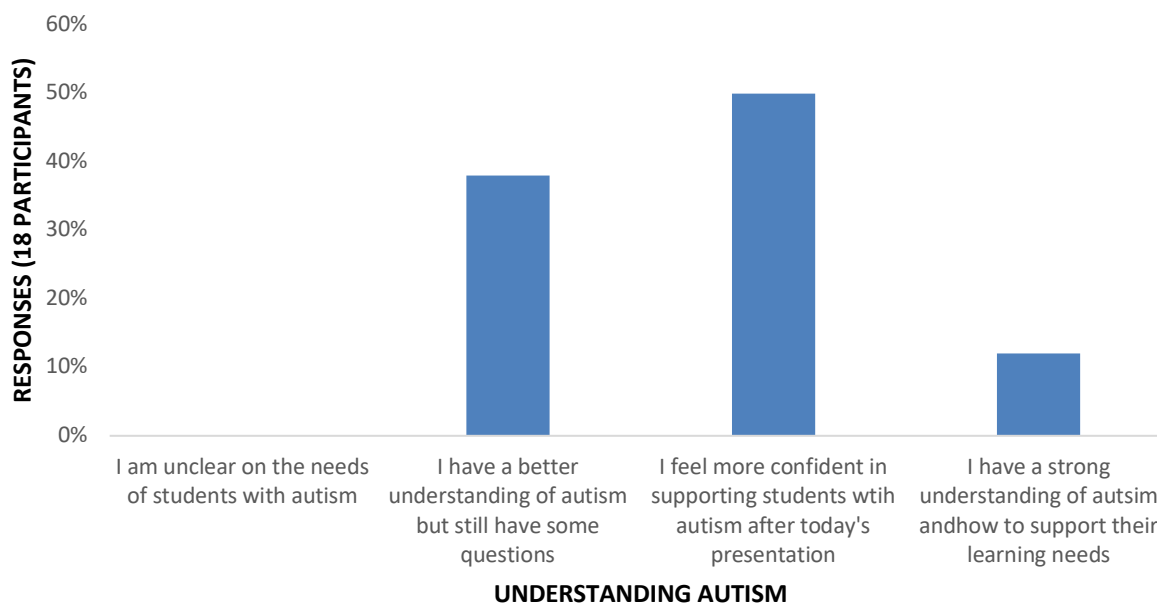
Figure 5.2. Teacher Feedback Form, Understanding Autism

Second Question

The second question in the feedback form focused on creating and strengthening self-efficacy, "I understand the four sources for creating self-efficacy in my students: 1) social persuasion; 2) mastery experiences; 3) vicarious examples; 4) physiological and emotional state". Table 12.1 outlines the rubric for answering second question on creating and strengthening self-efficacy.

Table 12.1

Q#2: I understand the four sources for creating self-efficacy in my students: 1) social persuasion; 2) mastery experiences; 3) vicarious examples; 4) physiological and emotional state.

TARGET	1	2	3	4
Creating & Strengthening Self-Efficacy:	I understand one of the sources for creating & strengthening self-efficacy	I understand two of the sources for creating & strengthening self-efficacy	I understand three of the sources for creating & strengthening self-efficacy	I understand four of the sources for creating & strengthening self-efficacy

Based on 18 participants, one participant (6%) selected one; six participants (33%) selected two, one participant (6%) selected between two and three; ten participants (38%) selected three, one participant (6%) scored between three and four; one participants (6%) selected four on the question measuring beliefs on creating and strengthening self-efficacy.

Figure 5.3.1 illustrates the responses to question two on creating and strengthening self-efficacy.
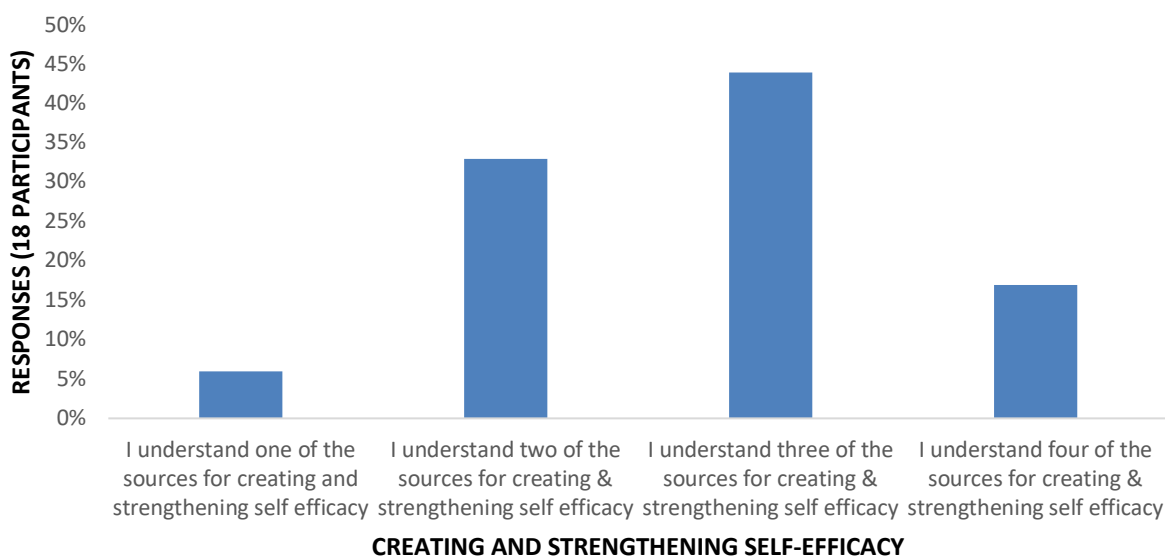
Figure 5.3.1. Teacher Feedback Form Creating and Strengthening Self-Efficacy

Third Question

The third question in the feedback form focused on creating and strengthening self-efficacy, "I understand how an ecology of inclusion, involving systems and relationships, can influence how a student is participating, achieving and feeling valued. The following rubric shown in Table 13.1 was used for answering this question.

Table 13.1.

Rubric for Answering Third Question on the Ecology of Inclusion.

TARGET	1	2	3	4
Ecology of Inclusion:	I am unclear on how I can create an ecology of inclusion that supports all learners.	I am beginning to understand how I can create an ecology of inclusion but have a few questions.	I feel more confident in creating an ecology of inclusion that supports all learners.	I have a strong understanding and able to create an ecology of inclusion that supports all learners.

Based on 18 participants, one participant (6%) selected 1; five participants (28%) selected 2, seven participants (38%) selected 3, five participants (28%) selected 4 on the question measuring beliefs on understanding the ecology of inclusion. Figure 5.4.1 illustrates the responses of the participants.

Figure 5.4.1. Teacher Feedback Form Ecology of Inclusion

Fourth Question

The fourth question in the feedback form focused on Michele Garcia Winner's "Social Thinking® ©": "I understand how Social Thinking® can provide instruction for students with Autism to engage in social learning". The following rubric shown in Table 14.1 was used for answering this question.

Table 14.1

Rubric for Question Four on Using Social Thinking® to Teach Social Learning.

TARGET	1	2	3	4
Social Thinking® to teach Social Learning	I am unclear on how Social Thinking® can help students develop Social Learning Skills	I am beginning to understand how Social Thinking® can help students with developing Social Learning Skills	I feel more confident in using Social Thinking® to teach Social Learning.	I have a strong understanding and able to use Social Thinking® to teach Social Learning.

.

Based on 18 participants, zero participants (0%) selected 1; five participants (28%) selected 2, ten participants (56%) selected 3, three participants (16%) selected 4 on the question measuring beliefs on understanding Social Thinking® to teach social learning. Figure 5.4.2 illustrates teacher responses to question four.

Figure 5.4 2. Illustrates the Responses to Question Four (*n*=18).

Fifth Question

The fifth question listed on the feedback form required participants to reflect on applying a learned concept to future teaching practices; "What is one take-away from today's training that empowers you in supporting students with Autism to have an inclusive experience?" Seven participants responses are grouped under the category of understanding Autism; three participant responses are grouped under the category of self-efficacy; one participant response is grouped under social inclusion. All of the responses could follow under the category of social inclusion, but one participant response specifically references social inclusion; ten responses are grouped under social learning tools such as Reflection Journal and Social Thinking®. There are more

than eighteen responses as some participants included more than one sentence in their response.

See participant responses in Responses to question five in Table 15.1

Table 15.1

Responses to Question Five: Take Away for Current Practice: Understanding Autism, Self-Efficacy and Social Inclusion.

Question 5: What is one take-away from today's training that empowers you in supporting students with Autism to have an inclusive experience?		
Understanding Autism	Participant 16	*"Thinking about Autism as a communicative disorder; how to empower them in expressing themselves appropriately".*
	Participant 11	*"There are many ways to define or measure challenges".*
	Participant 7	*"How their brains work to help de-escalate situations".*
	Participant 10	*"To remember to slow down and find out their perspective of the situation".*
	Participant 14	*"One takeaway from today that makes me feel more empowered supporting student's with Autism is considering their understanding of perspective and how that may be impacting a particular situation."*
	Participant 15	*"Learning more about how they could be processing information".*
	Participant 18	*"For students with cognitive deficits that impact social communication, we can help them improve their social interactions and becoming better with their Social Thinking® , even with autistic children".*
Self-Efficacy	Participant 2	*"How I communicate is key".*
	Participant 8	*"This experience has given me the gift of self-reflection. you brought up a lot of very important facts that I had not considered. with this new information, I am reflecting on the quality /type of interactions I am having with students".*
	Participant 17	*"This has helped me be more aware of thinking about self-efficacy and how my words and actions does have some influence".*
Social Inclusion	Participant 9	*"I also think that the ecology of inclusion and influencing circles are important to be aware of and good take a-ways".*

Table 16.1

Responses to Question Five: Take Away for Current Practice: Social Learning Tools.

Question 5: What is one take-away from today's training that empowers you in supporting students with Autism to have an inclusive experience?

Social Learning Tools	Participant 1	*"Thought bubbles".*
	Participant 2	*"I enjoy the reflection journal to help kids focus back on what they are thinking".*
	Participant 3	*"The reflection journal helps unpack the feelings you may have - which can be useful in deconstructing a situation".*
	Participant 4	*"Social Thinking® language".*
	Participant 5	*"Reflection Journal & language to use with kids with social communication deficits/Autism in order to build social awareness & change social behavior".*
	Participant 6	*"I really like at the end doing the reflective journal. when I'm in the moment with a child I can forget what words to say, it would be nice to have a book with me to use as a tool and better understood the child".*
	Participant 9	*"The social behavior map seems useful for understanding and addressing expected and unexpected behaviors".*
	Participant 12	*"The reflection journal I think is a great way to communicate with students".*
	Participant 14	*"Also, I can see the reflection journal page being valuable".*
	Participant 15	*"Breaking things/situations down for them. helping them to be more reflective of their actions".*

End of School Year Focus Group

The researcher met with a group of educators: two middle school teachers, one elementary teacher, one para-professional, school psychologist and behavior specialist for a one-hour lunch/meeting at the school site. The researcher provided lunch to volunteer participants on the last teacher workday of the school year. One student teacher was interviewed separately to provide an opportunity to participate at a time that did not conflict with other responsibilities. Including the researcher, there were eight participants in the focus group.

Four posters, each with a different question at the top of the poster were displayed on the wall. Participants were provided post-it notes to write down their responses. After time to reflect on the questions, participants then placed their responses on each of the posters. Once participants had posted their responses, the researcher read the responses for each question. Discussion about the responses followed. The student teacher was interviewed separately at a later date.

The purpose of the study group was to identify educator perspectives and areas of significance related to the training, experiences this year and goals for next year. Four questions targeted educator perspectives for social inclusion: 1) What are things we can do for our students to feel included? 2) Were you able to use any of the information from the training in your classroom? (Provide an example); 3) Can you think of a student who made significant progress and why? 4) What would you like to see next year in supporting your students?

Both transcripts, work products (posters and post-it notes) were analyzed and as themes emerged were recorded and grouped as follows:

1) "What are things we can do for our students to feel included?"

Two themes emerged out of this discussion. First, showing our students they are safe and cared for including welcoming them into class, use proximity to show support, share ideas so

they feel included, support diversity and focus on student strengths. Second is creating

successful experiences by facilitation conversations and pure relationships. Samples below:

> "Create moments for success and facilitate pure relationships." (Focus Group Transcript, Pos. 43)

> "Welcome them and tell you them you're happy they're here" (Focus Group Transcript, Pos44).

> "Them being able to make mistakes, and making sure that their voice is heard, through being able to talk in groups, as well as with peers and stuff like that. Partner work and different things like that. (Focus Group Transcript, Pos. 47)

> "I think if we really consider their accommodations or the resources that they have in their IEP and find really meaningful and thoughtful ways of including that not just for them but for the whole classroom we can really include all students and give all students access" (Student Teacher Transcript, Pos. 3)

1) "Were you able to use any of the information from the training in your classroom?"

(Provide   an example).

Participants indicated they valued learning about ideas of inclusion, giving them a new

perspective for working with students. They also shared they liked learning some tools to use in

the classroom such as Social Thinking® language that is less triggering and facilitating small

group instruction. Overall, they felt more successful in the classroom with their students and

observed students feeling more successful. Samples of comments below:

> "My gosh, all the time and in the training, you talked about those pro social behaviors and making kids really aware of what those are, what they look like, and why is important to use them. So, I would I would often bring that up in class, like during instructional time, when kids were not listening or not looking at me or not like listening to other people speak. just a reminder of prosocial skills is to look at the person in the eye when your speaking, maybe nod your head, and let them know that you care and that is something that I frequently used" (Student Teacher Transcript, Pos. 5)

> "It helps in how we approach the students, because then if we can come at the problem constructively without triggering them necessarily. I feel like it gives us language that we can use with the kids that is not condescending. I don't know. You know what I'm trying to say, right?" (Focus Group Transcript, Pos. 62).

"I liked the meeting, because it also gave me ideas of how I could approach some more of our kids as well. It gave me a different perspective. I was doing trial and error a lot, and a lot of it was error, so it was good to get that reminder of what else I could try". (Focus Group Transcript, Pos. 61)

"I think as an educator or an adult interacting with these kids, it gives us some success. We're always like talking about great moments of success for our kids, but when we see the kids actually advocating for themselves, it's like, "Oh, finally, like something has paid off." So, I think that that came out of that. Acknowledging the importance of us all feeling successful with what we're doing when it's not just error, error" (Focus Group Transcript, Pos. 63-64)

1) "Can you think of a student who made significant progress and why?"

Nine students were identified collectively of which seven students received the social skills intervention and five of which participated in the study. Five responses indicate an increase in social skills were observed including eye contact, body awareness, monitoring conversation.

Two samples provided below:

"_____ has made tremendous amount of improvement of when I first started the placement (student teaching). He would rarely look me in the eyes very often or greet me. I would say hi and he would walk away and then, over time, towards the end of the school year, he would say hi _____, how are you, greeting me and like reading me appropriately and ask how my weekend was. The social skills just increased tremendously" (Student Teacher Interview Transcript, Pos. 10).

"Honestly, I just feel like there was a lot of growth from last year to this year, which is really cool for me to see. And the eighth grader as well. I'm just really proud of him. He's working on his communication and stuff, and I think that, definitely at the end of the year with eight grade projects, we got to see a lot of his ability, his public speaking skills, and everything" (Focus Group Transcript, Pos. 124).

Four responses indicated growth in the area of confidence and positive attitude. Two samples provided below:

"Definitely better skills, I noticed. Just in general their confidence or their attitude in the classroom was just different" (Focus Group Transcript, Pos. 118).

"We have a sixth-grade girl, who became more confident in her writing and sharing it in the classroom (Focus Group Transcript, Pos. 116)".

Three responses indicate participation and communication were areas of growth including sharing in class discussions and collaborating in groups. Two samples provided below:

" They just got better at thinking about their role in the classroom, too" (Focus Group Transcript, Pos. 120.

"Collaboration" (Focus Group Transcript, Pos. 115).

In response to reasons suspected for seeing growth, participants included social skills instruction, support in classroom and introduction of behavior supports/strategies.

1) What would you like to see next year in supporting your students?

Participants would like to see more grade level support, meetings on a regular basis to discuss IEP students and share strategies and successes across teams, benefits include being on the same page with students and parents. Continued professional development, consistent classroom support, and assistance with student behaviors including conversations with students about other's behaviors. Discussion included bridging the gap between special education and general education and creating a greater sense of collective community.

Samples of responses below:

"I think also just within a grade-level staff too, is that one teacher from the middle school will attend an IEP meeting, but then I don't know if everything gets communicated throughout the system, like it circulates really well. So it feels like it might get communicated to one teacher, who stopped there and it's not really fully... You know what I mean? It's not a whole system working together. And I guess one of the things that, for me also, working with my sixth-grade team, is just to know that if we're all on the same page, it makes things so much easier. Because if one teacher's doing one thing in their classroom, whether it's behavior

logs or that kind of report or something. Or it's the reward system or something, you know what I mean? Something like that" (Focus Group Transcript, Pos. 88).

"I am a big fan of our sped people, but not everyone feels the same way, so I think bridging that would be helpful. It is also interesting, because technically we're under two different employer umbrellas, right? So that is also weird when birthdays come out and Deanne has to text me, "Oh, my birthday's the day before yours," but she's not on the list" (Focus Group Transcript, Pos. 70).

"That's kind of strange and I think that's one thing that CRA does really well, is make us all feel very communal as teachers. And so bridging that gap would be helpful and less threatening or charged, than when a student does have an issue or a teacher is having an issue. No one feels threatened. Like, "They're going to tell me what to do," or "They don't help me." From both sides, it would be easier. (Focus Group Transcript, Pos. 71)

"Jumping on that, I really appreciate that you've (Ed Specialist) come to the middle school meetings and your part of our PLCs. To me you feel like a huge part of our team, you know. Not separate. I think that just in itself is really important. The meetings and stuff, because then it feels like we are all working together" (Focus Group Transcript, Pos. 76)

Research Question Number Two

2) "Is there an increase in social interactions for academic learning among students with Autism who participate in the social learning tools intervention?"

Student Engagement

The Academic Interaction and Social Communication Skills (AISCS), a rubric for assessing academic interactions and social communication skills in the classroom was completed for each of the study participants pre and post intervention by the classroom teacher. A comparison was made in each of the categories: attending, collaborating, connection & human relatedness, academic, initiating communication and initiating action. In some instances, the rubric was not completed by the same teacher/content area pre and post intervention. Results are presented for each of the two study skill groups (7th grade, 5th grade) below.

Individual Results for 7th Grader Social Skill Participants

Six students participated in the 7th grade social skills group: OHI_A is a male student who currently receives special education services under Other Health Impaired for ADHD. OHI_B is a male student who receives special education services under Other Health Impaired for ADHD. AUT_A and AUT_B are both male student with eligibility for services under Autism. NTP_SLD is a male student who receives services under Specific Learning Difficulty and Speech and Language Impairment for articulation. NTP is a neuro-typical peer who asked to be in the social skills group. He does not receive Special Education Services. All six students were considered by their teachers as good candidates to participate in the social skills group.

Participant OHI_A. Utilizing the Academic Interactions and Social Communication Skills four point rubric, student participant OHI_A demonstrated improvement in: Body in the group and thinking with eyes (pre: 2 and post: 2.5); flexible (pre: 2 and post: 3); understanding

humor and response to humor (pre 3 and post 4); attempts connection and emotional response

(pre: 2 and post: 4); peer communication (pre: 2 and post: 3); getting started on assignments (pre:

1 and post: 2). Figure 5.4.3 illustrates growth by categories for student OHI_A.

Figure 5.4 3. AISCS Participant OHI_A.

Participant OHI_B. Utilizing the Academic Interactions and Social Communication

Skills four point rubric, student participant OHI_B demonstrated improvement in: Body in the

group and thinking with eyes (pre: 1 and post: 2); following directions and transitions (pre 1.5

and post 3); monitor speech, shared imagination and turn taking (pre: 2 and post: 3), understands

humor (pre 2 and post 3), response to humor (pre 3 and post 4); attempts connection and

emotional response (pre 2 and post 3); writing with evidence (pre 2 and post 3); peer

communication (pre 1.75 and post 2); small group interaction (pre 2 and post 3); clarifying

questions (pre 1 and post 2); getting materials and getting started on assignments (pre 2 and post

3). Figure 5.4.4 illustrates growth by categories for student OHI_B.

Figure 5.4 4. AISCS PARTICIPANT OHI_B.

Participant AUT_A. Utilizing the Academic Interactions and Social Communication

Skills four point rubric, student participant AUT_A demonstrated improvement in: Body in the

group and thinking with your eyes (pre: 2 and post 2.5); shared imagination (pre 1.5 and post 3);

understanding humor and response to humor (pre 2 and post 3); attempts connection (pre 1 and

post 2); peer communication (pre 1 and post 2); clarifying question (pre 2 and post 3). Figure

5.4.5 illustrates growth by categories for student AUT_A.
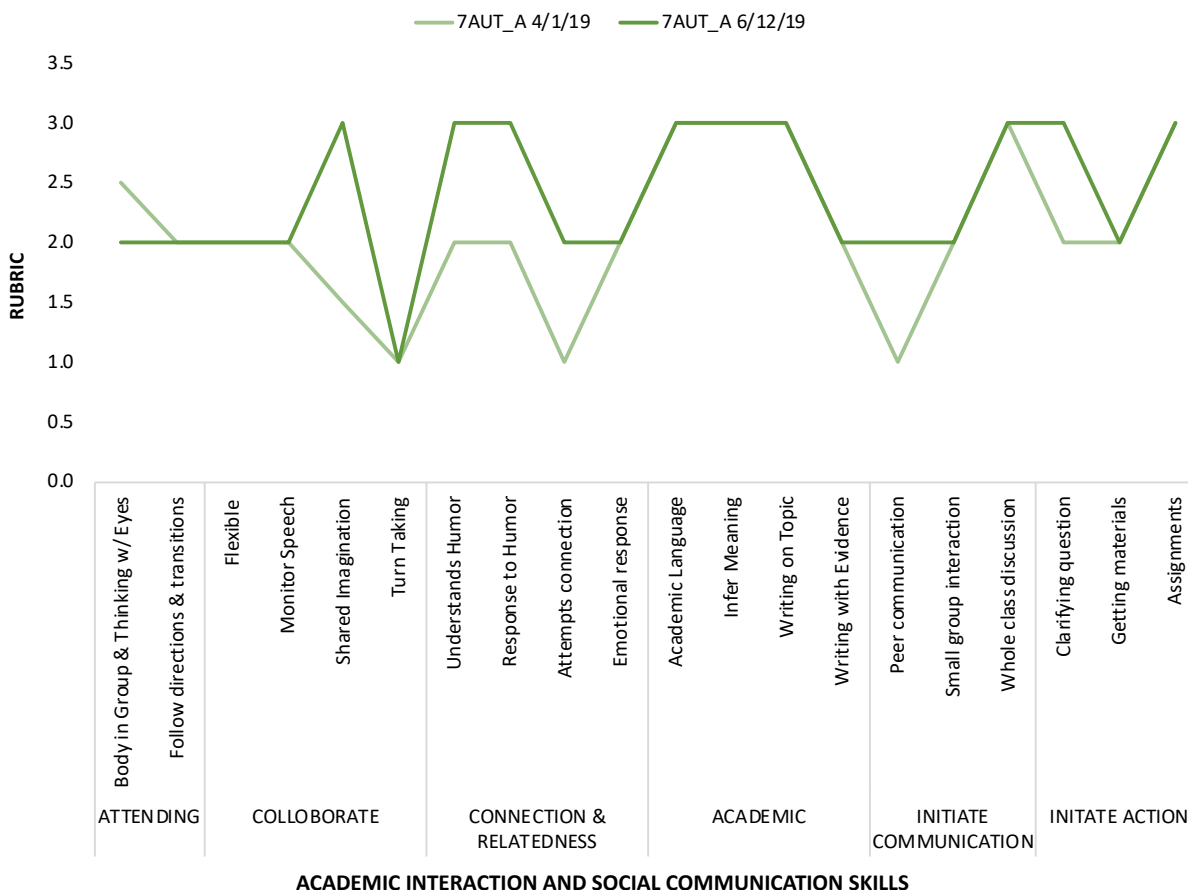
Figure 5.4 5. AISCS Participant AUT_A.

Participant AUT_B. Utilizing the Academic Interactions and Social Communication Skills four point rubric, student participant AUT_B demonstrated improvement in: Body in the group and thinking with your eyes (pre: 1 and post 2); flexible (pre 1.5 and post 3); monitor speech (pre 1.5 and post 2); shared imagination, turn taking and understanding humor (pre 2 and post 3; and response to humor (pre 2 and post 4); attempts connection and emotional response (pre 1 and post 3); academic language, infer meaning and peer communication (pre 2 and post 3); small group interaction and clarifying questions (pre 1 and post 3); whole group instruction, getting materials and assignments (pre 2 and post 3). See Figure 5.4.6 illustrates growth for participant AUT_B.
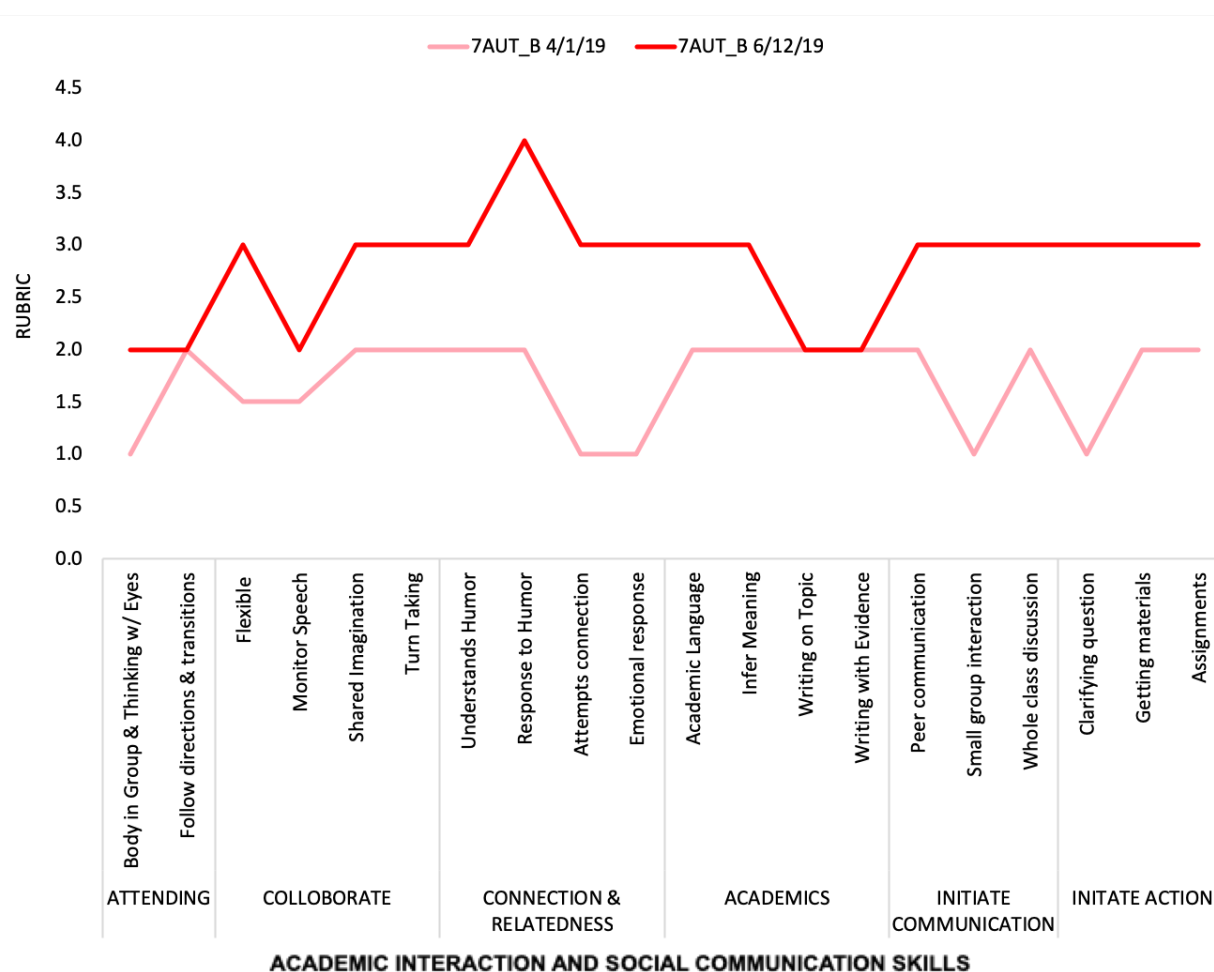
Figure 5.4 6. AISCS Participant AUT_B.

Participant SLD_SLI. Utilizing the Academic Interactions and Social Communication Skills four-point rubric, student participant SLD_SLI demonstrated improvement in: Body in the group and thinking with your eyes, follow directions, monitor speech and shared imagination (pre: 3 and post 4); emotional response, writing on topic, peer communication, small group interaction and whole class discussion and getting materials (pre 3 and post 4); areas of strength prior to intervention and maintained include flexibility, turn taking, understanding and

responding to humor, attempting connection, and completing assignments. Figure 5.4.7

illustrates growth for participant SLD_SLI.
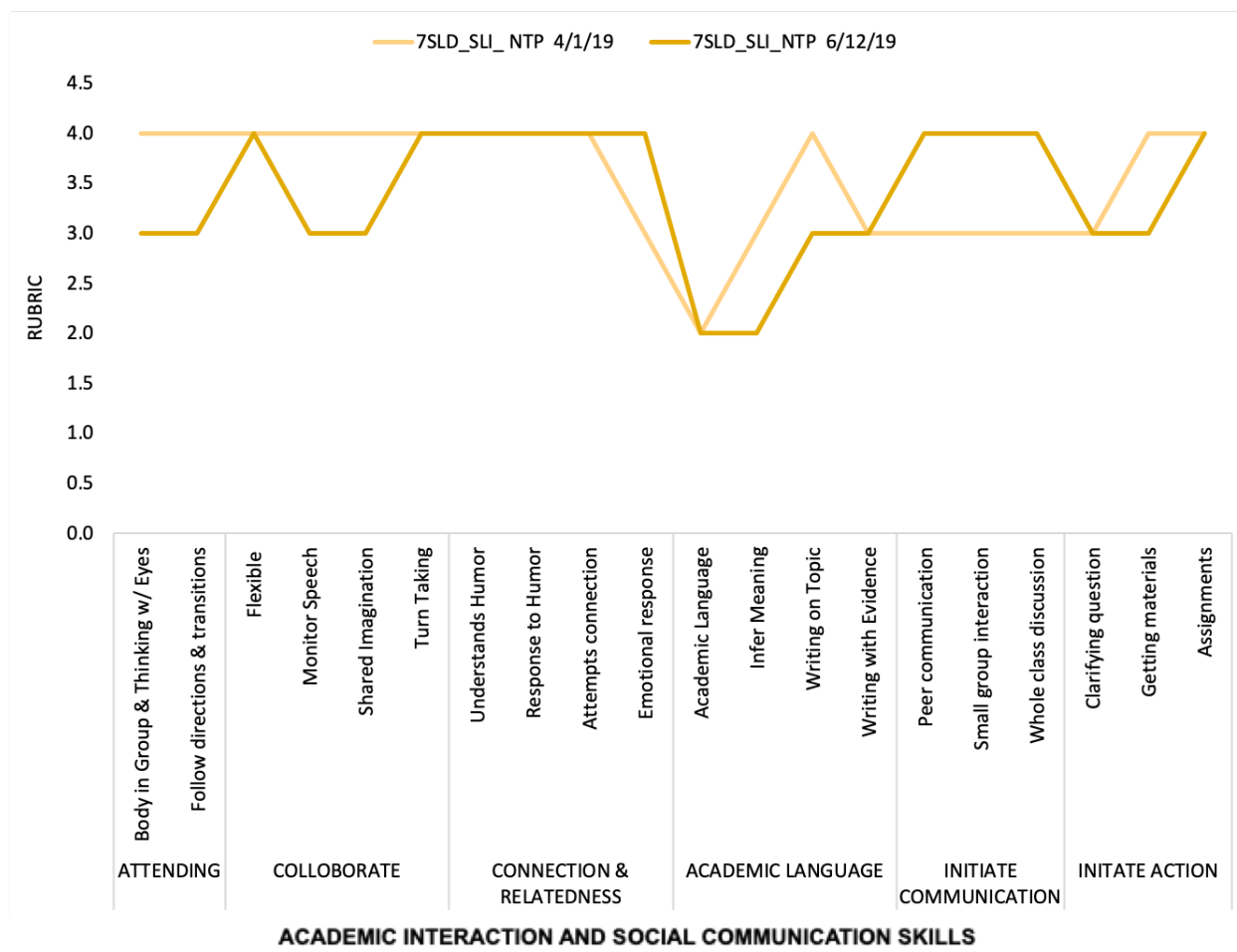
Figure 5.4 7. AISCS Participant SLD_SLI.

Participant NTP_A. Utilizing the Academic Interactions and Social Communication

Skills four point rubric, student participant NTP_1 demonstrated improvement in: Body in the

group and thinking with your eyes (pre: 2 and post 4), academic language and writing with

evidence (pre: 2 and post: 3), peer communication and small group interaction, (pre: 3 and post:

4) whole class discussion (pre: 2 and post: 4), clarifying questions and completing assignments

(pre: 2 and post: 3); and getting materials (pre: 3 and post: 4). Areas of strength prior to

intervention and maintained include follow directions, collaborate, connection and relatedness, infer meaning and writing on topic, initiating communication with peers. Figure 5.4.8 illustrates growth for student participant NTP.

Figure 5.4 8. AISCS Participant NTP

Percentage of Growth by Seventh Grade Participants

Using a scatter plot, we can compare the percentage of growth for participants. Participants with Autism (red & green markers) show higher percentage of growth compared to the other participants. Participant NTP showed 200% increase in body in group and thinking with eyes; Participant AUT B demonstrated 200% growth in response to humor and attempts

connection; small group interactions and clarifying questions; and 100% growth in flexible,

response to humor. Participant NTP demonstrated 200% growth in body in the group ad

thinking with eyes. Participant AUT A demonstrated 100% growth in shared imagination,

attempts connection and peer communication. Participant OHI_A demonstrated 100% growth in

emotional response and assignments. Participants with Autism (red & green markers) show

higher percentage of growth compared to the other participants. AUT A participant

demonstrated 200% growth in four categories; AUTA scored 100% growth in three categories;

NTP demonstrated 200% growth in one category; OHI_A demonstrated 100% growth in two

categories.   Figure 5.4.9. illustrates percentage of growth for 7th grade participants based on the

AISCS.

Figure 5.4 9. Seventh Grade Percentage of Growth.

Collective Areas of Growth of Seventh Grade Participants

Using an area line graph, we can compare the collective areas of growth of all seventh-grade participants. Body in the group and thinking with eyes collectively 600% growth; Attempts connection 500% growth; Emotional Response 400% growth, small group interaction and clarifying question 300% growth, Response to humor, peer communication, whole class discussion and completing assignments 200% growth. Figure 5.4.10 illustrates collective growth of seventh grade participants based on the AISCS.
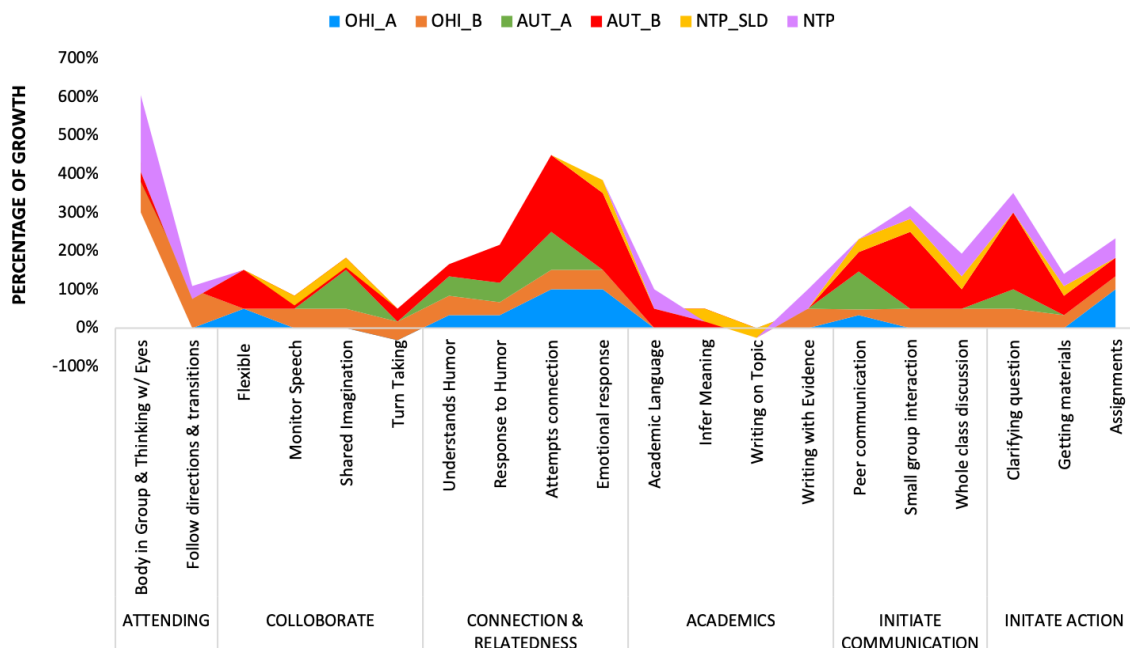
Figure 5.4 10. Seventh Grade Collective Growth.

Individual Results for 5th Grade Social Skill Participants

Six students participated in the 5th grade social skills group. All six participants qualify for Special Education Services under Autism and receive social skills as part of their Individual Education Plan. Teacher observation using the Academic Interactions and Social Communication Skills was given pre and post intervention to each of the participants.

Participant AUT_C. This participant showed growth in attending and understanding humor (pre: 1.5 and post: 2), attempts connection, emotional response, infer meaning and peer communication (pre: 2 and post: 3); academic language (pre: 2 and post: 4); initiate action (pre: 1.5 and post: 2). Figure 5.4.11 illustrates growth by category for student participant AUT_C.
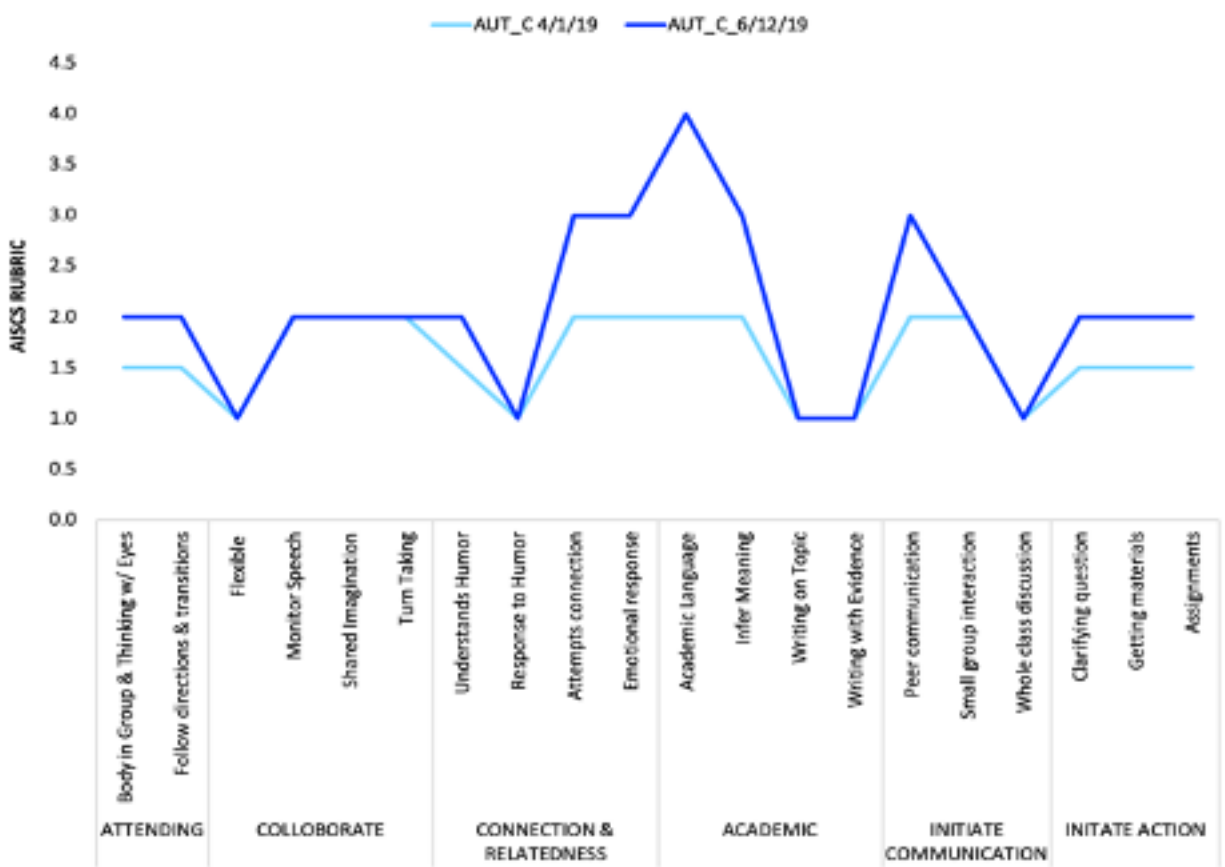
Figure 5.4 11. AISCS Participant AUT_C.

Participant AUT_D. Participant AUT D showed growth in attending and academic language (pre: 2 and post: 3); understanding humor and response to humor (pre: 1.5 and post: 3); monitor speech and small group instruction (pre: 1 and post: 2); attempts connection, emotional response (pre: 1.5 and post: 2). Figure 5.4.12 illustrates growth for student participant AUT_D.

Figure 5.4 12. AISCS Participant AUT_D.

Participant AUT_E. Participant AUT E showed growth in body in the group and thinking with eyes, flexible and monitor speech, turn taking, connection and relatedness, infer meaning, writing on topic, writing with evidence, peer communication and clarifying question (pre: 1 and post: 2); academic language (pre: 1 and post: 3). Figure 5.4.13 illustrates growth for student participant AUT_E.
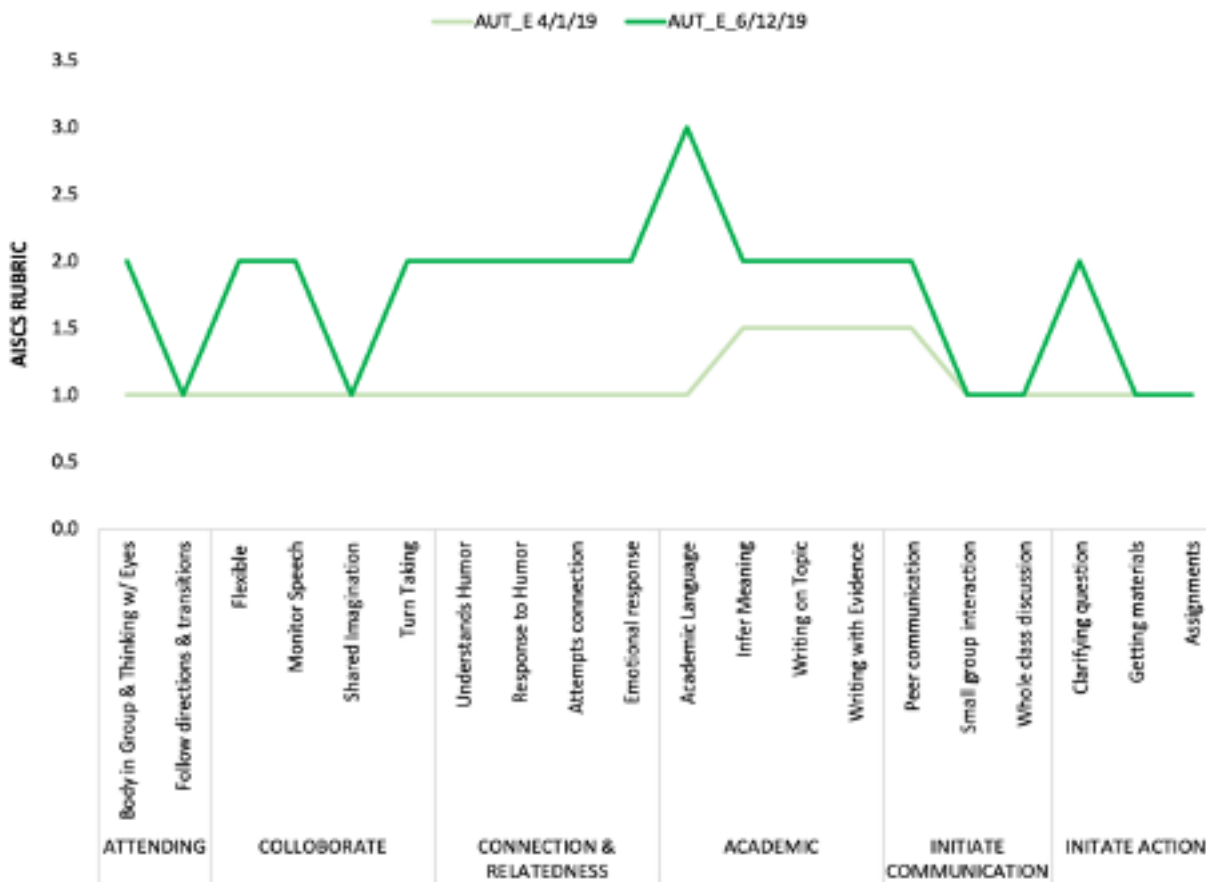
Figure 5.4 13. AISCS Participant AUT_E.

Participant AUT_F. Participant AUT F showed growth in body in the group and thinking with eyes, academic language and assignments (pre: 1 and post: 1.5); follow directions and transitions, initiate communication (pre: 1 and post: 2); monitor speech (pre: 2 and post: 3); attempts connection, clarifying questions and getting materials (pre: 1.5 and post: 3). Figure 5.4.14 illustrates growth for participant AUT_F.
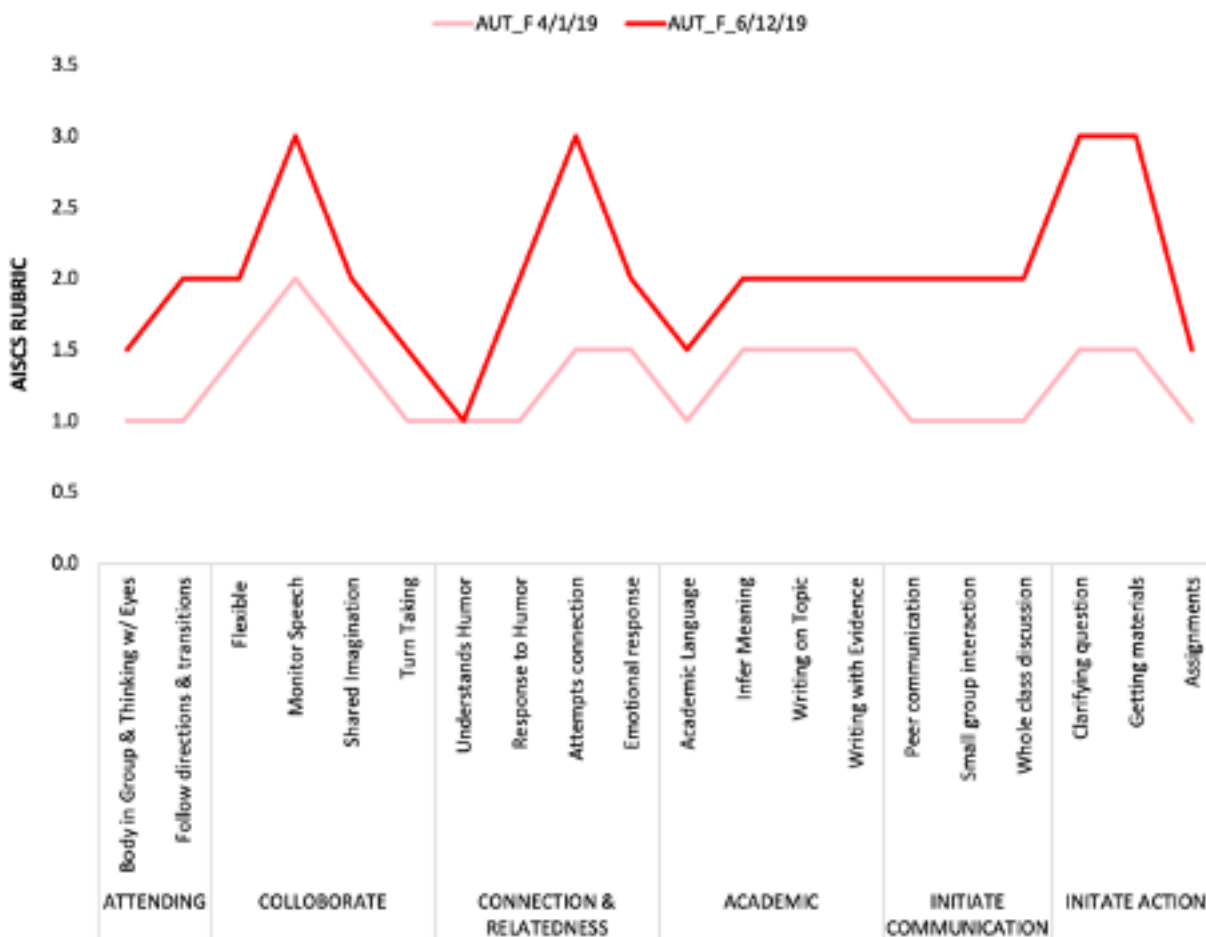
Figure 5.4 14. AISCS Participant AUT_F.

Participant AUT_G. Participant AUT G showed growth in body in the group and thinking with eyes, turn taking, infer meaning (pre: 2 and post: 2.5); follow directions and transitions, flexible, monitor speech, shared imagination, response to humor, attempts connection, writing on topic, getting materials and assignments (pre: 2 and post: 3); understanding humor and academic language (pre: 2 and post: 4). Figure 5.4.15 illustrates academic interactions and social communication growth for participant AUT_G.
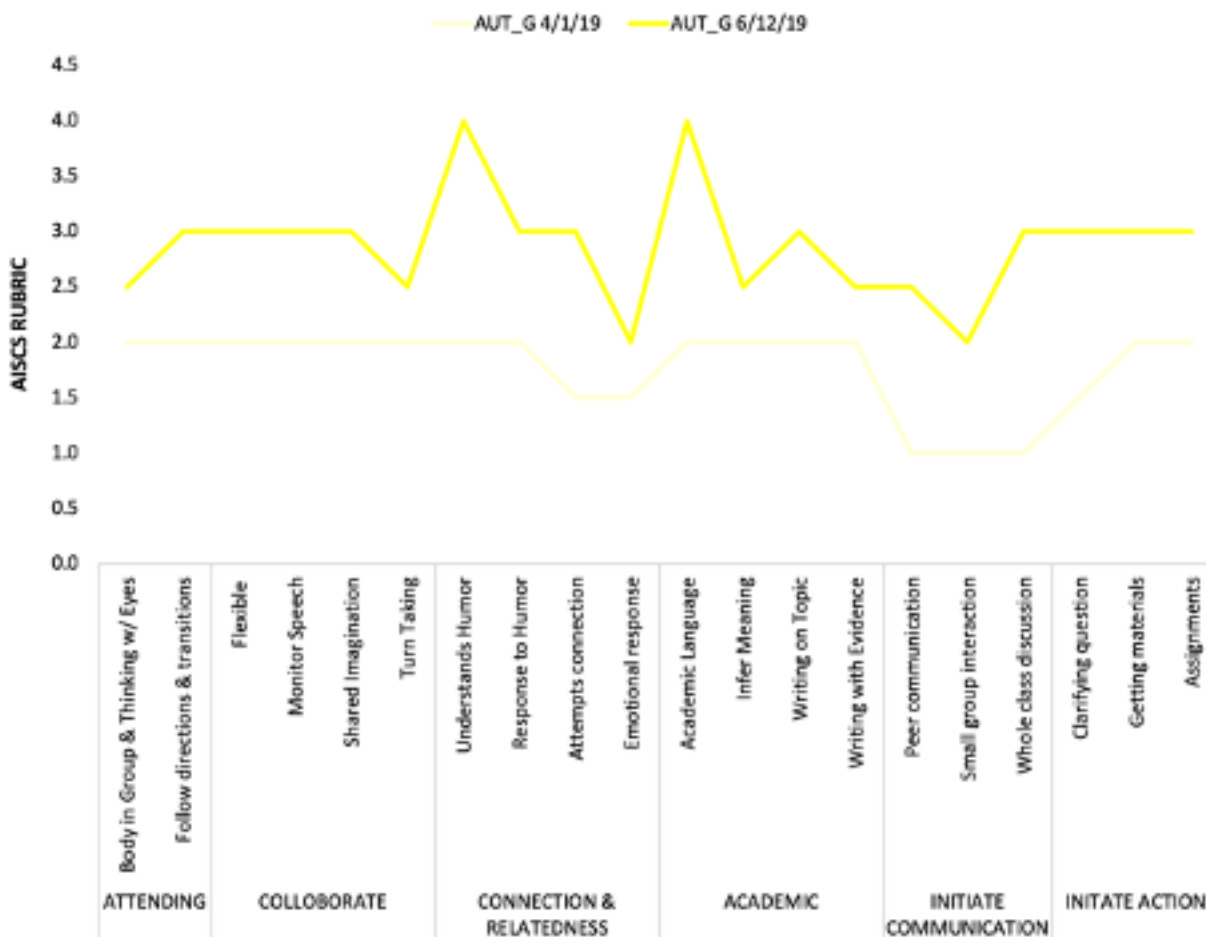
Figure 5.4 15. AISCS Participant AUT_G.

Participant AUT_H. Participant AUT H showed growth in academic language (pre: 2 and post: 4); flexible and getting materials (pre: 1.5 and post: 3.5); turn taking and writing on topic (pre: 2 and post: 3); clarifying question (pre: 1.5 and post: 3); shared imagination, attempting humor, response to humor, emotional response, writing on topic, small group interaction and whole class discussion (pre: 1 and post: 2). Figure 5.2.14 illustrates growth in academic interaction and social communication skills for participant AUT_H.
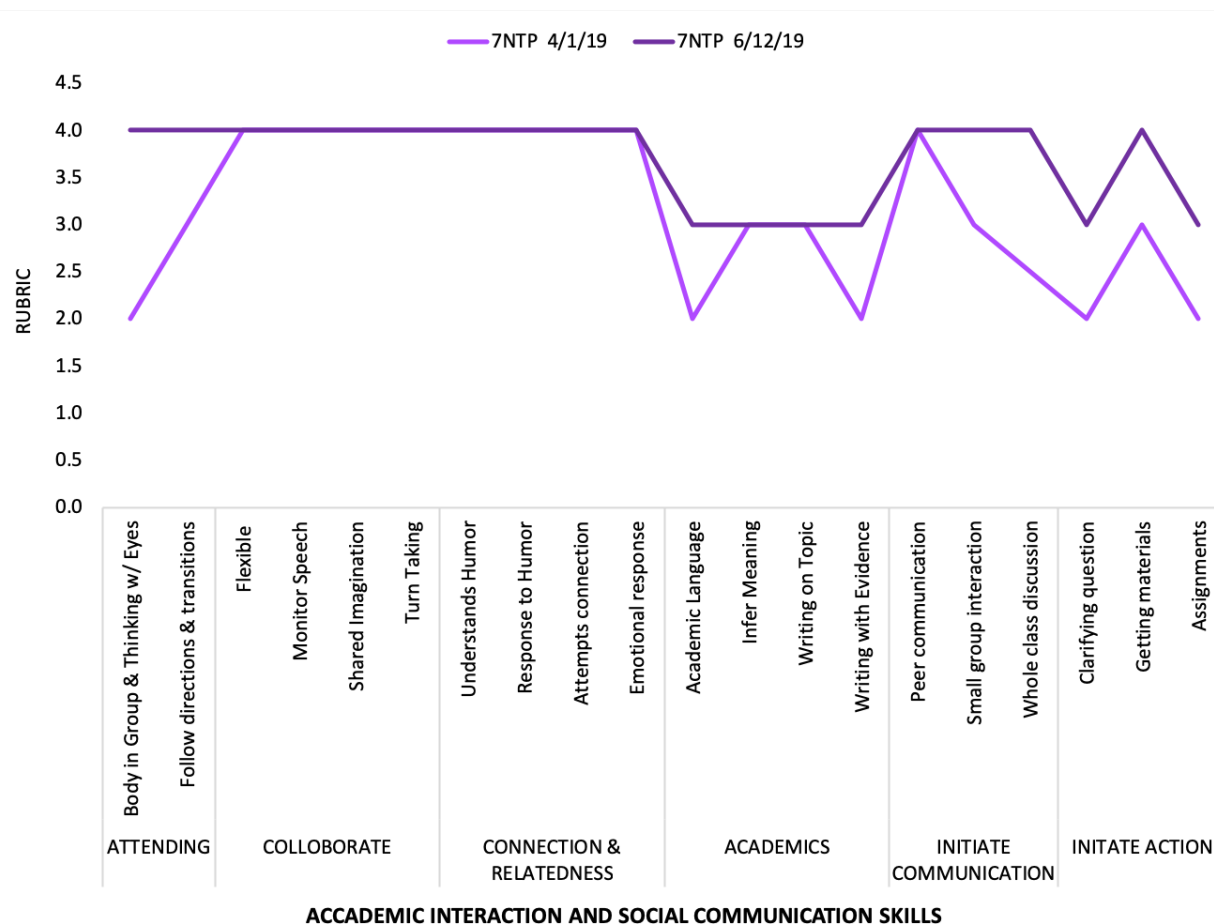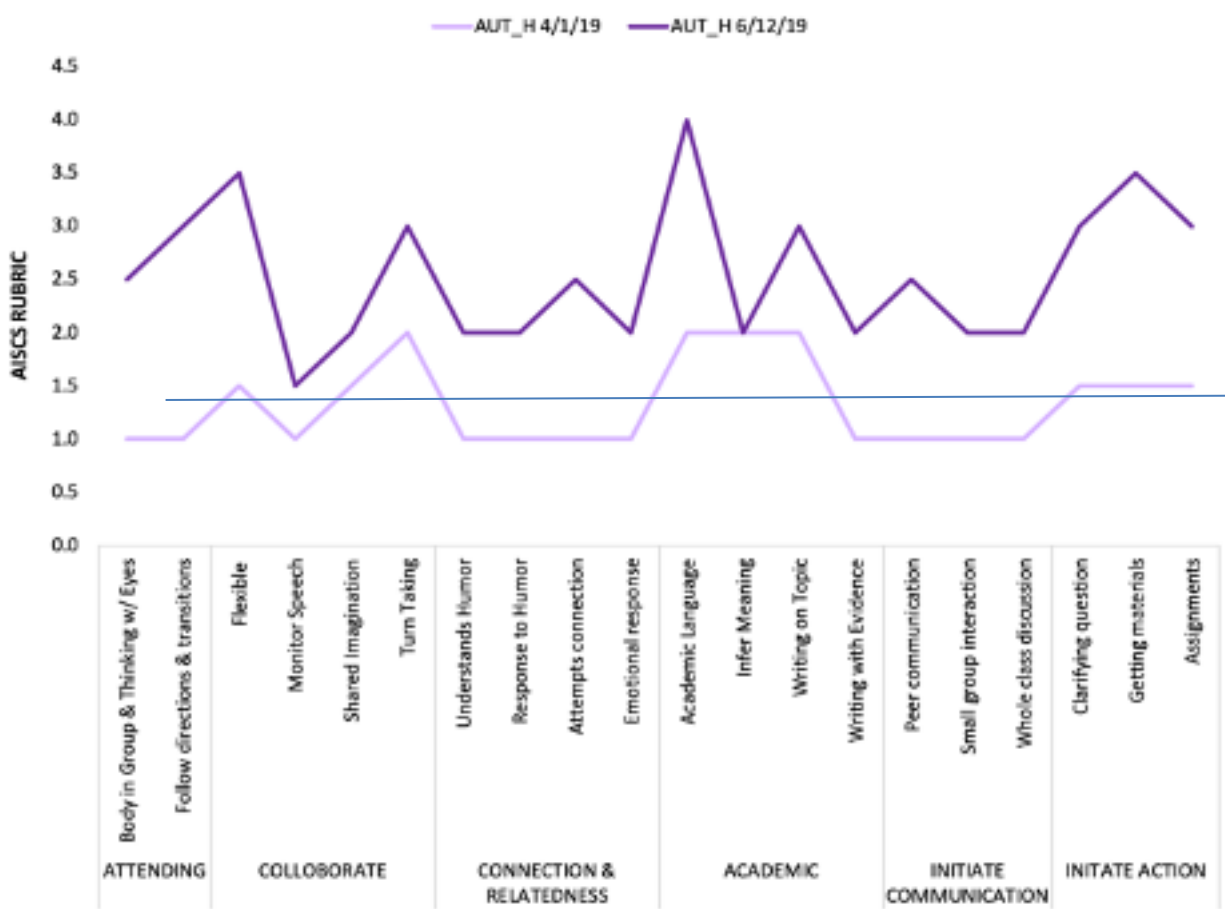
Figure 5.4 16. AISCS Participant AUT_H.

Percentage of Growth for Fifth Grade Participants

Using a scatter plot, we can compare the percentage of growth for the 5th grade

participants. AUT_H showed 200% growth in following directions and instructions and

academic language. AUT_G showed 200% growth in understanding humor and whole class

discussion. AUT_D showed 200% growth in whole class discussion. AUT_H showed 150%

growth in following directions and transitions, attempts connection, peer communication and

clarifying questions.

Participants demonstrated growth in varying percentages. Participant AUT_G demonstrated 200% growth in understanding humor and whole group discussion. Participant AUT H demonstrated 200% growth in following directions and transitions; academic language. Participant G demonstrated 150% growth in peer communication. Participant H demonstrated 150% growth in body in the group and thinking with eyes, attempts connection, peer communication, and clarifying questions. Participant AUT_E demonstrated 100% growth in body in the group and thinking with eyes, flexible, monitor speech, turn taking and clarifying questions. Participant AUT_F demonstrated 100% growth in follow directions and transitions, response to humor; peer communication, small & whole group discussion, and asking clarifying questions. Participant AUT_G demonstrated 100% growth in attempts connection, academic language, small group discussion and clarifying questions. Figure 5.4.17 illustrates the percentage of growth in academic interactions and social communication skills for all fifth grade participants.
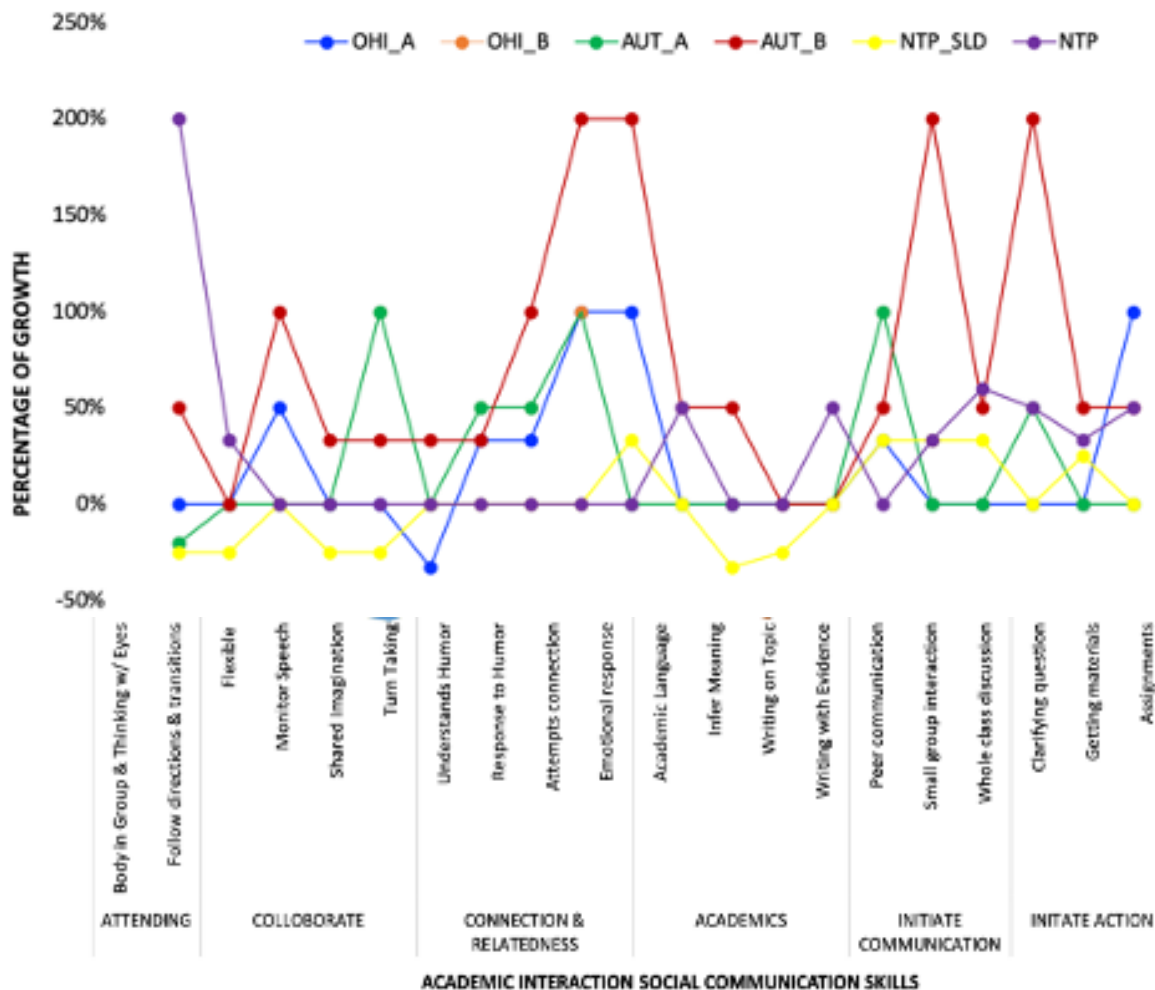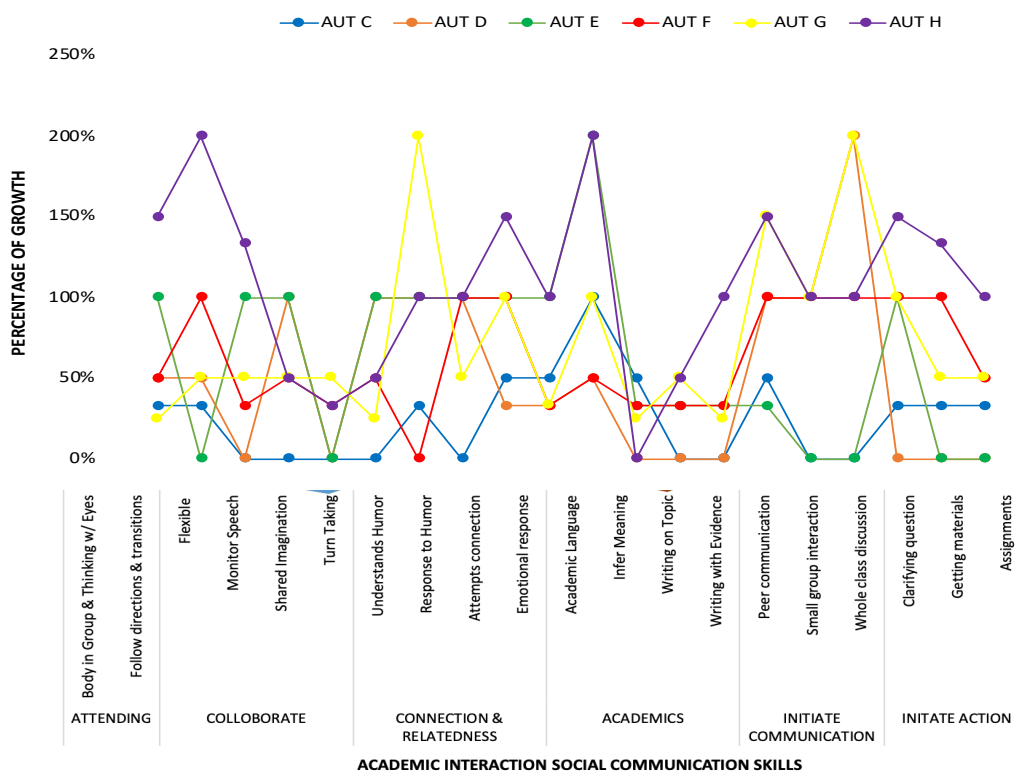
Figure 5.4 17. Fifth Grade Percentage of Growth.

Collective Percentage of Growth for Fifth Grade Participants

Using an area line graph, we can compare the collective areas of growth of all participants. Fifth grade participants collectively showed 700% growth in body in the group and thinking with eyes and academic language. Peer communication and whole class discussions at 600% growth. Understanding humor, attempts connection at 500% growth. Monitor speech, emotional response, small group interaction at 400% growth.

The fifth-grade participants collectively demonstrated 700% growth in the areas of body in group and thinking with their eyes, academic language. They demonstrated between 500 & 699% growth in understanding humor, attempt connection, peer communication, whole class

discussion and clarifying questions. Figure 5.4.18 illustrates collective growth of academic

Interaction and Social Communication Skills by category for fifth grade participants.
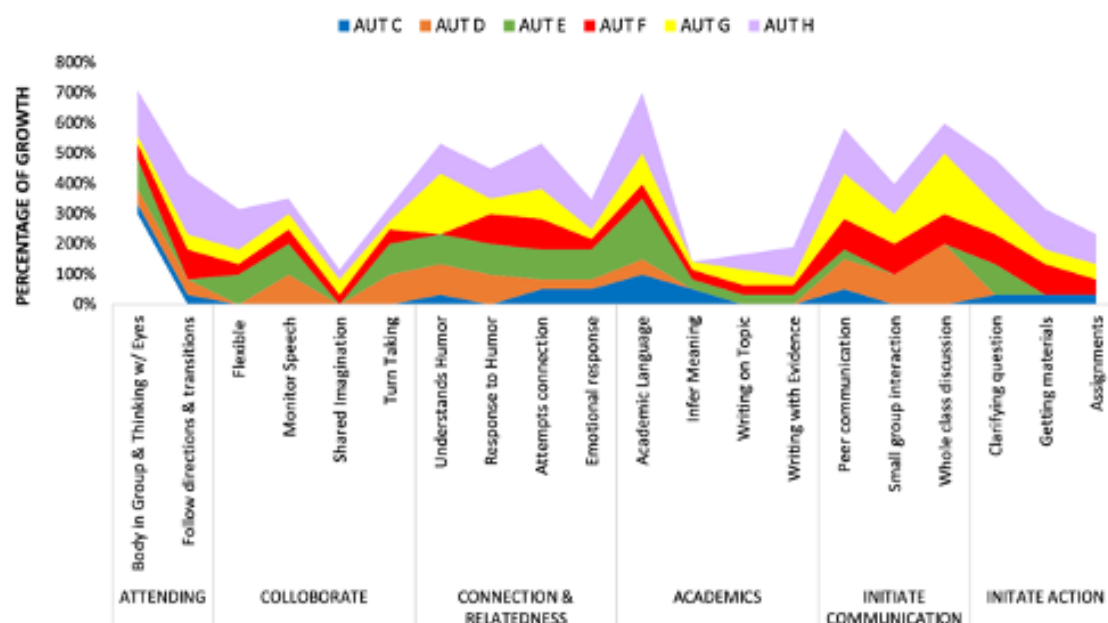
Figure 5.4.18. Fifth Grade Collective Growth.

Collective Growth of Autism Participants

Combing the percentage of growth scores for both fifth grade and seventh grade

participants with Autism gives us an overview of collective growth by category for this

population of students. Percentage of growth by category was determined by averaging the

percentage of growth of correlating sub-categories, pre score minus post score divided by pre

score. Students with Autism participating in the study showed collective growth as follows:

Initiate Communication 645%; Connection 566%, Attending 443%, Initiate Action 440%,

Collaboration 438%, and Academics 350%. Figure 5.4.19 illustrates collective percentage of

growth by category average for participants with Autism in both fifth and seventh grade.
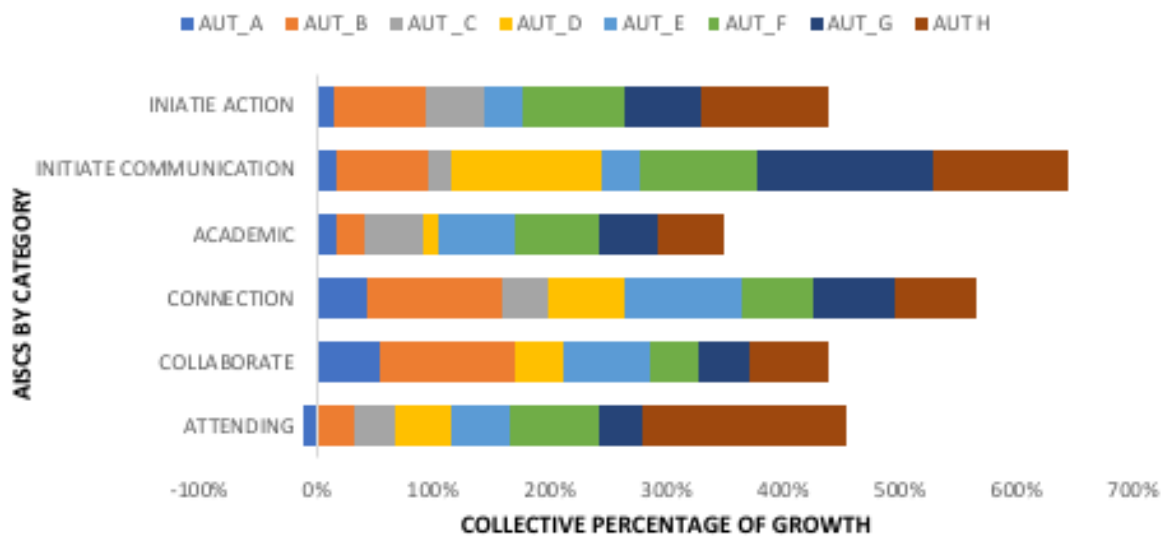
Figure 5.4 19 . Collective Growth Students with Autism by Category.

Participants with Autism from both fifth and seventh grade demonstrated varying

percentage of growth combining all categories as follows: AUT A 133%; AUT B 452%; AUT C

192%; AUT D 299%; AUT E 355%, AUT F 437%; AUT G 416%; AUT H 597%. Figure 5.4.20

illustrates collective percentage of growth by participant.
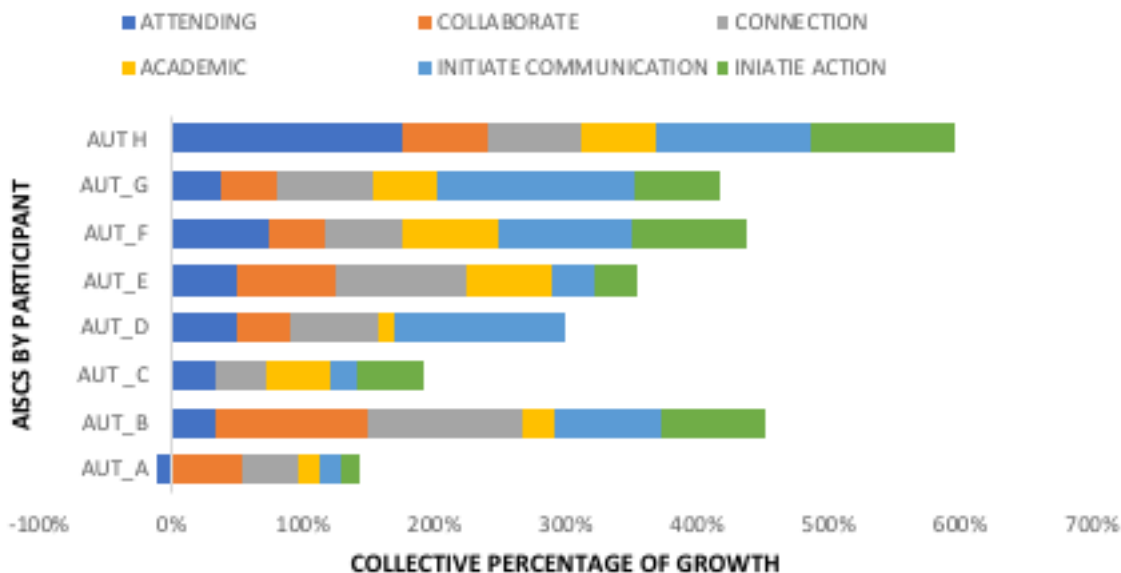
Figure 5.4 20. Collective Growth Students Autism by Participant.

Participants with Autism from both fifth and seventh grade demonstrated varying percentage of growth as follows: Attending the range was between -10% to 175%; collaboration between 0%-117%; connection between 39%-117%; academics between 14-73%; initiate communication between 17%-150%; initiate action between 0%-111%. ($n = 8$). Students percentage of growth varied by student and by category as demonstrated in Table 17.1. Paired *t*--test for all participants demonstrating significance of pre and post scores are listed in Table 17.1 Paired *t*-test for participants with Autism demonstrating significance of per and post scores are listed in Table 18.1

Table 17.1

Percentage of Growth of Academic Interaction and Social Communication Skills of Autism

Participants.

PART.	ATT	COLL	CON	ACAD	IN COM	IN ACT	TOTAL
AUT A	-11%	54%	43%	17%	17%	14%	133%
AUT B	33%	117%	117%	25%	80%	80%	452%
AUT C	33%	0%	39%	50%	20%	50%	192%
AUT D	50%	40%	67%	14%	129%	0%	299%
AUT E	50%	75%	100%	64%	33%	33%	355%
AUT F	75%	42%	60%	73%	100%	88%	437%
AUT G	38%	44%	71%	50%	150%	64%	416%
AUT H	175%	67%	70%	57%	117%	111%	597%
TOTAL	443%	438%	566%	350%	645%	440%	

Note: Attending (ATT); Collaboration (COL), Connection (CON), Academics (ACAD), Initiate
Communication (IN COM), Initiate Action (IN ACT).

Table 18 1

Paired Samples t-Test: Pre and Post AISCS for participants with Autism

			t	*df*	*p*
AISCS: ATT PRE	-	AISCS: ATT PO	-3.454	7	0.011
AISCS: COLL PRE	-	AISCS: COLL PO	-5.960	7	< .001
AISCS: CON-PRE	-	AISCS: IN CON-PO	-5.714	7	< .001
AISCS: ACAD-PRE	-	AISCS: ACAD-PO	-6.466	7	< .001
AISCS:IN COM-PRE	-	AISCS:IN COM-PO	-4.653	7	0.002
AISCS:IN ACT-PRE	-	AISCS:IN ACT-PO	-4.104	7	0.005
AISCS: COMP PRE	-	AISCS: COMP PO	-7.321	7	< .001

Note: Student's *t*-test. (*n*=8).
Note: All tests, hypothesis is measurement one less than measurement two.
Note: Attending (ATT); Collaboration (COL), Connection (CON), Academics (ACA), Initiate Communication (IN COM), Initiate Action (IN ACT).

Research Question Number Three

3. "Can an increase in social emotional learning lead to an increase in self-efficacy, engagement, and social inclusion for students with Autism in the General Education Setting?"

Quantitative Analysis is used to compare results of increase or decrease in participants self-efficacy, social emotional learning and social inclusion to determine if a correlation or causal relationship ship exists. Surveys were used to identify student beliefs (self-efficacy) and socio-metric scales (social inclusion). SSIS-SEL rating scales were used to identify social emotional learning.

Social Emotional Learning

Using the Social Skills Improvement System Social Emotional Learning Edition, both student and teacher rating scales were used to measure students social-emotional skills representing five competencies: Self-Awareness (SA), Self-Management (SM), Social Awareness (SO), Relationship Skills (RS), Responsible Decision Making (RDM), Core Skills (CS) and a composite score for Social Emotional Learning (SEL). The teacher rating scales include a composite score on academic skills. Scores used are based on gender specific norms. Standard bell curve 85-115 is the average range. All participant's scores fell within the acceptable response range.

Student Rating Scales

Students were asked to complete the SSIS-SEL student rating scale prior to and after the Social Skills intervention. This measure looks at student beliefs about their social emotional learning. Table 19.1 lists pre, post and % of growth scores of each participant including SEL, SA, SM and SO. Table 20.1 lists pre, post and % of growth scores of each participant including SEL (duplicate), RS, RDM and CS.

Table 19.1

SSIS-SEL Student Rating Scales Pre and Post Intervention with Percentage of Growth for SEL, SA, SM, SO

PART	SEL COMPOSITE (SEL)			SELF AWARENESS (SA)			SELF MANAGEMENT (SM)			SOCIAL AWARENESS (SO)		
	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR
AUT_C	95.00	117.00	23.16%	97.00	113.00	16.49%	97.00	114.00	17.53%	100	121	23.16%
AUT_D	113.00	121.00	7.08%	113.00	120.00	6.19%	114.00	125.00	9.65%	114	117	3.00%
AUT_E	115.00	110.00	-4.35%	113.00	113.00	0.00%	117.00	108.00	-7.69%	117	110	-6.00%
AUT_F	93.00	89.00	-4.30%	100.00	94.00	-6.00%	77.00	86.00	11.69%	107	107	0.00%
AUT_G		93.00			90.00			94.00			104	
AUT_H	97.00	103.00	6.19%	90.00	94.00	4.44%	97.00	97.00	0.00%	97	99	2.00%
AUT_A	92.00	95.00	3.26%	87.00	94.00	8.05%	91.00	94.00	3.30%	110	100	-9.00%
AUT_B		88.00			93.00			98.00			92	
NTP_A	91.00	90.00	-1.10%	97.00	90.00	-7.22%	91.00	94.00	3.30%	107	93	-13.00%
OHI_A	103.00	90.00	-12.62%	103.00	106.00	2.91%	83.00	85.00	2.41%	114	76	-33.00%
OHI_B	65.00	76.00	16.92%	70.00	87.00	24.29%	76.00	85.00	11.84%	72	76	6.00%
SLD/SLI A	124.00	95.00	-23.39%	126.00	90.00	-28.57%	116.00	79.00	-31.90%	125	113	-10.00%

Note: The percentage of growth was calculated based on (post score – pre score)/ pre score.

Table 20 1

SSIS-SEL Student Rating Scales Pre and Post Intervention with Percentage of Growth for RS, RDM, CS

	SEL COMPOSITE (SEL)			RELATIONSHIP SKILLS (RS)			RESPONSIBLE DECISION MAKING (RDM)			CORE SKILLS (CS)		
PART	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR
AUT_C	95	117	23.16%	94	122	29.79%	90	105	16.67%	94	113	20.21%
AUT_D	113	121	7.08%	105	111	5.71%	110	119	8.18%	116	119	2.59%
AUT_E	115	110	-4.35%	103	113	9.71%	114	100	-12.28%	106	108	1.89%
AUT_F	93	89	-4.30%	97.	77	-20.62%	90	90	0.00%	90	94	4.44%
AUT_G		93			84			100			84	
AUT_H	97	103	6.19%	95	110	15.79%	95	110	15.79%	87	116	33.33%
AUT_A	92	95	3.26%	84	94	11.90%	95	95	0.00%	81	84	0.00%
AUT_B		88			79			85			86	
NTP_A	91	90	-1.10%	90	94	4.44%	76	86	13.16%	87	87	13.16%
OHI_A	103	90	-12.62%	103	90	-12.62%	110	99	-10.00%	103	93	-10.00%
OHI_B	65	76	16.92%	59	66	11.86%	70	80	14.29%	68	74	14.29%
SLD/SLI A	124	95	-23.39%	119	88	-26.05%	119	109	-8.40%	127	86	-8.40%

Note: The percentage of growth was calculated based on (post score – pre score)/ pre score. SEL is included in this chart for frame of reference.

Percentage of Growth for Fifth Grade Participants

Percentage of growth by category varies by student participant. For the composite SEL score three of the fifth-grade participants showed growth. For the category of Self Awareness, 3 out of the 5 participants showed growth, while one participant showed consistency. For the category of Self-Management, 3 out of the 5 participants showed growth and one participant showed consistency. For the category of Social Awareness 3 out of 5 participants showed growth and one showed consistency. For the category of Relationship Skills 4 out of 5

participants showed growth. For the category of Responsible Decision Making, 3 out of 5 participants showed growth and one participant showed consistency. For the category of Core Skills 5 out of 5 participants showed growth. Figure 5.4.21. illustrates the percentage of growth for each fifth-grade participant. Legend: 1) SEL composite Score; 2) SA, 3) SM, 4) SO, 4) RS, 5) RDM and 6) CS.
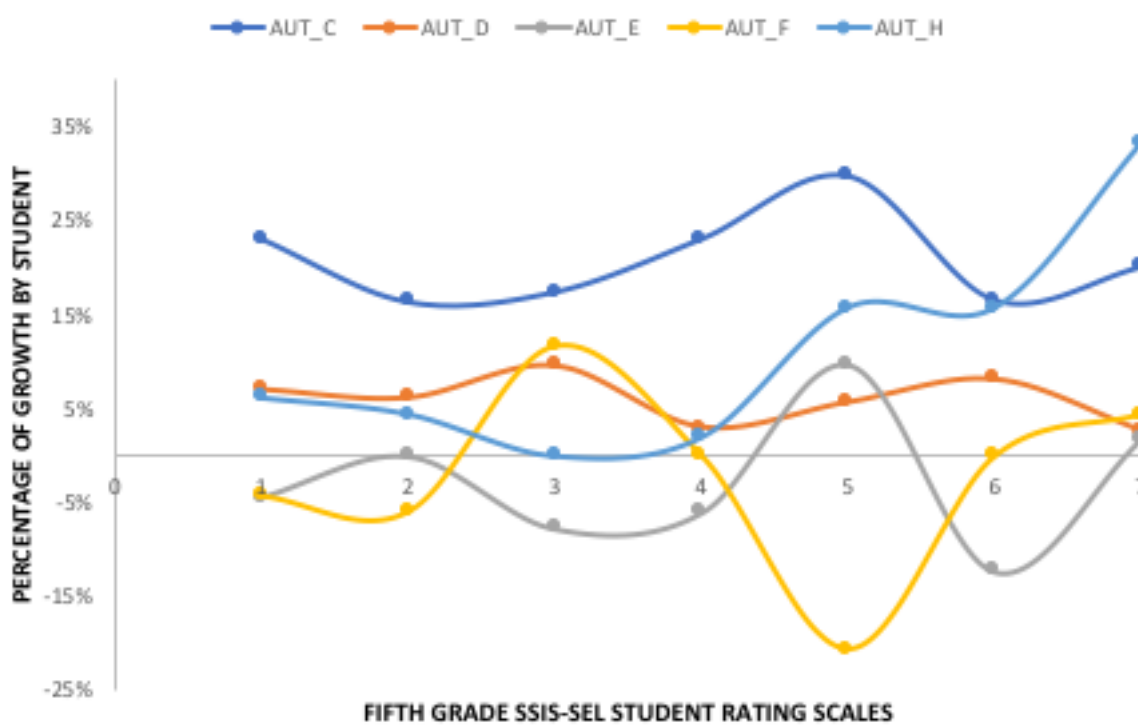
Figure 5.4.21. SSIS-SEL Student Rating Scales

Percentage of Growth for Seventh Grade Participants

For the seventh-grade participants they made growth some students made more growth than others. For the SEL composite score two participants showed growth. For the Self Advocacy category, three out of five participants showed growth. For the Self-Management category, four out of five students showed growth. For the Social Awareness category, one

student showed growth. For the Relationship Skills category two participants showed growth.

For the responsible decision-making category, two out of five showed growth and one participant

showed consistency. For the core skills category two out of five participants showed growth and

one participant showed consistency. Figure 5.4.22 illustrates the varying level of growth per

participant for each category. Legend: Percentage of growth per category: 1) SEL composite; 2)

SA; 3) SM; 4) SO; 5) RS; 6) RDM, 7) CS.
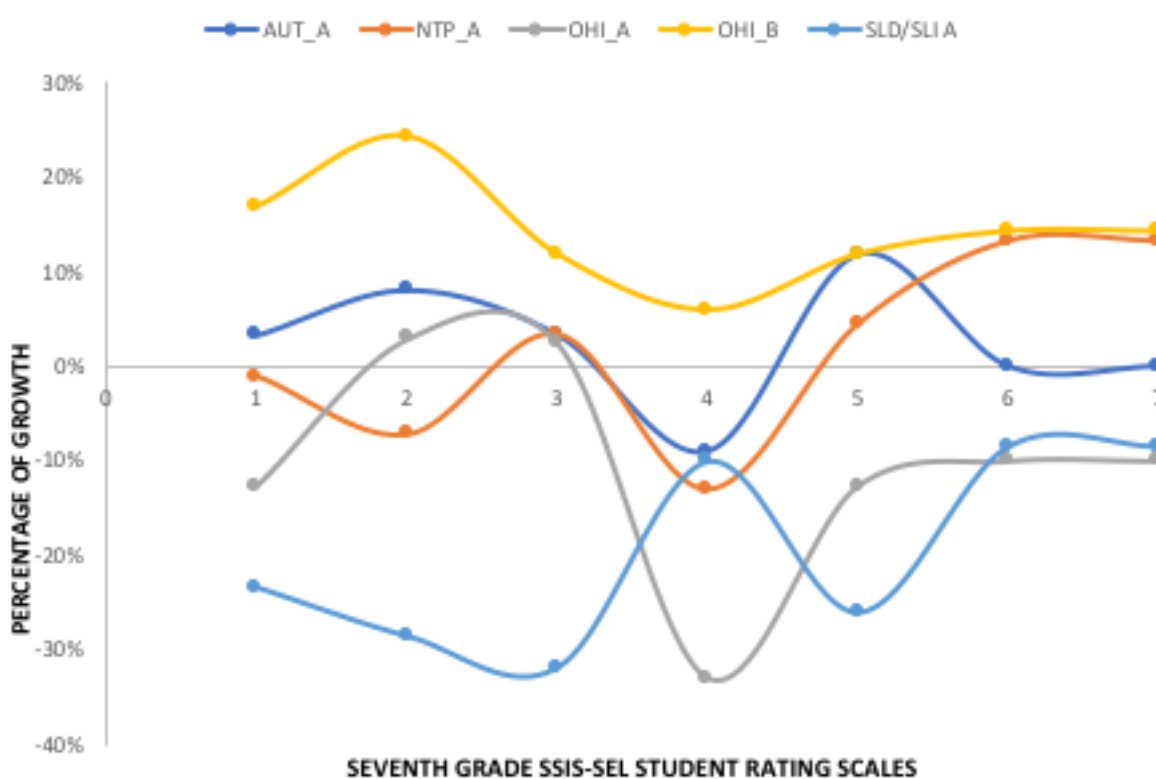
Figure 5.4 22. Seventh Grade SSIS-SEL Percentage of Growth by Participant.

SSIS-SEL Student Rating Scales for Autism Participants. Utilizing percentage of growth

calculations for fifth and seventh grade students with Autism both individual progress and

collective progress is recorded. Only participants with pre and post SSIS-SEL student rating

scales were considered for a total of six participants. Collected growth per student listed with

range of -19% to 147%: AUT_E -19%, AUT_F -15%, AUT_A 21%, AUT *D* 42%*, AUT_H 78%, AUT_C 147%. Collected growth per category included a range of 13% to 66%: Social Awareness 13%, Responsible Decision Making 28%, Self-Awareness 29%, Composite Social Emotional Learning 31%, Self-Management 34%, Relationship Skills 52%, Core Skills 66%. Figure 5.4.23 illustrates Percentage of growth for students with Autism per category. Figure 5.4.24 illustrates the collective percentage of growth by category for participants with Autism. Legend: Percentage of growth for students with Autism per category: 1) SEL composite; 2) Self Awareness; 3) Self-Management; 4) Social Awareness; 5) Relationship Skills; 6) Responsible Decision Making, 7) Core Skills.
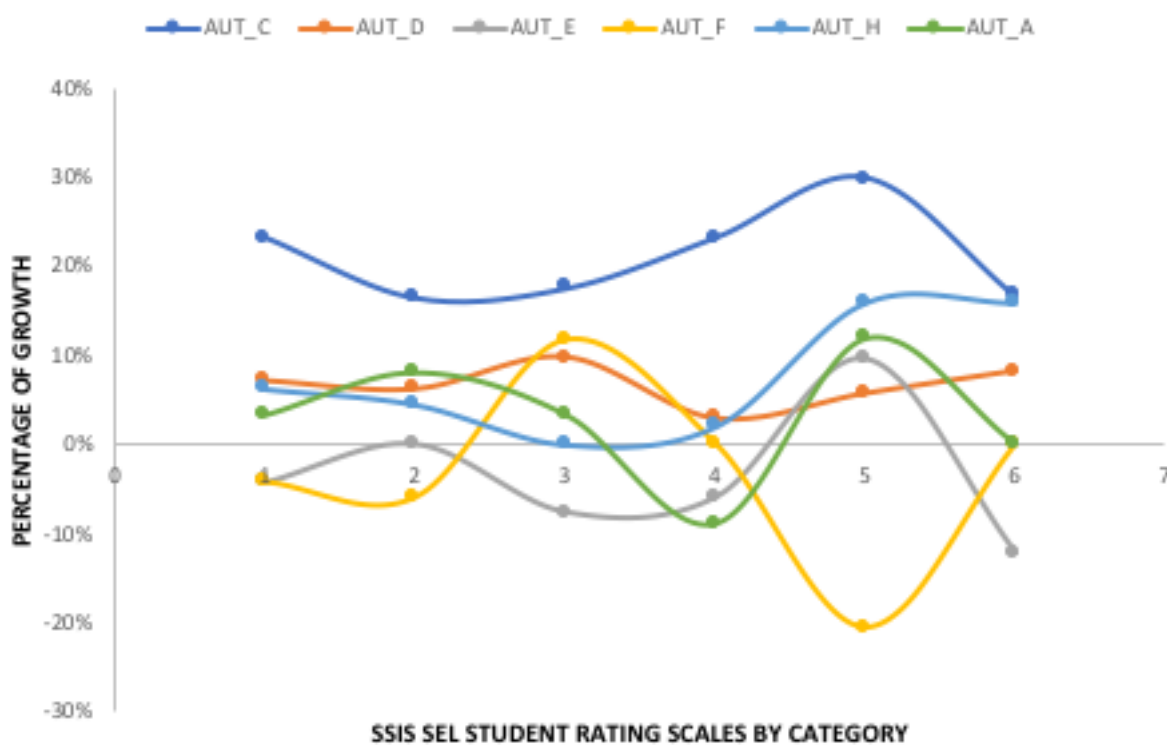
Figure 5.4.23. SSIS-SEL Student Percentage of Growth by Category.
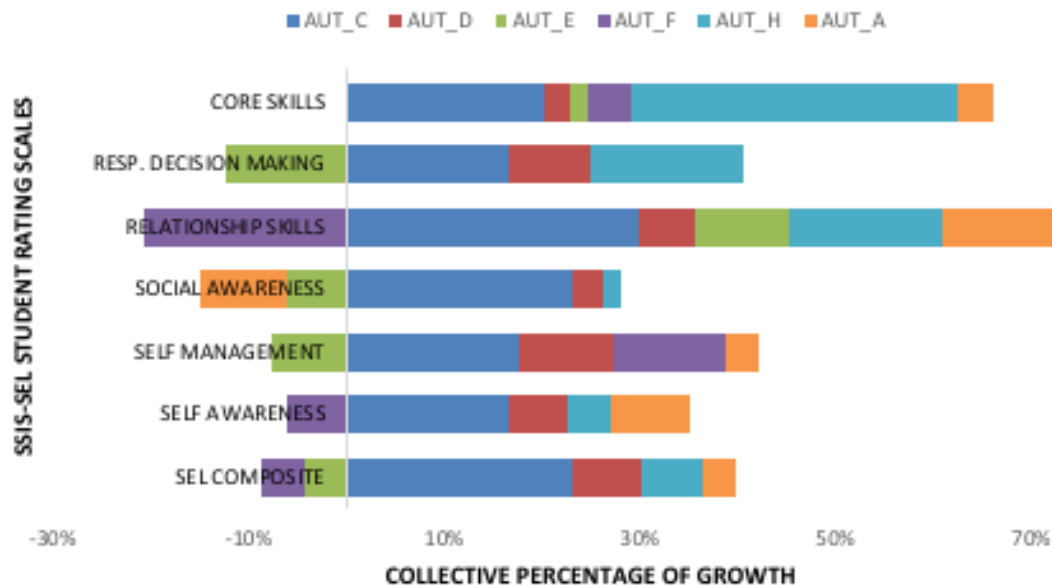
Figure 5.4.24. Collective Percentage of Growth per Category for Students with Autism.

A Paired Samples *t*-Test for pre and post SSIS-SEL student rating scales for participants with Autism indicate a significant relation for core skills with a p-value of .041 and an important relationship exists for self-awareness with a *p*-value of .092. Table 21.1 illustrates shows the relationship of pre and post intervention for students with Autism in for the SSIS-SEL composite score and subcategories.

Table 21. 1

Paired Samples Test Using the SSIS-SEL Student Rating Scales for Participants with Autism

			t	df	p
SEL-Pre	-	SEL-Post	-1.245	5	0.134
SEL SA-Pre	-	SEL SA-Post	-1.540	5	0.092
SEL SM-Pre	-	SEL SM-Post	-1.379	5	0.113
SEL SO-Pre	-	SEL SO-Post	-0.338	5	0.374
SEL RS-Pre	-	SEL RS-Post	-1.268	5	0.130
SEL RDM-Pre	-	SEL RDM-Post	-0.914	5	0.201
SEL CS-Pre	-	SEL CS-Post	-2.165	5	0.041

Note: Student's *t*-test.

Note: All tests, hypothesis is measurement one less than measurement two.

Teacher Rating Scales

Teachers were asked to complete the SSIS-SEL teacher rating scale prior to and after the Social Skills intervention. This measure looks at the Social Emotional Learning of participants as observed by their teachers. For the seventh-grade rating scales, a different teacher completed the rating scale. Table 22.1 lists pre, post and % of growth scores of each participant including SEL, SA, SM and SO. Table 23.1 lists pre, post and % of growth scores of each participant including SEL, RS, RDM and CS.

Table 22. 1

SSIS-SEL Teacher Rating Scales Pre and Post Intervention with Percentage of Growth for SEL, SA, SM, SO

	SEL COMPOSITE (SEL)			SELF AWARENESS (SA)			SELF MANAGEMENT (SM)			SOC AWARENESS (SO)		
PART	PRE	POST	% GR	PRE	POST	% GR	PR	POST	% GR	PR	PO	% GR
AUT_C	70	72	2.86%	56	68	17.65%	68	72	5.56%	90	90	0.00%
AUT_D	79	80	1.27%	76	72	-5.56%	87	91	4.40%	78	81	4.00%

PART	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR
AUT_E	78	83	6.41%	86	88	2.27%	81	85	4.71%	90	94	4.00%
AUT_F	70	74	5.71%	72	72	0.00%	72	81	11.11%	74	74	0.00%
AUT_G	87	92	5.75%	88	116	24.14%	96	89	-7.87%	87	78	-10.00%
AUT_H	91	108	18.68%	112	108	-3.70%	81	100	19.00%	84	111	32.00%
AUT_A	65	72	10.77%	52	64	18.75%	72	87	17.24%	81	81	0.00%
AUT_B	71	81	14.08%	92	84	-9.52%	81	88	7.95%	69	88	28.00%
NTP_A	107	98	-8.41%	88	100	12.00%	108	94	-14.89%	123	103	-16.00%
OHI_A	79	85	7.59%	76	72	-5.56%	83	88	5.68%	90	99	10.00%
OHI_B	56	81	44.64%	61	68	10.29%	59	85	30.59%	69	92	33.00%
SLD_A	98	85	-13.27%	76	72	-5.56%	101	92	-9.78%	115	99	-14.00%

Note: The percentage of growth was calculated based on (post score – pre score)/ pre score.

Table 23 1

SSIS-SEL Teacher Rating Scales Pre and Post Intervention with Percentage of Growth for RS, RDM, CS and AC.

PART	RELATIONSHIP SKILLS (RS)			RESPONSIBLE DECISION MAKING (RDM)			CORE SKILLS (CS)			ACADEMIC COMPETENCE (AC)		
	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR	PRE	POST	% GR
AUT_C	79	82	3.80%	80	70	-12.50%	68	68	0.00%	107	103	-3.88%
AUT_D	79	79	0.00%	91	94	3.30%	79	87	10.13%	97	97	0.00%
AUT_E	71	75	5.63%	80	84	5.00%	78	81	3.85%	93	93	0.00%
AUT_F	73	73	0.00%	80	91	13.75%	71	73	2.82%	93	97	4.12%
AUT_G	82	84	2.44%	94	101	7.45%	95	92	-3.16%	97	107	9.35%
AUT_H	91	108	18.68%	91	108	18.68%	92	106	15.22%	107	105	-1.90%

AUT_A	68	66	-2.94%	77	84	9.09%	73	84	15.07%	101	97	-4.12%
AUT_B	66	76	15.15%	69	84	21.74%	75	87	16.00%	90	97	7.22%
NTP_A	90	94	4.44%	98	94	-4.08%	108	98	-9.26%	97	93	-4.30%
OHI_A	103	90	-12.62%	73	88	20.55%	76	84	10.53%	87	80	-8.75%
OHI_B	59	66	11.86%	61	88	44.26%	60	87	45.00%	72	77	6.49%
SLD A	119	88	-26.05%	108	84	-22.22%	97	94	-3.09%	67	75	10.67%

Note: The percentage of growth was calculated based on (post score – pre score)/ pre score.

A paired *t*-Test was used to analyze the pre and post SSIS-SEL teacher rating scale of all participants. Table 24.1 shows the outcomes and of this analysis including significant relationship for the composite SEL pre and post, as well as the Core Skills pre and posttest.

Table 24 1

SSIS-SEL Teacher Rating Scales 5th and 7th Intervention Group for all Participants

		t	*df*	*p*
SEL Pre T	SEL Post T	-1.717	11	0.057
SEL: SA Pre T	SEL: SA Post T	-1.356	11	0.101
SEL: SM Pre T	SEL: SM Post T	-1.578	11	0.071
SEL: SO Pre T	SEL: SO Post T	-0.794	11	0.222
SEL: RS Pre T	SEL: RS Post T	-0.024	11	0.491
SEL: RDM Pre T	SEL: RDM Post T	-1.449	11	0.088
SEL: CS Pre T	SEL: CS Post T	-2.037	11	0.033

SEL: AC Pre T	SEL: AC Post T	-0.674	11	0.257

Note: Student's *t*-test. (*n=12).*

Table 24. 2

Paired Samples T-Test SSIS-SEL Teacher Rating Scales Fifth and Seventh Intervention Group for Participants with Autism

			t	df	p
SEL T-Pre	-	SEL T-Post	-3.518	7	0.005
SEL T SA-Pre	-	SEL T SA-Post	-1.129	7	0.148
SEL T SM-Pre	-	SEL T SM-Post	-2.467	7	0.022
SEL T SO-Pre	-	SEL T SO-Post	-1.333	7	0.112
SEL T RS-Pre	-	SEL T RS-Post	-1.909	7	0.049
SEL T RDM-Pre	-	SEL T RDM-Post	-2.274	7	0.029
SEL T CS-Pre	-	SEL T CS-Post	-2.671	7	0.016
SEL T AC-Pre	-	SEL T AC-Post	-0.755	7	0.238

Note: Student's *t*-test (*n* = 8).
Note: All tests, hypothesis is measurement one less than measurement two.

The fifth-grade participants demonstrated growth at varying levels. Percentage of growth was calculated using the formula (Post – Pre)/Pre. For the Social Emotional Learning (SEL) composite score all six participants demonstrated growth. For the Self Advocacy category, three out of six participants demonstrated growth. For the Self-Management category, all six participants demonstrated growth. For the Social Awareness category, three participants demonstrated growth. For the Relationship Skills category five participants indicated growth. For the responsible decision-making category, five participants demonstrated growth. For the core skills category four participants showed growth. For the academic competence category two students demonstrated growth. Figure 5.4.25 illustrates the varying level of growth per participant for each category of the SSIS-SEL teacher rating scales. Legend: 1) SEL composite;

2) Social Awareness; 3) Self-Management; 4) Social Awareness; 5) Relationship Skills; 6)

Responsible Decision Making, 7) Core Skills; 8) Academic Competence.
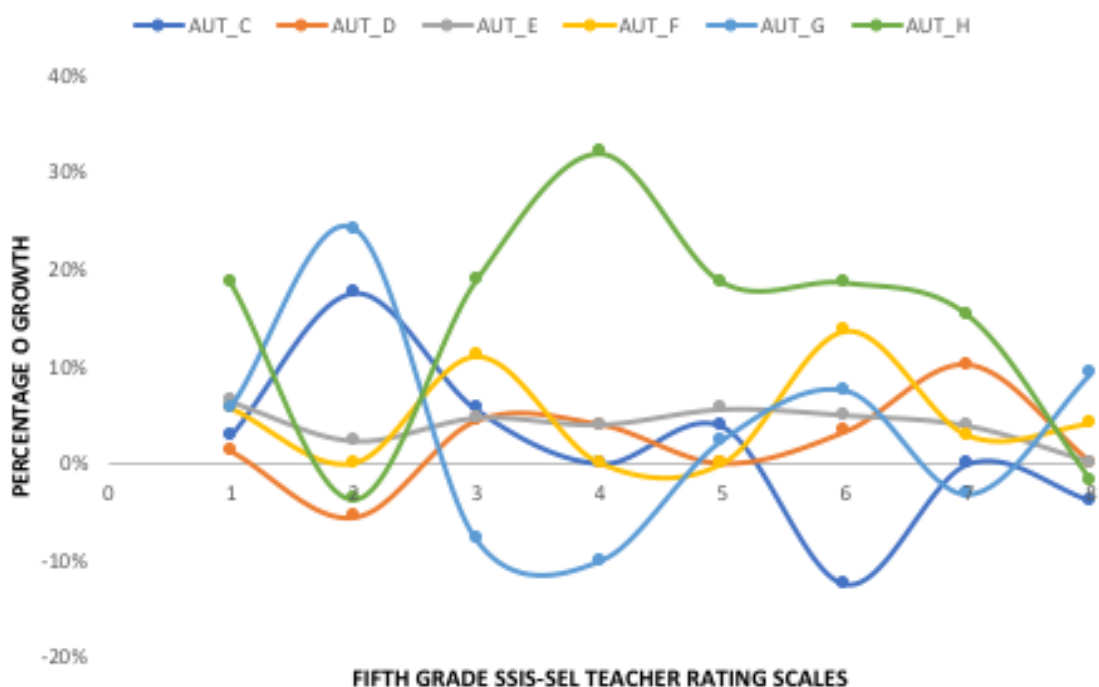
Figure 5.4 25. Fifth Grade SSIS-SEL Teacher Percentage of Growth by Participant.

Figure 5.4.26 illustrates collective percentage of growth for fifth grade participants using the SSIS-SEL teacher rating scale. For the Social Emotional Learning Composite collective growth at 41%; Self Awareness at 35%, Self-Management at 37%, Social Awareness 30%, Relationship Skills at 31%, Responsible Decision Making at 36%, Core Skills at 29%, Academic Competence at 8%.
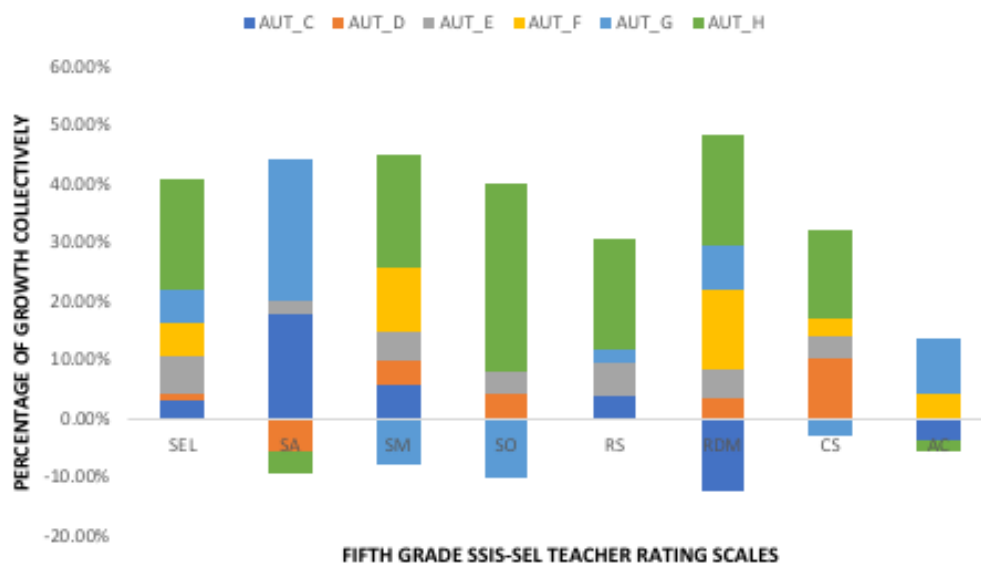
Figure 5.4.26. Fifth Grade SSIS-SEL Teacher Rating Scales

Figure 5.4.27 illustrates the percentage of growth per fifth grade student using the SSIS -
SEL teacher rating scale. AUT_C demonstrated 13% overall growth; AUT_D demonstrated
18% growth, AUT_E demonstrated 32% growth, AUT_F demonstrated 38% growth, AIUT G
demonstrated 28% growth, AUT_H demonstrated 117% growth.
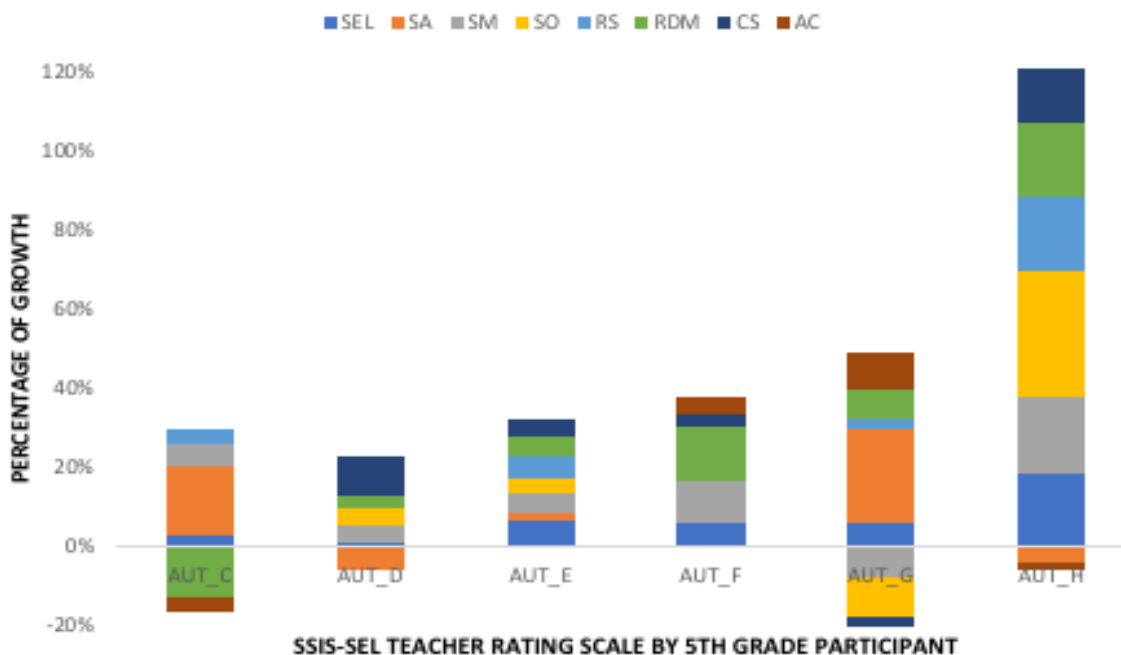
Figure 5.4.27. Fifth Grade SSIS-SEL Teacher (T) by Participant.

The seventh-grade participants demonstrated growth at varying levels. Percentage of growth was calculated using the formula (Post – Pre)/Pre. For the Social Emotional Learning (SEL) composite score both Autism and OHI participants demonstrated growth. For the Self Advocacy category, one Autism, OHI and NTP demonstrated growth. For the Self-Management category, both Autism and OHI participants demonstrated growth. For the Social Awareness category, one Autism and both OHI participants demonstrated growth. For the Relationship Skills category one Autism and OHI and NTP demonstrated growth. For the Responsible Decision-Making category, both Autism and OHI participants demonstrated growth. For the core skills category both Autism and OHI participants demonstrated growth. For the academic competence category one Autism, one OHI, and SLD/SLI demonstrated growth. Figure 5.4.28. illustrates the varying level of growth per seventh grade participant for each category of the

SSIS-SEL teacher rating scales. Legend: 1) SEL composite; 2) Social Awareness; 3) Self-Management; 4) Social Awareness; 5) Relationship Skills; 6) Responsible Decision Making, 7) Core Skills; 8) Academic Competence.
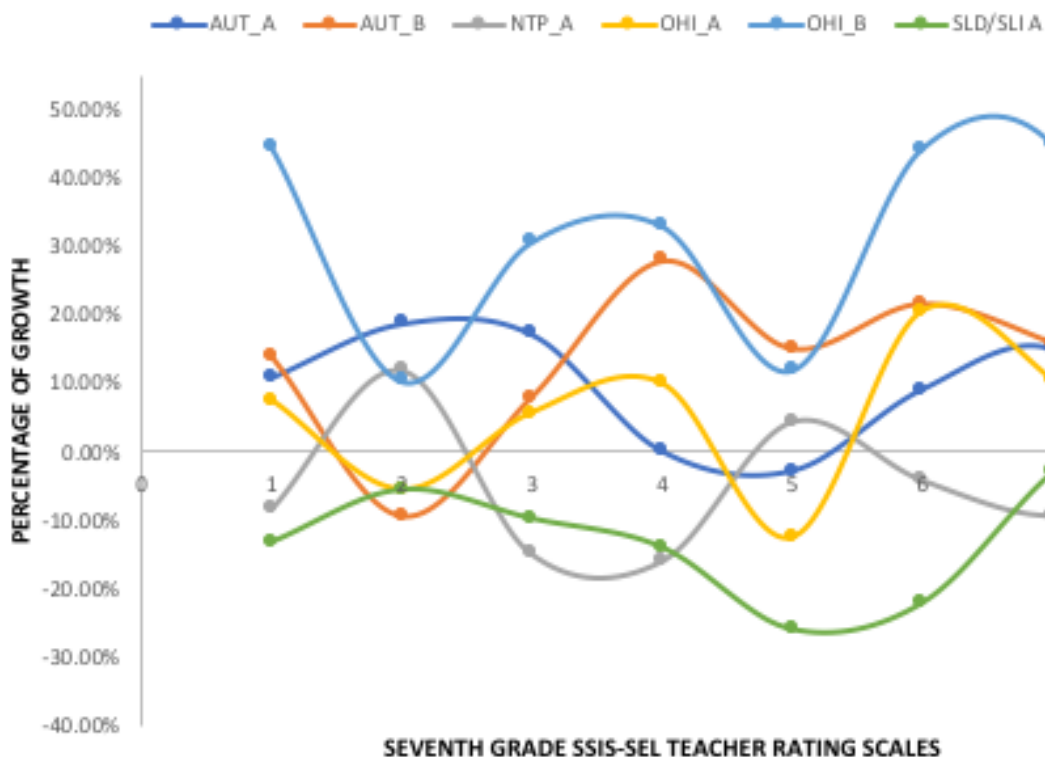
Figure 5.4 28. Seventh Grade SSIS-SEL Teacher Percentage of Growth by Participants.

Figure 5.4.28 illustrates collective percentage of growth for seventh grade participants using the SSIS-SEL teacher rating scale. For the Social Emotional Learning Composite collective growth at 55%; Self Awareness at 20%, Self-Management at 37%, Social Awareness 41%, Relationship Skills at 10%, Responsible Decision Making at 69%, Core Skills at 74%, Academic Competence at 7%. Legend: 1) SEL composite; 2) Social Awareness; 3) Self-

Management; 4) Social Awareness; 5) Relationship Skills; 6) Responsible Decision Making, 7)

Core Skills; 8) Academic Competence.
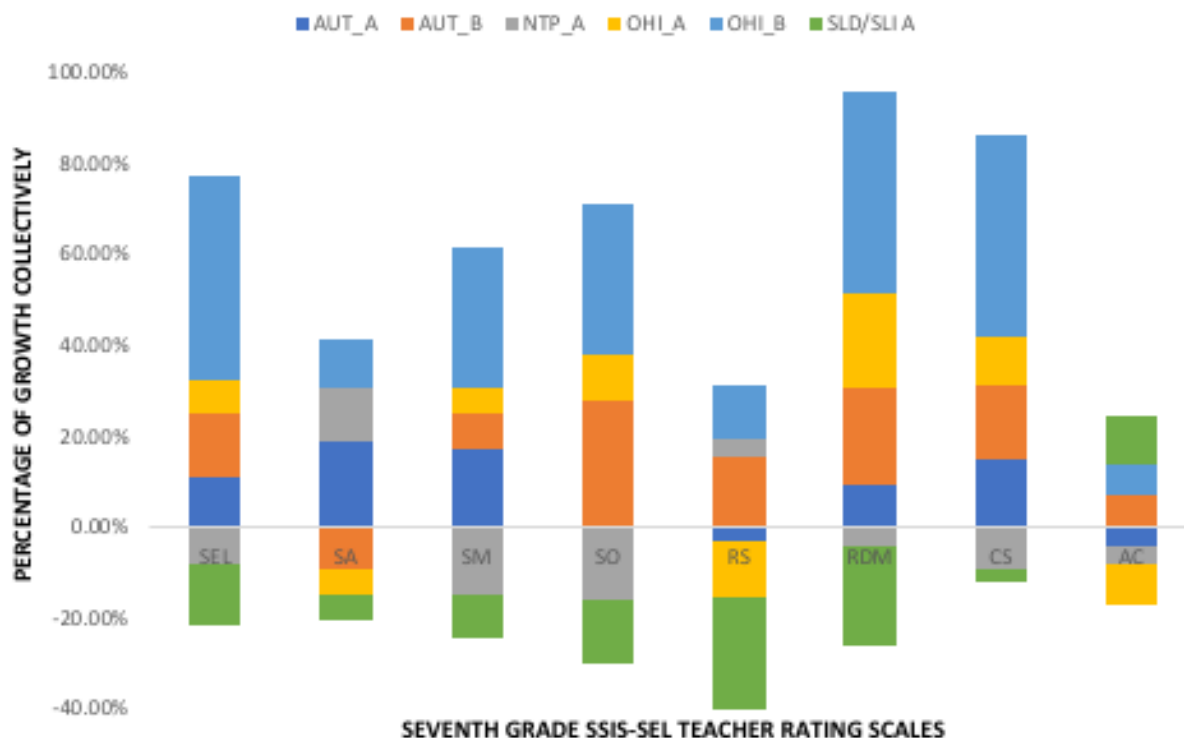
Figure 5.4 29. Seventh Grade SSIS-SEL Teacher Collective Percentage of Growth.

Figure 5.4.30 illustrates the percentage of growth per seventh grade student using the

SSIS -SEL teacher rating scale. AUT_A demonstrated 64% collective growth; AUT_B

demonstrated 101% growth, NTP demonstrated -40%% growth OHI_A demonstrated 27%

growth, OHI_B demonstrated 226% growth, SLD_SLI demonstrated -83% growth.
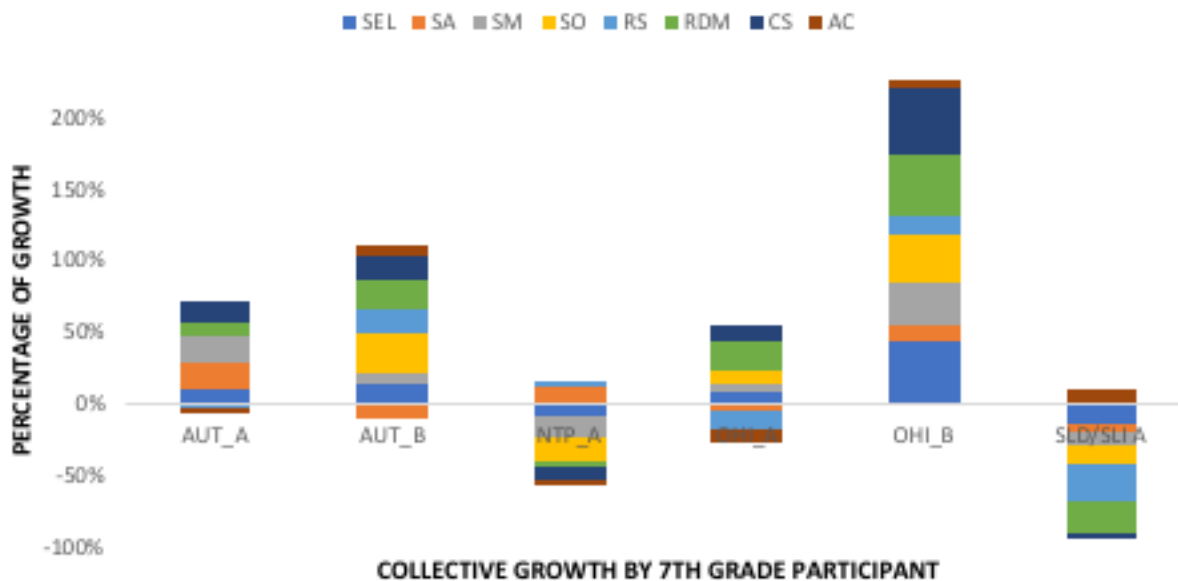
Figure 5.4 30. Teacher Collective of Growth by Participant.

To help with analysis Table 5.3.15. includes significant relationships between pre and post assessments using each of the four measures: Self Efficacy (student survey); Social Emotional Learning – student perspective (SSIS-SEL student rating scales); Social Emotional Learning – teacher perspective (SSIS-SEL teacher rating scales); Academic Interaction and Social Communication Skills (teacher observation rubric). Only scores from Autism participants were used in this analysis.

SSIS SEL Teacher Rating Scales for Autism Participants

Utilizing percentage of growth calculations for fifth and seventh grade students with Autism both individual progress and collective progress is recorded. Only participants with pre and post SSIS-SEL student rating scales were considered for a total of eight participants. Collected growth per student listed with range of 13% to 117%: AUT_C 13%, AUT_D 18%, AUT_G 28%, AUT_E 32%, AUT_F 38%, AUT_A 64%, AUT-B 101%, AUT_H 117%. Collected growth per category included a range of 11% to 67%: Academic Competencies 11%,

Relationship Skills 43%, Self-Awareness 44%, Core Skills 60%, Self-Management 62%, Social

Emotional Learning Composite 66%, Responsible Decision Making 67%. Figure 5.4.31.

illustrates percentage of growth for students with Autism per category. Figure 5.3.11 illustrates

the collective percentage of growth by category for participants with Autism. The results of

paired t -Test of pre and post scores for SSIS SEL Teacher rating scales are listed in Table

5.3.12. Legend: 1) SEL composite; 2) Self Awareness; 3) Self-Management; 4) Social

Awareness; 5) Relationship Skills; 6) Responsible Decision Making, 7) Core Skills, 8) Academic

Competence.
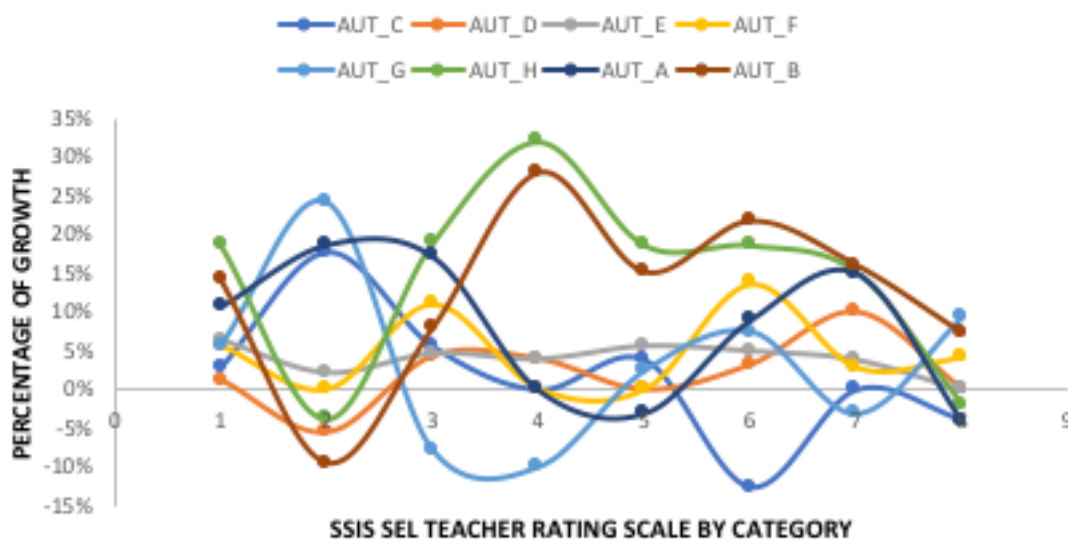
Figure 5.4.31. Percentage of Growth for Students with Autism Per Category
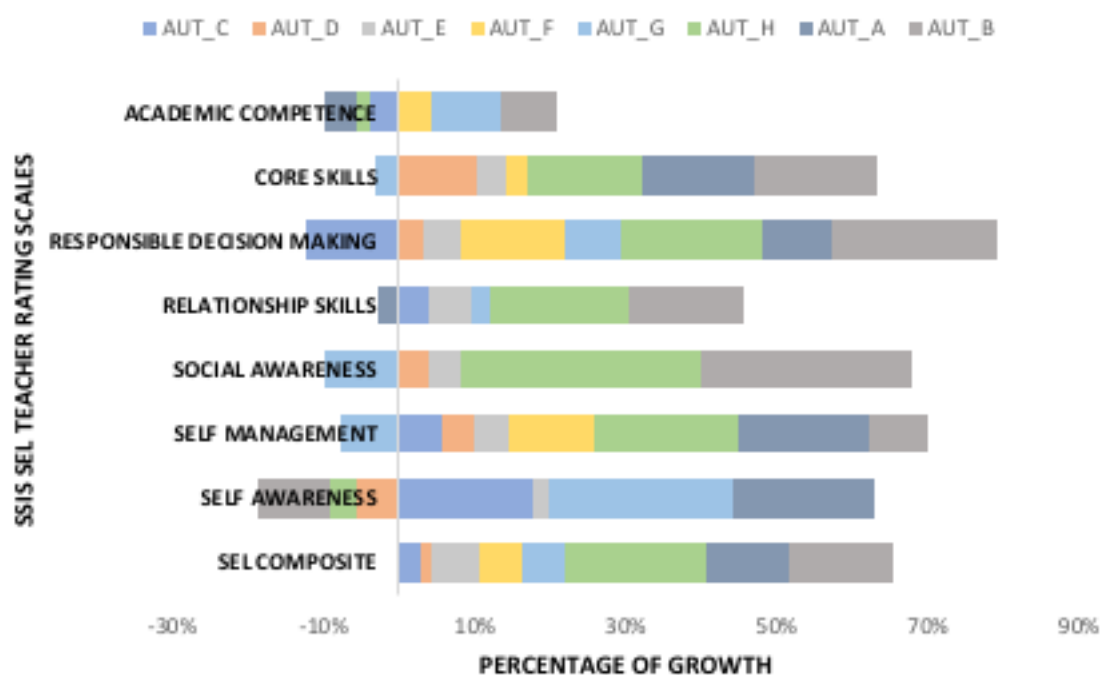
Figure 6.1. Collective Percentage of Growth per Category for Students with Autism.

A Paired Samples *t*-Test for pre and post SSIS-SEL teacher rating scales for participants with Autism indicate a significant relationship for Social Emotional Learning Composite with a *p*-value of 0.005, Self Management with a *p-value* of 0.022, Relationship Skills 0.049, Responsible Decision Making 0.029, Core Skills of 0.016. Table 5.3.7 illustrates shows the relationship of pre and post intervention for students with Autism in both the composite score and subcategories.

Table 25. 1

Paired Samples Test Using the SSIS-SEL teacher rating scales for participants with Autism

			t	df	p
SEL T-Pre	-	SEL T-Post	-3.518	7	0.005
SEL T SA-Pre	-	SEL T SA-Post	-1.129	7	0.148
SEL T SM-Pre	-	SEL T SM-Post	-2.467	7	0.022
SEL T SO-Pre	-	SEL T SO-Post	-1.333	7	0.112
SEL T RS-Pre	-	SEL T RS-Post	-1.909	7	0.049
SEL T RDM-Pre	-	SEL T RDM-Post	-2.274	7	0.029
SEL T CS-Pre	-	SEL T CS-Post	-2.671	7	0.016
SEL T AC-Pre	-	SEL T AC-Post	-0.755	7	0.238

Note: Student's *t*-test.
Note: All tests, hypothesis is measurement one less than measurement two.

Self-Efficacy

A Likert scale was used with survey questions to identify student beliefs; Completely Disagree (1) to Completely Agree (5). Value assigned measured self-efficacy beliefs of Inverse questions were given an inverse value to give consistency to scoring by domains. Questions were grouped into categories: Communication, Group Work, Independent Learning, Self Advocacy, Self-Monitoring and Social Relatedness. Tables 26.1 and 27.1 provides a list of questions grouped by categories and how they were scored. Four questions per category were averaged together to give a score based on the five point Likert scale. Scores pre intervention range between 2.0-5.0. Scores post intervention range between 2.0-4.25. Table 28.1 lists scores of each participant by category with both pre and post scores.

Table 26. 1

Self Efficacy Measure: Student Survey Questions Grouped into Categories and Scores Assigned:

Communication, Group Work, Independent Learning.

THEME	Q# PRE	QUESTION (POST SURVEY Q#)	Value of Self-Efficacy Beliefs Based on Likert Scale Response: 1 – low; 5-high				
			1	2	3	4	5
Communication	12	I participate in class discussions. (12)	1	2	3	4	5
	13	I participate in class discussions only when the teacher calls on me. (13)					
	21	Staying on topic is easy for me. (28)	1	2	3	4	5
	22	It is hard for me to talk about a topic that I am not interested in. (29)	5	4	3	2	1
Group Work	9	It is difficult for me to work in a group. (14)	5	4	3	2	1
	11	I am able to work with a partner without conflicts. (15)	1	2	3	4	5
	17	I prefer for the teacher to assign groups instead of having to choose a group. (23)	5	4	3	2	1
	23	It is hard for me to be flexible and consider other's ideas when working in a group. (30)	5	4	3	2	1
Independent Learning	4	I often look to my peers to figure out what I should be doing. (9)	5	4	3	2	1
	10	I am able to work independently in class without prompts from an adult to stay on task. (15)	1	2	3	4	5
	12	I am able to follow the teacher's plan and make a smart guess what is happening next. (16)	1	2	3	4	5
	14	I am able to figure out the teachers directions without additional instructions. (17)	1	2	3	4	5

Table 27. 1

Self-Efficacy Measure: Student Survey Questions Grouped into Categories and Scores Assigned:

Self Advocacy, Self-Monitoring, Social Relatedness.

THEME	Q# PRE	QUESTION (POST SURVEY Q#)	Value of Self-Efficacy Beliefs Based on Likert Scale Response: 1 – low; 5-high				
			1	2	3	4	5
Self-Advocacy	8	I am able to ask for help when I don't understand directions. (8)	1	2	3	4	5
	3	I am able to ask a question when I do not understand. (7)	1	2	3	4	5
	5	I often have to correct work because I did not understand the directions, or the question asked. (10)	5	4	3	2	1
	6	I often wait until the teacher checks on me before asking questions. (11)	5	4	3	2	1
Self-Monitoring	13	I am able to stay focused when the teacher is talking. (18)	1	2	3	4	5
	15	I am able to monitor my length of speech when I observe other's reactions indicating I may be sharing too much information or they are not interested in my topic. (19)	1	2	3	4	5
	20	I am able to monitor my emotional reactions appropriate to the situation around me. (27)	1	2	3	4	5
	18	I am aware of keeping my body facing toward the group when talking to the group (25)	1	2	3	4	5
Social Relatedness	19	I feel confident knowing when is the right time to respond to others joking around. (26)	1	2	3	4	5
	25	I am able to make jokes at the right time (not during instruction or group work) (32)	1	2	3	4	5
	26	I am comfortable when other people are making jokes. (33)	1	2	3	4	5
	27	I can tell the difference when others are being serious and when they are joking around. (34)	1	2	3	4	5

Table 28. 1

Self-Efficacy Scores Pre and Post Intervention by Category.

PART	COMMUNI-CATION		GROUP WORK		INDEPENDENT LEARNER		SELF ADVOCACY		SELF MONITOR		SOCIAL RELATEDNESS	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
AUT_C	4.50	4.75	5	3	4.25	4.75	3.50	2.75	5	5	5	3.75
AUT_D	4.25	4.63	4.75	5	4.5	4.75	3.5	2.50	3.75	4.75	2.75	3.25
AUT_E	2.50	3.75	2.25	3.25	3.25	3.5	2.5	3.50	3.5	4	2.75	2.60
AUT_F	3.75	4.38	3.5	3.75	3.75	4.5	3.5	3.00	3.25	3.5	4.25	2.77
AUT_G	2.50	3.75	3	3.5	3	4	4	4.00	2.5	3.75	4	2.97
AUT_H	3.25	4.13	4.25	3.75	3.5	3.75	3.75	3.75	4.25	3.25	5	2.76
AUT_A		3.75		4		4		4.25		3		3.25
AUT_B	2.25	2.75	2.75	2.5	3.25	3.5	3.25	3	3.75	4.25	3.25	3.75
NTP_A	3.00	3.00	3.5	3	3	2.5	3.5	3.5	3.5	3	3.75	3.25
OHI_A	2.50		3		3.75		4.75		3		5	
OHI_B	2.75	2.50	4	3	2.75	3.25	3	3.25	3	3	3	3
SLD/SLI A	3.33	3.00	4	2.75	4.25	3.25	3.75	2.5	4	3	3.25	3

Note: Two participants are missing either pre or post scores.

For the students who participated in both the pre and post, a percentage of growth could be determined between the pre and post survey. AUT_B showed growth about with his beliefs involving communication, independent learning, self-monitoring, and social relatedness. NTP_A showed consistency in his beliefs involving self-monitoring. OHI_B showed increase with his beliefs in communication, independent learning, and self-advocacy. OHI_B showed consistency with his beliefs involving self-monitoring and social relatedness. SLD/SLI showed growth in his beliefs in communication. AUT_C showed growth in his beliefs about communication, independent learning and consistency with beliefs around self-monitoring. AUT D showed increase in his beliefs in communication, group work, and independent learning, self-monitoring

and social relatedness. AUT F sowed increased with his beliefs in communication group work, independent learning, and self-monitoring. AUT G showed increase in his beliefs about communication, group work, and independent learning. AUT_H showed increase in his beliefs about communication, independent learning. He showed consistency in his beliefs about self-advocacy. AUT B showed increase in his beliefs about communication, independent learning, self-monitoring and social relatedness. Figure 6.2 illustrates Self Efficacy by Participants.
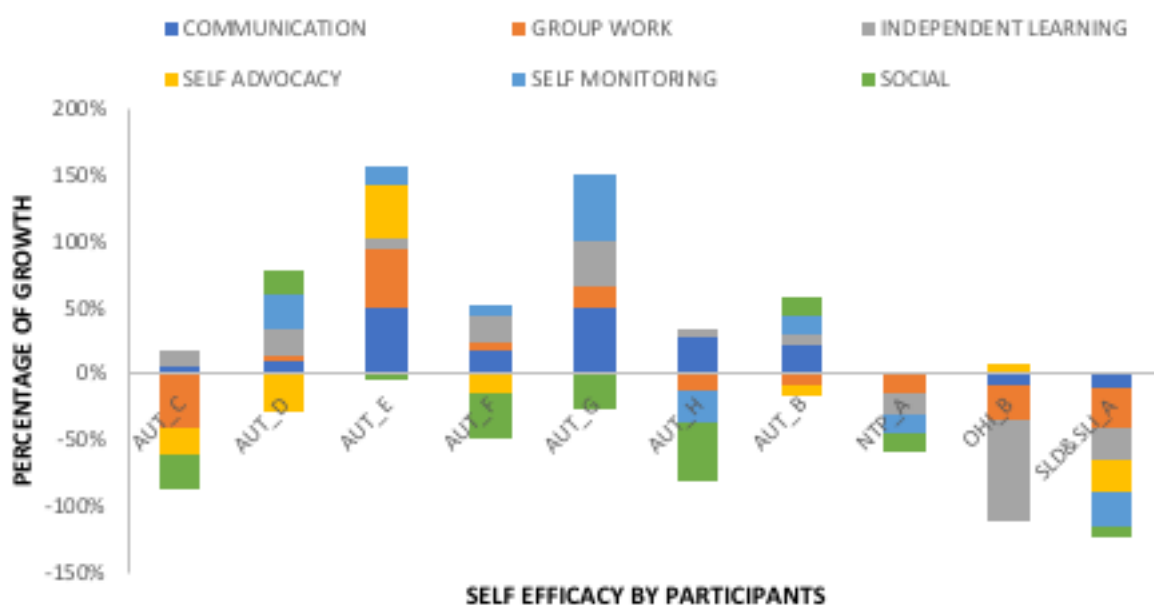
Figure 6 1. Percentage of Growth of Self Efficacy for Fifth and Seventh Grade Participants with Autism.

Self-Efficacy for Students with Autism

Students with Autism demonstrated an increase in self efficacy beliefs at varying levels: Communication seven out of seven participants (100%); Group Work four out of seven participants (57%); Independent Learning seven out of seven participants (100%), Self-Advocacy one out of seven participants (14%), Social Relatedness two out of seven participants

(28%). Figure 6.3 demonstrates the number of participants who demonstrated an increase in self efficacy beliefs.
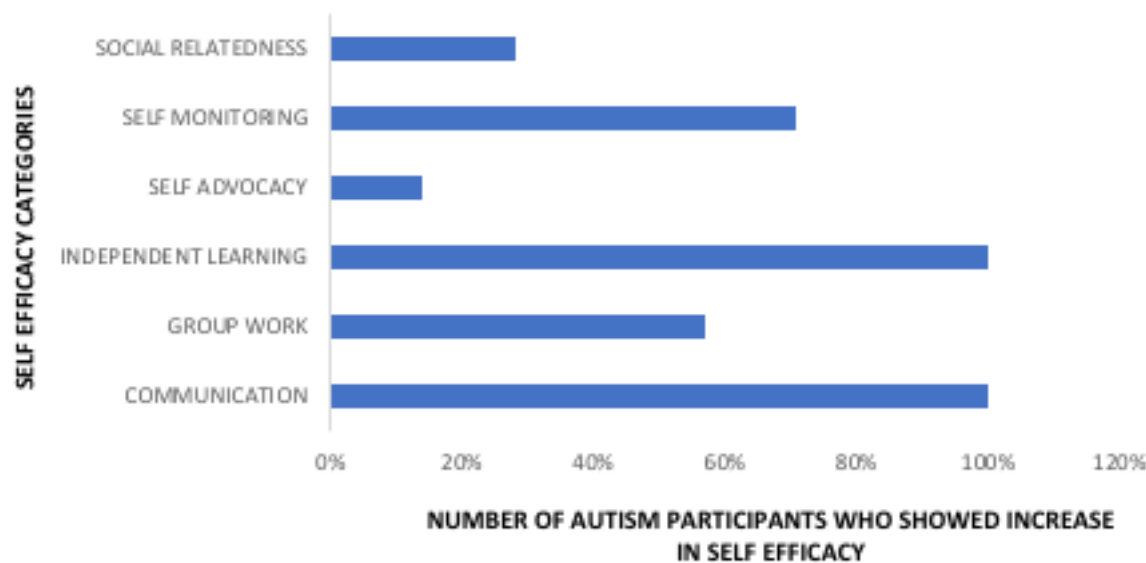
Figure 6.2. Percentage of Participants with Autism Increase in Self Efficacy.

A paired *t*-Test was used to analyze the Self Efficacy Survey Data results pre and post intervention for participants with Autism to determine relationship between pre and post results. Table 29.1 provides data for Self-Efficacy measure and includes fifth and seventh grade participants with Autism.

Table 29. 1

Paired t-Test to Compare Pre and Post Self Efficacy Scores for Participants with Autism.

			t	df	p
SE:COM PRE	-	SE:COM PO	-4.810	6	0.003
SE: GROUP PRE	-	SE: GROUP PO	0.293	6	0.779
SE: IL PRE	-	SE: IL PO	-4.666	6	0.003
SE: SA PRE	-	SE: SA PO	0.869	6	0.418
SE: SM PRE	-	SE: SM PO	-1.287	6	0.245
SE: RELATE PRE	-	SE: RELATE PO	1.861	6	0.112
SE COMPOSITE PRE	-	SE COMPOSITE POST	-0.553	6	0.600

Note: Student's *t*-test.

Social Inclusion

Socio-Metric Scales were included in the student survey to measure student perspectives toward their peers providing a measure for social inclusion. Table 5.3.13 lists questions by category and scoring value assigned. Total scores were collected for participants who had provided permission to use data in the study. Students who were not mentioned by peers were given a 0 value.

A total of thirty-three out of fifty four enrolled seventh grade students (61%) participated in the socio metric scales embedded in a student survey pre and post intervention of social learning tools intervention group located in Appendix G and H. Results of the six students participating in the student intervention were tracked to determine if social acceptance status improved after receiving the intervention. Results from the sociometric scales of all seventh-grade survey participants were considered. The range of points was divided into three groups and assigned categories of accepted, neutral and not accepted. For the pre intervention, the range of scores, -15 to 23, with a difference of 39 points between high and low ratings. Categories with 13 point range: accepted category assigned to students between 23 to 11, neutral category assigned

for students rating between 10 to -2, not accepted category given to students rating -3 to -23.

Results from the sociometric scales post intervention range from -31 to 17 with a difference of

50 points between high and low ratings. For the post intervention sociometric scale a category of

accepted was assigned to students rating between 2 to 17, neutral category assigned for students

rating between -14 to 1, not accepted category given to students rating -31 to -15. Two

participants increased their social status from not accepted to neutral. Two participants increased

their social status from neutral to accepted. Two participants maintained their social status in the

neutral category. Results of the pre and post sociometric scales are presented in Table 30.1.

Table 30.1

Socio-Metric Scales with Questions and Score Value.

CONTEXT	SOCIO METRIC SCALE: QUESTIONS.	Value
ACADEMICS:	Name one student who you like to sit near in class?	+2
	Name another student who you like to sit near in class?	+1
	Name one student who you prefer not to sit near in class?	-2
	Name another student who you prefer not to sit near in class?	-1
NON-ACADEMIC:	Name one student who you prefer to hang out with during recess?	+2
	Name another student who you prefer to hang out with during recess?	+1
	Name one student who you prefer not to hang out with during recess?	-2
	Name another student who you prefer not to hang out with during recess?	-1
OUTSIDE OF SCHOOL DAY	Name one student you would like to invite to do something outside of school such as come to your birthday party?	+2
	Name another student you would like to invite to do something outside of school such as come to your birthday party?	+1
	Name one student you would prefer to not spend time with outside of school such as invite to your birthday party?	-2
	Name another student you would prefer to not spend time with outside of school such as invite to your birthday party?	-1

Note: Points were added in each category to determine total Social Inclusion Score.

Table 31. 1

Social Inclusion Score using Socio-Metric Scales for Seventh Grade Study Participants

Intervention Group	Pre-Intervention Score Range (-15 to 23)	Social Status Category	Post Intervention (-31 to 17)	Social Status Category	Change in Status
AUT_A	3	Neutral	-3	Neutral	Maintained
AUT_B	-9	Not Accepted	-5	Neutral	Improved
NTP_A	1	Neutral	2	Accepted	Improved
OHI_A	0	Neutral	0	Neutral	Maintained
OHI_B	-15	Not Accepted	-6	Neutral	Improved
SLD&SLI_A	5	Neutral	4	Accepted	Improved

Note: 13 pt. range for pre intervention categories, 16 pt. range for post intervention categories.

Paired *t*-Test for all Four Measures

To provide an overview of significant findings of pre and post scores for all four

measures was utilized to identify significant relationships. SSIS-SEL student rating scales, SSIS-

SEL teacher rating scales, AISCS teacher observation rubric, and Self Efficacy Student Survey.

Table 32. 1

Paired t-Test Pre and Post Intervention for Autism Students:

Self Efficacy; SEL student; AISCS teacher; SEL teacher

		t	*df*	*p*
SE: COMMUNICATION PRE -	SE:COMMUNICATION POS	-4.810	6	0.001
SE: SELF MONITOR PRE -	SE: SELF MONITOR POS	-1.901	6	0.053
SEL: SELF AWARENESS-Pre -	SEL: SELF AWARENESS-Post	-1.540	5	0.092
SEL: CORE SKILLS-Pre -	SEL: CORE SKILLS-Post	-2.165	5	0.041
AISCS: ATTENDING PRE -	AISCS: ATTENDING PO	-3.454	7	0.005
AISCS: COLLABORATION PRE -	AISCS: COLLABORATION PO	-5.274	7	< .001
AISCS:CONNECTION-PRE -	AISCS:CONNECTION-PO	-8.142	7	< .001
AISCS: ACADEMICS-PRE -	AISCS: ACADEMICS-PO	-6.466	7	< .001
AISCS:INITIATE COMMUNICATION-PRE -	AISCS:IN COMMUNICATION-PO	-4.658	7	0.001
AISCS:IN ACTION-PRE -	AISCS:IN ACTION-PO	-3.870	7	0.003
AISCS: COMPOSITE PRE -	AISCS: COMP COMPOSITE PO	-5.273	7	< .001
SEL TEACHER-COMPOSITE PRE -	SEL TEACHER-COMPOSITE POST	-3.518	7	0.005
SEL TEACHER:SELF MONITOR PRE -	SEL TEACHER:SELF MONITOR POST	-2.467	7	0.022
SEL TEACH :RELATIONSHIP SKILLS PRE -	SEL TEACH:RELATIONSHIP SKILLS POST	-1.909	7	0.049
SEL TEACH: RESPDEC. MAKING PRE -	SEL TEACH: RESPDEC. MAKING PRE	-2.274	7	0.029
SEL TEACHER: CORE SKILLS PRE -	SEL TEACHER: CORE SKILL	-2.671	7	0.016

Note: Student's *t*-test. SE pre (*n*=7), SE post (*n*=8); SEL-student pre (*n*=6); SEL-student post (*n*=8); AISCS (*n*=8); SEL-teacher (*n*=8).

Note: All tests, hypothesis is measurement one less than measurement two.

Correlation Matrix Between Measures

Correlation Matrix was used to determine if a correlation exists between the different measures. Using a percentage of growth as the commonality between measures was identified to be beneficial in looking at the relationship between self-efficacy, social emotional learning and engagement.

Correlation Between Student Measures

First a correlation matrix was created for the student belief measures: 1) Self Efficacy student survey and 2) SSIS-SEL student rating scales. Table 33.1 lists the findings of this correlation matrix.

Positive Correlation matrix of percentage of growth between Self Efficacy student survey and SSSIS-SEL student rating scales indicate one significant relationship ($p<.05$): 1) Self Efficacy: Independent Learner and SSIS-SEL student: Responsible Decision Making.

Within the Self-Efficacy Student Survey, correlations were identified for percentage of growth between the areas of: 1) communication and working in groups; 2) communication and self-advocacy; 3) communication and composite score; 4) group work and composite 3) self-advocacy and composite). Within the SSIS-SEL student rating form, correlations were identified for percentage of growth between 1) composite and self-awareness; 2) composite and social awareness; 3) composite and relationship skills; 4) composite and responsible decision making; 5) self-awareness and relationship skills; 6) self-management and social awareness; 7) social awareness and responsible decision making; 8) responsible decision making and core skills. No significant correlations were identified between Self Efficacy Survey and SSIS-SEL student rating scales for students with Autism.

Table 33. 1

Pearson Positive Correlations Between Percentage of Growth of Two Student Measures of

Beliefs: Self Efficacy Survey and SSIS-SEL Student Rating Scales for Participants with

Autism.

			Pearson's r	p
SE GROWTH: COMMUNICATION	-	SE GR: GROUP WORK	0.756 *	0.025
SE GROWTH: COMMUNICATION	-	SE GR: SELF ADVOCACY	0.827 *	0.011
SE GROWTH: COMMUNICATION	-	SE GR: COMPOSITE	0.857 **	0.007
SE GROWTH: GROUP WORK	-	SE GR: COMPOSITE	0.787 *	0.018
SE GROWTH: SELF ADVOCACY	-	SE GR: COMPOSITE	0.728 *	0.032
SE GROWTH: INDEP. LEARNER	-	SEL GR: RESP DEC MAKING	0.895 *	0.020
SEL GROWTH: COMPOSITE	-	SEL GR: SELF AWARENESS	0.922 **	0.004
SEL GROWTH: COMPOSITE	-	SEL GR: SOCIAL AWARENESS	0.872 *	0.012
SEL GROWTH: COMPOSITE	-	SEL GR: RELATIONSHIP SKILLS	0.767 *	0.038
SEL GROWTH: COMPOSITE	-	SEL GR: RESPONS DEC MAKING	0.801 *	0.028
SEL GROWTH: SELF AWARENESS	-	SEL GR: RELATIONSHIP SKILLS	0.891 **	0.009
SEL GROWTH: SELF MANAGEMENT	-	SEL GR: SOCIAL AWARENESS	0.735 *	0.048
SEL GROWTH: SOCIAL AWARENESS	-	SEL GR: RESPONS DEC MAKING	0.727	0.051
SEL GROWTH: RESP. DEC MAKING	-	SEL GR: CORE SKILLS	0.768 *	0.037

Note: All tests one-tailed, for positive correlation, * $p < .05$, ** $p < .01$, *** $p < .001$, one-tailed
Note: (n=7)

Correlation of SSIS-SEL Teacher and Student Rating Scales

Correlation of percentage of growth between the SSIS-SEL student rating scale and the

SSIS-SEL teacher rating scales for students with Autism identified two significant relationships:

1) Student SEL: Core Skills and Teacher SEL: Relationship Skills; 2) Student SEL: Core Skills

and Teacher SEL Social Awareness.

Eight correlations within the SSIS-SEL student rating scales are listed in the above

section. Eight correlations within the SSIS-SEL teacher rating scales include: 1) relationship

skills and social awareness; 2) composite and self-management; 3) composite and social

awareness; 4) composite and relationship skills, 5) composite and responsible decision making;

6) composite and core skills; 7) self-management and core skills; 8) social awareness and core

skills; Correlations between SSIS-SEL teacher and SSIS-SEL student rating scales are listed in

Table 34.1 for students with Autism.

Table 34. 1

Pearson Correlations of SSIS-SEL Student and Teacher Rating Scales for Participants with

Autism.

			Pearson's	
			r	p
SEL GROWTH: COMPOSITE	-	SEL GR: SELF AWARENESS	0.922*	0.004
SEL GROWTH: COMPOSITE		SEL GR: SOCIAL AWARENESS	0.872	0.012
SEL GROWTH: COMPOSITE	-	SEL GR: RELATIONSHIP SKILLS	0.767	0.038
SEL GROWTH: COMPOSITE	-	SEL GR: RESPONS DEC MAKING	0.801	0.028
SEL GROWTH: SELF AWARENESS	-	SEL GR: RELATIONSHIP SKILLS	0.891*	0.009
SEL GROWTH: SELF MANAGEMENT	-	SEL GR: SOCIAL AWARENESS	0.735	0.048
SEL GROWTH: SOCIAL AWARENESS	-	SEL GR: RESPONS DEC MAKING	0.727	0.051
SEL GROWTH: RESP. DEC MAKING	-	SEL GR: CORE SKILLS	0.768	0.037
SEL GROWTH: CORE SKILLS	-	SEL GR TCHR: RELAT. SKILLS	0.847	0.017
SEL GROWTH: CORE SKILLS	-	SEL GR TCHR: SOC. AWARENESS	0.793	0.030
SEL GROWTH TCHR: RELAT. SKILLS	-	SEL GR TCHR: SOC. AWARENESS	0.900*	0.001
SEL GROWTH TCHR: COMPOSITE	-	SEL GR TCHR: SELF MNGMT	0.618	0.051
SEL GROWTH TCHR: COMPOSITE	-	SEL GR TCHR: SOC. AWARENESS	0.808*	0.008
SEL GROWTH TCHR: COMPOSITE	-	SEL GR TCHR: RELAT. SKILLS	0.766	0.013
SEL GROWTH TCHR: COMPOSITE	-	SEL GR TCHR: RESP DEC MAKING	0.752	0.016
SEL GROWTH TCHR: COMPOSITE	-	SEL GR TCHR: CORE SKILLS	0.696	0.028
SEL GROWTH TCHR: SELF MNGMT	-	SEL GR TCHR: CORE SKILLS	0.740	0.018
SEL GROWTH TCHR: SOC. AWARENESS	-	SEL GR TCHR: CORE SKILLS	0.753	0.016

Note: All tests one-tailed, for positive correlation
* $p < .05$, ** $p < .01$, *** $p < .001$, one-tailed

Correlation Between Student Self-Efficacy and Social Emotional Learning by Teacher

Correlation Matrix between the percentage of growth measured by the Self Efficacy

Student Survey and the SSIS-SEL teacher rating scales for student participants with Autism

indicate three significant relationships: 1) SEL teacher rating scale: Self-Management and Self Efficacy in Self-Monitor; 2) SEL teacher rating scale: Social Awareness and Self Efficacy in Self-Monitor; 3) SEL teacher rating scale: Core Skills and Self Efficacy in Self-Monitor.

Eight significant correlations between the percentage of growth within the SSIS-SEL teacher rating scale are listed in previous section.

Five correlations between categories of the Self Efficacy Student Survey include: 1) Communication and group work; 2) communication and self advocacy; 3) communication and composite score; 4) group work and composite score; 5) self advocacy and composite score. Correlations between Social Emotional Learning by Teacher and Self Efficacy student survey for students with Autism are listed in Table 35.1.

Table 35. 1

Pearson Correlations of SSIS-SEL Teacher Rating Scales and Self Efficacy Student Survey for

Participants with Autism.

		Pearson's r	p
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: SELF MNGMT	0.618	0.051
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: SOC. AWAR.	0.808 **	0.008
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: RELAT. SKILLS	0.766 *	0.013
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: RESP DEC MKG	0.752 *	0.016
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: CORE SKILLS	0.696 *	0.028
SEL GROWTH TCHR: SELF MNGMT	- SEL GROWTH TCHR: CORE SKILLS	0.740 *	0.018
SEL GROWTH TCHR: SELF MNGMT	- SELF EFFICACY GR: SELF MONITOR	0.740 *	0.029
SEL GROWTH TCHR: SOC. AWARENESS	- SEL GROWTH TCHR: RELAT. SKILLS	0.900 **	0.001
SEL GROWTH TCHR: SOC. AWARENESS	- SEL GROWTH TCHR: RESP DEC MKG	0.623 *	0.050
SEL GROWTH TCHR: SOC. AWARENESS	- SEL GROWTH TCHR: CORE SKILLS	0.753 *	0.016
SEL GROWTH TCHR: SOC. AWARENESS	- SELF EFFICACY GR: SELF MONITOR	0.697 *	0.041
SEL GROWTH TCHR: CORE SKILLS	- SELF EFFICACY GR: SELF MONITOR	0.826 *	0.011
SELF EFFICACY GR: COMMUNICATION	- SELF EFFICACY GR: GROUP WORK	0.756 *	0.025
SELF EFFICACY GR: COMMUNICATION	- SELF EFFICACY GR: SELF ADVOCACY	0.827 *	0.011
SELF EFFICACY GR: COMMUNICATION	- SELF EFFICACY GR: COMPOSITE	0.857 **	0.007
SELF EFFICACY GR: GROUP WORK	- SELF EFFICACY GR: COMPOSITE	0.787 *	0.018
SELF EFFICACY GR: SELF ADVOCACY	- SELF EFFICACY GR: COMPOSITE	0.728 *	0.032

Note: All tests one-tailed, for positive correlation
* $p < .05$, ** $p < .01$, *** $p < .001$, one-tailed

Correlation between Social Emotional Learning and Engagement

Correlation Matrix between the percentage of growth of the SSIS-SEL teacher rating

scale and the AISCS teacher observation rubric indicate eight significant relationships ($p < .05$) in

students with Autism: 1) SSIS-SEL composite and AISCS: collaboration; 2) SSIS-SEL social

awareness and AISCS collaboration; 3) SSIS-SEL relationship skills and AISCS attending; 4)

SSIS-SEL relationship skills and initiate action; 5) SSIS-SEL relationship skills and AISCS

composite; 6) SSIS-SEL responsible decision making and AISCS collaboration; 7) SSIS-SEL

responsible decision making and AISCS composite; 8) SSIS-SEL core skills and AISCS collaboration; 9) SSIS-SEL Academic competence and AISCS Initiate communication.

Correlation matrix between the percentage of growth of the subcategories included in the AISCS observation rubric indicate the five significant relationships ($p<.05$) for students with Autism: 1) Attending and Collaboration; 2) Attending and composite; 3) Collaboration and connection; 4) Initiate communication and composite; 5) Initiate action and composite.

Correlation matrix between percentage of growth of SSIS-SEL teacher rating scale is listed in previous section. Table 36.1 lists the correlations between the SSIS-SEL teacher rating scale and the Academic Interactions and Social Communication Skills teacher observation rubric for students with Autism.

Table 36. 1

Pearson Correlations of SSIS-SEL Teacher Rating Scale and AISCS Teacher Observation Rubric

for Student Participants with Autism

		Pearson's *r*	*p*
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: SOC. AWARENESS	0.808 **	0.008
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: RELAT. SKILLS	0.766 *	0.013
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: RESP DEC MAKING	0.752 *	0.016
SEL GROWTH TCHR: COMPOSITE	- SEL GROWTH TCHR: CORE SKILLS	0.696 *	0.028
SEL GROWTH TCHR: COMPOSITE	- AISCS GOWTH: COLLABORATION	0.653 *	0.040
SEL GROWTH TCHR: SELF MNGMT	- SEL GROWTH TCHR: CORE SKILLS	0.740 *	0.018
SEL GROWTH TCHR: SOC. AWARENESS	- SEL GROWTH TCHR: RELAT. SKILLS	0.900 **	0.001
SEL GROWTH TCHR: SOC. AWARENESS	- SEL GROWTH TCHR: RESP DEC MAKING	0.623 *	0.050
SEL GROWTH TCHR: SOC. AWARENESS	- SEL GROWTH TCHR: CORE SKILLS	0.753 *	0.016
SEL GROWTH TCHR: SOC. AWARENESS	- AISCS GOWTH: COLLABORATION	0.649 *	0.041
SEL GROWTH TCHR: RELAT. SKILLS	- AISCS GOWTH: ATTENDING	0.667 *	0.035
SEL GROWTH TCHR: RELAT. SKILLS	- AISCS GOWTH: INITIATE ACTION	0.699 *	0.027
SEL GROWTH TCHR: RELAT. SKILLS	- AISCS GOWTH: COMPOSITE	0.669 *	0.035
SEL GROWTH TCHR: RESP DEC MAKING	- AISCS GOWTH: COLLABORATION	0.817 **	0.007
SEL GROWTH TCHR: RESP DEC MAKING	- AISCS GOWTH: COMPOSITE	0.662 *	0.037
SEL GROWTH TCHR: CORE SKILLS	- AISCS GOWTH: COLLABORATION	0.612	0.053
SEL GROWTH TCHR: ACADEMIC COMP.	- AISCS GOWTH: INITIATE COMM	0.632 *	0.046
AISCS GOWTH: ATTENDING	- AISCS GOWTH: INITIATE ACTION	0.687 *	0.030
AISCS GOWTH: ATTENDING	- AISCS GOWTH: COMPOSITE	0.848 **	0.004
AISCS GOWTH: COLLABORATION	- AISCS GOWTH: CONNECTION	0.868 **	0.003
AISCS GOWTH: INITIATE COMM	- AISCS GOWTH: COMPOSITE	0.702 *	0.026
AISCS GOWTH: INITIATE ACTION	- AISCS GOWTH: COMPOSITE	0.784 *	0.011

Note : aAll tests one-tailed, for positive correlation

* *p* < .05, ** *p* < .01, *** *p* < .001, one-tailed

Correlation between Self Efficacy and Engagement

Positive Correlation Matrix between the percentage of growth of the Self Efficacy Student Survey and the AISCS teacher observation rubric indicate four significant relationships (p <.05) in students with Autism: 1) Self Efficacy: Independent Learner and AISCS initiate communication; 2) Self Efficacy: relatedness and AISCS: connection; 3) Self Efficacy: composite and AISCS collaboration; 4) Self efficacy: composite and AISCS connection.

Correlation matrix between the percentage of growth of the subcategories included in the AISCS observation rubric indicate the five significant relationships (p<.05) for students with Autism as listed in previous section.

Correlation matrix between the percentage of growth of the subcategories in the Self Efficacy survey indicate five significant relationships for students with Autism: 1) Communication and group work; 2) communication and self-advocacy; 3) communication and composite score; 4) group work and composite score; 5) self-advocacy and composite score.

Table 37. 1

Pearson Correlations of Self Efficacy Student Survey and AISCS Teacher Observation Rubric for Student Participants with Autism

		Pearson's *r*	*p*
SE GROWTH: COMMUNICATION	- SE GROWTH: GROUP WORK	0.756*	0.025
SE GROWTH: COMMUNICATION	- SE GROWTH: SELF ADVOCACY	0.827*	0.011
SE GROWTH: COMMUNICATION	- SE GROWTH: COMPOSITE	0.857**	0.007
SE GROWTH: GROUP WORK	- SE GROWTH: COMPOSITE	0.787*	0.018
SE GROWTH: IND. LEARNER	- AISCS GROWTH: INITIATE COMMUN	0.698*	0.040
SE GROWTH: SELF ADVOCACY	- SE GROWTH: COMPOSITE	0.728*	0.032
SE GROWTH: RELATEDNESS	- AISCS GROWTH: CONNECTION	0.783*	0.019
SE GROWTH: COMPOSITE	- AISCS GROWTH: COLLABORATION	0.752*	0.016
SE GROWTH: COMPOSITE	- AISCS GROWTH: CONNECTION	0.779*	0.011
AISCS GROWTH: ATTENDING	- AISCS GROWTH: INITATE ACTION	0.687*	0.030
AISCS GROWTH: ATTENDING	- AISCS GROWTH: COMPOSITE	0.848**	0.004
AISCS GROWTH: COLLABORATION	- AISCS GROWTH: CONNECTION	0.868**	0.003
AISCS GROWTH: INITIATE COMM	- AISCS GROWTH: COMPOSITE	0.702*	0.026
AISCS GROWTH: INITIATE ACTION	- AISCS GROWTH: COMPOSITE	0.784*	0.011

Note: All tests one-tailed, for positive correlation
* *p* < .05, ** *p* < .01, *** *p* < .001, one-tailed

Research Question Number Four

2. Can the Social Behavior Map™ and Reflection Journal© as interventions increase social awareness and inclusion in students with Autism?

   Both student interviews about their experience with learning social learning tools (Reflection Journal and Social Behavior Map) and student work samples will be analyzed to answer this question.

Student Interviews

The interviews took place over the last two days of school and vary in length between four to ten minutes in length. The Reflection Journal used by each student was present and referred to during the interview. Each recorded interview begins with social communication to connect with the student and give context to the interview questions. Structure of interviews included: 1) Introduction: Making a connection with the student and introducing purpose of interview; 2) Goal: Refer to goal page and identify student goal and strategy to achieve goal, and reflection on their progress toward goal; 3) First question: What are your thoughts about the Social Behavior Map?; 4) Second question: Can you pick one of your entries in the Reflection Journal and tell me about it?; includes coaching or teachable moments illustrating probing questions and student responses to making connections with concepts such as intention using words to express ideas and feelings; 5) Third question: Reflection on use of journal, social detective club and/or general comments;6) Closing: Summary and Thank you for participating.

The interview process is challenging with students who have communication challenges. At times, scaffolding questions were used to help build understanding of student's perspective and also to model language for the student in expressing their own ideas.

Students Reflect on Goals. Early in the intervention using the Reflection Journal, students were given the opportunity to identify a target goal and a strategy to learn to reach the goal. This component of the intervention involves both teaching concepts and coaching self-awareness. This part of the interview involved the student reviewing the goal they selected and reflecting on their progress toward the goal.

Target goals identified by students can be grouped into three categories: 1) three students selected goals involving "emotional regulation" including being happy, not having an emotional breakdown, and show patience toward others; 2) six students selected goals "involving peer relationships" including being friendly, join conversations, joking around in a respectful way, letting friends choose the game they want to play; 3) three students selected goals involving "academic engagement" including staying focused, following directions, and keep body and brain in the group. Strategies identified to achieve emotional regulation goals include counting to 10 slowly or have alone time, talk about feelings more, and show thinking of others respectively. Strategies identified to achieve peer relationship goals include using friendly body language (smile), ask to join and then talk about what others are talking about, calm down and let energy out in a different way, use friend files to relate to others, show thinking of others. Strategies identified to achieve academic engagement include focus on the teacher and get rid of distractions, use positive self-talk to work better, pay better attention to reduce the need to ask for help, ask for help when I've zoned out or don't understand. Overall, eleven students reported that they feel they had made progress on their goal including responses by category: 1) emotional regulation: "semi reached goal", "Yeah, I'm showing patience to everyone but ____. Because, he's really hard", "Yeah, Yeah, I do"; 2) peer relationships; "I made progress. "Instead of getting mad and punching someone, I use my words instead", "Yeah, it's getting way easier", "I feel like

I'm better at it", "Yeah, yeah, I think so", "I think I've done well with it", "I feel like I made progress because I worked hard on doing those goals"; 3) academic engagement: "66% of goal reached", "I think I'm doing better". One student whose goal was on academic engagement responded, "Maybe, or maybe not". However, when asked a probing question, "Can you tell me more about that?" student responded, "I just don't know. I don't know". Recognizing the literal nature of the student, the researcher asked the question differently, "So, is that a goal that you're still working on?". Student responded, "Mm-hmm (affirmative with yes head nod).

Understanding of the Social Behavior Map

Eleven of the twelve students indicated they liked using the Social Behavior Map to understand the hidden rules of social situations. The neuro-typical peer who participated in the small group intervention reported that it wasn't helpful for him. However, the researcher provided feedback to the student that he often was a leader in the conversations and helpful in completing the social behavior map as a model for other students. Excerpt between researcher and student illustrates this (See excerpt below):

> "Researcher: Well not all the students in the classroom have the ability to really understand how their actions impact others. And so, the social behavior map is helpful for those students to understand that concept, but I think you understand that concept really well. So maybe the behavior map hasn't been as important to you because you could do that. You didn't need the behavior map to have that skill?
>
> NTP_A: Yeah.
>
> Interview: Does that make sense? Is that maybe what you were trying to say?
> NTP_A: Yeah. (NTP_A Interview 6_12_19, Pos. 61-64)".

The following excerpts provide examples of student's perspective of using the Social Behavior Map as a tool for social learning.

Response: "Made me a little more open minded to other people and note stuff, more than I used to in the beginning of the year. (interview 6_12_19: 26 - 26)".

Response: "So, like just learning the different ways of how like if another person... So on the top it was just you being nice and then on the botTOM, if you weren't nice, then there's these different parts to it (interview 6_12_19: 26 - 26)".

Response: "So social behavior map or mapping, well let's say you do something that affects another person. If you say something nice to someone, then it makes everyone happy. But if you say something mean to them then it just makes everyone uncomfortable. And, yeah, I guess uncomfortable. So it's two different scenarios basically". When asked, so it helps you build awareness about why you might want to do things differently? Student responded with a nod yes (interview 6_12_19: 27 - 31).

Response: "Well, yeah, I understood that a lot of things can happen just depending on how I react to situations, and that's helped me think about the outcomes a lot more than I used to (interview 6_12_19: 19 - 26)

"How people might feel, depending on what actions you take". When asked if the SBM is helpful for you in understanding some of those hidden rules and being social, the student responded, "Yeah, a bit". When asked if there was a particular lesson that you felt like was meaningful for you or helped you, student responded, "There wasn't really a specific one. I felt like they all helped me reach my goal in the end" (6_12_19, Pos. 24-28)

"I liked it. When asked if they found it helpful in understanding social situations. Student responded, "A lot, yeah". When asked to tell more about that, the student responded, "Well,

because of the unexpected behavior map that we mapped, I didn't do those unexpected behaviors anymore. (interview 6_11_19: 34 - 34).

"When you can control your expected and unexpected behavior helps you control your behavior (Interview 6_11_19: 13 - 21)".

One student had difficulty with trying to explain his understanding of the SBM. However, when asked if it was helpful, the student responded, "Mm-hmm (affirmative with head nod). It was" (interview 6_11_19, Pos. 55-56).

"It's about social skills and what feelings people have and what feelings I have and what feelings someone else has". When asked what the feelings are related to, student responded, "Feelings are related to how we talk to each other and how we socialize". When asked what kind of outcomes do we have when we have expected behaviors student responded, "People will think good things about it". When asked if we have unexpected behaviors, student responded, "They just might feel uncomfortable". When asked if they agree with the idea of having better outcomes with expected behaviors the student responded, "Mm-hmm (affirmative with head nod)" (interview 6_11_19, Pos. 19-29)

"That it helps you reflect on social behavior". When asked if student could give more information of what they remember about the social behavior map, the student responded, "It shows expected behavior and not expected behavior. And, the differences". When asked what the differences are, the student responded, "The expected behavior is better than the unexpected behavior". When asked why it is better, student responded, "Because, people treat you better. (interview 6_11_19: 23 - 30).

"What I like about it? I feel like I learned about what the expected behavior and the unexpected behavior is." When asked why it is important to know what the expected and

unexpected behaviors are, student responded, " So, you can act in the appropriate way (interview 6_11_19, Pos. 50-52).

Reflection Journal

During the interview, each student selected a journal entry to talk about. The context of the selected journal interviews were associated with three situations: 1) four entries were grouped under classroom experience: one entry represented an overall experience in class, three included interactions with the researcher as their teacher; all four reflected positive interactions; 2) Five entries were grouped under peer experience at school. Three positive interactions included card games with peers during a rainy day PE activity, and one social interaction showing students being friendly with each other. One negative peer interaction involved a peer conflict that was an ongoing source of frustration for the student; one negative peer interaction involved a peer conflict from preschool; 3) Three entries were grouped under family experience. One positive interaction involved a family outing where stepdad bought the student new clothes. Two interactions involved conflict with parent and another with conflict with peer that created frustration for the student.

Journal entries varied in complexity and number of elements. Researcher noted that the simpler the drawing the more scaffolding questions were needed to fully understand the situation and help the student with making connections between words, thoughts and emotions related to the experience. Three examples illustrate the varying level of perspective taking skills.

1. Example A. Student reflects on conflict with sibling when playing a game. When student initially journaled about this event, he shared with the teacher how upset he was that he got into trouble when he got upset with his little brother who was cheating during their board game. The student labels the event, "Mad at Charlie". He is able to write in his speak bubble the

name of his little brother in CAPS and explanation point for emphasis. He is able to draw an

unhappy face on his heart bubble. For the smaller figure, he is able to label the speak bubble with

"mom". See Figure 6.4 for Example A.

Figure 6.3. Example A: Mad at Charlie.

This is the excerpt from the interview transcript which illustrate the supports the student

needs to make connections with words, thoughts and emotions. With support, he is able to

identify missing components to this journal entry as needed to reflect on the experience. For this

interview the student was distracted because he had been watching a movie (end of school fun)

and didn't want to miss anything. Teachable moment involved guiding the student to consider

his little brother's feelings and why he might be calling out to mom. Student previously had

focused on getting in trouble and did not consider that mom's reaction was in response to his

getting angry at his little brother. Where the Social Behavior Map helps students understand the chain reaction between emotions and actions, the Reflection Journal helps students put the interaction in context and connecting the various parts to get the big picture.

> Teacher: Okay. Alrighty. All right, so the last thing, because I can tell you're really wanting to go back to the movie. So, in your reflection journal, I think you've got a couple of entries. Can you pick one of these that you could tell me more about?
>
> Student: Ah, that one. So, it's talking about when I was mad, and my brother was cheating in a game.
>
> Teacher: Okay. And so help me understand what's happening in your heart over here?
>
> Student: I hadn't thought about that.
>
> Speaker 1:   Okay. So, what's happening here?
>
> Will: I was mad because he was cheating [game].
>
> Speaker 1:   And then what's happening over here? Is this your brother?
>
> Will: Yeah, I think he's a little upset that I was yelling at him.
>
> Speaker 1:   Okay, one more minute and we'll be done, okay?
>
> Will: Cool.
>
> Speaker 1:   All right. So, but you don't have any... You don't have anything in his heart or thought bubble?
>
> Will: Yeah.
>
> Speaker 1:   So, how do you think he felt when you got mad at him?
>
> Will: Oh, I don't know. Maybe a little upset.
>
> Speaker 1:   So, how do you think he felt when you got mad at him?
>
> Will: Oh, I don't know. Maybe a little upset.

Speaker 1:   Okay. All right. So, did you like using the reflection journal to think about your social situations?

Will: Yeah.

Speaker 1:   Okay.

Will: Okay.

Speaker 1:   Can you give me a little bit more than just yes, because I need...

Will: Yeah, yeah. I thought it was helpful. (Student interview 6_11_19, Pos. 63-88)

2. Example B. Student interaction with teacher's announcement of pizza party. One of the highlights of the 5th grade social skills groups were the occasional pizza party events that the teacher (researcher) held during lunch. This was to provide some facilitated social experiences that were outside of classroom instruction experience. For this entry this student was able to label his words, thoughts and emotions, but had difficulty with labeling thoughts and emotions for the teacher/researcher. The following excerpt highlights a teaching moment with guiding the student to guess what others may be thinking and consider intentions. See Figure 6.5 for Example B.

Figure 6.4. Example B "Excited about the Pizza Party".

Transcript of communication with researcher and student about their journal entry:

Teacher: All right. So, here's the reflection journal. And, did you like using the journal?

Student: Yeah.

Teacher: Yeah. All right. So, can you pick one of your entries and tell me about it?

Student: This one, it's me and you. I was reading my book. And, we were talking about the pizza party time. And, you said that we could have it tomorrow. So, I was like, "Yay." And, I was feeling happy.

Teacher: Feeling good about that?

Student: Mm-hmm (affirmative).

Teacher: So, why do you think... so, you've got my words. So what is in the thought bubble?

Student: A question mark.

Teacher: You have a question mark?

Student: Because, I don't know what you're thinking.

Teacher: Oh, what do you think I might be thinking? If you had to make a guess about what I might be thinking about.

Student: "Yay?"

Teacher: Yeah, but, I know this is the challenging part, right?

Student: This is going to be fun.

Teacher: Yeah. So, do you think that maybe I was wanting to do something special for you guys that you guys would like?

Student: Mm-hmm (affirmative).

Teacher: So, I was definitely thinking about y'all.

Student: Yeah.

Teacher: Yeah. And, so, that's kind of why when we're doing the reflection journal and we're trying to make a guess about other person's thoughts. It's how we're figuring out what their intentions might be. Well, you did a great job with this. Thank you, so much for your time _____.

Student: Okay. (Student interview 6_11_19, Pos. 35-63)

3. Example C. Student reflection of following directions and noting teacher's response. This student has a history of having difficulty with getting started on assignments that involve putting his ideas down on paper. Previous teachable moments involve using his words to ask

clarifying questions when he is unsure or talk out his ideas before writing. Interestingly this is the topic the student chose to write a reflection on. When asked what he could write a reflection on, the teacher suggested he write about an experience he had that day, whether with a teacher, or a peer. He asked if he could write about the current moment.

This student is able to label words, emotions and thoughts of for him and for the teacher. This represents growth in the student's ability to see both perspectives in the situation and reflects understanding concepts previously discussed using the Social Behavior Map. By understanding the how his actions influence the outcome he has started making better choices in the classroom with following teacher directions. The teachable moment in this interaction is solidifying the benefit of reflecting on our experiences so we can make a plan for better outcomes. Figure 6.6 illustrates Example C.

Figure 6.5. Example C "Journal Entry".

Transcript of Interview:

Teacher: So, you have some entries in your journal. And, can you pick one of these out and tell me about your journal entry?

Student: Looking.

Student: This one. Well, I couldn't find something to write about. So, I took an every day interaction and turned it into what I had to write about.

Teacher: Oh, cool.

Student: So, we had the conversation on what can I find to write about. And, I used interaction of you telling me what to write about into my thing.

Teacher: Oh, my gosh, I love this. And, you've got your thoughts, bubble, you've got your speak bubble, your feelings.

Student: Mm-hmm (affirmative).

Teacher: So, tell me, what's in my thought bubble over here.

Student: He needs to work.

Teacher: Okay.

Student: So, since I didn't have anything to write about, you're thinking that I need something to write about. So, I need to work.

Teacher: Cool. So, you could see that my intention then was to help you.

Student: Yes.

Speaker 1: So, that's a big piece of why we try to make a guess about what someone might be thinking about. It helps us know if they're being friendly or unfriendly. If they have good intentions or not so good intentions.

Student: Mm-hmm (affirmative).

Teacher: And, if we feel that others have good intentions towards us, then, it helps us know how to respond in a social situation, right? Nice job. Well, you did a really great job on your drawings. They're very detailed.

Student: Not really.

Teacher: So, have you liked using the journal?

Student: Yes. It's good we had to reflect on some interactions that you've [self] done.

Teacher: Yeah. Does it help you to get some insight into situations and making a plan for what you can do differently?

Student: Yeah. How the person felt. And, stuff like that.

Teacher: Okay. Awesome. (student interview 6_12_19, Pos. 29-50)

4. Example D. Student reflects on positive experience with peer. This student chose on of his earlier reflections and shared that he was choosing it because there was not much written down so he would need to explain it. It is relevant that he is reflecting on his emotional response to a peer as his goal was "Not have emotional breakdowns" and his strategy was to talk about his feelings more. The teachable moment involved referencing the emotion scale and how different words communicate varying levels or intensity of emotion. Making these connections with experiences helps to build emotional vocabulary as needed to be able to identify and label emotions for the student and noticing in others. See Figure 6.7 for Example D: Unexpected Victory.

Figure 6.6. "Unexpected Victory".

Excerpt of transcript of interview with student about the journal entry titled *Unexpected Victory*:

Teacher: Looking at your journal, can you pick one of your drawings and tell me about one of your entries that you did in the reflection journal? There's several in here, so you can pick which one you want to talk to me about. Is there one in particular you want to choose?

Student: I'd like to explain this one.

Teacher: Okay.

Student: Because I put very little time into this and I may need to explain it.

Teacher: Yeah.

Student: So, I was playing with XXXX, and he... I won a card game against him, and I never do, so I'm super excited. He got really confused, because it was sudden

Teacher: Okay. So, this is you here, because you're saying, "I won."

Student: Yeah.

Teacher: I like your drawing. So, what would you have put in your thought bubble?

Student: I don't really know other than "I won."

Teacher: Well, yeah, but you actually just told me. You just said, "I'm really excited, because I don't always win."

Student: Yeah.

Teacher: Right?

Student: Mm-hmm (affirmative).

Teacher: And then so your heart bubble would probably... What emotion would you probably want to use?

Student: Oh, I felt really good about that. I was happy.

Teacher: Yeah, but your drawing I think maybe is a little bit more than just happy, right? Because we said that happy is kind of a medium emotion [References emotion scale in Reflection Journal].

Student: Why is cheerful higher than happy?

Teacher: Well, this is subjective, it might... Words can have different meanings for people. For you, happy might be up here, right? On the emotion scale?

Student: Let's go with thrilled.

Teacher: Yeah. Ah, that was the word I was going to pick for you is thrilled, based on this picture and what you're telling me. Can you see how that might give more information, right?

Student: Yeah.

Teacher: Did this happen? Okay. And so what's happening with _____ over here? So, he says, "What?" And then what do you think he might be thinking about?

Student: Probably because I was so sudden in my excitement.

Teacher: Okay. Alrighty. And do you think... What was his emotions? How was he feeling about you winning the game?

Student: Ah, he wasn't happy, because I don't usually. But he was kind of confused by it. He got really excited when it happened. [crosstalk 00:04:48]

Teacher: Okay. Okay. Awesome. You did a really great job with that. So, did you like using the reflection journal? Do you see this as a helpful tool?

Student: Yeah, I do.

Teacher: Okay. Anything else that you want to share with me before I head out? You're learning in our class? No, okay. Thank you, _____. (Student interview 6_12_19, Pos. 57)

5. Example E. Student reflects on a negative experience with a peer on a later day. This entry written on 5/31/19 has more of the elements included in the reflection. This entry demonstrates the student's awareness of his emotions and a better understanding of how the other person may be having a different reaction in the situation.

Figure 6.7. "So, frustrated to be losing".

Connecting Social Learning Tools and Inclusion

To understand the potential relationship between the use of social learning tools and results of sociometric scales to measure social inclusion are presented in the following table. Additional measures related to self-efficacy (student surveys), social emotional learning (SSIS-SEL) student and teacher rating scales, and social engagement (AISCS). Only seventh grade participants are included in the data presented in Table 38.1; Table 39.1 and Table 40.1

Table 38. 1

Connecting Components of the Study for Seventh Grade Participants AUT-A & AUT_B.

	AUT_A	AUT_B
GOAL	Not having emotional breakdowns	Joking around in a respectful way.
STRATEGY	Talking about my feelings	calm down and let my energy out some other time.
THOUGHTS ABOUT REFLECTION JOURNAL	progress on goal? Yeah, I do. Using journal? Tool to help process feelings	progress on goal? I feel like I am better at it. using journal? Helpful to reflect on some interactions that you have done and how the other person felt.
UNDERSTANDING OF SBM	Well, yeah, I understood that a lot of things can happen just depending on how I react to situations, and that's helped me think about the outcomes a lot more than I used to.	How people might feel, depending on what actions you take. There wasn't a specific one. I felt like they all helped me reach my goal.
SOCIOMETRIC SCALE Change of Status	Maintained Neutral to Neutral	Improved Not Accepted to Neutral
SELF EFFICACY % of Growth	Missing pre data	7%
SEL-STUDENT % of Growth	33.33%	Missing pre data
SEL-TEACHER % of Growth	0.80%	14.10%
AISCS TEACHER % of Growth	7%	53.33%

Table 39. 1

Connecting Components of the Study for Seventh Grade Participants OHI-A and OHI_B.

	OHI_A	OHI_B
GOAL	Focusing on the teacher when I have to	Non-verbal communication to indicate friendliness.
STRATEGY	Get rid of all distractions and other things around me and each myself to focus	Smile more, open body language
THOUGHTS ABOUT REFLECTION JOURNAL	progress on goal: I'd say I did at least a 66% of what was my goal because I was able to get most of my work done. I focused on the teacher more, I understood things a little better.	progress on goal: Yeah, instead of getting mad and punching someone, I use my words instead. As a tool? Yeah, Just if I'm mad then I can just write it out.
UNDERSTANDING OF SBM	It made me a little more open minded to other people and note stuff, more than I used to in the beginning of the year.	So, like just learning the different ways of how like if another person... So on the top it was just you being nice and then on the bottom, if you weren't nice, then there's these different parts to it
SOCIOMETRIC SCALE Change in Status	Maintained Neutral to Neutral	Improved Not Accepted to Neutral
SELF EFFICACY % of Growth	missing post data	-13%
SEL-STUDENT % of Growth	-12.6%	17%
SEL-TEACHER % of Growth	7.6%	44.60%
AISCS TEACHER % of Growth	13.12%	37.53%

Table 40. 1

Connecting Components of the Study for Seventh Grade Participants SLD/SLI and NTP.

	SLD/SLI_A	NTP_A
GOAL	To speak up in class and ask for help when I need it.	To be happy
STRATEGY	I will speak up and ask for clarification when I need it.	I can count to 10 slowly or have alone time.
THOUGHTS ABOUT REFLECTION JOURNAL	progress on goal: I think I'm doing better. I am paying attention more, So then that way you don't really have to ask for clarification that much.	progress on goal: Yeah. I still get sad about it (father incarcerated) but I feel like it's getting better.
UNDERSTANDING OF SBM	So social behavior map or mapping, well let's say you do something that affects another person. If you say something nice to someone, then it makes everyone happy. But if you say something mean to them then it just makes everyone uncomfortable. So it's two different scenarios basically.	To be honest, I haven't really been paying attention to that but I feel like it would help. (Note: see previous dialogue on this)
SOCIOMETRIC SCALE Change in Status	Improved Neutral to Accepted	Improved Neutral to Accepted
SELF EFFICACY % of Growth	-20.4%	0 (minimal change)
SEL-STUDENT % of Growth	-23.4%	-1.10%
SEL-TEACHER % of Growth	-13.33 %	-8.40%
AISCS TEACHER % of Growth	10.6%	18.55%

Research Question Number Five

3. What is the social inclusion perspective of individuals with Autism and their peers?

Excerpts of the student survey were used for answering this question. Both neuro-typical peers and students with Autism participated in the survey pre and post social skills intervention for selected students. Not all students participated in both the pre and post survey. A total of 71 responses of which 17 were made by fifth graders and 54 were made by seventh graders are included in the analysis for this question. Some questions appeared on the post intervention survey only and thus may have up to thirty-eight responses. Four variables and twenty codes (open response questions) were included in the analysis. See Table 41.1 for list of variables and codes, their description or question asked in the survey and the three areas of analysis: 1) Student perspective on learning; 2) Student Perspective on relationships, 3) Student Perspective on previous school year learning experience.

The questions below related to peer relationships were asked in conjunction with the socio-metric scales presented in question #2. For example a socio metric scale question would ask, " Name one student you like to sit near in class?", The following relationship "why" question would ask, "What is it about that student or how they make you feel that you want to sit near them in class?". The next question would ask, "Name another student you would want to sit near in class?" with a similar relationship "why" question. For the purpose of this analysis, the "why" questions were used from the survey. The first and second choice responses are combined to answer why students would not want to sit near a peer in class regardless of that student being a first or second choice. These questions target understanding student perspectives toward inclusion involving three situations: 1) peers in structured setting (proximity in classroom for learning); 2) peers in unstructured settings (free choice/social time); 3) peers outside of school

setting. The questions included in this section give us insight into student perspectives toward

inclusion. The value of combining with the sociometric scale question is to provide context for

the student's response in understanding the why behind their choices.

Table 41. 1

Organization of Student Survey Data

PURPOSE	VARIABLE	DESCRIPTION
VARIABLES USED TO GROUP RESPONSES	PRE OR POST	Student submitted their responses to the survey either pre small group intervention or post small group intervention.
	AUT OR PEER	Student is identified with an IEP under AUTISM eligibility, all other students are noted as a peer.
	GENDER	Student identifies as either Male or Female
	GR	Student is either in the 5th grade (elementary) or 7th grade (middle school) at the time they submitted the survey

PURPOSE	CODE	QUESTION ASKED IN SURVEY
Student Perspective on Learning	Q1 FAV SUBJECT	My favorite subject in school?
	Q2 SUCC SUBJECT	I feel most successful in
	Q3 CHAL SUBJ	I have the most difficulty in
	Q4 WHY CHAL	Why did you choose the class above as your hardest class? (teacher, content, peers?)
	Q5 GOAL	I would like to make a goal to be better at
	Q6 WANT TO LEARN	I would like to learn more about
Student perspectives of why they selected peers to sit near class, not sit near in class; hang out at recess, not hang out at recess, invite to a birthday party, not invite to a birthday party.	Q7 1ST CH SIT NEAR	What is it about that student or how they make you feel that you want to sit near them in class?
	Q8 2ND CH SIT NEAR	What is it about that student or how they make you feel that you want to sit near them in class?
	Q9 1ST CH NOT SIT NEAR	What is it about that student or how they make you feel that you that makes it hard to sit near them in class?
	Q10 2ND CH NOT SIT NEAR	What is it about that student or how they make you feel that you that makes it hard to sit near them in class?
	Q11 1ST CH RECESS	What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?
	Q12 2ND CH RECESS	What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?
	Q13 1ST NOT RECESS	What is it about that student or how they make you feel that you that makes it hard to hang out with during recess?
	Q14 2ND NOT RECESS	What is it about that student or how they make you feel that you that makes it hard to hang out with during recess?
	Q15 1ST CH BDAY	Name one student you would like to invite to do something outside of school such as come to your birthday party?
	Q16 2ND CH BDAY	Name one student you would like to invite to do something outside of school such as come to your birthday party?
	Q17 1ST NO BDAY	Name one student you would prefer to not spend time with outside of school such as invite to your birthday party?
	Q18 2ND NO BDAY	Name one student you would prefer to not spend time with outside of school such as invite to your birthday party?
Student Perspectives of learning experience (post intervention responses only)	Q19 FAV L MOM	Looking back at this year, a favorite learning moment for me in this class was
	Q20 MOST DIF CLASS	I have the most difficulty in
	Q21 LEARNED	Looking back at this year, in my hardest class (mentioned above) I was able to learn

Q22 TEACHER CHOICE	If I could choose my teacher for next year, I would want someone who was

Student Perspective Toward Learning

For the question "What is your favorite subject?", out of a total of forty responses, eleven selected Language Arts, nine selected Math, nine selected Physical Fitness, six selected Elective, and five selected History. For the question of what class student feels most successful in, out of seventy responses, two responses selected don't know, nine responses selected elective, ten responses selected History, twenty-five responses selected Language Arts, and eleven students selected Math, eight students selected Physical Fitness, four responses selected Science. For the question of what subject is the most challenging, out of a total of thirty-eight responses, three responses selected history, nine responses selected Language Arts, sixteen responses selected Math, one response selected none, one response selected physical fitness, eight responses selected Science.

The percentage of responses by content area: 1) History 12.5% favorite, 14.08% felt successful, and 4.23% found difficult; 2)Language Arts 27.5% favorite, 35.21 felt successful, 12.68% found difficult; 3) Math 22.5% favorite, 15.49% felt successful, 22.54% found difficult; 4) Science 3.00% felt successful, 11.27% found difficult. A comparison based on percentage of responses is presented in the Figure 6.9
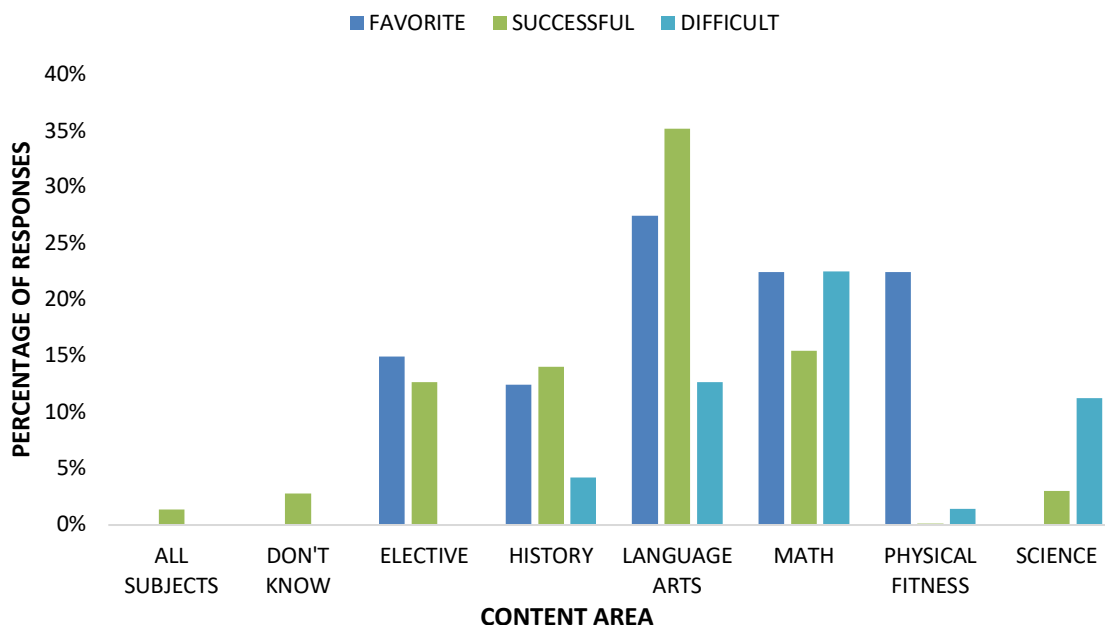
Figure 6.8. Comparing Favorite, Successful and Challenging Subjects.

For the question asking why was the class challenging such as content, instruction, or peers, a total of fifty one responses indicated: 1) six responses cited history of difficulty and low achievement; 2) five responses indicated it was difficulty attending; 3) twenty seven responses indicated the content was challenging and had difficulty understanding; 4) ten responses indicated they had difficulty with how the instruction was delivered; 5) three responses cited difficulty with deadlines or the pace of the class instruction. The chart below reflects the percentage of responses by category. Figure 6.10 illustrates percentage of responses by theme in answering why the class they chose for the previous question was challenging. Six percent of students indicated they have difficulty with due dates of assignments, twenty percent of responses indicate they have difficulty with the delivery of instruction; fifty three percent had difficulty with the content; ten percent had difficulty with staying focused, and twelve percent cited having a history of difficulty with low achievement with the content.
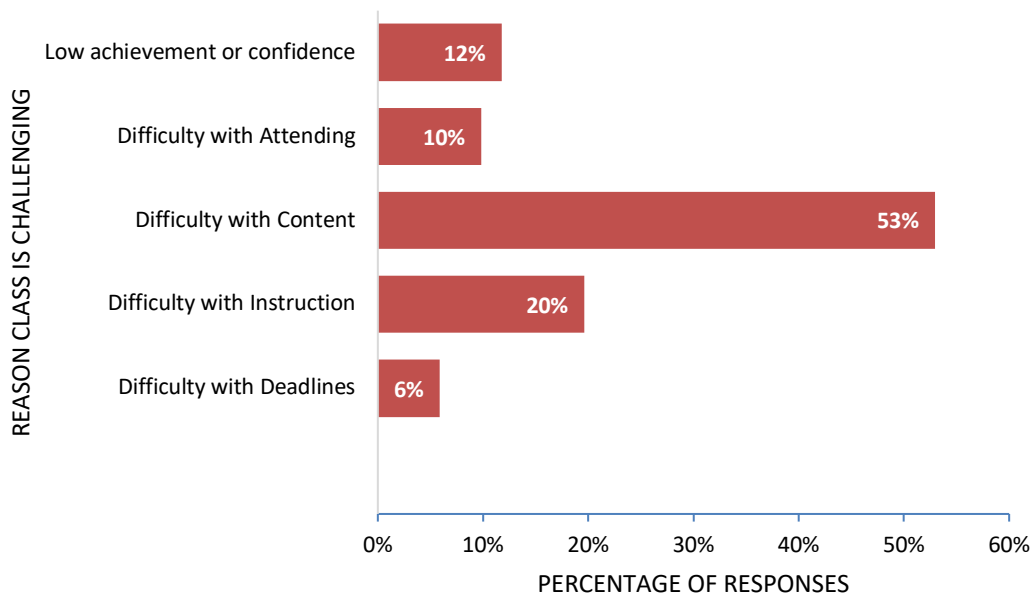
Figure 6.9. Why Class was Challenging

For the question, " I would like to make a goal to be better at…", Out of a total of sixty nine responses, twenty two students responses indicate focus is on social skills: communicating ideas (seven responses), working in groups (six responses) asking questions when need help (three responses), managing and understanding emotions (two responses), overall being a good person or well-being (two responses), making friends (one response). Forty-four responses indicate the focus is on academic learning: specific area of content (twenty-two responses), learning habits (seventeen responses), grades (five responses). Three responses indicate their focus is on physical fitness goals.

For the question, "I would like to learn more about…", there were a total of sixty-one responses. Forty-four responses focused on specific content areas: history cultures or eras (eighteen responses) Math specific concept or overall (twelve responses), science fields or topics

(seven responses), ELA (three responses), general learning (two responses), teachers grading (two responses). Thirteen responses focused on life skills: relationship skills (seven responses), specific career (five responses), politics (one response), high school (one response); four responses focused on the arts.

Percentage of responses was used to compare what they want to be better at with what they want to learn more about in the following categories: 1) Social Emotional Learning: 29% of responses indicate wanting to be better at social and emotional learning in the context of emotional regulation and communication as compared to 21% of responses indicate wanting to learn more about social emotional learning in context of life and relationship skills. 64% of responses indicate wanting to be better at academics as compared to 72% responses indicate they want to learn more about various academics.

Four percent of responses want to be better at physical fitness and seven percent of responses want to learn more about the arts. See Figure 6.11 below.
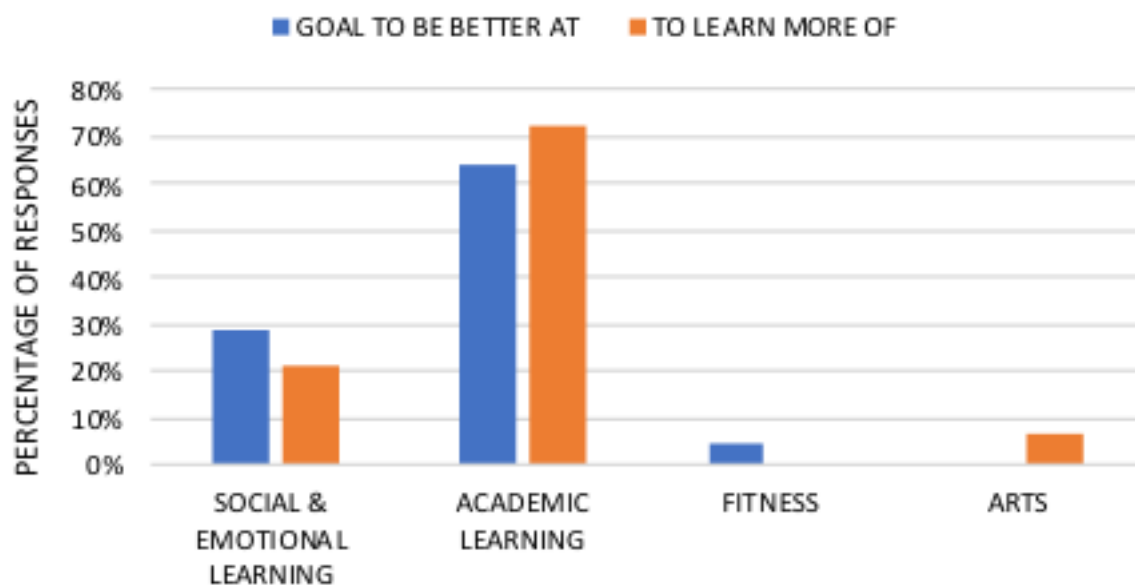
Figure 6.10. Compare Goal to Area I want to Learn More About. Compare student perspectives

on goal to be better at as compared to what they want to learn more about.

Student Perspective on Social Inclusion

Socio-metric scales were used to determine social inclusion status of students in the seventh grade. Additional questions of why students were chosen gives us perspective of students toward social inclusion. Perspectives look at three settings: 1) Structured school setting, classroom learning; 2) Unstructured school setting, recess; 3) Outside of school setting, fun social event. Findings are separated by peers and students with Autism.

Sit Near Peer in the Classroom

Peers perspective indicate the reason students based their choice to sit near someone in class is primarily on having a positive personality, helpful, kind, accepting, encouraging with a total of sixty-four responses. Another reason student based their desire to sit near someone in class is they work well together; they are able to stay focus on learning and also have fun at the appropriate time with forty-two responses in this category. Twenty-seven students responded they are friends, and sixteen students state they were fun. Six students were neutral or no comment in their response. See Table 41.1 for sample of responses.

Students with Autism perspective primarily based their choice to sit next someone on the belief of being their friend (fifteen responses). They also indicated their choice to be based on how comfortable they feel around that person, such as calming, nice, make me happy, helpful (ten responses); two based if the other person was fun to be around. One response is based on if the other person works hard. See Table 42.1 for a sample of responses.

Table 42. 1

Student Responses to "What is it about that student or how they make you feel that you want to sit near them in class?"

Peer responses	Autism Responses
"She helps me when i have question and keeps me on topic"	*"Because he is my friend"*
"She is one of my best friends, and when I have a question she is always nice about helping me answer it"	*"He is nice and a friend"*
"She is also one of my good friends which makes it easier to work with her. She has such a great personality and it would make it a better experience when working or sitting near in class"	*"He is calm and calms me down. He is a hard worker"*
"They are funny and make me laugh but they are also pretty smart so if I am confused on something I can get there word on it. Also we can compare answers and make sure we are on the same page"	

Perspective of Peers and Students with Autism Toward Social Inclusion.

Peer responses in the open-ended survey indicate 41% of responses of why they chose to sit near someone in class is due to their positive personality, kind, helpful, nice and 27% based their decision on working well with that person. Students with Autism responses in the open-ended survey question of "Why did you choose to sit by _____ in class?" indicate 45% of responses is based on being friends and 30% of responses based on their positive personality including kind, calming, and helpful. Figure 6.12 compares the responses between peers and students with Autism's perspective of why they choose to sit near someone in class.
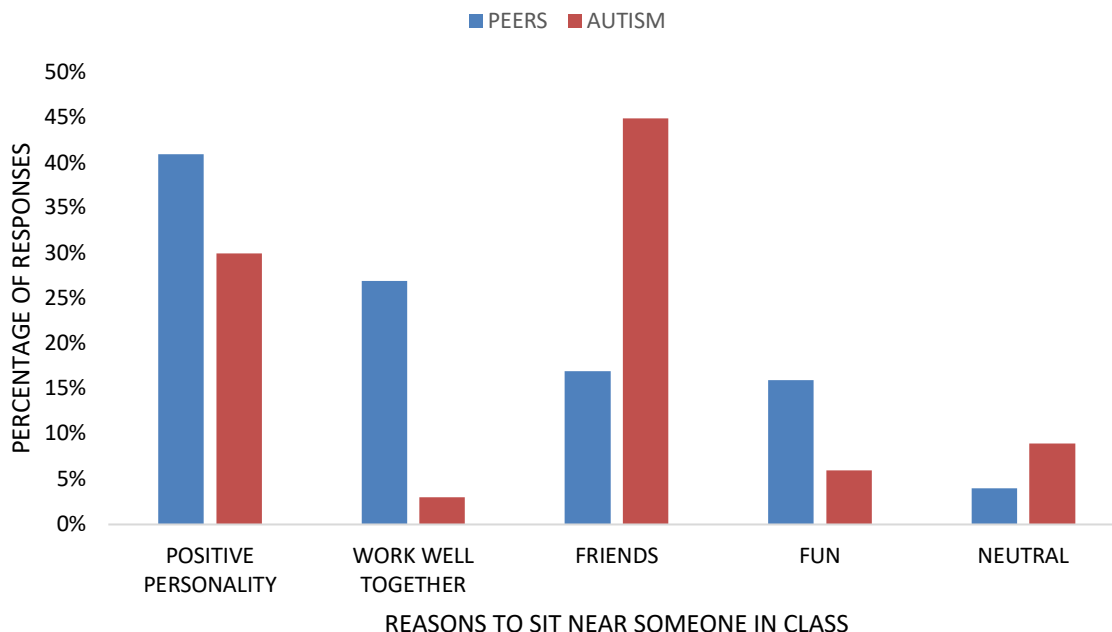
Figure 6.11. Compare Responses of Peers (*n*=64) and Responses of Students with Autism (*n*=28) Based on Percentage of Responses.

Not Sit Near Peer in the Classroom

Peer Responses.

Peer perspective indicate the reasons they do not want to sit near someone in the classroom with one hundred twenty-seven responses. Sixty-two responses indicate they do not want to sit near a peer as they make it difficult to learn, distracting, annoying, get off task and hard to focus. Thirty-three responses indicate it is their negative personality, mean to others, rude or disrespectful, negative comments, gossips and do not respect personal boundaries. Seven responses indicate reasons related to a student's disability not smart or understanding the content, difficulty to understand. Three responses indicate the person is not a friend, and twenty-two responses indicate no comment.

Autism Responses.

      Autism perspective indicate the reasons they do not want to sit near someone in the classroom with thirty-one responses. Eleven responses indicate they do not want to sit near a peer as it makes it difficult to learn, annoying, distracting, hard to learn. Nine responses indicate they do not want to sit near someone in the classroom due to negative personality, bully, not liked, or do not like them. One response indicates they are not a friend, and ten responses indicate no comment. Table 43.1 includes samples of both student with Autism and their peers responses.

Table 43. 1

Student Responses to "What is it about that student or how they make you feel that you that makes it hard to sit near them in class?"

Peer responses	Autism Responses
"He is very distracting and gets off task very quickly making it difficult for me to finish what I'm working on".	*"He is annoying and distract during class"*
"She makes it difficult for me to concentrate and makes a lot of sarcastic comments".	*"She is never nice to me and she tries to hit me and my friends. She's just plain mean".*
"She is very distracting and it seems that whoever she sits near, she gets them in trouble, which I would not want to be involved in. It is also concerning to know my grades could be at risk because of one person"	*"because i dont know".*
"He provokes my anxiety more than anyone else I've ever met, mostly because he can't understand personal boundaries and respect. There have been too many times where I have asked him politely to stop something and he's disregarded those requests"	

"rather not say"

Compare Peers and Autism Responses by Percentage of Response.

Both peers and students with Autism indicate students who show behaviors that make it difficult to learn, distracting, annoying, off task are reasons to not sit near a student in class. Peers at 49% of responses and Autism at 38%. Both peers and students with Autism indicate students who show negative personality traits are reasons to not sit near someone in class. Peers at 26% of responses include being mean to others, bad language, gossips, not respecting boundaries. Autism at 28% of responses include being bullied, not being liked or not liking student. Peers at 17% cited no comment compared to students with Autism at 38% of responses. See Figure 6.13.1 for comparison of perspectives.
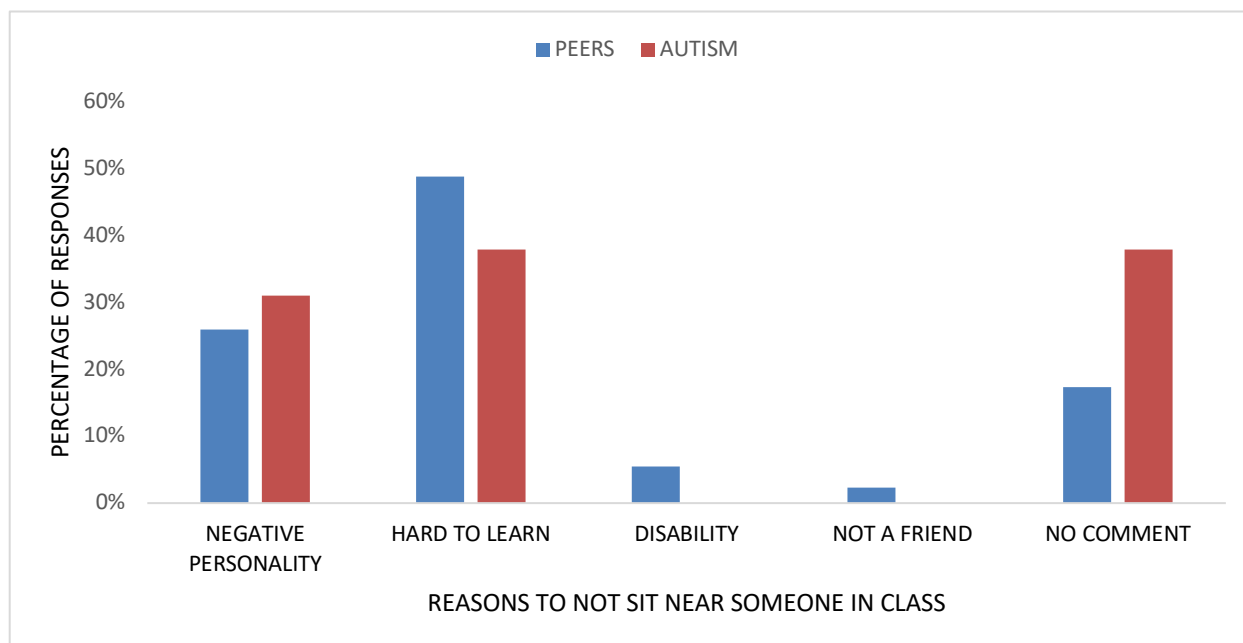
Figure 6.13.1. Compares Perspective of Peers of Why They Chose to Not Sit Near a Peer in Class.

Spend Time with at Recess

Peer Responses.

There were one hundred and fifty-one responses to the reason peers chose someone to spend time with during recess. Forty-seven responses indicate that the person they chose to spend time at recess was funny or fun to be with. Forty-two responses indicate the person they chose had a good personality, was kind, understanding and friendly. Twenty-eight responses indicate they liked being around them in general, they had things in common and no drama. Twenty-five responses indicate they were friends, five responses indicate they were siblings and four responses indicated no comment.

Autism Responses

There were twenty-six responses to the reason students with Autism chose someone to spend time with during recess. Nine responses indicated they had a good personality such as nice or kind, seven responses indicated they liked being around them or had things in common, six responses indicated the student was funny or fun to be with, three responses indicated they were a friend, one response indicated no comment. Table 44.1 compares perspectives of students with Autism and their peers of Why you want to hang out at recess.

Table 44. 1

Student Responses to "What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?"

Peer responses	Autism Responses
"He is my best friend here".	*"im friends with him"*
"he is nice to me and makes me comfortable"	*"Nice and kind to me".*
"She is my closest friend and I feel the most comfortable being myself around her. We have the same interests and can help each other out with school work, but can also joke around and have fun".	*"Always funny".*
"we are friends and have stuff in common".	
"They like to have fun without drama".	

Compare Peers and Autism Responses by Percentage of Response

Seventeen percent of peer responses indicate being a friend as the reason they spend time with someone at recess as compared to 12% of Autism responses. Nineteen percent of peer responses indicate they like being around the person as the reason for spending time with them at recess as compared to 27% of Autism responses. Thirty one percent of peer responses indicate the person is funny or fun to be with for why they spend time with them at recess as compared to 23% of students with Autism. Twenty-eight percent of peers response indicate the person is nice or kind as the reason for spending time with them at recess as compared to 35% of student with Autism. See Figure 6.14.1 for comparison of percentage of responses by peers and students with Autism for the reasons they chose someone to spend time with at recess.
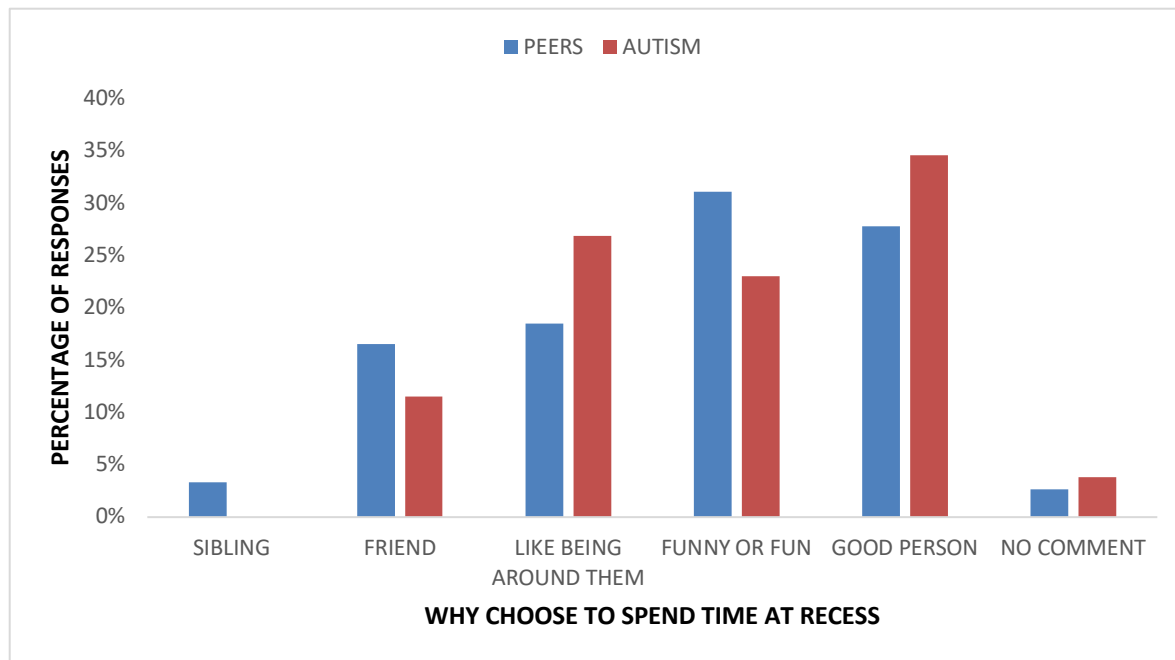
Figure 6.14.1. Compare Perspectives of Why Choose to Spend Time at Recess.

Not Spend Time with Peer at Recess

Peer Responses

A total of 129 responses by peers indicated the reasons they would not spend time with a student can be grouped in the following categories: 1) Fifty responses indicate negative personality traits influence their decision to not spend time with them during recess: Negative comments including gossiping and putting others down (twenty four responses), mean (fourteen responses) and rude (twelve responses). 2) Twenty nine responses prefer not to say; 3) Twenty two responses indicate they do not feel comfortable around the peer: annoying (fifteen), awkward or uncomfortable (seven); 4) Fifteen responses indicate they do not relate to the peer: nothing in common (twelve responses), not friends (three responses) 5) Seven responses indicate there is no one they would not hang out with; 6) Six responses indicate student has disability such as hard to understand or not smart enough.

Autism Responses.

Twenty five responses by students with Autism, indicating their reasons for not spending time with someone at recess include: 1) Eight responses indicate negative personality is the reason for not spending time with someone during recess; mean or not nice (five responses); cheats or doesn't play fair (two responses); physically aggressive (one response); 2) Eight responses indicate there is nobody they would choose to not hang out with at recess; 3) six responses indicate they do not feel comfortable around them because they are annoying; 4) Three responses indicate they do not relate with; dislike (two responses), concern for negative association (one response); 5) Three responses indicate no comment. Table 45.1 provides examples of both peer and students with Autism responses.

Table 45. 1

Student Responses to "What is it about that student or how they make you feel that you that makes it hard to hang out with during recess?

Peer Responses	Autism Responses
"He is rude and very annoying." .	"He is annoying"
"he is really hard to understand and i feel like he is transgender.he only hangs out with girls"	
"She has made me feel badly about what i eat in the past and makes sarcastic comments that can embarrass not only me but also my friends".	"She is never nice to me and she tries to hit me and my friends. She's just plain mean".
"rather not say"	"i dont know".
"we try to hang out with him because we are told to but he never wants to sit with us. When we try to sit with him he just moves away"	
"Follows us everywhere then says nothing and does not add to the conversation .Then gossips about other people".	

"we have absoluty nothing in common".

Figure 6.15.1 compares responses with peers and students with Autism based on percentage of responses. Thirty-nine percent of peer responses indicate students having negative personality for the reason they choose to not spend time during recess as compared to 29% of students with Autism. Twenty-two percent of peers indicate no comment in their responses as compared to 11% of students with Autism. Seventeen percent of peers response indicate they feel uncomfortable around the peer as their reason for not spending time at recess as compared to 21% of students with Autism. Twelve percent of peers response they do not have a relationship with the peer as compared to 11% of students with Autism. Five percent of peers indicate there is nobody they would not want to spend time with during recess as compared to 29% response of students with Autism.
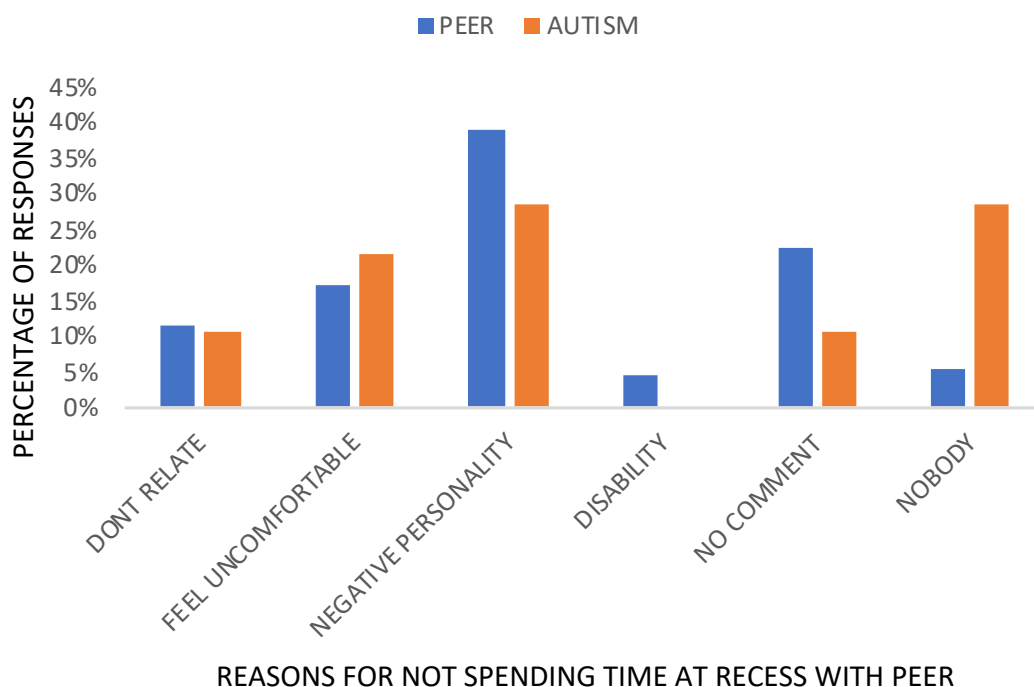
Figure 6.15.1. Compare Perspectives of Why Not to Spend Time at Recess

Spend Time with Peer Outside of School (Birthday Party)

Peer Responses.

One hundred and twenty-eight peer responses indicate the reasons they would spend time with outside of school such as a birthday party: 1) Forty responses indicate a relationship: friend (thirty nine); twin (one); 2) Forty six responses indicate having a positive personality: nice or kind (nineteen responses), fun to be with (twenty eight responses; 3) nineteen responses indicate no comment; 4) fifteen responses say they have common interests 5) seven responses indicate they have social skills such as easy to talk to or able to hang out.

Autism Responses

Thirty five responses by students with Autism indicate the reasons they would spend time with someone outside of school such as a birthday party include: 1) Eighteen responses indicate

having a relationship: they are a friend (sixteen responses), hang out (two responses are literal response to question); 2) Fifteen responses indicate the person has positive personality traits: nice or kind (eleven responses), fun or funny (four responses); 3) Two responses indicate no comment.

Samples of student responses are located in Table 46.1

Table 46.1

Student Responses to "Name one student you would like to invite to do something outside of school such as come to your birthday party?"

Peer Responses	Autism Responses
"We are good friends and always have a good time together, making each other laugh.".	"because that freind is my freind and i am that freind's freind"
"She's nice, funny, and we have similar interest"	"He is nice and a friend".
"Hes nice and fun to talk to".	"they are nice".
"He is not awkward and hangs out normally".	"Hang Out"

Compare Responses. Figure 6.16.1 compares the responses of peers and students with Autism in by categories or themes. Forty-three percent of peer responses indicate having a relationship is the reason to invite someone to a birthday party: (31% a friend, 12% have shared interests) as compared to 51% of students with Autism response's indicate having a relationship is the reason to invite someone to a birthday party: (46% friend, 5% hang out); 37% of peer responses indicate having a positive personality (nice or kind 15%, fun or funny 22%) as compared to 43% of Autism responses indicate having a positive personality (nice or kind 32%, fun or funny 11%) is the reason to invite someone. Fifteen percent of peer responses did not want

to give a reason and 6% of Autism responses did not want to indicate a reason for inviting

someone to their birthday party.
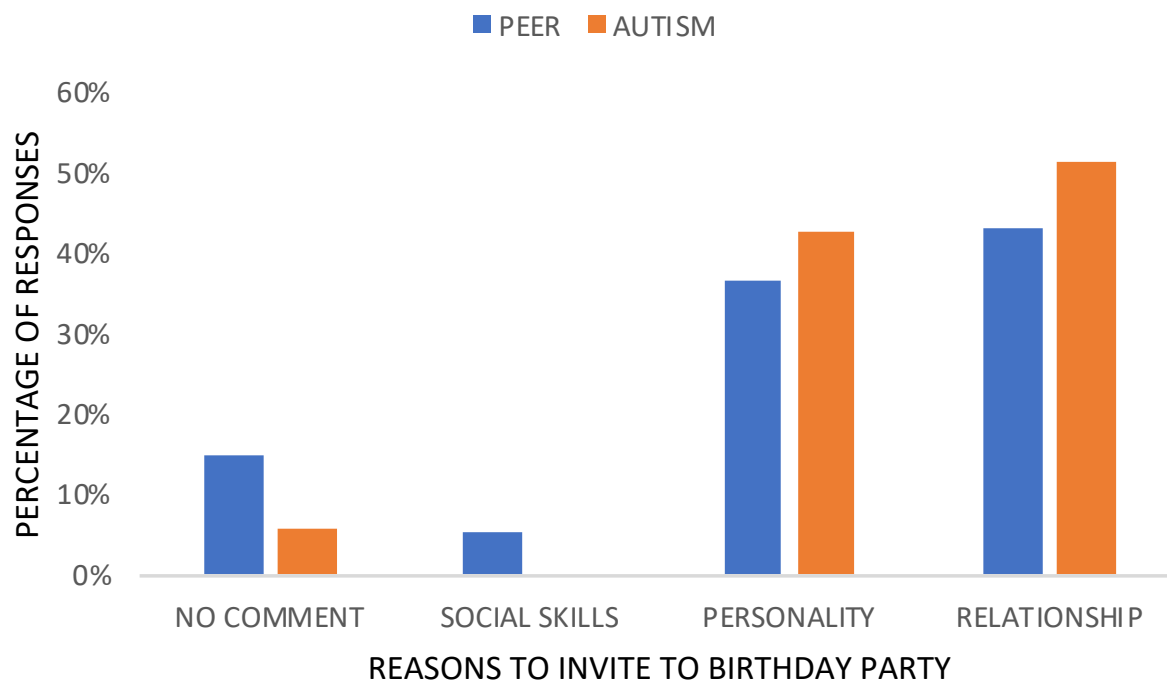
Figure 6.16.1. Compare Perspectives of Why to Invite to a Birthday Party.

Not Invite to Hang Out with Outside of School such as a Birthday Party

Peer responses. One hundred twenty responses of peers indicate the following reasons for not inviting someone to spend time with them outside of school such as a birthday party: 1) Forty responses preferred to not give a reason why they would not invite that person to a birthday party; 2) Twenty responses indicate they do not feel comfortable around that person: annoying (six responses), weird (five responses), and not fun (five responses); 3) Nineteen responses indicate that person treats others poorly: gossips (six responses); won't hang out with them (five response), and not nice (eight responses); 4) Nineteen response indicate that they have a negative personality: self-centered (six response), rude (seven responses), and mean (six responses); 5) Six responses indicate there is no one that they would not invite as they like to include everyone.

Autism responses. Twenty six responses of students with Autism indicate the following reasons for not inviting someone to spend time with outside of school such as a birthday party: 1) Eight responses indicate they would not invite because they do not feel comfortable around them: annoying (eight responses); 2) Seven responses indicate they did not want to give a reason why; 3) Four responses indicate the person they do not want to invite treats others poorly: bully (two responses), not nice (two responses); 4) Three responses indicate the person has a negative personality: mean (three responses); 5) three responses indicate they do not have a relationship: dislike (three responses); 6) one response indicate there is no one they would not invite. Table 47.1 illustrates sample of responses to this question by students with Autism and their peers.

Table 47. 1

Student Responses to "Name one student you would prefer to not spend time with outside of

school such as invite to your birthday party?"

Peer Responses	Autism Responses
"Can make me feel bad about myself sometimes not very fun".	"because hes a bully"
"She says a lot of bad things that I don't really like, I often feel like she tries to have all the attention on her and never pay attention when other people are talking".	"i dislike him"
"He is extremely annoying"	"hes annoying"
"Won't hangout with and won't want to be near me " "They're not my friend"	Not friendly
"She can sometimes be mean and we don't have similar interest".	I like most of the people I go to school with. Just really not _____.
He is rude.	hes mean
"I don't really care who I hang out with and would like to be nice to everyone". "Some people are very self-absorbed and would turn my party into theirs intentionally or just aren't aware of boundaries".	I don't know

Compare Responses. Thirty-three percent of peers did not give a reason why they would

not invite someone to their birthday party as compared to 27% of students with Autism.

Seventeen percent of peers did not invite because they felt uncomfortable around the person as

compared to 31% of students with Autism. Sixteen percent of peers said the person treats others

poorly as compared to 15% of students with Autism. Sixteen percent of peers said the person has

a negative personality as compared to 12% of students with Autism. Thirteen percent of peers

said they do not have a relationship or things in common as being the reason they would not

invite someone to their birthday party as compared to 12% of students with Autism. Five percent

of peers said there is nobody they would not invite as compared to 4% of students with Autism.
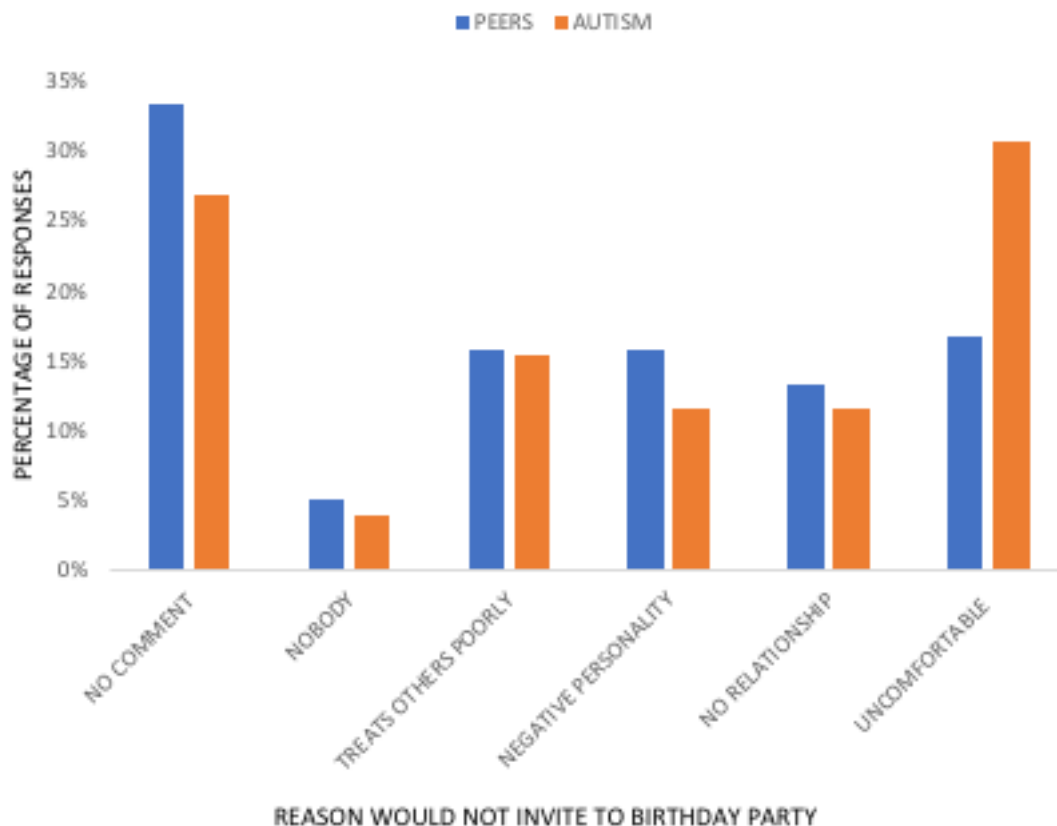
Figure 6.17.1. Compare Perspectives of Why Not to Invite to a Birthday Party

Student Reflection on Past School Year

Favorite Learning Moment. A total of thirty-two responses including fifth and seventh grade students indicate a learning moment in an academic class was their favorite learning moment for a total of 44% of responses. Of the total responses indicating academics as a favorite learning moment, 13% selected a moment in Math as a favorite learning moment, 13% selected Science, 20% selected History, 53% selected Language Arts. Nineteen percent of thirty-two responses indicated Project Base Learning as their favorite learning moment. Sixteen percent of responses indicate a moment in PE or in an elective class as their favorite learning moment. Nine percent of responses did not provide a favorite learning moment for the school year. Six percent

of thirty two responses selected personal achievement involving grades as favorite learning

moment and 6% indicate a social moment as their favorite learning moment. Figure 6.18.1

illustrates favorite learning moment by category. Looking at the responses by participants with

autism one response indicated a favorite learning moment as academic, two did not have a

favorite learning moment at school, five responses involved a moment in PE (a fun activity) or a

social experience. Table 48.1 provides samples of responses listed by category.
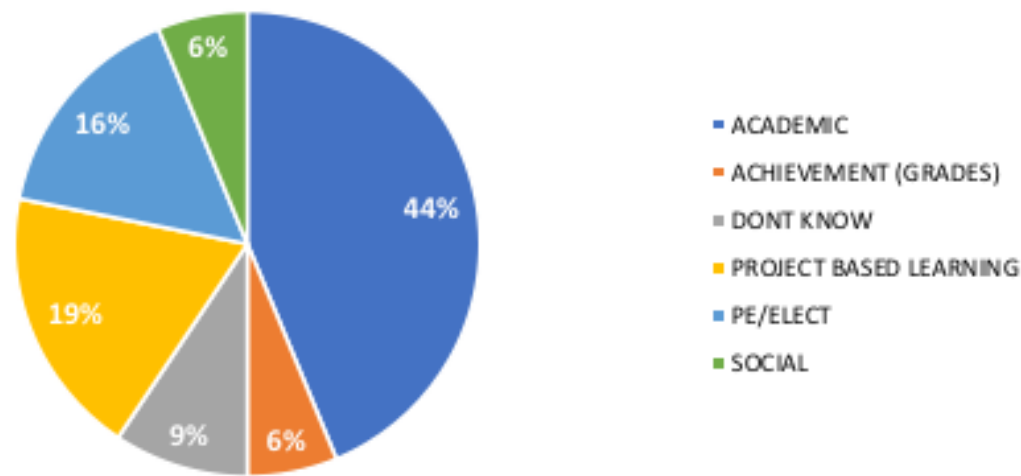
Figure 6.18.1. Favorite Learning Moment by Category

Table 48. 1

Sample Responses to Favorite Learning Moment by Category

Category	Sample of Student Responses Per Category
Academic: Language Arts	*My Favorite moment was learning about shake spear because i love the teacher and she is so passionate* (Survey\7012: 16 - 16).
	A favorite moment in this class this year was when we focused on poetry like Shakespeare and Edgar Allen Poe because it challenged me and pushed me to think much deeper about the content at hand. It was also very interesting and entertaining (Survey\7008: 16 - 16).
Academic: History	*Participating in War Lords of Japan in History class* (Survey\7016: 16 - 16).
Academic: Math	*When we chose coupons using percentages* (Survey\7006: 16 - 16).

Academic: Science	*When I understood the basics of phase change and the Law of conservation of mass/matter* (Survey\7011: 16 - 16).
Achievement	*When I got one of the highest grades on a assignment* (Survey\7020: 16 - 16).
	Seeing how my grades were a reflection of my hard work. (Survey\7025: 16 - 16).
Don't Know	*No answer* (Survey\7009: 16 - 16).
	not in this class last year (Survey\AUT_: 16 - 16).
Elective	*I liked learning how to work on the website. And finding my way around final cut pro x. (Survey\7023: 16 - 16)*
	Learning how to be a better actor (Survey\7035: 16 - 16).
Project Based Learning (PBL)	*Learning to use my creativity to make something fun with my peers and friends* (Survey\7030: 16 - 16).
	When i learned about how we are effecting the planet and what i can do to help (Survey\7022: 16 - 16).
	Our pbl projects (Survey\7036: 16 - 16).
Physical Education (PE)	*We learned how to play a bunch of new games* (Survey\AUT_: 16 - 16).
	Physical Education (Survey\AUT_: 16 - 16).
Social	*having fun with friends* (Survey\AUT_: 16 - 16).
	pizza party (Survey\AUT_: 16 - 16).

Note: Eighteen of thirty-two responses provided in Table

In My Hardest Class, I was able to learn. A total of thirty one responses from fifth and seventh grade students were analyzed to determine if the response reflected a growth mindset toward learning or a fixed mindset toward learning when reflecting on their challenging class for the previous school year. Sixty-one percent of all student responses indicate a growth mindset toward learning when reflecting on a challenging class the previous school year. Thirty-nine percent of all student responses indicate a fixed mindset toward learning when reflecting on a challenging class the previous school year. Figure 6.19.1 compares the results including all students with perspectives of students with Autism and their peers. Students with Autism indicate 63% of eight student responses with a growth mindset and 38% with a fixed mindset. Peers indicated 61% of 23 responses to reflect a growth mindset and 39% a fixed mindset. Table 49.1 lists samples of responses by category.
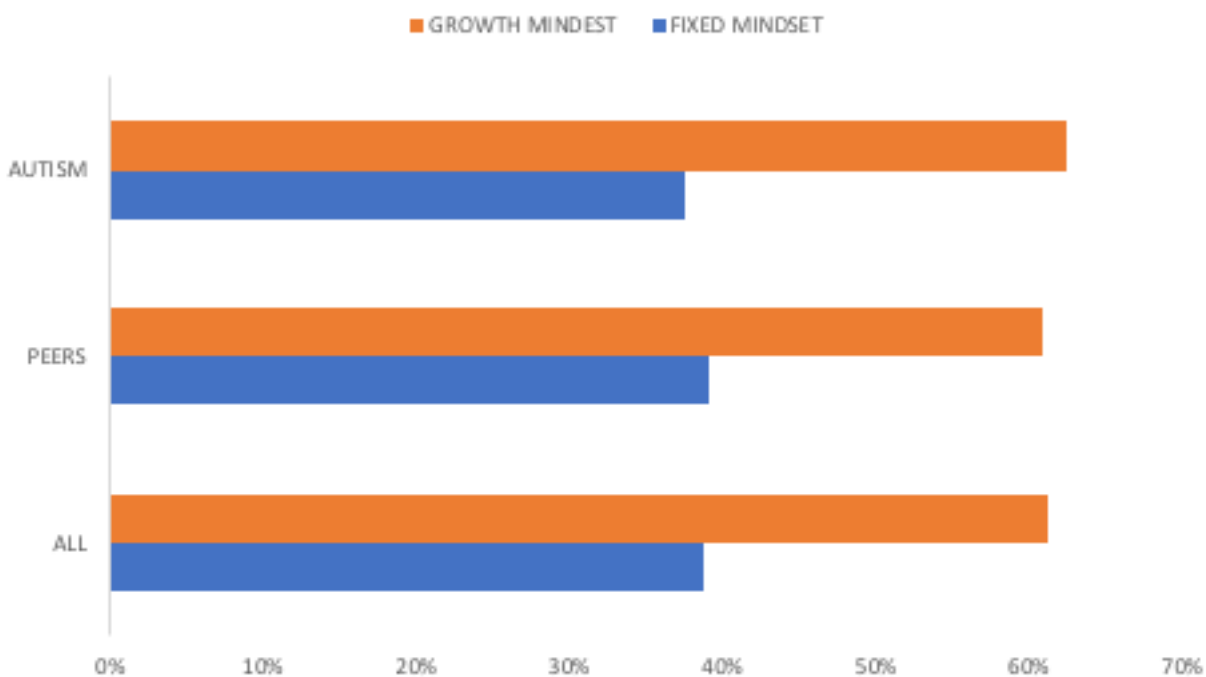
Figure 6.19.1. Mindset Toward Learning in Challenging Class for Previous School Year

Table 49. 1

Sample Responses to Mindset When Reflecting on Challenging Class Previous School Year

Category	Sample of Student Responses Per Category
Growth Mindset Autism	*How to understand and follow instructions better* (Survey\AUT_: 17 - 17)
	how to write more things (Survey\AUT_: 18 - 18).
	my hardest accomplishment was math (Survey\AUT_: 18 - 18)
Growth Mindset Peers	*I was able to learn, it was just a struggle. But got to learn about out the area. (Survey\7023: 18 - 18)*
	I think i took a little bit from each lesson and was able to put it towards following lessons. (Survey\7022: 18 - 18)
	I have learned so much this year! (Survey\7025: 18 - 18)
	I was able to learn in this class many new skills and ways of solving for the different math problems we were tasked with. (Survey\7008: 18 - 18)
	I learned all of the standards and was able to keep up only their was many times when work had to soon of a deadline (Survey\7006: 18 - 18)
Fixed Mindset Autism	*i dont know (Survey\AUT_: 18 - 18)*
	not in this class last year (Survey\AUT_: 18 - 18)
Fixed Mindset Peers	*Not a lot. It takes a long time to actually get to the content and (edited: teacher) talks too much (Survey\7014: 18 - 18)*
	I was able to learn that the teacher could grade any way possible even if it isnt reasonable. (Survey\7009: 18 - 18)
	I just feel like everything went to fast for me. (Survey\7012: 18 - 18)

Note: Thirteen of thirty one responses included in Table.

If I Could Choose My Teacher Next Year. Thirty two responses were analyzed to identify themes or categories for this question. Four categories were identified: Positive Personality which included character traits such as kind, nice, caring, respectful, fun or funny, patient and passionate; Flexible or Responsive included understanding, connected with students, wanted to see us be successful; Instructional Method includes good teacher, easy to understand, uses visuals, knows the content; Classroom Management includes keeps class quiet, strict but not too strict, organized, control over peers. Thirty two responses of all peers included a total of forty

two comments that were classified into the four categories: 1) Positive Personality 45%; 2) Flexible and/or Responsive 21%; Preferred Instructional Method 21%; Classroom Management 12%. Isolating the comments by population of students with Autism and their peers, the distribution of categories is different. For students with Autism, Positive Personality was 67% of nine comments, how they teach the class (Instruction) 22%, Flexible and Responsive to students 11% of comments. For all other students (peers) 39% of thirty three responses indicate Positive Personality as being important, 24% indicate Flexibility and Responsiveness to students as important, 21% indicate Instructional Method and 15% indicate classroom management. It is important to note that eight students with Autism provided nine comments as compared to twenty eight peers made thirty three responses. As illustrated in Table 50.1, students with Autism provided minimal comments which most often fell into one of the four categories. As compared to peers whose comments were more elaborative and fell into several of the four categories.
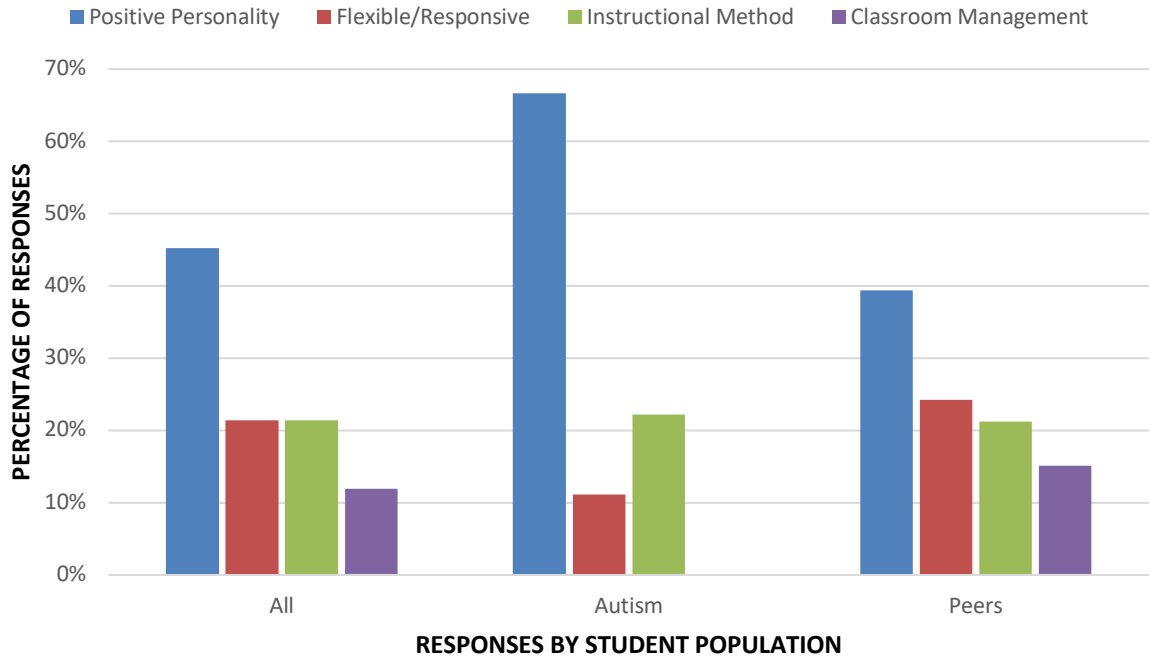
Figure 6.20.1. Qualities Students Look for In Selecting a Teacher

Table 50. 1

Sample Responses to What Students Look for In Selecting a Teacher by Category

Category	Sample of Student Responses Per Category
Personality Autism	*Very Nice and Appropriate* (Survey\AUT_: 19 - 19). *helpful* (Survey\AUT_: 19 - 19).
Personality Peers	*kind,respectful,sweet* (Survey\7013: 19 - 19). *Kind, caring, sweet, slightly strict, understanding (Survey\7023: 19 - 19).* *Fun, patient, and honest with us. I would want someone who loved their job, and wanted to see us succeed, like the teachers now. I would also love a teacher that was funny and let us go outside a lot* (Survey\7021: 19 - 19).
Flexible and Responsive Autism	*Understanding of how I learn and how to help me better my education* (Survey\AUT_: 18 - 18).
Flexible and Responsive Peers	*Able to understand if a question was hard, push kids who need a challenge, understand if the kids need a brain break* (Survey\7020: 19 - 19). *Very passionate and is in tune with their students* (Survey\7025: 19 - 19).
Instructional Method Autism	*a good teacher* (Survey\AUT_: 19 - 19).
Instructional Method Peers	*easier to understand and is a visual person* (Survey\7036 NTP_A: 19 - 19). *I would want someone who does not just rush through all the units but takes there time during the unit* (Survey\7012: 19 - 19).

	Similar traits to my other teacher (name omitted), I enjoyed all of her classes and the ways that she taught. I also felt like she could connet with us students well (Survey\7009: 19 - 19).
Classroom Management Peers	*I would want someone who is understanding, knows what they are teaching, nice and kind, is able to keep the class quiet and on task, and makes the class fun and maybe hands on. (Survey\7011: 19 - 19) note: multiple categories*
	I would want a teacher who makes the subject easier to comprehend, a nice, great personality, to be understanding, to have control over my peers, to make the subject interesting, and to have a good instruction over the class. (Survey\7008: 19 - 19)

Note: Fifteen of thirty three responses included in Table.

Summary

This chapter provided qualitative and quantitative results of research questions one and two by using several measures analyzing benefits of the student intervention including: Self Efficacy Student Survey, Social Emotional Learning student and teacher rating scales (SSIS-SEL), Teacher Observation Rubric (AISCS). Paired *t*-test was used to compare pre and post assessments for the student intervention. As well as, Regression Analysis to determine correlations between measures to explore the relationship between the percentage of growth as measured by the Self Efficacy survey, SSIS-SEL student and teacher rating scales and the AISCS teacher observation rubric. Both qualitative and quantitative results were used to answer question four including student work samples (Reflection Journal) and student interviews.

Quantitative and Qualitative results for measuring the benefits of the teacher intervention include: Teacher survey, professional development reflection questionnaire and focus group interview were used to answer question three.

Phenomenological approach was used to determine results of student survey including sociometric scales in understanding the perspective of peers and students with Autism in the inclusion setting as posed in question five.

In the next chapter, a summary of findings will be provided with implications for application and interventions for supporting students with Autism will be suggested, recommendations for future research will be offered and conclusions presented for this research study.

CHAPTER 6: DISCUSSION

The previous chapter reviewed analysis of data collected and organized by research question. Chapter VI consists of a summary of the study, implications for practice and recommendations for future research and conclusions. The purpose of this section is to build understanding of the benefits of interventions for both teachers and students with Autism to increase student outcomes including self-efficacy, engagement and social inclusion. Consideration is also given to the perspectives of students with Autism and their peers to possibly influence evidence-based practices and further research to better enhance the inclusion experience. Finally, a synthesizing statement is offered to capture an overview of what is attempted with this research.

Summary of the Study

This chapter begins with a summary of the purpose and structure of the study and is followed by major findings of interventions built on Social Learning Theory (self-efficacy) with considerations given to Social Cognitive Challenges for students with Autism (TOM, EF and Gestalt Processing) and embedded with Social Thinking® © concepts. Conclusions from the findings of this study are discussed in relation to self-efficacy, engagement and social inclusion for students with Autism. Finally, implications for practice and recommendations for further research are presented and discussed.

The increase of Autism in the classroom paired with the increase of social learning demands embedded in Common Core standards, requires training for educators and interventions for students with Autism to improve student outcomes. This study demonstrates the need for teacher training combined with Social Learning Tools Intervention for students with Autism to increase self-efficacy, engagement and social inclusion by analyzing pre and post assessment

measures for each intervention utilizing both quantitative and qualitative analysis. An additional purpose of the study was to understand the perspective of students with Autism and their peers about their inclusion experience using a phenomenological approach to guide future practice and research.

Bandura's Social Learning Theory (1986) provides foundational understanding in social learning that involves cognitive processes including the role self-efficacy plays in student achievement. However, individuals with Autism have impaired cognitive processes involving theory of mind, central coherence and executive function which impacts their ability to engage socially (Happe & Frith, 2006). Therefore, Social Thinking® © provides a vehicle for teaching social competencies as needed for social communication (Volkmar et. al, 2014).

In public education, supporting individuals with disabilities has become a legal mandate (Public Law 94-142). As a result, the role of Special Education and the Special Education Team (Special Education Teacher, School Psychologist, Speech and Language Therapist, Occupational Therapist, School Nurse) has become paramount in identifying services and supports in the Least Restrictive Environment (LRE) for individuals with Autism that provides the most growth and access to peers (IDEA, 2014; Volkmar et. al, 2014). The role of the general education teacher is critical in the inclusion experience with molding and validating self-efficacy beliefs (Bandura & Bussey, 2004) and the development of the inclusive classroom (Gordon, 2017; Phelan, 2004).

Evidence based interventions are needed for students with Autism to develop both academic and social emotional skills. Differentiated instruction recognizes the needs of the individual learner and provides the additional supports needed for the student to make academic progress (Tomlinson, 2005). Social competencies can be developed through social skills instruction involving: 1) social cognition; 2) understanding emotions; 3) social interactions

(Bauminger, 2002, Garcia Winner & Crooke, 2016; Sawyer et al, 2014). Comic Strip Conversations (Gray, 1994, 2003, 2010), Cognitive Behavior Therapy (Briers, 2014), and Social Thinking® © are methodologies to build social competencies of which components are incorporated within the student intervention.

This study included three components: teacher intervention (teacher training), student intervention (social learning tools intervention delivered in a small group format), and a student survey to understand both individual's with Autism and their peers' perspective of inclusion. This study required three elements to fully understand the complexity of supporting students with Autism including the role of the teacher, the needs of the student and the culture of the classroom.

Teacher Intervention

Three measures:1) A pre training online survey; 2) Feedback survey post teacher and staff training; 3) Focus group and one teacher interview (same questions).

Research Question One

1. Can teacher training and coaching shift teacher's perspectives and beliefs toward supporting students with Autism in the classroom?

The data in this study clearly show the positive influence of teacher training and collaboration provided by Special Education (researcher) for General Education teachers, administration and support staff. Findings indicate the value of empowering educators by building understanding of their students with Autism, providing instructional and social emotional strategies for this population and shifting their perspective toward their role in the circle of influence for creating Social Inclusion.

Pre-Intervention Survey

Twenty-eight educators, including teachers, staff and administrators, anonymously completed an online survey using a five point Likert scale to measure inclusion beliefs. Responses were grouped to reflect collective beliefs at the Elementary (Kindergarten through Fifth Grade), Middle School (Sixth, Seventh and Eighth Grade) and Collectively (K-8th) as a school site. Findings of the study indicate that teacher beliefs scoring above a 4.0 on a Five point Likert scale indicate perceptions of having a strong ability to implement accommodations to students with Autism, communicate effectively with parents and have more than one year of experience working with students with Autism for both elementary and middle school teachers. Teacher beliefs for their ability to facilitate social inclusion and site support fell between a 3 and 4 on a 5 point Likert scale and were similar to both elementary and middle school teachers. Teacher beliefs about teaching students with Autism and feeling prepared (previous training) for supporting students with Autism fell between the 2.5 and 3 on a 5 point Likert scale.

Findings of the survey indicate educators recognize the need for additional training as foundational for feeling prepared to teach students with Autism in their classroom and facilitate social inclusion. Identifying the difference with implementing accommodations versus providing effective instructional strategies is dramatically emphasized. It is reasonable that communication with parents may typically evolve around providing accommodations, that teachers feel comfortable with their ability to communicate effectively. It is reasonable to consider that additional training is needed at the administrative level and/or increased collaboration with Special Education and General Education Teachers in order for teachers to feel more supported at the school. Findings from the focus group confirm the importance of collaboration.

Post Teacher Intervention Survey

Immediately following the professional development provided by the researcher titled,

Social Learning Tools: Building Self-Efficacy in Students with Autism, eighteen of the thirty

seven participants completed the feedback survey which included four questions following a 4

point rubric and one open ended question, *What is one take-away from today's training that*

empowers you in supporting students with Autism to have an inclusive experience? Table 51.1

illustrates the responses to the five questions on the feedback form. Considering the previous

survey indicated a need to increase teacher beliefs of teaching students with Autism and feeling

prepared to teach students with Autism, results of the training indicate a positive response and

increase in positive beliefs with understanding autism and using Social Thinking® to teach

Social Learning. Ten responses from participants indicated Social Thinking® to teach Social

Learning as a take away, seven responses on understanding Autism, three responses on creating

and strengthening self-efficacy and one response on the ecology of inclusion indicate a positive

response collectively to the training and all participants felt there was a component of the

training that would empower them to facilitate a positive inclusion experience.

Table 51. 1

Responses to Post Teacher Intervention Survey

NO)	QUESTION	RUBRIC SCORE				1) Take Away Responses
		1	2	3	4	
1)	Understanding Autism	0	38%	50%	12%	7 Responses
2)	Creating & Strengthening Self Efficacy	6%	33%	44%	6%	3 Responses
3)	Ecology of Inclusion	6%	28%	38%	28%	1 Response
4)	Social Thinking® to Teach Social Learning	0	28%	56%	16%	10 Responses

Note: (*n*=18).

The data in the study does not do justice to the reception of the teachers throughout and at the end of the presentation. There was excitement in the room when after discussing the cognitive challenges for students with Autism, the recognition that students with Autism can learn, and they can teach them perspective taking, social awareness, understanding humor, communication skills to build relationships and more. Genuine enthusiasm was observed by their attentiveness, questions and engagement throughout the training. The researcher was approached many times after the presentation for follow up questions and sharing their experiences as new strategies were implemented in the classroom.

End of School Year Focus Group

Responses gathered from seven participants during the focus group indicate a positive shift in teacher perspectives. Participants were able to identify ways they can show students they are welcome and cared for in the classroom as well as the need to create successful experiences by facilitating conversations and pure relationships. Participants were able to utilize the information they learned from the training to shift how they interacted with students with Autism for better outcomes. Participants were able to identify students who participated in the social skills intervention who showed an increase in social skills (social awareness) and increased confidence and positive attitude. Participants identified the need for increased collaboration with Special Education Team to create a greater sense of collective community.

The end of the school year is a challenging time for teachers. However, this group of educators made themselves available to share their experiences and exchange ideas. Their sincere desire to make a difference in their students is evidence by their commitment to reflection and inquiry to improve their teaching practice. Participants of the focus group spoke at

length at the need for continued training and consistent collaboration between the teachers and the special education team.

Student Intervention

Six fifth grade students with Autism and Six seventh grade students (two with Autism, two with OHI, one with SLD and SLI and one neurotypical peer) participated in the Social Learning Tools Intervention provided utilizing a small group format thirty minutes two times a week for a ten week period. Four measures (AISCS, SSIS-SEL teacher and student rating scales, and Self Efficacy Student Survey) were utilized to answer Research Questions Two and Three. Work samples (Reflection Journal) and student interviews were used to answer Research Question Four.

Research Question Two

2. Is there an increase in social interactions for academic learning among students with Autism who participate in the social learning tools intervention?

The findings utilizing the AISCS clearly indicate the benefit of the Social Learning Tools intervention to increase student engagement. Not only did the rubric provide a way to measure observable behaviors, it also served to build awareness in the teachers who used them with identifying key skills needed for social interactions and communication in the classroom.

AISCS to Measure Social Engagement. The Academic Interaction and Social Communication Rubric (AISCS) created by the researcher for this study to measure student engagement. The rubric was created after careful consideration of the ILAUGH model (Social Thinking® ©) in recognizing the skills needed for student to engage in social learning. The results of the study indicate that although social learning demands may not be an intuitive process for students with Autism, they can learn to attend, collaborate, connect, strengthen

academics, initiate communication and actions to enhance their experience in the classroom as well as improve their acceptance by peers.

Results were included for all twelve participants in Chapter Five. However, only the results for eight participants with Autism will be utilized in answering question two, three and four. Although all participants benefitted from the intervention, students without Autism are intrinsically wired and the purpose of this study is to identify interventions for students with Autism requiring intervention to develop social communication skills. Percentage of growth was calculated by subtracting the pre intervention score from the post intervention score and dividing by the pre intervention score. The 4 point rubric measured observable skills associated with social communication and included: attending, collaborating, connection and human relatedness, academic, initiating communication and initiating action. These skills have been identified as being needed to engage in social learning but are not intrinsic to students with Autisms. By using this measure pre and post intervention the researcher determined that social interaction skills associated with engagement increased post intervention. Presented by lowest to highest collective percentage of growth, (0% to 800%): 1) Academic 350%, includes use of academic language, infer meaning, writing on topic and writing with evidence; 2) Collaborate 438%, includes flexible, monitor speech, shared imagination and turn taking; 3) Initiate Action 440%; asking clarifying questions, getting materials, getting started on assignments; 4) Attending 443%; body in group and thinking with eyes, follow directions and transitions; 5) Connection and Human Relatedness 566%; understanding humor, response to humor, attempts connection, emotional response; 6) Initiate Communication 645%: peer communication, small group interaction, whole class discussion. Individual overall growth was calculated by adding percentage of growth scores per participant ranging from 133% to 597% indicating students with

Autism participating in the Social Learning Tools intervention demonstrated increased social engagement with their peers in the classroom.

Initially, teachers required some coaching and walking through how to use the AISCS, but feedback from the teachers after using the measure was meaningful. Many of the teachers found it valuable to break down social learning into categories and identify skills needed to build competencies. With increased focus on Speaking and Listening standards (Common Core) teachers welcomed the opportunity to better understand the needs for supporting this population of students.

Research Question Three

3. Can an increase in social emotional learning lead to an increase in self-efficacy, engagement and social inclusion for students with Autism in the General Education Setting?

Going into this study, the researcher recognized the limitations for students with Autism to engage in reflection and inquiry. However, knowing the value of this process is foundational for the development of the Reflection Journal™. Findings in the study indicate students with Autism were able to reflect on their beliefs, evidenced in SSIS-SEL student rating scales, and Self efficacy student survey pre and post intervention. Although there was growth, the researcher anticipates the pre assessments may have served as a baseline for abilities to reflect more so than the actual reflection. Data from the teacher rating scales on social emotional learning (SSIS-SEL) and student engagement observation rubric (AISCS)provided evidence in increase social emotional learning and student engagement. Using the sociometric scales pre and post indicate students participating in the intervention improved their social acceptance rating by peers.

SSIS-SEL to Measure Social Emotional Learning. Both student and teacher rating scales were utilized to measure students social-emotional skills representing five competencies pre and post intervention: Self-Awareness (SA), Self-Management (SM), Social Awareness (SO), Relationship Skills (RS), Responsible Decision Making (RDM), Core Skills (CS) and a composite score for Social Emotional Learning (SEL).

SSIS-SEL Student Rating Scales. This measure looked at student beliefs before and after participating in the Social Learning Tools Intervention using the student rating scales that align with CASEL social emotional. competencies. Collective percentage of growth including all categories for students with Autism scored in the 13% to 66% range. Three categories, competencies, of growth are listed. For the Self-Management Category, participants collectively demonstrated 34% growth. "The Self-management competency scale assesses how well a student can control or regulate his or her emotions, thoughts and behaviors in different situations, including stress management, impulse control, self-motivation, and goal setting. Evidence-based interventions for these types of problems are based primarily on principles derived from applied behavior analysis that focus on changing antecedents and consequences of this pattern of behavior" (Pearson, 2014, p. 12). For the category of Relationship Skills collectively participants demonstrated 52% growth. "The Relationship Skills competency scale assess a student's ability to establish and maintain healthy and rewarding relationships with others. Evidence based interventions for these types of difficulties derive from social learning theory and cognitive behavioral theory" (Pearson, 2017, p. 13). For the category of Core Skills, participants collectively demonstrated 66% growth. "The Core Skills scale provides an overall indication of social emotional functioning" (Pearson, 2014, p. 13). Student participants with Autism indicate

an increase in their belief about their abilities to engage in Social Learning Competencies after participating in the Social Learning Tools Intervention.

SSIS-SEL Teacher Rating Scales. This measure looked at Social Learning Competencies as measured by Teacher rating scales before and after participating in the Social Learning Tools Intervention that align with CASEL social emotional competencies. Collective percentage of growth of all categories for students with Autism scored in the 11% to 67% range. Five categories scored above 50% growth. These competencies include: Social Awareness 58%. "The Social Awareness competency scale assesses how well a student takes the perspective of and empathizes with others who are different from him or her (e.g., background, culture, etc.), including understanding social and ethical norms for behavior and recognizing resources or supports that are readily available in his or her surroundings. Evidence-based interventions for this behavior pattern are derived primarily from cognitive behavior therapeutic approaches that emphasize perspective taking and social problem solving" (Pearson, 2014, p. 13). Core Skills 60%. "The Core Skills scale provides an overall indication of social emotional functioning" (Pearson, 2014, p. 13). For the Self-Management Category, participants collectively demonstrated 62% growth. "The Self-management competency scale assesses how well a student can control or regulate his or her emotions, thoughts and behaviors in different situations, including stress management, impulse control, self-motivation, and goal setting. Evidence-based interventions for these types of problems are based primarily on principles derived from applied behavior analysis that focus on changing antecedents and consequences of this pattern of behavior" (Pearson, 2014, p. 12). Social Emotional Composite Score (sum of all subtests) of 66%. "This score provides an overall indicator of social-emotional functioning" (Pearson, 2014, p. 13). Responsible Decision Making Competency 67%. "The Responsible Decision Making

competency scale assesses a student's ability to make constructive and respectful choices about personal behavior and social interactions in a way that considers ethical standards, safety concerns, social norms, consequences, and the well-being of self and others. Evidence based interventions for these types of difficulties derive from social learning theory, applied behavior analysis and cognitive behavioral theory" (Pearson, 2014, p. 13). Teacher rating scales indicate student participants with Autism displayed an increase in Social Emotional Learning competencies after participating in the Social Learning Tools Intervention.

Student Online Survey to Measure Self Efficacy and Social Inclusion. An online student survey with Likert scale and open-ended questions was utilized to measure student beliefs (self-efficacy, sociometric scales and student perspectives) pre and post student intervention.

Self-Efficacy Student Survey. Data collected pre and post intervention associated with student beliefs was utilized to measure self-efficacy for this component of the study. Seven participants with Autism participated in the pre and post survey measuring self-efficacy demonstrated an increase in self efficacy skills for each of the categories: Communication skills 100% of participants, Group Work 57% of participants, Independent Learner 100% of participants, Self-Advocacy 14% of participants, Social Relatedness 28% of participants.

Positive Correlations of Four Measures of Student Intervention. Figure 6.1 illustrates the positive correlations between measures utilizing percentage of growth calculated by subtracting the pre score from the post score and dividing by the pre score. Statistical measures of probability is provided in Chapter V. Positive correlations between the researcher created and norm referenced measures adds validity to the AISCS teacher observation rubric based on the seven correlations between the two measures. One correlation between the two student measures (SSIS-SEL norm referenced) in the area of Responsible Decision Making and the Self Efficacy

Survey in the area of student beliefs of being an Independent Learner indicate student participants with Autism showed an increase in their beliefs about their own abilities post intervention.

A positive correlation between all four measures is observed: 1) SSIS-SEL student rating scale: Core skills and SSIS-SEL teacher Relationship Skills; 2) SSIS-SEL teacher rating scale: Relationship Skills and Responsible Decision Making correlate with the AISCS teacher observation rubric: Composite; 4) AISCS teacher observation rubric: Composite correlates to the Self Efficacy student survey: composite score. Three sub-categories of the SSIS-SEL teacher rating scale: Social Awareness, Self-Management and Core Skills correlate with the Self Efficacy student survey category of Self Monitor. One category under the AISCS teacher observation rubric: connection correlates to two Self Efficacy student survey categories: Relatedness and Composite. The SSIS-SEL student rating scale category core skills shows a direct correlation to the AISCS teacher observation rubric category: attending. Another strong correlation (with three connections) is the SSIS-SEL teacher rating scale category: Relationships Skills demonstrating three correlations with the AISCS teacher observation rubric: Attending, Composite and Initiate Action.

The multiple connections between the four measures illustrates the multi-faceted component of Social Emotional Learning and the role it plays in student engagement and developing self-efficacy. With Social Learning Tools intervention that targets developing skills for student with Autism, an increase in Social Emotional Learning, Engagement and Self Efficacy is observed.
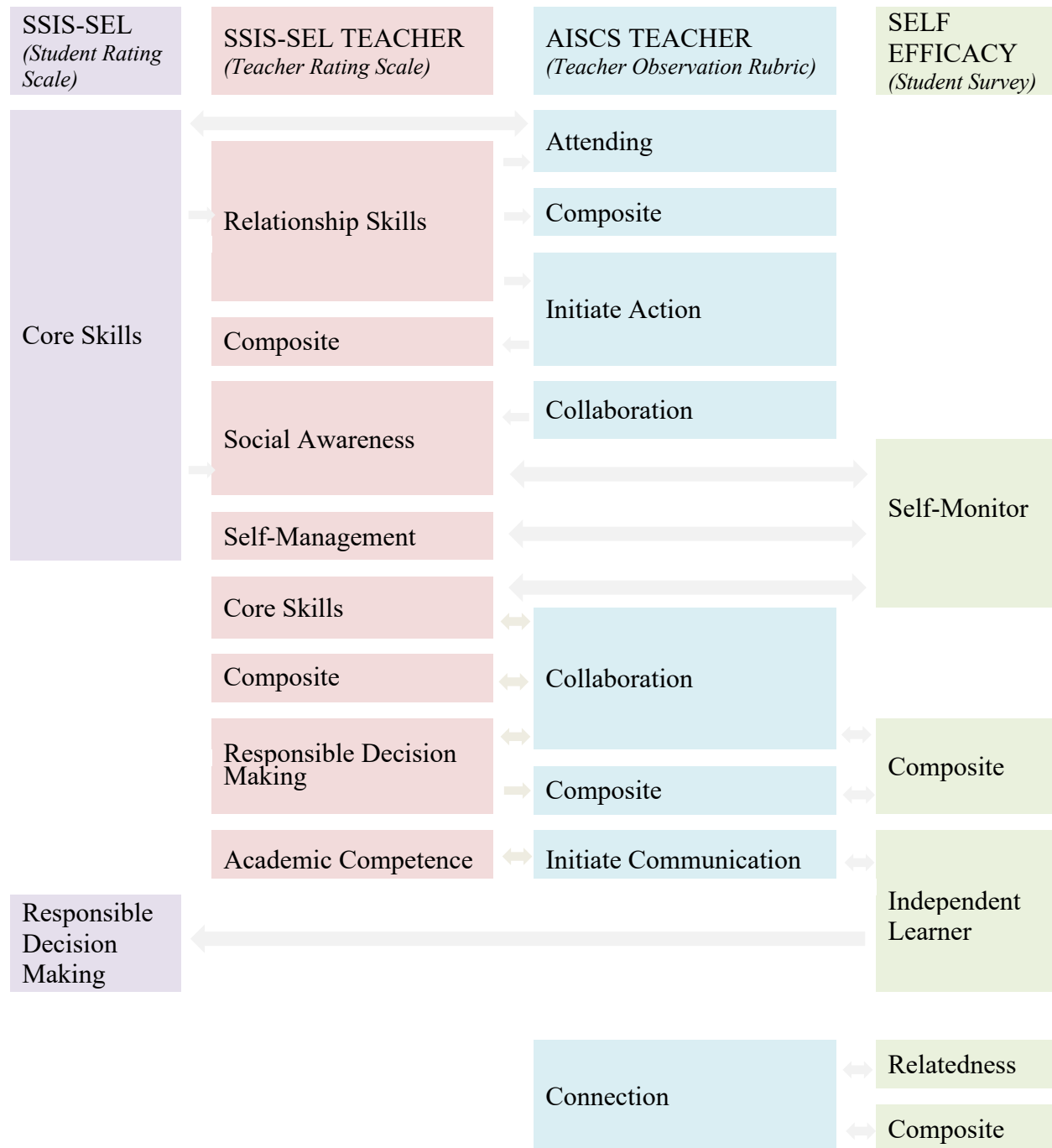
Figure 6.21.1. Pearson's Positive Correlation Matrix of Four Measures.

Research Question Four

4. Can the Social Behavior Map™ and Reflection Journal© as interventions increase social awareness and social inclusion in students with Autism?

Students who participated in the Social Learning Tools intervention demonstrated an increase ability to reflect on their experiences and consider the perspective of others including participants with Autism. Self-awareness is the first step toward Social awareness of which all participants were able to demonstrate with establishing personal goals and reflecting on their goals with varying levels of support. Participation in the student survey and student rating scales contributed to thinking about their own beliefs and how they relate to others. Students were able to identify strategies to use in reaching their personal goals as well as reflecting on their ability to implement the strategies. Often the student participants journal entries were related to the goals the student had set for themselves and demonstrated their ability to apply Social Thinking® concepts to real experiences.

Students with Autism often have limited language to express their ideas. By using the illustrations to guide the researcher in what the student was trying to express, the researcher was able to use probing and clarifying questions to guide the student with language development for expressing ideas, thoughts and feelings. The tools provide opportunities to teach concepts in a contextual framework with visual support to bring details of an interaction into a graphic that aids with understanding the overall context or meaning of a situation. The social behavior map provided students with understanding the emotional chain reaction resulting from their expected or unexpected behaviors in a given situation. The nature of the Social Behavior Map builds flexibility with considering different perspectives and different outcomes. This gives the student a sense of control by understanding what may have gone array in an experience and making a

plan to do something different for a different outcome. From previous experiences and during this study, each time the teacher utilizes the coaching model to build perspective with using the Reflection Journal, students require less prompting and less resistance with the challenge of the task. Student engagement in the inquiry process reflects the students desire to better understand their social experiences in the hope of improving their experience and increasing social acceptance.

Social Inclusion Status of Participants. Thirty-three seventh grade students participated in the study survey pre and post intervention that included Sociometric scales. However, only seventh grade intervention participants were monitored to determine if their social inclusion status changed. Findings indicate two participants moved from not accepted to neutral status (AUT B & OHI B). Two participants maintained neutral status (AUT A & OHI_A). Two participants moved from neutral status to accepted status (NTP & SLD/SLI).

In addition to a change or maintaining of social status by seventh grade peers, teacher observations (rating scales and observation rubric), and teacher testimonials of growth observed in the students provides evidence of the benefit of Social Learning Tools to build social awareness and social inclusion.

Student Perspectives. Utilizing open ended questions in the student survey pre and post intervention for both fifth and seventh grade students including intervention participants were utilized to explore student perspectives on their learning (pre and post survey data), as well as reflect on their experiences the past year to better understand the student perspective and culture at the school. Socio-metric scales using a nomination approached were embedded in the student survey with an additional component to understand the why a student was chosen or not chosen. The perspectives of seventh grade students with Autism and their peers was gathered and

synthesized in Chapter V, this chapter will look at the findings of this component of the study in understanding the student experience.

Research Question Five

5. What is the social inclusion perspective of individuals with Autism and their peers?

Findings indicate that behaviors impact social acceptance in the school setting. Although perspectives of students with Autism for the most part are similar to their peers, their ability to express their ideas are more limited with a tendency to be literal and may not pick up on the nuances in social communication. Findings are grouped into three categories: 1) perspectives toward learning; 2) Students with Autism and their peers' perspective of Social Inclusion; 3) Reflection on previous year's learning experiences.

Perspectives Toward Learning. Seventh grade students indicate for Language Arts (favorite 27.5%, felt successful 35.21%), History (favorite 12.5%, felt successful 14.08%) a close relationship between favorite class and class they feel most successful exists. For Math, students were split between it being their favorite class or their most challenging class (favorite, 22.5%, felt successful, 15.49%, difficult 22.54%). This may indicate for Math students may relate in a positive way to the challenge of Math compared to other subjects. More than 50% (53%) of students identified difficulty with the content as why the class they chose as challenging to be their most challenging content. Twenty percent of the students expressed difficulty with how the instruction was delivered. When asked about choosing a goal to be better at and what they want to learn more of there was a close relationship. This indicates students recognize the value of learning in reaching goals and improving their abilities. 64% of students chose academic goals and 29% of students chose goals related to social emotional learning.

Perspectives of Social Inclusion in the Classroom. In the classroom setting there is a strong contrast between students with Autism and their peers' perspectives. Students with Autism place an emphasis on what they perceive as *friends* as the priority for peer relationships in the classroom. Peers are more concerned about their peers' influence contributing to academic success. Reasons students with Autism want to sit near in class is friends (45% of responses), and positive personality (30% of responses). Peers identify positive personality (41% of responses), work well together (27% of responses) for their top two indicators. Students with Autism may not be aware of their own behaviors that is frustrating for peers in the classroom.

In contrast, reasons not to sit near someone in class are similar: Hard to Learn (Autism 38%, Peers 49%) and Negative personality (Autism 28%, Peers 29%). Interestingly, 38% of Autism responses indicated no comment or don't want to say as compared to peers at 17%.

Peers indicate distractible behaviors, inability to collaborate or engage in the learning are factors for not accepting peers in class. Students with Autism are similar with reasons such as difficult to learn, annoying, distracting, hard to learn. However, students with Autism include bullying as a descriptive for not wanting to sit near a student in class.

One explanation for the emphasis on friends for students with Autism may be on the misconception students with Autism may have on understanding the nature of friendship and who is a friend versus an acquaintance or classmate. Findings of this response indicate the need for students with Autism to better understand expected behaviors in the classroom with the focus on collaboration and shared imagination with learning the content to help increase social acceptance in the classroom.

Perspectives of Social Inclusion at Recess (Unstructured Setting). Interestingly the designation of a friend is of less importance for students with Autism than their peers in the

unstructured setting which is vastly different than in the classroom. For students with Autism the emphasis is on if that person has a good personality (nice or kind), like being around them or had things in common, funny or fun to be around. For peers, funny or fun to be around has the most responses, then good personality, had things in common with them. For reasons to not be near someone during recess there is a closer resemblance to responses between students with Autism and their peers with the exception of selectiveness. Students with Autism selected nobody that they do not want to hang out with (Autism 29% of responses, Peers 5% of responses). This finding indicates that peers may have a stronger opinion about who they spend time with at recess than students with Autism. Both groups chose negative personality as the most significant reason to not spend time with someone at recess, next is they feel uncomfortable around that person and don't relate. Findings of this section indicate the importance of having a sense of humor or the ability to be fun as an important component for social acceptance. This can be challenging for students with Autism in being able to understand the nuances of joking around and playing which requires an ability to engage in shared imagination.

Perspectives of Social Inclusion at Birthday Party (Outside of School). Perspectives of both students with Autism and peers are very similar for this situation. Both selected a relationship as the primary reason: 1) Autism: 46% friend, 5% hang out; 2) Peers: 31% friend, 12% shared interest. The secondary reason both selected was having a positive personality: 1) Autism: Nice or kind 32%, fun or funny 11%; 2) Peers: nice or kind 15 %, fun or funny 22%. For reasons why they do not invite someone to a birthday party, there are similarities with one exception. Only 17% of peers did not invite because they felt uncomfortable around that person as compared to 31% of students with Autism. Thirty-three percent of peers did not want to say why compared to 27% of students with Autism did not want to give a reason why. A shared

reason for not inviting someone include: 1) Treat people poorly: peers 16%, Autism 15%; 2) Do not have things in common or a relationship: Peers 13%, Autism 12%. Findings of this component of the survey indicate students with Autism are sensitive to how they are treated by their peers, valuing positive character traits: nice or kind as compared to peers who value humor or having fun. Hanging out and having fun require an individual to be able to read the social cues involved in complicated social interactions. This may be an area of challenge for students with Autism and a significant barrier for social relationships outside of the classroom.

Student Reflection of Past School Year. When reflecting on a favorite learning moment, 44% of responses indicated an academic learning moment of understanding a concept or learning experience, 19% of responses indicated the project-based learning as a favorite learning moment. Project based learning is a central component of the school site and an opportunity for students to be creative and collaborate with peers in creating an artifact that represents their learning. This is good information for the school site to revisit the projects last year and determine how they can engage student interest at a greater level. The fact that students selected academic learning over elective or physical fitness speaks to the high academic culture at the school.

When reflecting on student perspectives toward challenging experiences for students with Autism and their peers, their responses are similar with an overall 39% of responses indicating a fixed mindset as compared to 61% of responses indicating a growth mindset. When reflecting on what students prefer in selecting a teacher, students with Autism have a similar perspective than their peers with a greater emphasis on positive personality. Responses of students with Autism: 67% positive personality, flexible or responsive 21%, Instructional Method 21% and classroom management 12%. Responses of peers: Positive personality 39%, 24% flexible or responsive to students, 21% instructional method, 15% classroom management. Finding of this component of

the study emphasis the role the teacher plays toward positive student experiences. Similarly, the role of the teacher can have a positive or negative influence for growth mindsets.

Findings in the study have clear implications of the value of social emotional learning and the teacher's role in creating social inclusion for students with Autism to be integrated within the culture of the classroom. Students with Autism benefit from Social Learning interventions to build social competencies. By understanding the chain reaction of behaviors, expected and unexpected for the situation with emotional responses, and paired with an increased ability to reflect on their experiences, students with Autism show improvement with social competencies.

Social Inclusion is challenging for students with Autism. Different situations have different expectations, in the classroom, hanging out a recess or lunch and building relationships outside of school. As identified in the study, peers have expectations in the classroom that include: Focused on learning, able to work together, and positive personality. Students with Autism can be taught to attend to instruction, engage in shared imagination, initiate and maintain conversations with peers and their teachers. In the unstructured setting such as recess or lunch, peer expectations shift to include positive personality with an emphasis on the ability to be funny or be fun to hang out with. With increased perspective taking, students with Autism can develop self-awareness as needed to monitor their behaviors that may cause others to be uncomfortable and shift their behaviors in a way that is inviting to peers to spend time with them. Knowing how and when to use humor appropriately is an important and valued way to connect with peers. Invitations to social events outside of the school day are contingent to having a relationship with the peer and personality traits that are fun to be around and have things in common with.

As an educator working with students with Autism, this researcher's lens is to help educators to help students understand that it is their Autism that interferes in their relationships. Recognizing that what is obvious to us, neurotypical adults observing the peer interactions in the classroom, is not obvious to individuals with Autism. However, we can help to bridge the gap. When students with Autism understand that it is their unexpected behaviors that cause others to feel uncomfortable around them, they are giving a pathway to change the outcome, to create a better experience for themselves. So many of the students that the researcher has worked with in this study and in her experience, are looking for solutions and are open to learning from an adult that can demonstrate they care and helps them to feel accepted and valued.

Implications for Practice

Self-efficacy is foundational for developing growth mindsets, resilience and improving mental states overall (Bandura, 1995, Dweck, 2015, Goldstein, 2001). It is developed through mastery experiences, vicariously learning from others, social persuasion, and physiological and emotional states (Bandura, 1995). Therefore, the classroom teacher plays a pivotal role in creating experiences for students which shape their beliefs about themselves and their outlook on life. The ecology of inclusion (Brofenbrenner, 1976) describes the systems that create an environment where the student is participating, achieving and valued. However, students with Autism who have difficulty with regulating their emotions, interpreting social cues intuitively, and expressing their ideas are missing critical mastery experiences in the educational setting. How do we create an inclusive classroom where students with Autism are able to succeed? The answer is three fold: 1) Provide teachers with training to better understand the mind of the child with Autism and deliver differentiated instruction; 2) Provide opportunities through

intervention for students with Autism to build social competencies; 3) Create classroom cultures where all students are engaged, participating and feel valued.

Looking at the perspective of middle school students provides insights into the qualities and characteristics required by peers for acceptance. Many students with Autism experience rejection due to their limited ability to navigate the social world. Social Thinking® ® provides a vehicle to help students understand the nuances of social interactions. Building relationships is not an intuitive process for students with Autism, but with intervention and support they can develop social awareness and social competencies which will contribute to social inclusion. Through the phenomenological component of the study, we are able to identify social skill deficits that influence peer rejection. This data can then be used to tailor Social Thinking® interventions to bridge the gaps and increase social competencies that lead to acceptance.

Recommendations for Further Research

With the understanding of the teacher's role in facilitating social inclusion for their students, the researcher wonders how can schools better support the classroom teacher? Would an increase in collaboration between Special Education and General Education make a difference? What role does the administrator play in setting priorities for inclusion in the classroom? Future research may be warranted in exploring unconscious bias toward students with disabilities. With a better understanding of origination of bias, professional development can be designed to build capacity toward inclusion. In fact, expanding this probe to include all stakeholders may be beneficial in facilitating social inclusion beyond the classroom.

We have moved forward in Education with the shift toward Common Core State Standards that look at skills needed for post high school outcomes. However, how can students, including students with disabilities, be prepared for success without skills for social emotional

well-being? The researcher would be interested in similar studies to establish the necessity and value of Social Learning tools that supports the student with Autism's development in perspective taking and developing social competencies needed for building relationships and connecting with their community.

Conclusions

Students with Autism are not automatically wired for social learning and yet Common Core Standards require proficiency in collaboration, speaking, listening, and expressing ideas. No consideration for alternate pathways to proficiency have been considered for this population of students. Therefore, it is imperative that teachers are equipped with Social Learning Tools to elicit inclusion in the classroom.

The findings of this study support the benefit of Social Learning Tools as an intervention for students with Autism to increase self-efficacy, engagement and social inclusion for students with Autism. Social Thinking® ©, a methodology for teaching the thinking behind the social skills we do, is a vehicle for students with Autism to develop the skills needed for Social Learning. As evidenced in the study, students with Autism have the ability to build perspective taking skills, reflect on their experiences and expand their thinking. Building on these experiences, students with Autism demonstrated a positive increase in their beliefs of their own abilities. Teacher rating scale and observation rubric documented increased social emotional learning and engagement of the participants. Data collected through the use of sociometric scales provided evidence that students participating demonstrated an increase in social acceptance according to their peers. Based on the results of this study, Social Learning Tools intervention provides evidence of Social Thinking® © as an effective methodology for building social competencies.

Students with Autism are bright, creative, and although they may see the world through a different lens, they have value. Like all of us, their social experiences are the foundation for developing beliefs about themselves and their abilities.

Summary

The participants in this study are real to me as the researcher. They have names, and feelings and most importantly they matter. My heart swells when watching the expressions on their faces when they get it! When their moments of frustration fade and are replaced with moments of victory we celebrate. The students in this study have grown from the experience. They have a greater capacity to handle the challenging moments and continue to seek me out for guidance and encouragement. My hope is to empower more educators in understanding this population of students and bringing awareness of the need for supporting them to have successful, mastery experiences.

As educators, we are moving toward including students with disabilities in the classroom with a focus on preparing students for post school outcomes. However, inclusion cannot be limited to academic learning. School systems must be prepared to meet the needs of all learners through social and academic inclusion where student experiences can lead to self-efficacy, motivation and resilience. An integrative approach must be the standard in educational excellence.

REFERENCES

Adams, D. (2013). The application of social-emotional learning principles to a special education environment. *KEDI Journal of Educational Policy*, 103–118.

Ahmed-Husain S., & Dunsmuir S. (2014). An evaluation of the effectiveness of Comic Strip Conversations in promoting the inclusion of young people with autism spectrum disorder in secondary schools. *International Journal of Developmental Disabilities*, *60*(2). https://doi.org/10.1179/2047387713Y.0000000025

American Speech-Language-Hearing Association (ASHA). (2019). *Social communication disorder.* https://www.asha.org/Practice-Portal/Clinical-Topics/Social-Communication-Disorder/.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

American Psychiatric Association. (2019). DSM History. https://www.psychiatry.org/psychiatrists/practice/dsm/history-of-the-dsm.

American Psychological Association (2018). Wild boy of Aveyron. *APA Dictionary of Psychology.* Retrieved from https://dictionary.apa.org/wild-boy-of-aveyron.

Anderson, J., Boyle, C. & Deppeler, J. (2014). The ecology of inclusive education. In H. Zhang, P. Chan, & C. Boyle (Eds), *Equality in education: Fairness and inclusion,* (pp. 23-34). Springer. https://doi.org/10.1007/978-94-6209-692-9.

Angen, M. (2000). Evaluating interpretive inquiry: Reviewing the validity debate and opening the dialogue. *Qualitative Health Research, 10*(3). https://doi.org/10.1177/104973230001000308

Arwood, E., Kaulitz, C (2007). *Learning with a visual brain in an auditory world: Visual language strategies for individuals with autism spectrum disorders.* Shawnee Mission, KA: Autism Asperger Publishing.

Ashbaker Betty Y. (2011). Chapter 2 History of legal and legislative acts concerned with special education. In A. F. Rotatori, F. E. Obiakor, & J. P. Bakken (Eds.), *History of Special Education* (Vol. 21, pp. 21–45). Emerald Group Publishing Limited. https://doi.org/10.1108/S0270-4013(2011)0000021005

Atwood, T., (1998). *The complete guide to Asperger's Syndrome.* Philadelphia, PN: Jessica Kingsley Publishers.

Bae, Y., Chiang, H.-M., & Hickson, L. (2015). Mathematical word problem solving ability of children with Autism Spectrum Disorder and their typically developing peers. *Journal of Autism & Developmental Disorders*, *45*(7). https://doi.org/10.1007/s10803-015-2387-8

Bakker, J. T. A., Denessen, E., Bosman, A. M. T., Krijger, E.-M., & Bouts, L. (2007). sociometric status and self-image of children with specific and general learning disabilities in Dutch general and special education classes. *Learning Disability Quarterly*, *30*(1). https://doi.org/10.2307/30035515

Bandura, B., Barbaranelli, C., Caprara, G., Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*(3). https://doi.org/10.2307/1131888

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, N.J.: Prentice Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, N.J.: Prentice-Hall.

Bandura, A. (1995). *Self-efficacy in changing societies*. Cambridge University Press.

https://doi.org/10.1017/CBO9780511527692

Bandura, A., & Bussey, K. (2004). On broadening the cognitive, motivational, and socio-

structural scope of theorizing about gender development and functioning: Comment on

Martin, Ruble, and Szkrybalo (2002). *Psychological Bulletin*, *130*(5).

https://doi.org/10.1037/0033-2909.130.5.691

Baron-Cohen, S. (1987). Autism and symbolic play. *British Journal of Developmental*

Psychology, 5(2). https://doi.org/10.1111/j.2044-835X.1987.tb01049.x

Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind*.

Boston, MA: MIT Press/Bradford Books.

Baron-Cohen, S (1995). First lessons in mind reading. *The Times Higher Education Supplement,*

1180, 18.

Baron-Cohen, S. (2000). Theory of mind and autism: A fifteen year review. In S. Baron-Cohen,

H. Tager-Flusberg, & D. J. Cohen (Eds.), *Understanding other minds: Perspectives from*

Developmental Cognitive Neuroscience, (p. 3–20). Oxford University Press.

Baron-Cohen, S. (2001). Theory of mind in normal development and autism. *Prisme*, *34*(1).

Baron-Cohen, S. (2009). Autism: The Empathizing–Systemizing (E-S) theory. *Annals of the New*

York Academy of Sciences, *1156*, (1). https://doi.org/10.1111/j.1749-6632.2009.04467.x

Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of

mind" ? *Cognition*, *21*(1). https://doi.org/10.1016/0010-0277(85)90022-8.

Bauminger, N. (2002). The facilitation of social-emotional understanding and social interaction

in high-functioning children with autism: Intervention outcomes. *Journal of Autism and*

Developmental Disorders, *32*(4). https://doi.org/10.1023/A:1016378718278.

Bateman, A., & Fonagy, P. (2013). Mentalization-based treatment. *Psychoanalytic Inquiry*, *33*(6). https://doi.org/10.1080/07351690.2013.835170

Beck, C. T. (2020). *Introduction to phenomenology: Focus on methodology*. Los Angeles: Sage Publishing.

Bellini, S. (2006). *Building social relationships: A systematic approach for teaching social interaction skills to children and adolescents with autism spectrum disorders and other social difficulties.* Shawnee Mission, Kansas: Autism Asperger Publishing Co.

Bernacchio, C., & Mullen, M. (2007). Universal design for learning. *Psychiatric Rehabilitation Journal*, *31*(2). https://doi.org/10.2975/31.2.2007.167.169

Bidwell, A. (2014, February 27). *The history of Common Core state standards: What some see as a surprise attack on states' rights, others know as a carefully thought out education reform.* U.S. News & World Report. https://www.usnews.com/news/special-reports/articles/2014/02/27/the-history-of-common-core-state-standards.

Boroson, B. (2017). Inclusive education: Lessons from history. *Educational Leadership*, *74*(7). https://eric.ed.gov/?id=EJ1138108

Brendtro, L. K. (2006). The vision of Urie Bronfenbrenner: Adults who are crazy about kids. *Reclaiming Children and Youth: The Journal of Strength-based Interventions*, *15*(3). https://eric.ed.gov/?id=EJ745917

Brendtro, L (2010, November). Pioneers: The vision of Urie Bronfenbrenner: Adults who are crazy about kids [Blog Post]. CYC-Online, Issue 14. https://www.cyc-net.org/cyc-online/cyconline-nov2010-brendtro.html

Bronfenbrenner, U. (1994). Ecological models of human development. In M. Gauvain, M. Cols (Eds.), *Readings on the development of children* (4th ed., pp. 3-8). Scientific American Books.

Brooks, R. B. (1994). Children at risk: Fostering resilience and hope. *American Journal of Orthopsychiatry*, *64*(4). https://doi.org/10.1037/h0079565

Brooks, R., & Goldstein, S. (2008). The mindset of teachers capable of fostering resilience in students. *Canadian Journal of School Psychology*, 23(1). https://eric.ed.gov/?id=EJ821250

Brooks, R., & Goldstein, S. (2001). *Raising resilient children: Fostering strength, hope, and optimism in your child.* https://eric.ed.gov/?id=ED449921

Brown, J. T., Meeks, L., & Rigler, M. (2016). Mental health concerns of students on the autism spectrum. *New Directions for Student Services*, *2016*(156). https://doi.org/10.1002/ss.20189.

Brown, J. A., & McIntosh, K. (2012). Training, inclusion, and behaviour: Effect on student-teacher and student-sea relationships for students with Autism Spectrum Disorders. *Exceptionality Education International*, *22*(2). https://eric.ed.gov/?id=EJ997337

Bryan, T. H., & Bryan, J. H. (1978). Social interactions of learning-disabled children. *Learning Disability Quarterly*, *1*(1). https://doi.org/10.2307/1510961

Buescher, A., Cidav, Z., Knapp, M., Mandell, D. (2014). Costs of Autism spectrum disorders in the United Kingdom and the United States. *JAMA Pediatrics,168*(8). https://doi.org/10.1001/jamapediatrics.2014.210

Burgstahler, S., & Russo-Gleicher, R. (2015). Applying Universal Design to address the needs of postsecondary students on the Autism Spectrum. *Journal of Postsecondary Education & Disability*, *28*(2). https://files.eric.ed.gov/fulltext/EJ1074670.pdf

Burke, E. (2020). *The benefit of a social learning intervention to increase self-efficacy, engagement and social inclusion for students with autism.* Unpublished Doctoral Dissertation, Concordia University, Irvine, CA.

Burke, E. (2010/2019). *Reflection journal: A tool for social learning.* Laguna Niguel, CA: Self Published.

Buron, K., Wolfberg, P. (Ed.) (2008). *Learners on the Autism spectrum: Preparing highly qualified educators.* Shawnee Mission, Ca: Autism Asperger Publishing Co.

Busby, R, Bowron, R., Ingram, R., Lyons, B., Oliver, J. (2012). Teaching elementary children with Autism: Addressing teacher challenges and preparation needs. *Rural Educator*, *(33)*2. https://files.eric.ed.gov/fulltext/EJ987618.pdf

Briers, S. (2014). *Cognitive Behavioural Therapy* (2 edition). Trans-Atlantic Publications.

Bronagh, B. (2012). Minding the gap? Children with disabilities and the United Nations Convention on the rights of persons with disabilities. In M. Freeman (Ed.), *Law and childhood studies: Current legal issues volume 14.* Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199652501.003.0024

California Department of Education (2018). Common Core State Standards. Retrieved from https://www.cde.ca.gov/re/cc/

Chen, Y., Bundy, A., Cordier, R., Chen, Y., & Einfeld, S. (2016). The experience of social participation in everyday contexts among individuals with Autism Spectrum Disorders:

An experience sampling study. Journal of Autism and Developmental Disorders, 46(4). https://doi.org/10.1007/s10803-015-2682-4

Collaborative for Academic, Social, and Emotional Learning (CASEL). (2019). What is SEL? Retrieved on January 25, 2020 from https://casel.org/what-is-sel/

CAST (2018). About Universal design for learning. http://www.cast.org/our-work/about-udl.html#.XFeje89Ki3c.

Carol Gray Social Stories (2019) About carol. Retrieved from https://carolgraysocialstories.com/about-2/carol-gray/

Center for Disease Control and Prevention. (2018, April 26). *Autism prevalence slightly higher in CDC's ADDM network* [Press Release]. https://www.cdc.gov/media/releases/2018/p0426-Autism-prevalence.html.

Center for Disease Control and Prevention (2018, November 15). Autism spectrum disorder: Data & Statistics: Prevalence. https://www.cdc.gov/ncbddd/Autism/data.html.

Conroy MA, Asmus JM, Boyd BA, Ladwig CN, & Sellers JA. (2007). Antecedent classroom factors and disruptive behaviors of children with autism spectrum disorders. *Journal of Early Intervention*, *30*(1). https://eric.ed.gov/?id=EJ804227

Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. *Child Development*, *59*(3). https://doi.org/10.2307/1130578.

Coi, J., & Terry, R (1991). A comparison of methods for defining sociometric status among children. *Developmental Psychology*, *27*(5). https://doi.org/10.1037/0012-1649.27.5.867

Conroy, P. W. (2014). Promoting Reflective Practices in Special Education through Action

    Research: Recommendations from Preservice Teachers. *Networks: An Online Journal for*

    Teacher Research, *16*(2). https://files.eric.ed.gov/fulltext/EJ1152672.pdf

Constable, S., Grossi, B., Moniz, A., & Ryan, L. (2013). Meeting the Common Core state

    standards for students with autism. *Teaching Exceptional Children, 45*(3).

    https://eric.ed.gov/?id=EJ1008508

Cooper, K., Smith, L. G. E., & Russell, A. (2017). Social identity, self-esteem, and mental health

    in autism. *European Journal of Social Psychology*, *47*(7).

    https://doi.org/10.1002/ejsp.2297

Creswell, J. W., Creswell, J. D. (2018). *Research Design: Qualitative, quantitative, and mixed*

    method approaches. Thousand Oaks, CA: Sage Publications, Inc.

Creswell, John W, Poth, Cheryl N. (2018) *Qualitative inquiry & research design: Choosing*

    among five approaches. Thousand Oaks, CA: Sage Publications.

Crooke, P., Winner, M. (2009). Social Thinking® : A developmental approach for students with

    social learning/social pragmatic challenges. *Perspectives on Language Learning and*

    Education, Vol. 16(2). https://www.socialthinking.com/Articles?name=developmental-

    treatment-approach-students-learning-issues.

Crooke, P, Winner, M. (2011). Social Communication Strategies for Adolescents With Autism.

    ASHA Leader, *16*(1). https://doi.org/10.1044/leader.FTR1.16012011.8

Crooke, P., Garcia-Winner, M. (2016). Beyond skills: The worth of social competence. *The*

    ASHA Leader. https://doi.org/10.1044/leader.FTR2.21092016.50

Crooke, P., Winner, M., & Olswang, L. (2016). Thinking socially: Teaching social knowledge to foster social behavioral change. *Topics in Language Disorders, 36*(3). https://eric.ed.gov/?id=EJ1110894

Crooke, P., Hendrix, R., Rachman, Janine. (2007). Brief Report: Measuring the effectivess of teaching Social Thinking® with Asperger Syndrome (AS) and High Functioning Autism (HFA). *Journal of Autism & Developmental Disorders, 38*(3). https://doi.org/10.1007/s10803-007-0466-1

Deffenbaugh, W., Keesecker, W. (1935). *Compulsory school attendance laws and their administration.* United States Department of the Interior: Office of Education, Bulletin, No. 4. https://eric.ed.gov/?id=ED542358

Dillenburger, K., McKerr, L., Jordan, J. A., Devine, P., & Keenan, M. (2015). Creating an inclusive society... how close are we in relation to Autism Spectrum Disorder? A general population survey. *Journal of Applied Research in Intellectual Disabilities*, *28*(4). https://doi.org/10.1111/jar.12144.

Dykstra-Steinbrenner, J., & Watson, L. (2015). Student engagement in the classroom: The impact of classroom, teacher, and student factors. *Journal of Autism & Developmental Disorders*, *45*(8). https://doi.org/10.1007/s10803-015-2406-9

Dweck, C. (2015). Carol Dweck revisits the growth mindset. *Education Week*, *35*(5). https://www.edweek.org/ew/articles/2015/09/23/carol-dweck-revisits-the-growth-mindset.html

Ekman, E., & Hiltunen, A. J. (2015). Modified CBT using visualization for Autism Spectrum Disorder (ASD), anxiety and avoidance behavior - a quasi-experimental open pilot study. *Scandinavian Journal of Psychology*, *56*(6). https://doi.org/10.1111/sjop.12255

Every Student Succeeds Act, 20 U.S.C. § 6301 (2015). https://www.congress.gov/bill/114th-congress/senate-bill/1177

Ewart, C.K. (1993). Role of physical self-efficacy in recovery from heart attack. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (p. 287-304*).* Washington D.C.: Hemisphere Publishing Company.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2). https://doi.org/10.1177/001872675400700202

Finch, K., Watson, R., & MacGregor, C. (2013). Teacher needs for educating children with Autism spectrum disorders in the general education classroom. *The Journal of Special Education Apprenticeship, 2*(2). https://eric.ed.gov/?id=EJ1127818

Frith, U. (2008). *Autism: A Very Short Introduction*. Oxford: Oxford University Press.

Frith, U. (2012). The 38th Sir Frederick Bartlett Lecture Why we need cognitive explanations of autism. *Quarterly Journal of Experimental Psychology*, *65*(11). https://doi.org/10.1080/17470218.2012.697178

Frith, U., Morton, J., & Leslie, A. M. (1991). The cognitive basis of a biological disorder: Autism. *Trends in Neurosciences*, *14*(10). https://doi.org/10.1016/0166-2236(91)90041-r

Frith, U., & Happe. F. (1994). Autism: Beyond "theory of mind." *Cognition, 50*(1-3). https://doi.org/10.1016/0010-0277(94)90024-8

Frith, U., & Happe. F. (2006). The weak coherence account: Detail-focused cognitive style in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *36*(1). https://doi.org/10.1007/s10803-005-0039-0

Garcia-Winner, M. (2006). *Inside out: What makes a person with social cognitive deficits tick?* San Jose, CA: Michelle Garcia Winner.

Garcia-Winner, M. (2007a). *Social behavior mapping: Connecting behavior, emotions and consequences across the day.* San Jose, CA: Think Social Publishing.

Garcia-Winner, M. (2007b). *Thinking about you thinking about me: Teaching perspective taking and Social Thinking® to persons with social cognitive learning challenges.* San Jose, CA: Think Social Publishing. .

Garcia Winner, M. (2008). *Think social: A Social Thinking® curriculum for school age students.* San Jose, CA: Think Social Publishing, Inc.

Garcia Winner, M. (2015). Social Thinking® -Social Learning Tree. https://www.socialthinking.com/Articles?name=social-thinking-social-learning-tree.

Garcia-Winner, M. (2018, August). *Why use the Social Thinking® methodology? 19 concepts to consider.* https://www.socialthinking.com/Articles?name=Introduction%20to%20Social%20Thinking.

Gaus, V. (2007). *Cognitive-behavioral therapy for adults with Autism Spectrum Disorder (2nd ed.).* New York, NY: The Guilford Press.

Ghaye, T. (2010). *Teaching and learning through reflective practice: A practical guide for positive action*. Routledge.

Gibb K., Tunbridge D., Chua A., & Frederickson N. (2007). Pathways to inclusion: Moving from special school to mainstream. *Educational Psychology in Practice*, *23*(2). https://doi.org/10.1080/02667360701320770

Goldstein, S. (2019, October 3-4). How emotions, self-perception and cognition drive human development and achievement and what educators need to do. http://samgoldstein.com/resources/powerpoints-and-handouts/

Goldstein, S., & Ozonoff, S. (2009). Historical perspective and overview. In S. Goldstein, J. Naglieri, & S. Ozonoff (Eds.), *Assessment of autism spectrum disorders.* (pp. 1-7) New York, N.Y.: The Guilford Press.

Goodall, C. (2015). How do we create ASD-friendly schools? A dilemma of placement. *Support for Learning*, *30*(4). https://doi.org/10.1111/1467-9604.12104

Gordon, T. Q. (2017). *The Effects of Teacher Self-Efficacy with the Inclusion of Students with Autism in General Education Classrooms* [Doctoral dissertation, Loyola University Chicago]. 2806. Retrieved from https://ecommons.luc.edu/luc_diss/2806.

Graham R. Gibbs (2012, October 24). *Reliability, validity, generalizability and credibility. Pt. 1 of 3: Research quality* [Video File]. YouTube. https://www.youtube.com/watch?v=4NQHeI8GD54

Gray, C. (1994). *Comic strip conversations, colorful, illustrated interactions with students with Autism and related disorders*. Arlington, TX: Future Horizons.

Gray, C. (2000). *The new social story book* (Illustrated ed.). Arlington, TX: Future Horizons.

Green, D. (2003). Self-efficacy: A communication model for the development of self-efficacy in the classroom. *Journal of Teaching in Social Work*, *23*(3-4). https://doi.org/10.1300/J067v23n03_09

Greene, R. (2014). *Lost at school: Why our kids with behavioral challenges are falling through the cracks and how we can help them.* New York, NY: Scribner.

Gresham, F., Elliot, S. (2008, 2017). *Social Skills Intervention Social Emotional Learning Edition* (SSIS SEL)[Measurement Instrument]. NCS Pearson, Inc.

FindLaw (n.d.) Education Law: Compulsory Education Laws: Background. Retrieved from

    https://education.findlaw.com/education-options/compulsory-education-laws-

    background.html.

Folstein, S., & Rutter, M. (1977). Infantile autism: A genetic study of 21 twin pairs. *Journal of*

    Child Psychology and Psychiatry, *18*(4). https://doi.org/10.1111/j.1469-

    7610.1977.tb00443.x

Gregory, G. (2005). *Differentiating instruction with style: Aligning teacher and learner*

    intelligences for maximum achievement. Thousand Oaks, CA: Corwin Press.

Greene, R. (2014). *Lost at school: Why our kids with behavioral challenges are falling through*

    the cracks. New York, NY: Scribner.

Gould, J., & Wing, L. (1979). Severe impairments of social interaction and associated

    abnormalities in children: Epidemiology and classification. *Journal of Autism and*

    Developmental Disorders, *9*(1). https://doi.org/10.1007/BF01531288.

Happé, F., & Frith, U. (2006). The weak coherence account: Detail-focused cognitive style in

    autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *36*(1).

    https://doi.org/10.1007/s10803-005-0039-0

Hendricks, D. (2011). Special education teachers serving students with autism: The

        challenge for educators. *Journal of Vocational Rehabilitation, 35*(2011).

Hill, E. L., & Frith, U. (2003). Understanding Autism: Insights from Mind and Brain.

    Philosophical Transactions: Biological Sciences, *358*(1430).

    https://dx.doi.org/10.1098%2Frstb.2002.1209

Hogan, K., Marcus, L (2009). From assessment to intervention. In Goldsteing, S., Naglieri, J., & Ozonoff, S. (Eds.), *Assessment of Autism Spectrum Disorders* (318-33). New York, NY: Guilford Press.

Husserl, E. (1970). *The crisis of European sciences and transcendental phenomenology*. Evanston, IL: Northwestern University Press.

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Individuals with Disabilities Education Act (n.d.). About IDEA: History of IDEA. Retrieved from https://sites.ed.gov/idea/about-idea/#IDEA-History.

Jones, A. P., & Frederickson, N. (2010). Multi-informant predictors of social inclusion for students with autism spectrum disorders attending mainstream school. *Journal of Autism & Developmental Disorders*, *40*(9), 1094–1103. https://doi.org/10.1007/s10803-010-0957-3

Karge, B., Moore, R. (2015). Common Core: Teaching optimal topic exploration (TOTE). *Contemporary Issues in Education Research,(8)*1. https://files.eric.ed.gov/fulltext/EJ1058148.pdf

Kavanagh, D., & Bower, G. (1985). Mood and self efficacy: Impact of joy and sadness on perceived capabilities. *Cognitive Therapy and Research* (9). https://doi.org/10.1007/BF01173005

Khor, A. S., Melvin, G. A., Reid, S. C., & Gray, K. M. (2014). Coping, daily hassles and behavior and emotional problems in adolescents with high-functioning autism/Asperger's disorder. *Journal of Autism and Developmental Disorders*, *44*(3). https://doi.org/10.1007/s10803-013-1912-x

Knight, V., & Sartini, E. (2015). A comprehensive literature review of comprehension strategies in core content areas for students with autism spectrum disorder. *Journal of Autism & Developmental Disorders*, *45*(5). https://doi.org/10.1007/s10803-014-2280-x

Koller, D., Le Pouesard, M., & Rummens, J. A. (2018). Defining social inclusion for children with disabilities: A critical literature review. *Children & Society*, *32*(1). https://doi.org/10.1111/chso.12223

Krull, J., Wilbert, J. & Hennemann, T., (2014). The social and emotional situation of first graders with classroom behavior problems and classroom learning difficulties in inclusive classes. *Learning Disabilities: A Contemporary Journal*, *12*(2). https://eric.ed.gov/?id=EJ1047460

Łaba, A. (2015). The use of comic strip conversations in shaping social behavior of children with autism in the context of play. *New Educational Review*, *39*(1), 201–211. https://doi.org/10.15804/tner.2015.39.1.17.

Lake, J. K., Perry, A., & Lunsky, Y. (2014). Mental health services for individuals with high functioning autism spectrum disorder. *Autism Research & Treatment*, *2014.* https://doi.org/10.1155/2014/502420

Landor, F., & Perepa, P. (2017). Do resource bases enable social inclusion of students with Asperger syndrome in a mainstream secondary school? *Support for Learning*, *32*(2). https://doi.org/10.1111/1467-9604.12158

LaPage, P., & Dourey, S. (2014) *Teaching children with high-level autism: Evidence from families*. New York, NY: Routledge.

Lavelle, T., Weinstein, M., Newhouse, J., Munir, K., Kuhlthau, K., Prosser, L. (2014). Economic

    burden of childhood autism spectrum disorders. *Pediatrics, 133*(3).

    https://doi.org/10.1542/peds.2013-0763

Lee, J. S., Sachs, D., & Wheeler, L. (2014). The crossroads of teacher leadership and action

    research. *Clearing House*, *87*(5). https://doi.org/10.1080/00098655.2014.924896

Lerner, R. M., Agans, J. P., Arbeit, M. R., Chase, P. A., Weiner, M. B., Schmid, K. L., &

    Warren, A. E. A. (2013). Resilience and positive youth development: A relational

    developmental systems model. In Goldstein & Brooks (Eds.) *Handbook of resilience in*

    children (pp. 293–308). Springer.

Lindsay, S., Proulx, M., Thomson, N., & Scott, H. (2013). Educators' challenges of including

    children with autism spectrum disorder in mainstream classrooms. *International Journal*

    of Disability, Development & Education, *60*(4).

    https://doi.org/10.1080/1034912X.2013.846470

Locke, J., Ishijima, E. H., Kasari, C., & London, N. (2010). Loneliness, friendship quality and

    the social networks of adolescents with high-functioning autism in an inclusive school

    setting. *Journal of Research in Special Educational Needs*, *10*(2).

    https://doi.org/10.1111/j.1471-3802.2010.01148.x

Loiacono, V., Valenti, V. (2010). General education teachers need to be prepared to co-teach the

    increasing number of children with Autism in inclusive settings. *International Journal of*

    Special Education, *(25)*3. https://eric.ed.gov/?id=EJ909033

Marshall, D., & Goodall, C. (2015). The right to appropriate and meaningful education for

    children with ASD. *Journal of Autism & Developmental Disorders*, *45*(10).

    https://doi.org/10.1007/s10803-015-2475-9

McGillivray, J., & Evert, H. (2011). Group cognitive behavioural therapy program shows potential in reducing symptoms of depression and stress among young people with ASD. *Journal of Autism & Developmental Disorders*, *41*(9). https://doi.org/10.1007/s10803-014-2087-9.

Mona. (2012). Autism worldwide: Prevalence, perceptions, acceptance, action. *Journal of Social Sciences*, *8*(2). https://doi.org/10.3844/jssp.2012.196.201

McMullen, J. A., Veermans, K., & Laine, K. (2014). Tools for the classroom? An examination of existing sociometric methods for teacher use. *Scandinavian Journal of Educational Research*, *58*(5). https://doi.org/10.1080/00313831.2013.838694

Melloni, M., Lopez, V., & Ibanez, A. (2014). Empathy and contextual social cognition. *Cognitive, Affective & Behavioral Neuroscience*, *14*(1). https://doi.org/10.3758/s13415-013-0205-3

McCurdy, E. E., & Cole, C. L. (2014). Use of a peer support intervention for promoting academic engagement of students with Autism in general education settings. *Journal of Autism and Developmental Disorders*, *44*(4). https://doi.org/10.1007/s10803-013-1941-5

Minshew, N., Williams, D. (2008). Brain-behavior connections in autism. In K. Buron, P. Wofberg (Eds.), *Learners on the autism spectrum: Preparing highly qualified educators* (pp. 44-65). Shawnee Mission, KA: Autism Asperger Publishing Co.

Moores-Abdool, W. (2010). Included students with autism and access to general curriculum: What is being provided? *Issues in Teacher Education*, *19*(2). https://eric.ed.gov/?id=EJ902680

Moustakas, C. (1994). *Phenomenological research methods*. SAGE Publications.

Myles, B. S., Simpson, R. L. (2001). Understanding the hidden curriculum: An essential social skill for children and youth with Asperger syndrome. *Intervention In School & Clinic*, *36*(5), 279. https://doi.org/10.1177%2F105345120103600504

Myles, B., Adreon, D. (2001). *Asperger syndrome and adolescence: practical solutions for school success*. Shawnee Mission, Kansas: Autism Asperger Publishing Co.

National Professional Development Center on Autism Spectrum Disorder (n.d.) What are evidence-based practices? Retrieved on 1/20/19 from https://Autismpdc.fpg.unc.edu/evidence-based-practices.

Nishimura, T. (2014). Effective professional development of teachers: A guide to actualizing inclusive schooling. *International Journal of Whole Schooling, 10*(1). https://files.eric.ed.gov/fulltext/EJ1016781.pdf

Nguyen, N. N., Leytham, P., Whitby, P. S., & Gelfer, J. I. (2015). Reading comprehension and autism in the primary general education classroom. *The Reading Teacher*, *69*(1). https://doi.org/10.1002/trtr.1367

Ochs, E., Kremer-Sadlik, T., Solomon, O., & Sirota, K. G. (2001). Inclusion as social practice: views of children with Autism. *Social Development*, *10*(3). https://doi.org/10.1111/1467-9507.00172

Ollendick, T. H., Weist, M. D., Borden, M. C., & Greene, R. W. (1992). Sociometric status and academic, behavioral, and psychological adjustment: A five-year longitudinal study. *Journal of Consulting and Clinical Psychology*, *60*(1). https://doi.org/10.1037/0022-006X.60.1.80

Pas, E., Johnson, S., Larson, K. E., Brandenburg, L., Church, R., & Bradshaw, C. (2016).

Reducing behavior problems among students with autism spectrum disorder: Coaching

teachers in a mixed-reality setting. *Journal of Autism & Developmental Disorders*,

46(12). https://doi.org/10.1007/s10803-016-2898-y

Pearson Education (2017a). *Social skills intervention system social emotional learning edition

manual.* Bloomington, MN: NCS Pearson, Inc.

Pearson Education (2017b). Social skills intervention system social emotional learning system

(SSIS SEL) [Brochure]. Retrieved from

https://images.pearsonclinical.com/images/Assets/ssis-sel/SSIS-SEL-Brochure.pdf.

Phelan, J. (2004). Some thoughts on using an ecosystem perspective. *E-journal of the

International Child and Youth Care Network,* Issue 68, Back. Retrieved on 4/2/19 from

https://www.cyc-net.org/cyc-online/cycol-0904-phelan.html.

Pratt, C., Bryant, P. (1990). Young children understand that looking leads to knowing (so long as

they are looking into a single barrel. *Child Development, 61*(4).

https://pubmed.ncbi.nlm.nih.gov/2209200/

Pijl, S., Skaalvik, EinarM., & Skaalvik, S. (2010). Students with special needs and the

composition of their peer group. *Irish Educational Studies*, *29*(1).

https://doi.org/10.1080/03323310903522693

Randolph, M (2015). Evidence-based practice and Autism in the schools (nd ed.). Randolph

Massachusetts: National Autism Center. Retrieved from

http://www.nationalAutismcenter.org/090605-2/

Ratcliffe, B., Wong, M., Dossetor, D., & Hayes, S. (2015). The association between social skills

and mental health in school-aged children with autism spectrum disorder, with and

without intellectual disability. *Journal of Autism & Developmental Disorders*, *45*(8). https://doi.org/10.1007/s10803-015-2411-z

Reaven, J., Blakeley-Smith, A., Culhane-Shelburne, K., & Hepburn, S. (2012). Group cognitive behavior therapy for children with high-functioning autism spectrum disorders and anxiety: A randomized trial. *Journal of Child Psychology & Psychiatry*, *53*(4). https://doi.org/10.1111/j.1469-7610.2011.02486.x

Rimmerman, A. (2013). *Social inclusion of people with disabilities: National and international perspectives*. Cambridge Disability Law and Policy Series.

Robertson, K., Chamberlain, B., Kasari, C. (2003). General education teachers' relationships with included students with Autism. *Journal of Autism and Developmental Disorders*, *33*(2). https://doi.org/10.1023/a:1022979108096

Rogers, M. F., & Myles, B. S. (2001). Using social stories and comic strip conversations to interpret social situations for an adolescent with Asperger syndrome. *Intervention in School & Clinic*, *36*(5). https://doi.org/10.1177%2F105345120103600510

Rotatori, A. F., Bakken, J. P., & Obiakor, F. E. (2011). *History of Special Education* (1st ed.). Bingley, UK: Emerald Group Publishing Limited.

Samson, A. C., Huber, O., & Gross, J. J. (2012). Emotion regulation in Asperger's syndrome and high-functioning autism. *Emotion*, *12*(4). https://doi.org/10.1037/a0027975

Sansosti, F. J., Powell-Smith, K. A., & Kincaid, D. (2004). A research synthesis of social story interventions for children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, *19*(4). https://psycnet.apa.org/doi/10.1177/10883576040190040101

Sawyer, A., Williamson, P., & Young, R. (2014). Metacognitive processes in emotion recognition: Are they different in adults with Asperger's Disorder? *Journal of Autism & Developmental Disorders*, *44*. https://doi.org/10.1007/s10803-013-1999-0

Schuck, D., Zimmerman, B. (2008) *Motivation and self-regulated learning: Theory research and applications.* New York, NY: The Francis Group.

Sharma, S. (2015). Action research: A pedagogic tool to prepare reflective practitioners. *International Journal of Interdisciplinary Social Sciences: Annual Review*, *10(1)*. https://doi.org/10.18848/1833-1882/CGP/51-61

Siegel, D. J. (2012). *The developing mind, second edition: How relationships and the brain interact to shape who we are* (2nd ed.). The Guilford Press.

Stichter, J. P., Riley-Tillman, T. C., & Jimerson, S. R. (2016). Assessing, understanding, and supporting students with autism at school: Contemporary science, practice, and policy. *School Psychology Quarterly*, *31*(4). https://doi.org/10.1037/spq0000184

Sugita, T. (2016). Current trends in psychological and educational approaches for training and teaching students with Autism in California. *International Electronic Journal of Elementary Education*, *9*(2). https://eric.ed.gov/?id=EJ1126609

Shah, D. (2016). *The relationship between healthcare services and financial burden among families of children with autism spectrum disorders: A US perspective* [Published master's thesis]. Duquesne University. https://dsc.duq.edu/etd/40

Shochet, I., Saggers, B., Carrington, S., Orr, J., Wurfl, A., Duncan, B., & Smith, C. L. (2016). The Cooperative Research Centre for Living with Autism (Autism CRC) conceptual model to promote mental health for adolescents with ASD. *Clinical Child & Family Psychology Review*, *19*(2). https://doi.org/10.1007/s10567-016-0203-4

Strogilos, V., & Stefanidis, A. (2015). Contextual antecedents of co-teaching efficacy: Their influence on students with disabilities' learning progress, social participation and behaviour improvement. *Teaching and Teacher Education*, *47*. https://doi.org/10.1016/j.tate.2015.01.008

Styles, A. (2011). Social stories : Does the research evidence support the popularity? *Educational Psychology in Practice*, *27*(4). https://doi.org/10.1080/02667363.2011.624312

Tait, K. (2013). Cognitive Behaviour Therapy for Reducing Anxiety in School- Aged Children Diagnosed with Autism Spectrum Disorders. *New Zealand Journal of Teachers' Work*, *10*(1).

Tice, D. M., & Wallace, H. M. (2003). The reflected self: Creating yourself as (you think) others see you. In M. R. Leary & J. P. Tangney (Eds), *Handbook of self and identity.* (pp. 91–105). The Guilford Press

Tomlinson, C. (2005). *The differentiated classroom: Responding to the needs of all learners.* Upper Saddle, NJ: Pearson Education Inc.

Van Steensel, F. J., Zegers, V. M., & Bögels, S. M. (2017). Predictors of treatment Effectiveness for youth with ASD and comorbid anxiety disorders: It all depends on the family? *Journal of Autism and Developmental Disorders*, *47*(3). https://dx.doi.org/10.1007%2Fs10803-016-2956-5

Vaughan, M., & Burnaford, G. (2016). Action research in graduate teacher education: A review of the literature 2000–2015. *Educational Action Research*, *24*(2). https://doi.org/10.1080/09650792.2015.1062408

Vasa, R. A., Carroll, L. M., Nozzolillo, A. A., Mahajan, R., Mazurek, M. O., Bennett, A. E., Wink, L. K., & Bernal, M. P. (2014). A systematic review of treatments for anxiety in youth with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, *44*(12). https://doi.org/10.1007/s10803-014-2184-9

Vermeulen, P. (2012). *Autism as context blindness.* Shawnee Mission, KA: AAPC Publishing.

Volkmar, F., Siegel, M., Woodbury-Smith, M., King, B., McCracken, J., & State, M. (2014). Practice parameter for the assessment and treatment of children and adolescents with Autism Spectrum Disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *53*(2). https://doi.org/10.1016/j.jaac.2013.10.013.

Walker, T. (2013, October 16). Ten things you should know about the Common Core: Confused by the noise and misinformation surrounding the Common Core State Standards? Here's what they are and what they are not. *NEA Today.* Retrieved from http://neatoday.org/2013/10/16/10-things-you-should-know-about-the-common-core/?_ga=2.37256424.95568970.1523061718-2005652484.1523061718.

Whitby, P. J. S., Travers, J. C., & Harnik, J. (2009). Academic achievement and strategy instruction to support the learning of children with high-functioning autism. *Beyond Behavior*, *19*(1). https://eric.ed.gov/?id=EJ885713

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, *66*(5). https://doi.org/10.1037/h0040934

Whitman, T., & DeWitt, N. (2011). *Key learning skills for children with Autism Spectrum Disorders: A blueprint for life*. Jessica Kingsley Publishers.

Wimmer, H., Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of

   wrong beliefs in young children's understanding of deception. *Cognition,13*(1).

   https://doi.org/10.1016/0010-0277(83)90004-5

Wolff, S. (2004). The history of autism. *European Adolescent Psychiatry, 13*(4).

   https://doi.org/10.1007/s00787-004-0363-5

Worthington, M. (2013). Differences between phenomenological research and a basic qualitative

   research design.

   http://a1149861.sites.myregisteredsite.com/DifferencesBetweenPhenomenologicalResear

   chAndBasicQualitativeResearchDesign.pdf

Yeo, K. J., & Teng, K. Y. (2015). Social skills deficits in autism: A study among students with

   Autism Spectrum Disorder in inclusive classrooms. *Universal Journal of Educational

   Research*, *3*(12). https://doi.org/10.13189/ujer.2015.031208.

Yoon Phaik Ooi, Ze Jia Tan, Cui Xi Lim, Tze Jui Goh, & Min Sung. (2011). Prevalence of

   behavioural and emotional problems in children with high-functioning Autism Spectrum

   ddisorders. *Australian & New Zealand Journal of Psychiatry*, *45*(5).

   https://doi.org/10.3109/00048674.2010.534071

Zager, D., Wehmeyer, M. L., & Simpson, R. L. (Eds.). (2011). *Educating students with Autism

   Spectrum Disorders: Research-based principles and practices* (1st ed.). New York:

   Routledge.

268

APPENDICES

APPENDIX A
Articles, Thesis and Dissertations on Social Thinking®

Date	Authors	Type/Published	Title	Summary and/or Findings
2008	Crooke, Hendrix & Rachman	Journal of Autism & Developmental Disorders (2008) 38(3), 581–591.	Brief Report: Measuring the Effectiveness of Teaching Social Thinking to Children with Asperger Syndrome (AS) and High Functioning Autism	A social cognitive approach of teaching expected and unexpected behaviors results include increase in "listening and thinking with your eyes" and initiations and reduced unexpected verbal and non-verbal responses.
2010	Bolton, J	Digital Commons Psychology Dissertations	Examining the effectiveness of a social learning curriculum for improving social skills and self-regulation behaviors in middle school boys with autism.	Includes a review of the use of cognitive behavior therapy, and social skill training programs and curriculum's beneficial for treating individuals with High Functioning Autism. Using the SuperFlex (Social Thinking curriculum), an improvement in prosocial behaviors and reduction in inappropriate behaviors were observed.
2011	Taylor, C.	Dissertation: University of Hawaii at Manoa	Evaluating the effectiveness of the social thinking intervention to increase social responsiveness of adolescents and young adults with asperger syndrome: a mixed methods approach	Mixed Methods Study utilizing social thinking as an intervention with high school students with autism. Findings of the study marked improvement, however generalization into novel settings were slightly higher than baselines but lower than outcomes in familiar situations. Participants reported positive toward the experience.

Date	Authors	Type/Published	Title	Summary and/or Findings
2012	Kaitlin Riemen Yadlosky	Thesis: California State University, Northridge	Effects of the Superflex™ Curriculum on the social cognition of primary students with Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorders	The study looks as the perspective of students and teachers of the Superflex™ Curriculum (Social Thinking) as an intervention for social and perspective taking skills for students with autism and ADHD. Teachers and students report SC is an effective intervention program and behavior observations and teacher reports indicate an overall improvement in student's perspective taking skills.
2015	Crooke & Olswang	Journal of Speech, Language and Hearing Research	Practice-based Research: Another Pathway for Closing the Research-Practice Gap	Reviews the concept of research-based practice commonly used in developing standards in healthcare as a way of closing the research gap in identifying Social Thinking© as a valid methodology for teaching social knowledge to individuals with social cognitive deficits such as autism.
2016	Crooke & Winner	Behavior Analysis in Practice (2016). December, Volume 9, Issue 4, p. 403-408	Social Thinking® Methodology: Evidence-Based or Empirically Supported? A Response to Leaf et al. (2016)	Clarifies the distinction between evidence-based practices and empirically supported therapies.
2016	Crooke, Winner, Olswang	*Topics in Language Disorders*, (2016) *36*(3), 284–298.	Thinking Socially: Teaching Social Knowledge to foster social behavior change.	Article explores the perspective of "social thinking" in understanding the challenges for individuals with ASD, difference between behavior based and cognitive based therapies and introduces the

Date	Authors	Type/Published	Title	Summary and/or Findings
				Social Thinking treatment framework of Social Behavior Mapping.
2016	Peters, B,	Dissertations Georgia State University	The effectiveness of a social thinking curriculum in facilitating social competence of young children with autism spectrum disorders	Study looked at a Social Thinking Curriculum "Incredible Flexibile You" as a 20-minute daily intervention for Kindergarten/First grade students. Findings indicate participants made slight gains in competency, yet data did not support a functional relationship between intervention and dependent variables.
2017	Eric´zen, Fitch, Kinnear, Jenkins, Smith, Montano, Twanley, Crooke, Winner, Feder, Leon	Autism: the international journal of research and practice (2018) Jan; 22(1): 6-19	Development of the Supported Employment, Comprehensive Cognitive Enhancement, and Social Skills program for adults on the autism spectrum: Results of initial study.	Adults can improve cognitive (executive functioning) and social cognitive (i.e. social thinking and social communication) abilities. Evidence includes increased employment and satisfaction rating of parents and participants.

APPENDIX B

Teacher Self Efficacy Survey

Beliefs on Inclusion
Survey is intended to explore teacher preparedness and current mindset toward supporting students with autism in their classroom. Is teacher preparedness and site support contributing factors influencing teacher mindset?
* Required

Participant Information

The study in which you are being asked to participate in is designed to identify interventions for individuals with autism as needed to increase academic and social learning outcomes. Student and teacher beliefs involving the inclusion experience is an important component of this study This study is being conducted by Elizabeth Burke under the supervision of Dr. Belinda Karge, Dissertation Committee Chair, School of Education. This study has been approved by the Institutional Review Board at Concordia University Irvine.

PURPOSE:

This survey is one component of a larger study. In this study, self-efficacy surveys, classroom observations and social emotional behavior rating scales will be used to measure the relationship between the Social Learning Intervention and increased self-efficacy, engagement and social inclusion. At the same time, the perspective of individuals with autism in the inclusion experience and the teachers who teach them in a general education setting will be explored using samples of student work, interviews, surveys and a focus group. The reason for combining both quantitative and qualitative data is to better understand this research problem by converging both quantitative (numeric trends) and qualitative (detailed view) data and to advocate for interventions as needed for individuals with autism in the educational setting.

DESCRIPTION:

You are being asked to complete a survey regarding your beliefs with supporting students with social communication challenges such as autism in your classroom. The survey consists of demographic questions, Likert-scale type questions, and open-ended response questions. The data being gathered is intended to reflect a collective belief of teacher's at the school site and is not being associated with an individual teacher.

PARTICIPATION:

Participation in this study is completely voluntary and can be discontinued at any time.

CONFIDENTIALITY:

No identifying data will be collected through the participation of the survey outside of school site, experience level and grade taught. The purpose of this identifying information is to determine if shifts in teacher beliefs exist based on the grade level taught and level of experience. Submission of your input does not require name and contact information. Confidentiality of the survey will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via Internet by third parties. The survey responses will be known to the researcher and her dissertation committee chair, Belinda Karge, Ed.D. Only aggregate data will be shared with dissertation committee. Participants will not be identified by name in the results. Data will be stored in Google Forms (password protected portal) and on the researcher's MacBookAir laptop protected with a password. Any notes taken will be stored in a locked file cabinet. All data will be deleted from Google Forms and destroyed after data analysis has been completed in findings published in the study by January, 1, 2020.

DURATION:

The total time of participation is approximately 15 minutes to complete the survey.

RISKS:

A potential risk perceived by a participant may be a feeling of uneasiness by faculty to give any negative information in the survey. While there is a risk, information shared should not impact employment or working conditions. The collection of data has been approved by the University Provost and Community Roots Academy. To reduce the feeling of uneasiness, the participants will not be identified by name. Participants will be assured of confidentiality. The data from the survey will be viewed in aggregate form only.

BENEFITS:

This component of the study will expand on understanding the perspectives and needs of teachers in supporting students with social cognitive challenges in the classroom. It will give the school site the ability to see what is being done well and what areas can be improved upon. The data gathered from the survey will be compiled with other components of the study to identify social learning tools to build self-efficacy in students and teachers as needed to increase motivation and social learning outcomes in the classroom.

VIDEO/AUDIO/PHOTOGRAPH:

No video or photographs will be taken.

CONTACT:

For questions about the research and participant's rights or in the event of a research- related injury, please contact Dr. Belinda Karge, dissertation committee chair: (949)214-3333, Belinda.karge@cui.edu

RESULTS:

The results will be published in the researcher's doctoral dissertation at Concordia University Irvine. The findings could potentially lead to improvement.

1. What is your current position at Community Roots Academy? *
Mark only one oval.

- o   Administrator
- o   Teacher or Student Teacher
- o   Instructional Facilitator
- o   Staff
- o   Other

2. How many years have you been in education? *
Mark only one oval.

- o   1st year
- o   2-5 years
- o   6-9 years
- o   10-14 years
- o   15 or more

3. What is your level of education? *
Mark only one oval.

- o   Bachelor
- o   Masters
- o   Doctorate
- o   Other

4. What is your ethnicity? *
Mark only one oval.

- o   African-American
- o   Asian
- o   Hispanic
- o   Pacific Islander
- o   White-Non Hispanic
- o   Other

5. How many years have you taught at Community Roots Academy *
Mark only one oval.

- o   1st year
- o   2-5 years
- o   6-9 Years

 o 10 + Years

6. What is your gender? *
Mark only one oval.

 o Female
 o Male
 o Prefer not to say
 o Other:

7. What is the age group you currently work with? *
Check all that apply.

 o K-3rd
 o 4-6th
 o 7th - 8th
 o Other

8. I have experience with supporting students with an IEP in the classroom (regardless of school site). *
Mark only one oval.

 o This is my 1st year.
 o This is my 2nd year.
 o This is my 3rd year.
 o This is my 4th or more year.

9. Having students with Autism is difficult for me. *
Mark only one oval.

       1 2 3 4 5

 Completely Disagree   Completely Agree

10. I am comfortable with implementing accommodations and supports for students with Autism. *
Mark only one oval.

       1 2 3 4 5

 Completely Disagree   Completely Agree

11. I am interested in learning more about supporting students with autism (please describe area of need or interest). *

12. I have more than one year's experience with having a student with Autism. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

13. I am able to model inclusion and acceptance for students with Autism as an example for teachers and students. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

14. I am comfortable with addressing behaviors for students with autism. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

15. It is difficulty to facilitate classroom discussions involving students with Autism. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

16. I am able to support neuro-typical students learning (students without autism) while supporting student's with autism. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

17. I am able to facilitate collaborative interactions between students with autism and their peers. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

18. I received relevant training in my teacher preparedness program to work with students with autism. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

19. I am comfortable implementing visual supports for students with autism. *
Mark only one oval.

1 2 3 4 5

Completely Disagree   Completely Agree

20. I have received relevant professional development regarding supporting students with autism from my current school site. *

Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

21. Currently, I have the necessary resources for supporting students with autism in my classroom. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

22. Having a student with autism requires additional effort and time communicating with parents. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

23. Having students with autism negatively impacts my ability to support all students. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

24. I currently receive support from my current Special Education Team Member (ie. School Psychologist, Speech and Language Pathologist or Education Specialist) with implementing an IEP for students with Autism. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

25. I know how to provide accommodations and support students with autism in my classroom. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

26. I am comfortable with teaching academics to students with autism. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Agree

27. I would like more training on instructional strategies for students with autism. *
Mark only one oval.

                1 2 3 4 5

  Completely Disagree   Completely Disagree

28. My input is valued and considered by the IEP team when developing an IEP for students with autism. *

Mark only one oval.

                      1 2 3 4 5

  Completely Disagree   Completely Agree

29. When faced with a challenging situation involving students with autism, I have someone at my site who can provide me with support. *
Mark only one oval.

                      1 2 3 4 5

  Completely Disagree   Completely Agree

30. I have personal experience (outside of my classroom) interacting with individuals with autism. *
Mark only one oval.

                      1 2 3 4 5

  Completely Disagree   Completely Agree

31. I would like more training on managing challenging behaviors with students with autism. *
Mark only one oval.

                      1 2 3 4 5

  Completely Disagree   Completely Agree

32. I am confident when communicating with parents of students with autism. *
Mark only one oval.

                      1 2 3 4 5

  Completely Disagree   Completely Agree

Thank You!

Your participation is very helpful for my research study. At the end of the school year, I will be asking teachers to participate in a focus group to explore what supports have been helpful and possible shifts in beliefs prior to teacher training and ongoing consultation throughout the rest of the school year. If you are interested in participating, please send me an email at
Powered by

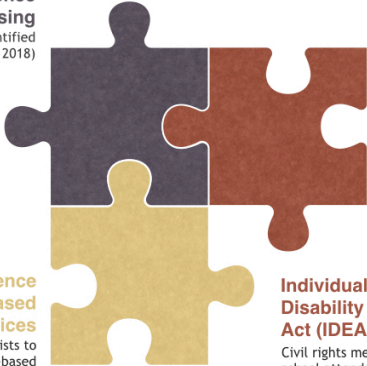Google Forms

APPENDIX C

Presentation for Teacher Intervention

Social Learning Theory

"People possess self-directive capabilities that enable them to exercise some control over their thoughts, feelings and actions by the consequences they produce for themselves" (Bandura,1977).

Self- Efficacy
Belief in one's capabilities to organize and execute courses of action required to manage prospective situations

Self- Regulation
Paying close attention to one's thought patterns and actions can contribute to self-directed change

Efficacy Beliefs
Influence how people think, feel, motivate

School Setting
The School setting provides optimal opportunities for students to develop personal efficacy during their formative years

Feedback, Motivation & Modeling
Influences social learning

Sources for Creating Self-Efficacy

Partly rely on their physiological and emotional states in judging their capabilities (Bandura, 1995).

Sources for Creating & Strengthening Self-Efficacy Beliefs

Social Persuasion
Verbal persuasion that someone has the capability to succeed is a way of strengthening their beliefs.

Effective efficacy builders raise the belief system of the individual while at the same time "they structure situations for them in ways that bring success and avoid placing people in situations prematurely where they are likely to fail often".

Mastery Experiences
An individual develops a sense of their own abilities through experience.
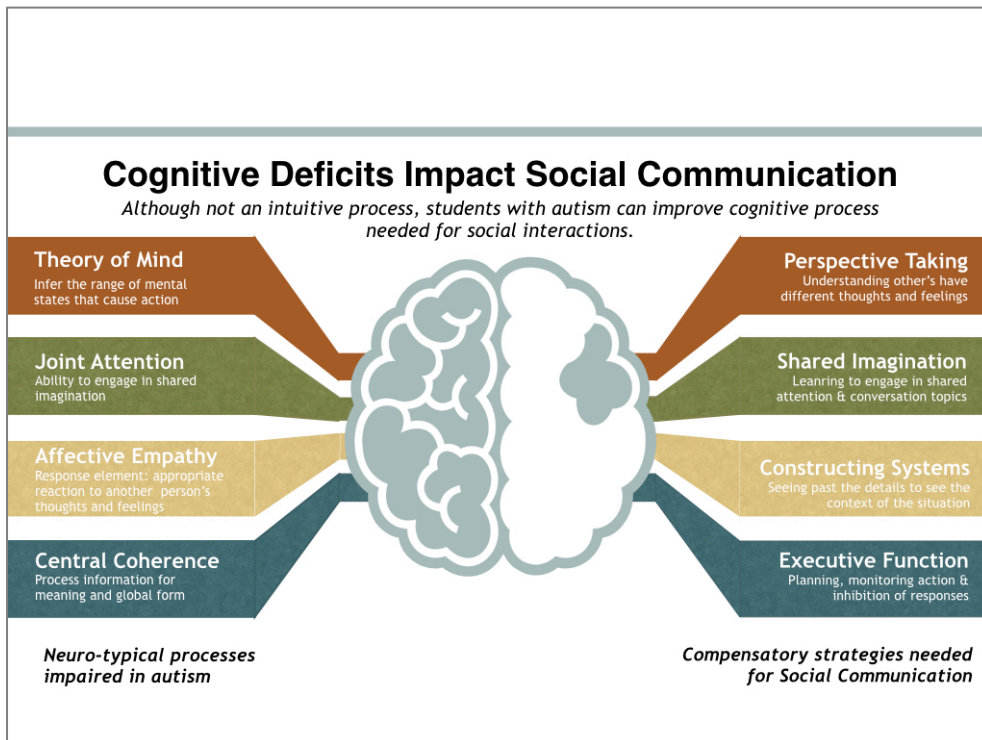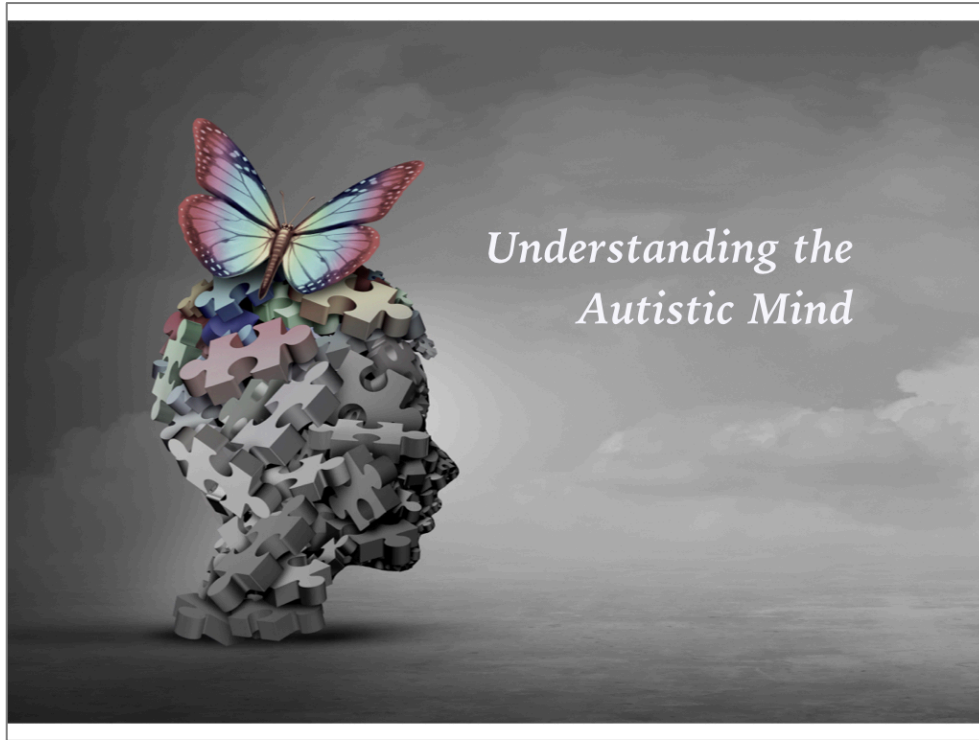
When an individual has a belief they have the ability to succeed, "they persevere in the face of adversity and quickly rebound from setback".

Vicarious Examples
Efficacy can be developed by observing others.

Bandura proposed that a model demonstrating an undaunted attitude toward overcoming the obstacle has a greater impact than the actual skill being modeled.

Physiological and Emotional States
Mood, both positive and negative, can influence the perception of self-efficacy (Kavanagh & Bower, 1985).

Enhancing physical status by reducing stress and negative emotional tendencies with correct interpretations of bodily states can have a positive influence in altering efficacy beliefs.

Cognitive Deficits Impact Social Communication
Although not an intuitive process, students with autism can improve cognitive process needed for social interactions.

Theory of Mind
Infer the range of mental states that cause action

Perspective Taking
Understanding other's have different thoughts and feelings

Joint Attention
Ability to engage in shared imagination

Shared Imagination
Leanring to engage in shared attention & conversation topics

Affective Empathy
Response element: appropriate reaction to another person's thoughts and feelings

Constructing Systems
Seeing past the details to see the context of the situation

Central Coherence
Process information for meaning and global form

Executive Function
Planning, monitoring action & inhibition of responses

Neuro-typical processes impaired in autism

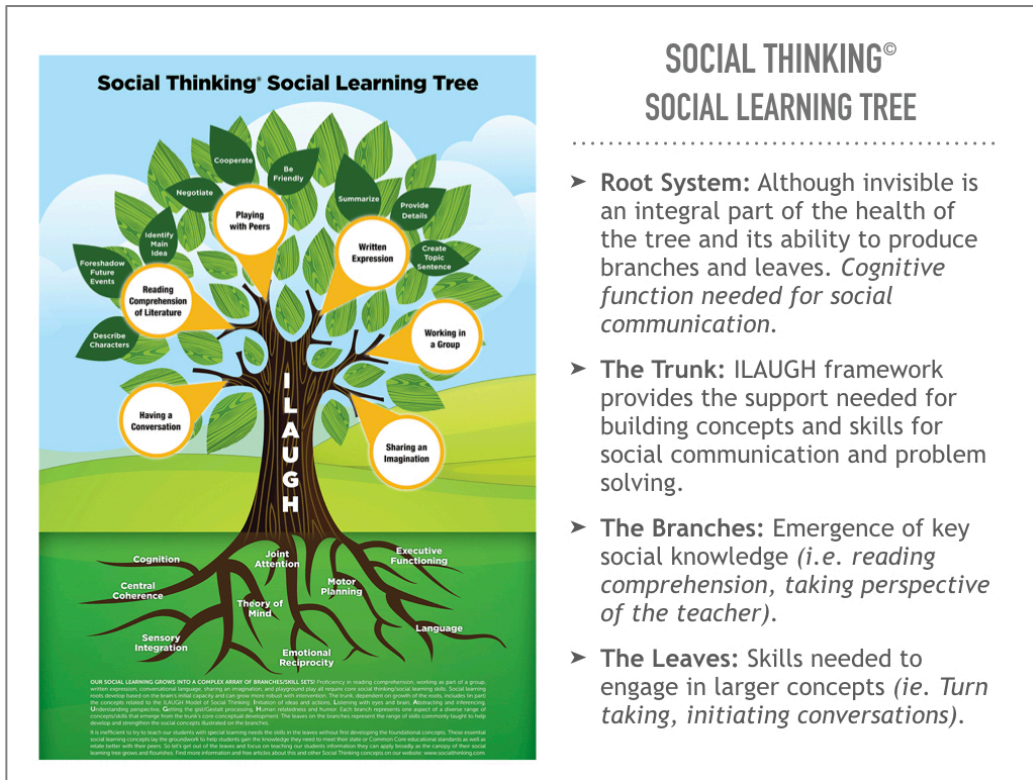*Compensatory strategies needed for Social Communication*

"COGNITIVE" THE LINK BETWEEN BRAIN AND BEHAVIOR
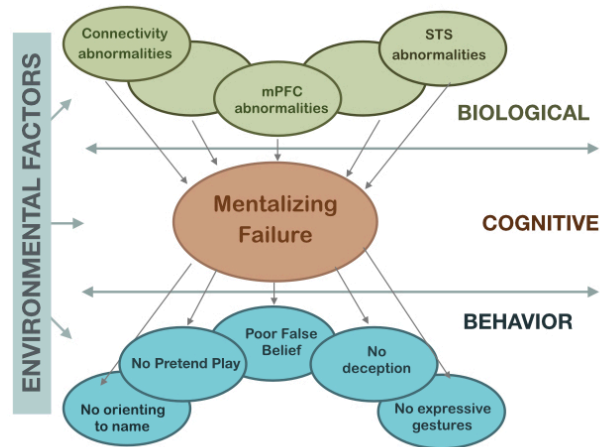
Three Level Framework. The "X" formation defining "cognitive" as the link between brain and behavior with environmental factors interacting at all levels. For illustrative purposes only one cognitive deficit is being illustrated with possible brain abnormalities and behavior signs of mentalizing failure. Adapted from Fritz Three level framework (2012).

Social Thinking©

SOCIAL THINKING©
SOCIAL LEARNING TREE

Social Thinking® Social Learning Tree

➤ **Root System:** Although invisible is an integral part of the health of the tree and its ability to produce branches and leaves. *Cognitive function needed for social communication.*

➤ **The Trunk:** ILAUGH framework provides the support needed for building concepts and skills for social communication and problem solving.

➤ **The Branches:** Emergence of key social knowledge *(i.e. reading comprehension, taking perspective of the teacher).*

➤ **The Leaves:** Skills needed to engage in larger concepts *(ie. Turn taking, initiating conversations).*

SOCIAL THINKING ©: ILAUGH FRAMEWORK

I — **Initiation of Communication or Action**
Refers to the ability to seek assistance or information.

L — **Listening with Eyes and Brain**
Requires the integration of information the student sees and hears to understand the deeper concept, or to make an educated guess about what is being said when the message cannot be interpreted literally.

A — **Abstract & Inferential Meaning**
Occurs subtly through verbal and nonverbal communication & analyzing the language in context.

U — **Understanding Perspective**
The ability to interpret others' perspectives or beliefs, thoughts and feelings across contexts is a critical social learning skill. Individuals with social cognitive challenges are often highly aware of their own perspective but may struggle to see another's point of view.

G — **Gestalt Processing: Getting the Big Picture**
Both written and oral communication is conveyed through concepts and not just facts. Organizing skills require an ability to assess what needs to be done systematically before plugging in the details to accomplish a goal.

H — **Humor and Human Relatedness**
Being able to read the social cues as needed to use humor effectively. Emotional processing is also at the heart of human relatedness.

Social Thinking Vocabulary

Visual Language to Support Learning Concepts

Think with Your Eyes

For the typical social communicator, the information gained through directed eye-gaze is critical to social communicative success. Eyes feed the brain information about the possible thoughts and/or reactions of others (MGW, 2007).

Expected & Unexpected Behaviors

When a behavior is expected for a situation it encourages us to have good or okay or normal thoughts and feelings; when a behavior is unexpected we tend to have uncomfortable or weird thoughts and related feelings. How we think about someone over time affects our "social memory" of them (MGW, 2012).

Smart Guess/ Wacky Guess

Being able to determine hidden meanings, intentions of others, and recognizing that social skills we choose to do are influenced by the situation we are engaged in. Recognizing that others may make social mistakes provides an opportunity to be flexible with others behaviors and being open to consider possible intentions or unintended actions (MGW, 2007, 2012).

The Benefit of a Social Learning Intervention to Increase Self-Efficacy, Motivation, and Social Engagement for Students with Autism

....

Elizabeth Burke, M. ED,
Social Cognition Specialist
Doctoral Student Concordia University

SOCIAL BEHAVIOR MAP

Social Emotional Chain Reaction

A road map that shows how behaviors affect how people might think, feel, and act. **Focus is on building social awareness.**

REFLECTION JOURNAL©

➤ Develops individual self-awareness of thoughts, emotions and actions spoken and unspoken.

➤ Develops awareness of others thoughts, emotions and intentions.

➤ Visually brings details together to analyze and understand social interactions in context.

➤ Assists with visualizing abstract concepts such as intentions and perspective taking.

➤ Provides insight needed for problem solving
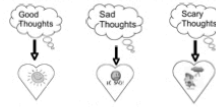
➤ Documents student progress and growth

Reflection Journal:
A Tool For Social Learning

"It is through reflection that we develop awareness. It is through perspective taking, understanding ourselves and others, that we learn the foundational skills for developing relationships."

Elizabeth Burke, M. Ed., Education Specialist & Social Cognition Coach

Reflection Journal©

Teaching components include understanding **thought and emotion connection.** Commonly used in Cognitive Based Therapy, it is useful for our students in learning what other's may be thinking about based on observable body language that gives insight into emotional states. The **emotion scale** provides vocabulary and understanding in context that emotional labels may be similar but often represent the level or intensity of the emotion.

Reflection Journal©

Based on Carol Gray's Comic Strip Conversation, with the added component of the heart to connect emotional state to the situation, students learn to reflect on their social interactions. Initially student's learn to reflect on their emotional state and develop awareness of their language or words used that may not represent what they feel or really want. The next step is reflecting on others. Typically this requires adult intervention with probing questions, such as "Did they look (facial expression, tone of voice, body language) friendly or unfriendly?

Since student's have free choice on their reflection entry for the day, the situation's often represent challenges the student has encountered. This provides opportunities to identify communicative breakdown and make a plan for future events. This helps to build student efficacy with understanding what they can do differently for a different outcome.

Reflection Journal

Date	How was my day? *Select a prompt to reflect on your day*			Problems? Yes or No
	☐ I feel good about my day because...	☐ I can do better by working harder on....	☐ I became frustrated or uncomfortable when..	If yes, then what size? SMALL MEDIUM BIG

Reflect on a social interaction. Remember to include thoughts, words and emotions below:

EBURKE 2019

Sample

Example of student work: this student shared his perspective of an interaction with an instructional aide who spoke with a heavy accent in the general education setting. This student was able to express in pictures what was happening. He did a great job guessing how other's were thinking and feeling in the situation.

Instructional component: We were able to discuss how other's did not know he was having difficulty understanding the IA's instruction. We talked about using his words to communicate his needs and asking for something different.

EBURKE 2019

APPENDIX D

Feedback Form for Teacher Presentation

Building Self-Efficacy for students with Autism

Feedback: Circle the statement that is most relevant for your beliefs.

1) I understand the challenges for students with autism and how I can support them in the classroom.

TARGET	1	2	3	4
Understanding Autism	I am unclear on the needs of students with Autism	I have a better understanding of Autism but still have some questions	I feel more confident in supporting students with Autism after today's presentation	I have a strong understanding of Autism and how to support their learning needs.

2) I understand the four sources for creating self-efficacy in my students: 1) social persuasion; 2) mastery experiences; 3) vicarious examples; 4) physiological and emotional state**.**

TARGET	1	2	3	4
Creating & Strengthening Self-Efficacy:	I understand one of the sources for creating & strengthening self-efficacy	I understand two of the sources for creating & strengthening self-efficacy	I understand three of the sources for creating & strengthening self-efficacy	I understand four of the sources for creating & strengthening self-efficacy

3) I understand how an ecology of inclusion, involving systems and relationships, can influence how a student is participating, achieving and feeling valued.

TARGET	1	2	3	4
Ecology of Inclusion:	I am unclear on how I can create an ecology of inclusion that supports all learners.	I am beginning to understand how I can create an ecology of inclusion but have a few questions.	I feel more confident in creating an ecology of inclusion that supports all learners.	I have a strong understanding and able to create an ecology of inclusion that supports all learners.

4) I understand how social thinking can provide instruction for students with autism to engage in social learning.

TARGET	1	2	3	4
Social Thinking to teach Social Learning	I am unclear on how Social Thinking can help students develop Social Learning Skills	I am beginning to understand how Social Thinking can help students with developing Social Learning Skills	I feel more confident in using Social Thinking to teach Social Learning.	I have a strong understanding and able to use Social Thinking to teach Social Learning.

What is one take-away from today's training that empowers you in supporting students with autism to have an inclusive experience?

What would you like to learn more about?

Comments:

Optional:
Contact Information: _____
_____. I would like to be part of a focus group at the end of the school year.
_____. I would like to be contacted to learn more about (circle one or more):

social thinking; social behavior maps; reflection journal OR

Other _____.

APPENDIX E

Social Behavior Mapping

Social Behavior Mapping

① START HERE →

Situation:

People:

Continue to #2 (Unexpected map)

Expected

Behavior(s) that are expected given the situation and people ③	How others might feel about the behavior(s) ④	How others act or react based on how they feel about the behavior(s) ⑤	How one might think or feel based on how they are treated by others ⑥

＊ TIP Consider these when thinking how to list expected/unexpected behaviors:
- What people say
- People's actions
- What people do with their eyes or face
- What people do with their body (hands/feet)

Unexpected

Behavior(s) that are unexpected given the situation and people ②	How others might feel about the behavior(s) ⑦	How others act or react based on how they feel about the behavior(s) ⑧	How one might think or feel based on how they are treated by others ⑨

⑩ SUM IT UP
- Circle the chain reaction
- Talk through it

Social Thinking

Copyright © 2017 Think Social Publishing, Inc. All Rights Reserved. Written permission is required to copy or adapt this information in any way. www.socialthinking.com

APPENDIX F

Social Behavior Mapping: Instruction Guide

Social Behavior Mapping: 10-Step Visual Guide

⬭ = Tips for what to say

PRIME & EXPOSE ⬭ This is a sort of road map that shows how behaviors affect how people might think, feel, and act. It's a *Social Behavior Map*

#1 Define Situation & People — Generate a situation and define the type of people present. Write it on the map. Go to #2.

#3
Expected behaviors* based on the situation and people. **Write in positive terms*

⬭ (Point to box #2)
If [read behaviors 1, 2, 3] are **unexpected** behaviors, then the opposite would be **expected** behaviors. What behaviors might be the opposite?

#4
Connect Expected behaviors to thoughts or feelings to self/others

⬭ (Point to box #3)
If a person [read **expected** behaviors 1,2,3], how do you think others might feel? How would you feel?

#5
Connect feelings to possible actions or reactions

⬭ (Point to box #4)
So if someone felt [read feelings 1, 2, 3], how might they act or react based on those feelings?

#6
Connect actions or reactions back to feelings (or thoughts)

And then, if someone [read actions/reactions 1, 2, 3 from box #5], how might the person who those (re)actions were directed towards feel?

#2
Unexpected behaviors based on situation and people

⬭ So, for [situation] when [people] are around, what are some examples of what someone might do or say that would be **unexpected** behaviors?

#7
Connect Unexpected behaviors to thoughts or feelings self/others

⬭ (Point to box #2)
If a person does [read **unexpected** behaviors 1, 2, 3], how do you think others might feel? How would you feel?

#8
Connect feelings to possible actions or reactions

⬭ (Point to box #7)
So if someone felt [read feelings 1, 2, 3], how might they act or react based on those feelings?

#9
Connect actions or reactions back to feelings (or thoughts)

And then, if someone [read actions/reactions 1, 2, 3 from box #8], how might the person who those (re)actions were directed towards feel?

#10   Circle & SUM IT UP!

Top of map: So, in **[situation]** with **[people]**, if someone does **[circle 1 expected behavior]** others might feel **[circle 1 feeling]** and they might **[circle 1 action/reaction]** which could make the person who was the focus of those actions feel **[circle 1 feeling]**.
BUT…(Bottom of map) If someone does **[circle 1 unexpected behavior]** others might feel **[circle 1 feeling]** and they might **[circle 1 action/reaction]** which could make the person who was the focus of those actions feel **[circle 1 feeling]**. You've figured out the social emotional chain reaction!

STOP If the person is unable to generate examples with your tips, prompts, and examples on any step of the map, then stop and teach basic concepts and vocabulary from the Social Thinking Methodology (e.g., attention to situation/people, thoughts and feelings, etc.).
REMINDER: Teach through the perspective of the client as the observer first before teaching about self control or behavior change!

APPENDIX G

Reflection Journal©
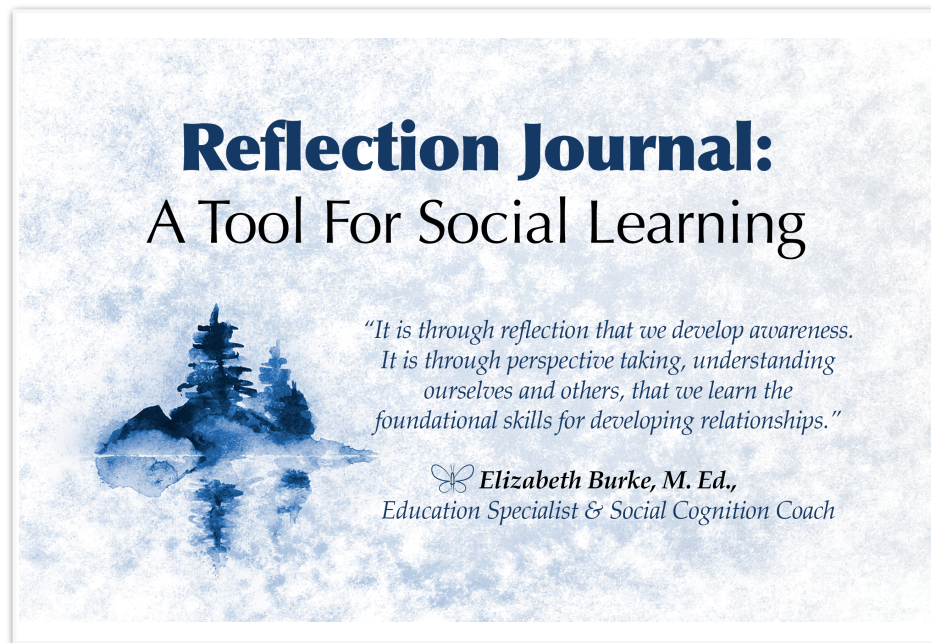
Reflection Journal:
A Tool For Social Learning

*"It is through reflection that we develop awareness.
It is through perspective taking, understanding
ourselves and others, that we learn the
foundational skills for developing relationships."*

Elizabeth Burke, M. Ed.,
Education Specialist & Social Cognition Coach

Reflection Journal

observations by

_____

EBURKE 2019

Reflection is a tool

✤ To better understand ourselves and our interactions with others.

✤ To analyze and evaluate our experiences, to understand and learn what we can do differently to influence better outcomes.

✤ To provide insight needed for direction with problem solving and creating new plans as we explore and react with ideas.

✤ *To learn by reflecting on our experiences.*

EBURKE 2019

Thought and Emotion Connection

Our emotions come from our thoughts. *When I am thinking of something that I like or feel good about, then I have positive emotions connected to that idea.*
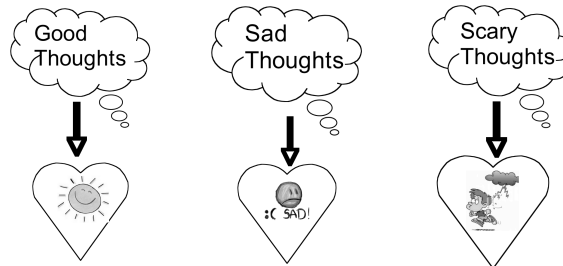
Developing self-awareness is the first step in changing my unexpected behaviors. As I become more aware of my own thoughts and feelings I can reflect on my behavior. When reflecting on my interaction with others, I can make a smart guess what they may be thinking and feeling to determine if their intentions are friendly or unfriendly.

EBURKE 2019

EMOTION SCALE
VOCABULARY TO EXPRESS OUR LEVEL OF EMOTION

Rating our emotions on a scale of 1 to 10 can help us identify the appropriate word to express how we are feeling.

| 10	10	10	10	10
Excited	Passionate	Horrified	Abused	Outraged
Thrilled	Crazy About	Frightened	Devastated	Furious
Delighted	Infatuated	Distressed	Mistreated	Heated
Cheerful	**Caring**	Alarmed	Rejected	Angry
Happy	Fond Of	**Afraid**	Injured	Exasperated
Light Hearted	Admiring	Troubled	Criticized	Aggravated
Up	Interested In	Apprehensive	Used	**Mad**
Glad	Appreciative	Anxious	**Hurt**	Irritated
Fine	Friendly	Uneasy	Let Down	Annoyed
1 Content	1 Tolerant	1 Uncomfortable	1 Disappointed	1 Bugged

For example, when we are feeling a little bit of happiness we can say we are content. When we have a whole lot of happiness, so much that it is hard to contain it, we can say we are excited.
*These sample scales are subjective and non-inclusive.

EBURKE 2019

Monitoring My Own Behavior

3 Steps To Behavior Change By Learning To Track My Own Behavior

Step One: SELF-AWARENESS. *Learning to take some extra time to think about the behavior I want to change. This step is all about THINKING. When I am THINKING about the behavior then I am on the road to learning to do it right. My teacher is the "tracker" of my behavior and lets me know that I am on the road to learning to do it right.*

Step Two: SELF-MONITORING. *This step combines "THINKING" and "DOING". When I self-monitor, I am watching myself by thinking about the unexpected behavior that I want to change. When I think about it clearly and understand that it interrupts me and other people then I want to try to control it. Each time that I make the behavior go away, even a little bit, then I am self-monitoring. When I am self-monitoring, when the unexpected behavior creeps in, then I make it STOP. Both my teacher and I are the "tracker" of my behavior.*

Step Three: SELF-CONTROL. *When I am doing the expected behavior more often, then I am learning SELF-CONTROL. On this step I am becoming a really good detective and I am my own tracker of the expected behavior. When I am showing self-control I am THINKING about the behavior and really working hard to DO something differently. When I control a behavior, I don't let the unexpected behavior creep in to begin with!*

- MGW

Page 4

EBURKE 2019

Self-Monitor Goal #1

*Identify an "unexpected behavior" that you do
and consider how you can replace it with an "expected" behavior.*

Target Behavior #1: By increasing my awareness I can learn to ....

*Name the expected behavior:*_____

_____

> *I can monitor my behavior by thinking about it.
> When I think about it, I can control it!*

I WILL try to better CONTROL MY behavior by ...

Describe a strategy to use: _____

_____

_____

- adapted from MGW

Page 5

EBURKE 2019

Sample

Example of student work: this student shared his perspective of an interaction with an instructional aide who spoke with a heavy accent in the general education setting. This student was able to express in pictures what was happening. He did a great job guessing how other's were thinking and feeling in the situation.

Instructional component: We were able to discuss how other's did not know he was having difficulty understanding the IA's instruction. We talked about using his words to communicate his needs and asking for something different.

EBURKE 2019

APPENDIX H

Student Reflection Survey Pre-Intervention

Student Reflection of Social Learning.

Reflection on your ability to interact socially with peers and teachers in the classroom.

* Required

1. **Email address** *

_____

STUDY PARTICIPANTS:

We are doing a study to learn how to best help students develop social communication skills. We are asking you to help because we want to better learn your thoughts on learning social communication skills.

If you agree to be in our study, we are going to ask you some questions about your experiences and how you feel about being social at school. There are no right or wrong answers. You do not need to spend a lot of time in deciding the best answer. Make a smart guess based on your understanding of the question and your awareness of your feelings about the question.

Your input will be helpful for me as a teacher in better helping my students learn social communication skills.

2. **1. What grade are you in?** *
   Mark only one oval.

   ◯ 3rd Grade

   ◯ 4th Grade

   ◯ 5th Grade

   ◯ 6th Grade

   ◯ 7th Grade

   ◯ 8th Grade

3. **2. My favorite subject in school is** *

Mark only one oval.

◯ Math

◯ Language Arts

◯ HIstory

◯ Science

◯ Physical Fitness

◯ Elective

◯ Other: _____

4. **3. I feel most successful in** *

Mark only one oval.

◯ Math

◯ Language Arts

◯ History

◯ Science

◯ Physical Fitness

◯ Elective

◯ Other: _____

5. **4. I have the most difficulty in** *

Mark only one oval.

◯ Math

◯ Language Arts

◯ History

◯ Science

◯ Physical Fitness

◯ Electives

◯ Other: _____

6. **5. Why did you choose the class above as your hardest class? (teacher, content, peers?)** *

_____

_____

_____

_____

_____

For questions #6 - #12, think about the hardest class that you selected above.

Answer the following questions as they relate your hardest class.

7. **6. I feel confident in using academic language when sharing in class.** *
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	( )	( )	( )	( )	( )	Completely Agree

8. **7. I am able to ask a question when I do not understand.** *
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	( )	( )	( )	( )	( )	Completely Agree

9. **8. I am able to ask for help when I don't understand directions.** *
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	( )	( )	( )	( )	( )	Completely Agree

10. **9. I often look to my peers to figure out what I should be doing.** *
    Mark only one oval.

	1	2	
Completely Disagree	( )	( )	Completely Agree

11. **10. I often have to correct work because I did not understand the directions or the question asked.** *
    Mark only one oval.

	1	2	3	4	5	
Completely Disagree	( )	( )	( )	( )	( )	Completely Agree

12. **11. I often wait until the teacher checks on me before asking questions. ***
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

13. **12. I participate in class discussions. ***
   Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

14. **13. I participate in class discussions only when the teacher calls on me. ***
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

15. **14. It is difficult for me to work in a group. ***
   Mark only one oval.

	1	2	3	4	5	6	
Completely Disagree	◯	◯	◯	◯	◯	◯	Completely Agree

16. **15. I am able to work independently in class without prompts from an adult to stay on task. ***
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

17. **15. I am able to work with a partner without conflicts. ***
   Mark only one oval.

1	2	3	4	5	6	7
◯	◯	◯	◯	◯	◯	◯

18. **16. I am able to follow the teacher's plan and make a smart guess what is happening next.** *

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

19. **17. I am able to figure out the teachers directions without additional instructions.** *

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

20. **18. I am able to stay focused when the teacher is talking.** *

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

For the following questions, think about your experiences overall.

The following questions are not specific to the situation (teacher, class, peer).

21. **19. I am able to monitor my length of speech when I observe other's reactions indicating I may be sharing too much information or they are not interested in my topic.** *

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

22. **20. I am able to filter my thoughts (adjust what I am saying) when I realize that what I am saying is causing a negative reaction.** *

Mark only one oval.

◯ Completely Disagree

◯ Completely Agree

23. **21. I am surprised by others reactions to what I have to say. ***

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

24. **22. I feel comfortable selecting or joining a group when the teacher gives instructions to work with a group? ***

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

25. **23. I prefer for the teacher to assign groups instead of having to choose a group. ***

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

26. **24. I am often surprised or caught off guard by other's actions. ***

Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

27. **25. I am aware of keeping my body facing toward the group when talking to the group ***

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

28. **26. I feel confident knowing when is the right time to respond to others joking around. ***

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

29. **27. I am able to monitor my emotional reactions appropriate to the situation around me.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

30. **28. Staying on topic is easy for me.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

31. **29. It is hard for me to talk about a topic that I am not interested in.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

32. **30. It is hard for me to be flexible and consider other's ideas when working in a group.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

33. **31. I get stuck on the details and have a hard time getting the big picture or main idea.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

34. **32. I am able to make jokes at the right time (not during instruction or group work)** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

35. **33. I am comfortable when other people are making jokes.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

36. **34. I can tell the difference when others are being serious and when they are joking around.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

37. **35. I would like to improve my academic interactions and social communication skills** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

38. **36. I would like to make a goal to be better at** *

_____

_____

_____

_____

_____

39. **37. I would like to learn more about** *

_____

_____

_____

_____

_____

The next group of questions is to understand how students are interacting socially in the classroom.

Please answer honestly and do not share your answers with others as it may be hurtful to them.

If you do not feel comfortable answering the question you can state, "no comment".

40. **Name one student who you like to sit near in class?** *

_____

41. **What is it about that student or how they make you feel that you want to sit near them in class?** *

_____

_____

_____

_____

_____

42. **Name another student who you like to sit near in class?** *

_____

43. **What is it about that student or how they make you feel that you want to sit near them in class?** *

_____

_____

_____

_____

_____

44. **Name one student who you prefer not to sit near in class?** *

_____

45. **What is it about that student or how they make you feel that you that makes it hard to sit near them in class?** *

_____

_____

_____

_____

_____

46. **Name another student who you prefer not to sit near in class?** *

_____

47. **What is it about that student or how they make you feel that you that makes it hard to sit near them in class?** *

_____
_____
_____
_____
_____

48. **Name one student who you prefer to hang out with during recess?** *

_____

49. **What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?** *

_____
_____
_____
_____
_____

50. **Name another student who you prefer to hang out with during recess?** *

_____

51. **What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?** *

_____
_____
_____
_____
_____

52. **Name one student who you prefer not to hang out with during recess?** *

_____

53. **What is it about that student or how they make you feel that you that makes it hard to hang out with during recess?** *

_____

_____

_____

_____

_____

54. **Name another student who you prefer not to hang out with during recess?** *

_____

55. **What is it about that person or how they make you feel that you that makes it hard to sit near them in class?** *

_____

_____

_____

_____

_____

56. **Name one student you would like to invite to do something outside of school such as come to your birthday party?** *

_____

57. **Why would you like to invite him or her?** *

_____

_____

_____

_____

_____

58. **Name another student you would like to invite to do something outside of school such as come to your birthday party?** *

_____

_____

_____

_____

_____

59. **Why would you like to invite him or her?** *

_____

_____

_____

_____

_____

60. **Name one student you would prefer to not spend time with outside of school such as invite to your birthday party?** *

_____

61. **Why would you prefer to not invite him or her?** *

_____

_____

_____

_____

_____

62. **Name another student you would prefer to not spend time with outside of school such as invite to your birthday party?** *

_____

_____

_____

_____

_____

63. **Why would you prefer to not invite him or her?** *

_____

_____

_____

_____

_____

Thank You!

Your input is helpful in understanding how I can best help you be successful in school. At the end of the school year, we may ask you to fill this out again to see if your thoughts have changed after having learned more about social and emotional learning. Sincerely, Ms. Burke

Powered by
Google Forms

APPENDIX I

Student Reflection Survey Post Intervention

Student Reflection of Social Learning.

Reflection on your experiences this school year.

* Required

1. **Email address** *

   _____

2. **I feel most successful in** *
   Mark only one oval.

   ( ) Math

   ( ) Language Arts

   ( ) History

   ( ) Science

   ( ) Physical Fitness

   ( ) Elective

   ( ) Other: _____

3. **I feel successful in this class because**
   Check all that apply.

	Yes	No	Prefer not to say
Subject is easy	☐	☐	☐
Subject is interesting	☐	☐	☐
Time of day	☐	☐	☐
Teacher Instruction	☐	☐	☐
Teacher personality	☐	☐	☐
Peer relationships	☐	☐	☐

4. **Looking back at last year, a favorite learning moment for me in this class was**

   _____

   _____

   _____

   _____

   _____

5. **I have the most difficulty in** *

Mark only one oval.

( ) Math

( ) Language Arts

( ) History

( ) Science

( ) Physical Fitness

( ) Electives

( ) Other: _____

6. **Looking back at last year, in my hardest class (mentioned above) I was able to learn**

_____

_____

_____

_____

_____

7. **I feel that this class was hard for me because of** *

Check all that apply.

	Yes	No	Prefer not to say
Subject was challenging	☐	☐	☐
Time of day was difficult	☐	☐	☐
Teacher personality	☐	☐	☐
Difficulty with peers	☐	☐	☐
Subject is boring	☐	☐	☐
Teacher intruction	☐	☐	☐

8. **If I could choose my teacher, I would want someone who was**

_____

_____

_____

_____

_____

Social Learning

The following group of questions are the same as before. The study will look to see if any of this has changed for you from the previous time you took the survey.

I participate in class discussions only when the teacher calls on me. *
Mark only one oval.

15. **I am able to ask for help when I don't understand directions. ***
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

16. **It is difficult for me to work in a group. ***
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

17. **I am able to work independently in class without prompts from an adult to stay on task. ***
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

18. **I am able to work with a partner without conflicts. ***
Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

19. **I am able to follow the teacher's plan and make a smart guess what is happening next. ***
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

20. **I am able to stay focused when the teacher is talking. ***
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

21. **I am able to figure out the teachers directions without additional instructions.** *
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

22. **I am able to monitor my length of speech when I observe other's reactions indicating I may be sharing too much information or they are not interested in my topic.** *
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

23. **I am able to filter my thoughts (adjust what I am saying) when I realize that what I am saying is causing a negative reaction.** *
   Mark only one oval.

   ◯ Completely Disagree
   ◯ Completely Agree

24. **I prefer for the teacher to assign groups instead of having to choose a group.** *
   Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

25. **I am aware of keeping my body facing toward the group when talking to the group** *
   Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

26. **I feel confident knowing when is the right time to respond to others joking around.** *
   Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

27. **I am able to monitor my emotional reactions appropriate to the situation around me.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

28. **Staying on topic is easy for me.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

29. **It is hard for me to talk about a topic that I am not interested in.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

30. **It is hard for me to be flexible and consider other's ideas when working in a group.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

31. **I get stuck on the details and have a hard time getting the big picture or main idea.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

32. **I am able to make jokes at the right time (not during instruction or group work)** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

33. **I am comfortable when other people are making jokes.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

34. **I can tell the difference when others are being serious and when they are joking around.** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

35. **I would like to improve my academic interactions and social communication skills** *
Mark only one oval.

	1	2	3	4	5	
Completely Disagree	◯	◯	◯	◯	◯	Completely Agree

36. **I would like to make a goal to be better at** *

_____

_____

_____

_____

_____

37. **I would like to learn more about** *

_____

_____

_____

_____

_____

The next group of questions is to understand how students are interacting socially in the classroom.

Please answer honestly and do not share your answers with others as it may be hurtful to them. If you do not feel comfortable answering the question you can state, "no comment". These are

the same questions as before. As a researcher, I will be looking to see if new experiences change how you see your peers.

38. **Name one student who you like to sit near in class? ***

_____

39. **What is it about that student or how they make you feel that you want to sit near them in class? ***

_____
_____
_____
_____
_____

40. **Name another student who you like to sit near in class? ***

_____

41. **What is it about that student or how they make you feel that you want to sit near them in class? ***

_____
_____
_____
_____
_____

42. **Name one student who you prefer not to sit near in class? ***

_____

43. **What is it about that student or how they make you feel that you that makes it hard to sit near them in class? ***

_____
_____
_____
_____
_____

44. **Name another student who you prefer not to sit near in class?** *

_____

45. **What is it about that student or how they make you feel that you that makes it hard to sit near them in class?** *

_____

_____

_____

_____

_____

46. **Name one student who you prefer to hang out with during recess?** *

_____

47. **What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?** *

_____

_____

_____

_____

_____

48. **Name another student who you prefer to hang out with during recess?** *

_____

49. **What is it about that student or how they make you feel that makes it comfortable to hang out with at recess?** *

_____

_____

_____

_____

_____

50. **Name one student who you prefer not to hang out with during recess?** *

_____

51. **What is it about that student or how they make you feel that you that makes it hard to hang out with during recess? ***

---

52. **Name another student who you prefer not to hang out with during recess? ***

---

53. **What is it about that person or how they make you feel that you that makes it hard to sit near them in class? ***

---

54. **Name one student you would like to invite to do something outside of school such as come to your birthday party? ***

---

55. **Why would you like to invite him or her? ***

---

56. **Name another student you would like to invite to do something outside of school such as come to your birthday party?** *

_____

_____

_____

_____

_____

57. **Why would you like to invite him or her?** *

_____

_____

_____

_____

_____

58. **Name one student you would prefer to not spend time with outside of school such as invite to your birthday party?** *

_____

59. **Why would you prefer to not invite him or her?** *

_____

_____

_____

_____

_____

60. **Name another student you would prefer to not spend time with outside of school such as invite to your birthday party?** *

_____

_____

_____

_____

_____

61. **Why would you prefer to not invite him or her?** *

_____

_____

_____

_____

_____

Thank You!

Your input is helpful in understanding how I can best help you be successful in school. At the end of the school year, we may ask you to fill this out again to see if your thoughts have changed after having learned more about social and emotional learning. Sincerely, Ms. Burke

Powered by

Google Forms

APPENDIX J

Teacher Observation Rubric: AISCS

Academic Interaction & Social Communication Skills
Developed by Elizabeth Burke, M. ED

Student Name _____ Class/Teacher _____ Date: _____

Time In: _____ Time Out: _____. Class Lesson/Activity: _____

_____Observed By: _____

Directions: Circle description under Number Scale between 1 to 4 that best describes students ability to demonstrate targeted skill.
For items not observed mark through the item and note in observation column *(i.e. humor relatedness: student was engaged in independent activity and did not observe humor attempt).* Other notes helpful can be included such as: student was able to follow first step of two step directions and needed prompts to follow the second step. This assessment is intended to provide an overview of skills of the student.

Rubric for Assessing Academic Interactions & Social Communication Skills in the Classroom

ATTENDING	1	2	3	4	Observation Notes:
Body in group and thinking with eyes. *Is the student able to monitor keeping their body and brain in the group as needed to take in information and show thinking of others?*	Needs constant adult prompts to turn body toward the speaker/group and show thinking about the speaker or group (eyes).	Is able to turn body toward the speaker/group and show thinking with eyes frequent adult prompts	Somewhat consistent with turning body toward the speaker/group and show thinking with eyes with minimal adult cues.	Is able to turn body toward the speaker/group and show thinking of others in a manner consistent with peer group. Adult cues similar to others.	
Follow Directions & Transitions *Is the student able to demonstrate they are attending by following transitions and the teacher's plan?*	Needs constant adult prompts to follow teacher's plan including transitions. Whole Group, Small Group, Independent Work	Is able to follow teacher's plan including transitions with frequent adult prompts	Somewhat consistent with following the teacher's plan including transitions with minimal adult cues.	Is able to follow the teacher's plan including transitions in a manner consistent with peer group. Adult cues similar to others.	
				ATTENDING:	

EBURKE 2019

COLLABORATE	1	2	3	4	Observation Notes:
Flexible *Is the student able to demonstrate flexibility in considering other's ideas?*	Does not demonstrate flexibility, insists on their ideas only and needs constant adult prompting to follow the group plan.	Is able to demonstrate some flexibility, considering other's ideas with frequent adult prompts.	Somewhat able to demonstrate flexibility in considering other's ideas with minimal adult cues.	Able to demonstrate flexibility in considering peers ideas consistent with peer group. Adult cues similar to others.	
Monitor Speech *Is the student able to monitor their speech (language and tone of voice) and adjust based on the response of others?*	Does not monitor speech (language and tone of voice) and needs constant adult prompting to adjust in response to peers.	Is able to monitor speech (language and tone of voice) with frequent adult prompts.	Somewhat able to monitor speech (language and tone of voice) with minimal adult cues.	Able to monitor speech (language and tone of voice) and adjust based on response of peers in a manner consistent with peer group. Adult cues similar to others.	
Shared Imagination *Is the student able to demonstrate they are able to engage in a share topic/discussion?*	Does not express ideas in close proximity to topic (i.e. response is off topic or misses concepts) and requires adult prompts to bring focus on discussion.	Is able to express ideas in close proximity to topic with frequent adult prompts.	Somewhat consistent with expressing ideas in close proximity to topic with minimal adult cues.	Able to express ideas in close proximity to topic in a manner consistent with peer group. Adult cues similar to others.	
Turn Taking *Is the student able to monitor their length of speech, as needed for turn taking?*	Does not monitor the length of his/her own speech and needs constant adult prompting to monitor the group and engage in turn taking.	Is able to monitor the length of his/her own speech and engage in turn taking with frequent adult prompts.	Somewhat consistent with monitoring the length of his/her own speech and engage in in turn taking with minimal adult cues.	Able to monitor the length of his/her own speech and engage in turn taking in a manner consistent with peer group. Adult cues similar to others.	
				COLLABORATE:	

EBURKE 2019

CONNECTION & HUMAN RELATEDNESS	1	2	3	4	Observation Notes:
Understands Humor *Is the student able to demonstrate how to use humor to relate to others?*	Does not attempt humor or humor appropriately (content and timing) needs constant adult prompting to monitor content and timing.	Is able to attempt humor appropriately (content and timing) with frequent adult prompts.	Somewhat consistent with attempting humor appropriately (content and timing) with minimal adult cues.	Able to attempt humor appropriately (content and timing) in a manner consistent with peer group. Adult cues similar to others.	
Response to Humor *Is the student able to demonstrate appropriate emotional response to other's use of humor?*	Does not respond to other's humor appropriately (ie. big reaction, negative comment) needs constant adult prompting to respond differently.	Is able to respond to others humor appropriately with frequent adult prompts.	Somewhat consistent with responding to other's attempt at humor appropriately with minimal adult cues.	Able to respond to other's humor appropriately in a manner consistent with peer group. Adult cues similar to others.	
Attempts Connection *Does the student demonstrate an attempt to connect with peers with friendly comment or action?*	Does not attempt to relate to peers, preferring to stay to in their own world and needs constant adult prompting to connect with others.	Is able to connect with peers (ie. friendly words or actions) appropriately with frequent adult prompts.	Somewhat consistent with peers (i.e. friendly words or actions) appropriately with minimal adult cues.	Able to attempt connection with peers (i. friendly words or actions) in a manner consistent with peer group. Adult cues similar to others.	
Emotional Response *Does the student demonstrate an appropriate emotional response to peers?*	Does not response appropriately to other's attempt to connect (i.e. big reactions, misreads intentions) and needs constant adult prompting to respond to other's appropriately.	Is able to respond appropriately to other's attempt to connect (i.e. friendly words or actions) appropriately with frequent adult prompts.	Somewhat consistent with peers (i.e. friendly words or actions) appropriately with minimal adult cues.	Able to respond appropriately to other's attempts to connect (i.e. friendly words or actions) in a manner consistent with peer group. Adult cues similar to others.	
				CONNECTION AND HUMAN RELATEDNESS	

ACADEMICS: Inference & Main Idea	1	2	3	4	Observation Notes:
Academic Language *Is the student able to use academic language as appropriate to the content?*	Does not use academic language in context of the content and needs constant adult prompting to use academic language.	Is able to use academic language in the context of the content with frequent adult prompts.	Somewhat consistent with using academic language in the context of the content with minimal adult cues.	Able to demonstrate understanding of the content by using academic language in a manner consistent with peer group. Adult cues similar to others	
Infer Meaning *Is the student able to infer the overall meaning within the context of the content beyond literal interpretation?*	Does not demonstrate understanding of the content beyond literal interpretation and needs constant adult prompting to make connections.	Is able to demonstrate understanding of the content beyond literal interpretation with frequent adult prompts.	Somewhat consistent with demonstrating understanding of the content beyond literal interpretation with minimal adult cues.	Able to demonstrate understanding of the content beyond literal interpretation in a manner consistent with peer group. Adult cues similar to others.	
Writing on Topic *Is the student able to express their ideas in response to the topic?*	Does not demonstrate ability to respond to the question accurately and needs constant adult prompting to express ideas in alignment with topic.	Is able to express their ideas in response to the topic with frequent adult prompts.	Somewhat consistent with demonstrating an ability to express their ideas in response to the topic with minimal adult cues.	Able to demonstrate an ability to express ideas that respond directly to the topic in a manner consistent with peer group. Adult cues similar to others.	
Writing with Evidence Is the student able to support their ideas with evidence and/or explanation?	Does not demonstrate ability to generate a main idea and needs constant adult prompting to generate a main idea prior to adding the details.	Is able to generate a main idea and support with evidence and/or explanation with frequent adult prompts.	Somewhat consistent with demonstrating an ability to generate a main idea and support with evidence and/or explanation with frequent adult prompts.	Able to demonstrate an ability to generate a main idea and support with evidence and/or explanation consistent with peer group. Adult cues similar to peers.	
				ACADEMIC CONTENT	

EBURKE 2019

INITIATE ACTION	1	2	3	4	Observation Notes:
Asking for Clarifying Question *Is the student able to ask for help or a clarifying question when they do not understand or looking for feedback?*	Does not ask for help or a clarifying question when he/she does not understand or looking for feedback and needs constant adult prompting when not working.	Is able to ask for help or a clarifying question when needing directions or feedback with frequent adult prompting.	Is able to ask for help or a clarifying question when needing directions or feedback with minimal adult cues.	Able to ask for help or a clarifying question when needing directions or feedback in a manner consistent with peer group. Adult cues similar to others.	
Getting Materials *Is the student able to get our materials needed to get started with either individual or group work?*	Does not have materials ready to get started or initiate gathering materials and requires constant adult prompting to get out pencil, book, lab materials, etc.	Is able to get out materials needed to get started and/or ask for help with frequent adult prompting.	Somewhat consistent with getting materials out as needed to get started and/or ask for help with minimal adult cues.	Able to get materials (i.e. book, pencil, lab supplies) and/or ask for needed materials in a manner consistent with peer group. Adult cues similar to others.	
Getting Started on Assignments *Is the student able to get started on individual or group work?*	Does not get started on assignment and requires constant adult prompting to monitor what he/she should be doing by observing peers and getting started.	Is able to get started on assignments and/or monitor what he/she should be doing by observing peers with frequent adult prompting.	Somewhat consistent with getting started on assignments and/or monitor what he/she should be doing with minimal adult cues.	Able to get started on classwork in a manner consistent with peer group. Adult cues similar to others.	
				INITIATE ACTION	
				TOTAL POINTS	

SCORING: For each section total points. Add section points for and record in the total points section.

INITIATE COMMUNICATION	1	2	3	4	Observation Notes:
Peer Communication *Is the student able to initiate communication with peer?*	Does not demonstrate ability to initiate communication and needs constant adult prompting to initiate communication when directed by the teacher to work with a peer.	Is able to initiate communication when directed by teacher to work with a peer with frequent adult prompts.	Somewhat consistent with demonstrating an ability to initiate communication when directed by teacher to work with a peer with minimal adult cues.	Able to initiate communication with peer when directed by teacher to work with a peer in a manner consistent with peer group. Adult cues similar to others.	
Small Group Interaction *Is the student able to join a group?*	Does not demonstrate the ability to join a group appropriately and needs constant adult prompting to join a group, and identify role/responsibility.	Is able to demonstrate an ability to join a group and identify role/responsibility appropriately when given direction by the teacher to work in groups with frequent adult prompts.	Somewhat consistent with demonstrating an ability to join a group appropriately including identifying role/responsibility when given direction by the teacher to work in a group with minimal adult cues.	Able to join a group appropriately including identifying role/responsibility in a manner consistent with peer group. Adult cues similar to others.	
Whole Class Discussion *Is the student able to engage in whole class discussion?*	Does not participate in class discussion appropriately (i.e. blurts out, doesn't participate) and requires constant adult prompting to wait on the right time (raise hand, take turns) and participate.	Is able to demonstrate an ability to participate in class discussions appropriately (raise hand, take turns) with frequent adult prompts.	Somewhat consistent with demonstrating an ability to participate in class discussions appropriately (raise hand, take turns) with minimal adult cues.	Able to participate in class discussion voluntarily in a manner consistent with peer group. Adult cues similar to others.	
				INITIATE COMMUNICATION	

EBURKE 2019

Record concerning / disruptive behaviors below:

Antecedent *(trigger event)*	Observed Behavior	Consequence *(Result/Benefit)*

Note additional comments and/or concerns including insights into possible functions of the behavior and influence of classroom culture.

APPENDIX K

Student Rating Scale (SSIS=SEL) Sample Score Report

SSIS™ SEL Edition Student Form
Social Skills Improvement System™ Social-Emotional Learning Edition
Score Summary Report
Frank M. Gresham, PhD & Stephen N. Elliott, PhD

Student Information

ID:	112233445566
Name:	Jane A Sample
Gender:	Female
Birth Date:	12/22/2006
Age:	9:9
Grade:	2nd Grade
School/Center:	Sample School

Test Information

Test Date:	09/23/2016
Norm Group:	Gender-Specific (Female)
Confidence Interval:	95%
Administration Language	English

Additional Comments: Example of text appearing in the comments

ALWAYS LEARNING

PEARSON

Score Profile

Score Table

	SEL	SA	SM	SO	RS	RDM	CS
Standard Score	67	69	80	73	66	72	72
Confidence Interval	63-71	61-77	73-87	66-80	60-72	64-80	65-79
Percentile Rank	3	3	10	6	3	5	5
Raw Score	360	12	12	9	20	8	15

Response Pattern Index: Raw Score = 33, Acceptable

SCORE SUMMARY

This report is based on the respondent's rating of Jane's social-emotional behavior using the SSIS SEL Edition Student Form. The narrative and performance levels in this report are based on scores obtained using Gender-Specific norms.

The SSIS SEL Edition Student Form measures students' social-emotional skills. The social-emotional skills represent five competencies: Self-Awareness, Self-Management, Social Awareness, Relationship Skills, and Responsible Decision Making. Scores are provided for each of the five SEL competencies. In addition, scores are provided for the SEL Composite scale, representing an overall index of social-emotional functioning, as well as for the Core Skills scale, a score that represents functioning on 10 core social-emotional skills. Raw scores are provided, along with standard scores (M = 100, SD = 15) and percentile ranks. Higher scores indicate higher, more desirable levels of functioning.

SEL Composite

Jane's SEL Composite scale standard score is 67, with a 95% confidence interval range of 63 to 71 and a percentile rank of 3. Her score falls in the Well-below Average interpretive range. Scores in this range typically indicate significant problems with overall social-emotional functioning. Students at this level will typically exhibit very few of the basic SEL competency skills and likely will experience co-occurring academic difficulties. Students at this level require intensive social-emotional skills instruction that focuses on the basic expectations for each competency. Initially, such instruction might need to be done individually or with only one other student, in an effort to teach basic skills and increase opportunities to respond.

Self-Awareness

Jane's Self-Awareness standard score is 69, with a 95% confidence interval range of 61 to 77 and a percentile rank of 3. Her score falls in the Well-below Average interpretive range. Scores in this range typically indicate significant problems with self-awareness skills. Students at this level generally demonstrate few self-awareness skills and are unable to recognize their emotions and how they can influence behavior. They are unable to assess their strengths and weaknesses and describe their feelings. Students at this level are in need of additional instruction to develop basic self-awareness skills.

Self-Management

Jane's Self-Management standard score is 80, with a 95% confidence interval range of 73 to 87 and a percentile rank of 10. Her score falls in the Below Average interpretive range. Scores in this range typically indicate problems with self-management skills. Students at this level generally demonstrate problems staying calm in a variety of situations and ignoring distractions from others. They may have difficulty setting basic goals and achieving them, and they may require prompts or reminders to do the things that are expected of them. Students at this level are likely in need of additional instruction to develop their self-management skills.

Social Awareness

Jane's Social Awareness standard score is 73, with a 95% confidence interval range of 66 to 80 and a percentile rank of 6. Her score falls in the Below Average interpretive range. Scores in this range typically indicate problems with social awareness skills. Students at this level have difficulty recognizing and/or understanding how others feel, and they may experience problems offering support to others when needed. They may not consistently follow rules or act fairly with others. They may also have difficulty recognizing support and resources from others that are available to them. Students at this level are likely in need of additional instruction to develop their social awareness skills.

Skill Development Opportunities

Self-Awareness	Self-Management	Social Awareness	Relationship Skills	Responsible Decision Making
I say "please" when I ask for things. I pay attention when others present their ideas. I say nice things about myself without bragging. I am well-behaved. I let people know when there's a problem.	I ignore others who act up in class. I stay calm when I am teased. I stay calm when people point out my mistakes. I stay calm when dealing with problems. I pay attention when the teacher talks to the class.	I help my friends when they are having a problem. I try to make others feel better. I try to think about how others feel. I am nice to others when they are feeling bad.	I ask for information when I need it. I try to forgive others when they say "sorry." I do what the teacher asks me to do. I look at people when I talk to them. I ask others to do things with me. I meet and greet new people on my own. I smile or wave at people when I see them. I say "thank you" when someone helps me. I try to make new friends. I get along with other children/adolescents.	I do my homework on time. I do the right thing without being told. I tell people when I have made a mistake.

ITEM RESPONSES BY SCALE

Self-Awareness

1. I say "please" when I ask for things. (Not true)
4. I pay attention when others present their ideas. (A little true)
8. I do my part in a group. (A lot true)
10. I am polite when I speak to others. (A lot true)
25. I say nice things about myself without bragging. (Not true)
29. I am well-behaved. (Not true)
32. I ask for help when I need it. (Very true)
35. I tell others when I'm not treated well. (Very true)
42. I let people know when there's a problem. (A little true)

Self-Management

5. I ignore others who act up in class. (A little true)
14. I stay calm when I disagree with others. (Very true)
17. I try to find a good way to end a disagreement. (A lot true)

19. I do my work without bothering others. (Very true)
21. I stay calm when I am teased. (A little true)
26. I stay calm when people point out my mistakes. (Not true)
31. I stay calm when dealing with problems. (Not true)
41. I stay calm when others bother me. (A lot true)
45. I pay attention when the teacher talks to the class. (Not true)

Social Awareness

3. I stand up for others when they are not treated well. (Very true)
7. I feel bad when others are sad. (Very true)
11. I show others how I feel. (Very true)
15. I help my friends when they are having a problem. (Not true)
24. I try to make others feel better. (Not true)
27. I try to think about how others feel. (Not true)
37. I am nice to others when they are feeling bad. (Not true)

Relationship Skills

6. I ask for information when I need it. (A little true)
9. I try to forgive others when they say "sorry." (Not true)
12. I do what the teacher asks me to do. (A little true)
16. I look at people when I talk to them. (A little true)
18. I make friends easily. (A lot true)
20. I take turns when I talk with others. (Very true)
23. I ask others to do things with me. (Not true)
28. I meet and greet new people on my own. (A little true)
30. I smile or wave at people when I see them. (A little true)
33. I play games with others. (Very true)
36. I work well with my classmates. (A lot true)
38. I ask to join others when they are doing things I like. (A lot true)
40. I say "thank you" when someone helps me. (A little true)
43. I try to make new friends. (A little true)
46. I get along with other children/adolescents. (A little true)

Responsible Decision Making

2. I'm careful when I use things that aren't mine. (A lot true)
13. I keep my promises. (A lot true)
22. I follow school rules. (A lot true)
34. I do my homework on time. (A little true)
39. I do the right thing without being told. (A little true)
44. I tell people when I have made a mistake. (Not true)

CLASSWIDE INTERVENTION PROGRAM STRATEGIES

Self-Awareness
Behavior Level: Well-below Average
CIP Skill Units to Consider: 5, 11, 22

	CIP Unit
Performance Deficits	
4. I pay attention when others present their ideas. (A little true)	1
42. I let people know when there's a problem. (A little true)	13
Acquisition Deficits	
1. I say "please" when I ask for things. (Not true)	2
25. I say nice things about myself without bragging. (Not true)	11
29. I am well-behaved. (Not true)	3

Self-Management
Behavior Level: Below Average
CIP Skill Units to Consider: 1, 3, 4, 8, 13, 18

	CIP Unit
Performance Deficits	
5. I ignore others who act up in class. (A little true)	4
21. I stay calm when I am teased. (A little true)	8
Acquisition Deficits	
26. I stay calm when people point out my mistakes. (Not true)	8
31. I stay calm when dealing with problems. (Not true)	8
45. I pay attention when the teacher talks to the class. (Not true)	1

Social Awareness
Behavior Level: Below Average
CIP Skill Units to Consider: 10, 19, 20

	CIP Unit
Performance Deficits	
Acquisition Deficits	
15. I help my friends when they are having a problem. (Not true)	10
24. I try to make others feel better. (Not true)	20
27. I try to think about how others feel. (Not true)	20
37. I am nice to others when they are feeling bad. (Not true)	20

Relationship Skills

Behavior Level: Well-below Average
CIP Skill Units to Consider: 2, 6, 7, 16, 17, 21

	CIP Unit
Performance Deficits	
6. I ask for information when I need it. (A little true)	7
12. I do what the teacher asks me to do. (A little true)	7
16. I look at people when I talk to them. (A little true)	6
28. I meet and greet new people on my own. (A little true)	17
30. I smile or wave at people when I see them. (A little true)	7
40. I say "thank you" when someone helps me. (A little true)	2
43. I try to make new friends. (A little true)	16
46. I get along with other children/adolescents. (A little true)	7
Acquisition Deficits	
9. I try to forgive others when they say "sorry." (Not true)	7
23. I ask others to do things with me. (Not true)	16

Responsible Decision Making

Behavior Level: Below Average
CIP Skill Units to Consider: 9, 12, 14, 15, 23

	CIP Unit
Performance Deficits	
34. I do my homework on time. (A little true)	9
39. I do the right thing without being told. (A little true)	9
Acquisition Deficits	
44. I tell people when I have made a mistake. (Not true)	12

End of Report

ITEM RESPONSES

1: 0	2: 2	3: 3	4: 1	5: 1	6: 1	7: 3	8: 2	9: 0	10: 2
11: 3	12: 1	13: 2	14: 3	15: 0	16: 1	17: 2	18: 2	19: 3	20: 3
21: 1	22: 2	23: 0	24: 0	25: 0	26: 0	27: 0	28: 1	29: 0	30: 1
31: 0	32: 3	33: 3	34: 1	35: 3	36: 2	37: 0	38: 2	39: 1	40: 1
41: 2	42: 1	43: 1	44: 0	45: 0	46: 1				

APPENDIX L

Teacher Rating Scale (SSIS=SEL) Sample Score Report

SSIS™ SEL

Social–Emotional Learning Edition

SSIS™ SEL Edition Teacher Form
Social Skills Improvement System™ Social-Emotional Learning Edition
Score Summary Report
Frank M. Gresham, PhD & Stephen N. Elliott, PhD

Student Information

ID:	998877665544
Name:	Matthew Sample
Gender:	Female
Birth Date:	06/19/1996
Age:	17:0
Grade:	11th Grade
School/Center:	Sample School

Test Information

Test Date:	06/22/2013
Teacher's Name:	John Sample Teacher
Position:	Special-education teacher
Time Known Child:	3 months
Class Type:	
Norm Group:	Gender-Specific (Female)
Confidence Interval:	95%

Additional Comments: This is an example of Comments field text.

PsychCorp

[1.0 / RE1 / QG1]

ALWAYS LEARNING
PEARSON

Score Profile

Score Table

	SEL	SA	SM	SO	RS	RDM	CS	AC
Standard Score	64	61	68	84	62	73	66	90
Confidence Interval	59-69	50-72	59-77	74-94	53-71	61-85	57-75	83-97
Percentile Rank	1	2	2	14	1	4	2	24
Raw Score	348	9	17	9	12	10	10	14

Response Pattern Index: Raw Score = 33, Acceptable

SCORE SUMMARY

This report is based on John Sample Teacher's rating of Matthew's social-emotional behavior using the SSIS SEL Edition Teacher Form. The narrative and performance levels in this report are based on scores obtained using Gender-Specific norms.

The SSIS SEL Edition Teacher Form measures students' social-emotional and academic competence skill levels. The social-emotional skills represent five competencies: Self-Awareness, Self-Management, Social Awareness, Relationship Skills, and Responsible Decision Making. Academic Competence is based on a student's motivation to learn, as well as his or her reading and mathematics skills. Scores are provided for each of the five SEL competencies and for Academic Competence. In addition, scores are provided for the SEL Composite scale, representing an overall index of social-emotional functioning, as well as for the Core Skills scale, a score that represents functioning on 10 core social-emotional skills. Raw scores are provided, along with standard scores (M = 100, SD = 15) and percentile ranks. Higher scores indicate higher, more desirable levels of functioning.

SEL Composite
Matthew's SEL Composite scale standard score is 64, with a 95% confidence interval range of 59 to 69 and a percentile rank of 1. His score falls in the Well-below Average interpretive range. Scores in this range typically indicate significant problems with overall social-emotional functioning. Students at this level will typically exhibit very few of the basic SEL competency skills and likely will experience co-occurring academic difficulties. Students at this level require intensive social-emotional skills instruction that focuses on the basic expectations for each competency. Initially, such instruction might need to be done individually or with only one other student, in an effort to teach basic skills and increase opportunities to respond.

Self-Awareness
Matthew's Self-Awareness standard score is 61, with a 95% confidence interval range of 50 to 72 and a percentile rank of 2. His score falls in the Well-below Average interpretive range. Scores in this range typically indicate significant problems with self-awareness skills. Students at this level generally demonstrate few self-awareness skills and are unable to recognize their emotions and how they can influence behavior. They are unable to assess their strengths and weaknesses and describe their feelings. Students at this level are in need of additional instruction to develop basic self-awareness skills.

Self-Management
Matthew's Self-Management standard score is 68, with a 95% confidence interval range of 59 to 77 and a percentile rank of 2. His score falls in the Well-below Average interpretive range. Scores in this range typically indicate significant problems with self-management skills. Students at this level generally demonstrate significant problems staying calm in a variety of situations and ignoring distractions from others. They will likely have difficulty setting basic goals and achieving them, and they will require prompts or reminders to do the things that are expected of them. Students at this level are in need of additional instruction to develop their self-management skills.

Social Awareness
Matthew's Social Awareness standard score is 84, with a 95% confidence interval range of 74 to 94 and a percentile rank of 14. His score falls in the Below Average interpretive range. Scores in this range typically indicate problems with social awareness skills. Students at this level have difficulty recognizing and/or understanding how others feel, and they may experience problems offering support to others when needed. They may not consistently follow rules or act fairly with others. They may also have difficulty recognizing support and resources from others that are available to them. Students at this level are likely in need of additional instruction to develop their social awareness skills.

Relationship Skills

Matthew's Relationship Skills standard score is 62, with a 95% confidence interval range of 53 to 71 and a percentile rank of 1. His score falls in the Well-below Average interpretive range. Scores in this range typically indicate significant problems with relationship skills. Students at this level have significant problems forming relationships with others. They struggle with communicating with others and are viewed as uncooperative. Students at this level are in need of additional instruction to develop their relationship skills.

Responsible Decision Making

Matthew's Responsible Decision Making standard score is 73, with a 95% confidence interval range of 61 to 85 and a percentile rank of 4. His score falls in the Below Average interpretive range. Scores in this range typically indicate problems with making good decisions. Students at this level make decisions about personal behavior that are often not consistent with social norms and expectations. They may not demonstrate accountability for their choices and behavior, and they may not consistently respect rules and adhere to them. Students at this level are likely in need of additional instruction to develop their decision-making skills.

Core Skills

Matthew's Core Skills standard score is 66, with a 95% confidence interval range of 57 to 75 and a percentile rank of 2. His score falls in the Well-below Average interpretive range. Scores in this range typically indicate students who are experiencing significant problems with the core social-emotional skills. Students at this level benefit from additional instruction to further improve their general social-emotional functioning.

Academic Competence

Matthew's Academic Competence standard score is 90, with a 95% confidence interval range of 83 to 97 and a percentile rank of 24. His score falls in the Average interpretive range. Scores in this range indicate a level of academic competence that is typical for the student's age. Students at this level generally are motivated to learn new things, and they typically demonstrate average performance in areas measuring reading and mathematics skills. Students at this level will typically benefit from additional instruction to improve their academic motivation and performance.

Skill Development Opportunities

Self-Awareness	Self-Management	Social Awareness	Relationship Skills	Responsible Decision Making
Asks for help from adults. Says nice things about herself/himself without bragging. Gets embarrassed easily. Acts sad or depressed. Acts anxious with others.	Uses appropriate language when upset. Completes tasks without bothering others. Stays calm when teased. Pays attention to your instructions. Takes criticism without getting upset. Stays calm when disagreeing with others. Follows classroom rules. Responds appropriately when pushed or hit. Expresses feelings when wronged.	Tries to comfort others. Feels bad when others are sad. Shows kindness to others when they are upset. Is nice to others when they are feeling bad. Shows concern for others.	Makes friends easily. Says "please." Makes a compromise during a conflict. Responds well when others start a conversation or activity. Interacts well with other children. Participates in games or group activities. Says "thank you." Starts conversations with peers. Makes eye contact when talking. Takes turns in conversations.	Stands up for herself/himself when treated unfairly. Respects the property of others. Takes responsibility for part of a group activity. Questions rules that may be unfair.

ITEM RESPONSES BY SCALE

Self-Awareness
  6. Asks for help from adults. (Never)
13. Gets embarrassed easily. (Often)
19. Says bad things about self. (Seldom)
32. Acts sad or depressed. (Often)
38. Acts lonely. (Seldom)
43. Says nice things about herself/himself without bragging. (Never)
48. Withdraws from others. (Never)
51. Acts anxious with others. (Almost always)

Self-Management
  5. Uses appropriate language when upset. (Never)
  7. Completes tasks without bothering others. (Never)
11. Follows your directions. (Often)
14. Says when there is a problem. (Almost always)
16. Has temper tantrums. (Seldom)

20. Stays calm when teased. (Seldom)
24. Pays attention to your instructions. (Never)
26. Ignores classmates when they are distracting. (Almost always)
29. Takes criticism without getting upset. (Seldom)
33. Stays calm when disagreeing with others. (Seldom)
35. Follows classroom rules. (Never)
39. Responds appropriately when pushed or hit. (Never)
42. Resolves disagreements with you calmly. (Often)
44. Expresses feelings when wronged. (Never)
47. Speaks in appropriate tone of voice. (Often)

Social Awareness

 3. Tries to comfort others. (Never)
12. Feels bad when others are sad. (Seldom)
17. Shows kindness to others when they are upset. (Seldom)
23. Forgives others. (Often)
27. Is nice to others when they are feeling bad. (Seldom)
36. Shows concern for others. (Seldom)
46. Stands up for others who are treated unfairly. (Almost always)

Relationship Skills

 1. Makes friends easily. (Seldom)
 4. Says "please." (Never)
 8. Makes a compromise during a conflict. (Seldom)
10. Responds well when others start a conversation or activity. (Seldom)
18. Interacts well with other children. (Never)
22. Joins activities that have already started. (Often)
28. Invites others to join in activities. (Almost always)
31. Participates in games or group activities. (Never)
34. Says "thank you." (Seldom)
37. Starts conversations with peers. (Seldom)
41. Introduces herself/himself to others. (Often)
45. Makes eye contact when talking. (Never)
49. Takes turns in conversations. (Never)

Responsible Decision Making

 2. Takes responsibility for her/his own actions. (Often)
 9. Is well-behaved when unsupervised. (Often)
15. Stands up for herself/himself when treated unfairly. (Never)
21. Acts responsibly when with others. (Almost always)
25. Takes care when using other people's things. (Often)
30. Respects the property of others. (Seldom)
40. Takes responsibility for part of a group activity. (Never)
50. Questions rules that may be unfair. (Never)

Academic Competence

52. Compared with other students in my classroom, the overall academic performance of this student is: (Lowest 10%)
53. In reading, how does this student compare with other students? (Next lowest 20%)
54. In mathematics, how does this student compare with other students? (Highest 10%)
55. In terms of grade-level expectations, this student's skills in reading are: (Highest 10%)
56. In terms of grade-level expectations, this student's skills in mathematics are: (Next lowest 20%)
57. This student's overall motivation to succeed academically is: (Highest 10%)
58. Compared with other students in my classroom, this student's intellectual functioning is: (Lowest 10%)

	CIP Unit
Performance Deficits	
12. Feels bad when others are sad. (Seldom)	20
17. Shows kindness to others when they are upset. (Seldom)	10
27. Is nice to others when they are feeling bad. (Seldom)	20
36. Shows concern for others. (Seldom)	19
Acquisition Deficits	
3. Tries to comfort others. (Never)	19

Relationship Skills

Behavior Level: Well-below Average
CIP Skill Units to Consider: 2, 6, 7, 16, 17, 21

	CIP Unit
Performance Deficits	
1. Makes friends easily. (Seldom)	7
8. Makes a compromise during a conflict. (Seldom)	21
10. Responds well when others start a conversation or activity. (Seldom)	16
34. Says "thank you." (Seldom)	2
37. Starts conversations with peers. (Seldom)	17
Acquisition Deficits	
4. Says "please." (Never)	2
18. Interacts well with other children. (Never)	7
31. Participates in games or group activities. (Never)	16
45. Makes eye contact when talking. (Never)	17
49. Takes turns in conversations. (Never)	6

Responsible Decision Making

Behavior Level: Below Average
CIP Skill Units to Consider: 9, 12, 14, 15, 23

	CIP Unit
Performance Deficits	
30. Respects the property of others. (Seldom)	14
Acquisition Deficits	
15. Stands up for herself/himself when treated unfairly. (Never)	9
40. Takes responsibility for part of a group activity. (Never)	15
50. Questions rules that may be unfair. (Never)	23

APPENDIX M

IRB Approval

CONCORDIA
UNIVERSITY IRVINE

INSTITUTIONAL REVIEW BOARD DECISION

☐ Exempt Review 45 CFR 46.101   ☑ Expedited Review 45 CFR 46.110   ☐ Full Board Review 45 CFR 46

Review Date	March 19, 2019
IRB#	5068
Title of Project	The Benefit of a Social Learning Intervention to Increase Self-efficacy, Motivation and Social Engagement.
Researcher/s	Elizabeth Burke

☑ **APPROVED**

Effective duration of IRB Approval: March 19, 2019 _____ to March 18, 2020 _____

This is a complex study with many different disparate pieces. Initially, I was confused about the actual variables being measured but they became clearer by the end of the proposal. Please test out your instruments so that they are not going to interfere with the educational activities of the students involved in the study. This is an important new criteria for reducing risks to subjects that are minors/students, especially for a vulnerable population like yours. Your research questions are fine, but question #5 should be removed as it cannot be answered empirically. Otherwise, this study is well-thought out and conscientiously designed.

For Exempt Approved, Please Note: *while your project is exempt from providing Informed Consent information to the IRB, your project must still obtain participants' informed consent.*
For Expedited and Full Board Approved, Please Note:
a.The IRB's approval is only for the project protocol named above. Any changes are subject to review and approval by the IRB.
b.Any adverse events must be reported to the IRB.
c.An annual report or report upon completion is required for each project. If the project is to continue beyond the twelve month period, a request for continuation of approval should be made in writing. Any deviations from the approved protocol should be noted.

☐ **NEEDS REVISION AND RESUBMISSION**

☐ **NOT APPROVED**

Printed Name IRB Reviewer   Eugene P. Kim, Ph.D. _____

Signature of IRB Reviewer   _____

APPENDIX N

Site Permission from Administrator

Appendix J

CONCORDIA
UNIVERSITY IRVINE

APPENDIX J: SITE AUTHORIZATION

Title of the Study	The Benefit Of A Social Learning Intervention To Increase Self-Efficacy, Motivation, And Social Engagement For Students With Autism.
Researcher/s	Elizabeth Burke
Researcher/s' Affiliation with Site	Education Specialist
Researcher/s' Phone Numbers	(650) 996-8159
Researcher/s' CUI Email Address (or other if non-CUI affiliated)	elizabeth.burke@eagles.cui.edu
Researcher/s' University Supervisor	Dr. Belinda Karge
University Supervisor's Phone & E-mail	(949) 214-3333; Belinda.karge@cui.edu
Location/s where Study will Occur	

Purpose of the Study (1-2 paragraphs):

The intent of this concurrent mixed methods study is to identify interventions for individuals with autism as needed to increase academic and social learning outcomes. In this study, self-efficacy surveys, classroom observations and social emotional behavior rating scales will be used to measure the relationship between the Social Learning Intervention and increased self-efficacy and social communication outcomes. At the same time, the perspective of individuals with autism in the inclusion experience and the teachers who teach them in a general education setting will be explored using samples of student work, interviews and a focus group. The reason for combining both quantitative and qualitative data is to better understand this research problem by converging both quantitative (numeric trends) and qualitative (detailed view) data and to advocate for interventions as needed for individuals with autism in the educational setting.

Research Questions (or Hypotheses)
1. Is there an increase in social interactions for academic learning among students with Autism who participate in the social learning tools intervention?
2. Can an increase in self-efficacy lead to increased social interactions for academic learning with students with Autism in the General Education Setting?
3. Can the Social Behavior Map™ and Reflection Journal™, as interventions, bridge the gap between social skills deficits and social learning expectations?
4. Can the Social Behavior Map™ and Reflection Journal™ as interventions increase self-efficacy in students with Autism?
5. How can we better understand the perspective of individuals with autism in the inclusion setting?

APPENDIX O

Parent Permission for Intervention Participants

CONCORDIA
UNIVERSITY IRVINE

PARENTAL INFORMED CONSENT

03/3/19

Dear Parent(s),

I will be conducting a study to determine if Social Learning Tools as an intervention for students participating in social skills instruction make progress with academic interactions and social communication skills. I will also be looking at student beliefs in their abilities (self-efficacy) as an additional component to the study. This is a part of my final research project for my doctoral degree at Concordia University Irvine, CA.

Participation in this study involves social skills instruction for 60 minutes per week through the end of the school year (June 2019).

I am writing to ask permission to use the data I collect from your child during this process. This may include student surveys, samples of student work, observations in the classroom. Occasionally, I may want to video and/or audio record teaching sessions with your child to analyze at a later date.

Jeremy Cavallaro has approved this study for implementation at
The benefits to your child for participating in this study include social skills instruction to support academic learning and social communication skills.

Adhering to the rules and regulations by the National Institutes of Health Office and Extramural Research minimizes potential risks to participants. Participants may opt out at any time during the study.

Only Belinda Karge, Ph.D, my University Supervisor, and I will have access to your child's identity and to information that can be associated to your child's identity. The data and documentation will be destroyed by March 1, 2020.

Use of data from your child is voluntary. You may contact me at any time regarding your child's participation. My phone number is 650-996-8159 and my e-mail is

Sincerely,
Elizabeth Burke, M. ED.; Education Specialist, Social Cognition Specialist

---

Please check the appropriate box below and sign the form:

☐ I give permission for my child's data to be used in this study. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.
☐ I do not give permission for my child's data to be included in this project.

Please indicate your consent or non-consent to the use of audio or video recordings of instruction with your child.

☐ Video recordings can be studied by the research team for use in the research project.
☐ Audio recordings can be studied by the research team for use in the research project
☐ Video recordings cannot be studied by the research team for use in the research project.
☐ Audio recordings cannot be studied by the research team for use in the research project

Student's Name:

Signature of Parents/Guardian:

Printed Name of Parents/Guardian   Date

APPENDIX P

Parent Permission for Non Intervention Study Participants

PARENTAL INFORMED CONSENT

3/3/19

Dear Parent(s),

I will be conducting a study to determine if Social Learning Tools as an intervention for students participating in social skills instruction make progress with academic interactions and social communication skills. I will also be looking at student beliefs in their abilities (self-efficacy) as an additional component to the study. This is a part of my final research project for my doctoral degree at Concordia University Irvine, CA.

This study is to begin in March, once I have received parent permission, and continue until the end of the school year.

I am writing to ask permission to use the data I collect from your child during this process. This may include: 1) survey on student beliefs of academic interactions and social communication 2) observations in the classroom 3) teacher and student rating scales on social emotional learning (SSIS-SEL).

o has approved this study for implementation at
The benefits to your child for participating in this study include social skills instruction to support academic learning and social communication skills.

Adhering to the rules and regulations by the National Institutes of Health Office and Extramural Research minimizes potential risks to participants. Participants may opt out at any time during the study.

Only Belinda Karge, Ph.D, my University Supervisor, and I will have access to your child's identity and to information that can be associated to your child's identity. The data and documentation will be destroyed by March 1, 2020.

Use of data from your child is voluntary. You may contact me at any time regarding your child's participation. My phone number is 650-996-8159 and my e-mail is

Sincerely,
Elizabeth Burke, M. ED.; Education Specialist, Social Cognition Specialist

---

Please check the appropriate box below and sign the form:

☐ I give permission for my child's data to be used in this study. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.

☐ I do not give permission for my child's data to be included in this project.

Student's Name:

Signature of Parents/Guardian:

Printed Name of Parents/Guardian   Date

APPENDIX Q

NHS Certification

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Elizabeth Burke** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 02/13/2018.

Certification Number: 2646710.

349