

PEER SUPPORT ARRANGMENTS IN THE INCLUSIVE MIDDLE SCHOOL SETTING: AN
IN-DEPTH LOOK FROM OBSERVATIONS, WORK SAMPLES AND PARTICIPANT
PERSPECTIVES

by

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Abstract

This qualitative study focused on peer support arrangements for students with ASD at the secondary level. The purpose of the study was to determine what impact a peer support arrangement has on both students with ASD and peer partners' academic attainment and perceptions of the intervention, as well as to better understand what supports peer partners utilize in peer support arrangements. Data were acquired through observations, work samples and interviews of students with ASD and peer partners. The results revealed students enjoyed the intervention, additional adult support and training are needed prior to and during the peer support arrangement, and time is needed to help students with ASD and their peers develop an understanding of one another and a relationship. Work sample results revealed overall growth for students with ASD and no regression of grades for peer partners. This study has implications for teachers supporting secondary students with ASD in accessing the general education curriculum.

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Chapter 1: Statement of the Problem

The prevalence of individuals with autism spectrum disorder (ASD) has increased significantly in the past decade. One in 68 children per eight-year olds is identified on the autism spectrum (Center for Disease Control [CDC], 2014). The dramatic rise has been attributed to many factors, such as, improved diagnoses, a broader spectrum of disabilities, and an increase in awareness. Education has worked to address the needs of all students with disabilities, but this has been much more gradual than the rise in students being serviced in our schools today. The Education for All Handicapped Children Act of 1975 (PL 94-142), which is now the Individuals with Disabilities Education Improvement Act (IDEA, 2004) has significantly changed how students with ASD are educated and serviced than in previous years. Students with ASD need appropriate interventions that acknowledge their unique perception of their world (Rea, 2000). Specifically, adaptations to the environment must be incorporated into the general education setting for facilitation of learning. Mandates from IDEA (2004) include educating children with disabilities in the general education classroom to the maximum extent possible. As of 2015, almost 60% of students with ASD spent more than 40% of their day in general education settings (National Center for Educational Statistics, 2015).

Students with ASD have unusual academic profiles that mask their intellectual abilities (Jones et al., 2009). While this is problematic across grades, it becomes an even greater concern when students enter middle school due to the difference in environment from the comfort of their elementary classrooms. Middle school students interact with a number of different classmates as they can be assigned to attend many different classrooms per day. Curriculum becomes more intricate, with expectations of students becoming more independent in their ability to problem solve. Middle school students with ASD are particularly vulnerable to shutting down due to the types of schedule configurations and multiple teaching staff and peers they interact with daily. Specifically, two primary problems students with ASD encounter with accessing the curriculum in middle schools are: lack of academic engagement and limited demonstration of understanding

the curriculum (Cushing & Kennedy, 1997; McCurdy & Cole, 2013). The lack of academic engagement and limited demonstration of understanding curriculum negatively impact these students in multiple ways including, but not limited to, failing classes, feeling isolated and not fitting in with their peers (Batten, 2005). Preparation for future employment are jeopardized by not having the grades to match their understanding of curriculum due to their disability deficits (Giangreco, 2010). Indeed, in a national longitudinal study students with ASD were the least likely of students in all other disability categories to attend a post-secondary school, and only 53.4% obtained a paid job after leaving high school (Shattuck, 2013). Additionally, general education teachers are now required to adapt and modify their educational strategies so that students with ASD can access the general education curriculum equal to their peers. The IDEA (2004) and compliance issues complicate further the way teachers must include their students with ASD in their classroom achievement data. The legal requirements to implement best practice in the least restrictive environment (LRE) support the need for interventions suitable for the inclusive school setting (Koegel et al., 2011).

Currently, the research base is limited on addressing the challenges students with ASD face within the inclusive middle school setting. Furthermore, of the studies that have investigated and addressed the academic and social challenges these students experience in the inclusive secondary classroom, the majority include students with severe disabilities (e.g., Carter et al., 2005; Copeland et al., 2004). Therefore, less is known about how to support students with ASD without comorbid intellectual disabilities (ID) in the inclusive classroom. To address this gap in the literature, the purpose of this study is to investigate the effects of peer support arrangements on academic outcomes for middle school students with ASD and their typically developing peers. First, a brief overview of inclusion will be provided, including the benefits to students with ASD. Second, an overview of the challenges students with ASD may experience in inclusive settings, including difficulties accessing the general education curriculum will be provided. Third, highlights of best practices that help alleviate the difficulties students with ASD

may experience in inclusive classrooms will be described. Finally, an overview of the study will be presented.

Overview of Inclusion

Inclusion is the practice of including students with disabilities in the general education classroom (Arends, 2009). It provides students with disabilities the necessary services within the general education setting. Students with ASD are now integrated into general education classrooms to the most extent possible as mandated in the IDEA (2004). Special education teachers often co-teach with the general education teacher to help support students with disabilities in the inclusive setting (Wasburn-Mosses, 2005).

Secondary students with ASD, who are included in the general education setting, often need additional supports due to their unique characteristics. Independent of the exact nature and severity, all children and youth with ASD require careful individualized planning to experience educational success (Simpson et al., 2003). Significant debates on what specific interventions should be used are still seen within the educational community as they struggle to meet the needs of the staff and students with ASD. The greatest opportunity for contact with typical peers can only be met in the general education setting, yet this can be overshadowed by the behavior and lack of academic engagement for students with ASD in the secondary setting. Educators need to be mindful of the challenges the secondary setting present to students with ASD, especially since the environment is often not conducive to students with ASD (e.g., changing of classrooms, teachers and peers approximately every hour). Despite these challenges, research has shown that inclusion for the secondary student can be beneficial when academic supports are put in place. Additionally, students with ASD often have specific strengths that can enhance their attainment of the general education curriculum when well-implemented instructional strategies are introduced in an inclusive setting (Hume, Plavnick & Odom, 2012).

Benefits to inclusion. Students with ASD can benefit from the inclusive classroom model as they are with peers and have the advantage of a collaborative relationship of general and special education providers. This provides the opportunity for the student with ASD to

receive instruction from a highly qualified teacher, while still receiving the necessary accommodations and modifications to access the general education curriculum. Teachers can provide instructional accommodations to meet the specific needs of students with ASD so that students with ASD can attain the same educational outcomes equal to their typically developing peers. Being exposed to curriculum and peers have been shown to be positive on both social and academic growth, even if the student with ASD demonstrates little output (i.e., demonstration of skill) when assessed (McDonnell et al., 2003). Modeling of appropriate behavior and academic expectations can be instrumental in helping students with ASD access the curriculum appropriately. Inclusion allows for typically developing peers to model appropriate behavior as well as academic attainment (Lynch & Irvine, 2009). Flexible scheduling, such as block scheduling, is an additional benefit to the student with ASD in the secondary setting when included in the general education setting (Hedges et al., 2014). Students can participate in more elective classes with support and then use small group instruction during core classroom periods to aide in attainment of curriculum. Additionally, in a co-taught setting, students with ASD can benefit from learning opportunities they would miss in a self-contained classroom. For example, peer acceptance, social interactions and increased life skills are all more available to a student with ASD in an inclusive setting as compared to being in a more secluded setting (Hughes, Ruhl, Schumaker, & Deshler, 2002). There has been significant growth in the last several decades including students with disabilities into the general education setting (Kamens, et al., 2005).

Higher expectations in the general education classroom have also been reported as a benefit to the inclusion setting (Lynch & Irvine, 2009). Research has documented academic gains for students with ASD in the inclusive setting including increased engagement working on in-class assignments, as well as positive outcomes on assessments (Deshler et al., 2002; Freeman & Alkin, 2000; Lynch & Irvine, 2009). Focusing on data collection and analysis, and putting into place best practice will aid our students with ASD to better access the general education curriculum and environment. Inclusion can provide many benefits to students with ASD, however, without the necessary supports in place these students can experience many challenges.

Challenges of inclusion. While the inclusion model can provide many benefits to students with ASD, it also poses many challenges. Secondary classrooms present unique challenges as the teachers contend with large student caseloads, varied instructional formats, minimal planning time and high expectations for academic proficiency (Kozik et al., 2003; Scanlon, 2003). Additional challenges include: teacher training, teacher collaboration, teacher roles/ownership, and structure of the middle school. Each challenge is described below.

One challenge of inclusion at the secondary level is the lack of teacher training in regards to teaching students with ASD in an inclusive setting. General education teachers have limited training regarding the specific needs of students with ASD (NRC, 2001). Indeed, Downing and Peckham-Hardin (2007) reported 61% of general education teachers in their study indicated they needed tools to instruct students with ASD. Teachers are not provided checklists or specific guidelines on how to meet the specific goals of students with ASD, especially in the middle school setting where there are up to seven different teachers with diverse teaching styles (Simpson, Boer-Ott & Smith-Myles, 2003). Need for sensitivity training so that teachers can better understand specific needs of students with ASD would allow for better curriculum design for these students to be successful in the inclusive middle school setting. Many teachers report they do not feel adequately prepared to work with students with disabilities in their general education classrooms (Moores-Abdool, 2010). This is not only challenging to the general education teacher, but to the special education teacher and the student with ASD due to frustration for all when needs are not met.

For inclusive placements to be successful, educators must have knowledge of and access to empirically validated strategies that will assist them in this process (Harrower & Dunlap, 2001). Often secondary classroom teachers do not have knowledge in best practice in this area and fall short of utilizing optimal inclusion strategies for their students with ASD (Carter, et al., 2015). Access to the general curriculum is not simply placing a student with ASD in a general

education classroom. Inclusion of learners with ASD in typical classroom settings requires particularly careful planning (Simpson et al., 2003).

A second challenge of the inclusion model at the secondary level is the lack of time for special and general education teachers to collaborate, plan together, and discuss the best ways to support the student with ASD. Yet, unfortunately, school districts do not support the teachers with time or money for them to provide a true collaborative, inclusive model (Klinger et al., 2001). Teachers have reported receiving limited time to plan together, if any at all, and lack professional development on new instructional methods (Mastropieri & Scruggs, 2001). Shared responsibility between the general education and special education teachers need to be addressed and specified so that the students in the secondary setting obtain consistent accommodations and modifications for all of their classes (Mastropieri & Scruggs, 2001). Shared decisions for the best way to meet curricular modifications and evaluation accommodations are necessary for best output for the student with ASD in the middle school setting.

Collaboration includes special education and general education teachers working together to develop a student with ASD's Individual Education Plan (IEP). Understanding the IEP is essential in effectively servicing the student with ASD in the general education classroom setting, yet general education teachers have very little teacher training in this area. General education teachers need to note the effectiveness of accommodations in an IEP to help best support the student with ASD accessing the general education curriculum. Indeed, middle school teachers believe the IEP should be the responsibility of the special education teachers, which hampers investment by the general education teacher in complying with the IEP accommodations and goals (Scanlon & Baker, 2012). This attitude needs to be addressed for best educational outcomes for students with ASD.

A third challenge that affects the student with ASD in the inclusive setting is the blurred roles of teachers and special education support staff. General education teachers rely on special education teachers and ancillary staff to accommodate and modify students with ASD's curriculum. Multi-disciplinary general education teachers have determined that availability of

support services in the inclusive classroom helps academic performance for students with ASD and helps to enhance positive teacher attitudes (Simpson et al., 2003). Challenges present themselves when the teacher assumes that the ancillary staff such as social workers, psychologists, speech and language and occupational therapists will be the staff undertaking the primary role of care for the student with ASD (Simpson et al., 2003). Emphasis has been placed on the significance of teacher ownership on the success of inclusion programs, and general education teachers must assume responsibility for the special education students to be integrated into their classrooms (Zionts, 1997).

Many general education teachers rely on special education teachers to accommodate or modify curriculum for the student with ASD. They report feeling unclear as to the distinction between curricular modifications and accommodations, and whether accommodations should be provided only “as needed” rather than whenever beneficial and would rather the special education expert take ownership of the changes (Ysseldyke et al., 2001). With overcrowding of classrooms, general education teachers tend to become routine in the way they accommodate or modify for students with ASD when they do assume the responsibility (Scarpati et al., 2001). For example, they will differentiate tests by taking out one choice or only have multiple choice questions, yet the student might need to have all questions be concrete rather than inferential. Many secondary teachers rely on adult support (i.e., paraprofessionals or teacher aides) to take students out of the classroom to carry out the modifications due to lack of time to individually work with students with ASD within their class periods, which skews the responsibility and role of the general education teacher with those of support staff.

Last, the structure and environment of the middle school inclusion classroom can be very challenging for students with ASD. Different expectations from each of the teachers can hinder a student with ASD in the inclusive setting from obtaining what they need, as these students need structure and set standards to academically thrive (Lynch & Irvine, 2009). Additionally, often times the pace of the instruction is much faster than the typical self-contained setting. Therefore, due to language and learning deficits and overall complex needs, students with ASD often have a

hard time acquiring new skills in an inclusive middle school setting as the pace and structure is not able to meet their unique needs (Simpson et al., 2003). When students with ASD are required to complete a new task they often have difficulty because they process slower and have inflexible cognitive profiles (Goldstein, Johnson & Mineshew, 2001). Furthermore, students with ASD have a hard time engaging in the inclusive classroom setting without concrete representation, which not all teachers effectively utilize in the inclusive setting, especially at the secondary level (Rao & Gagie, 2006). Due to challenges in filtering unnecessary information and attending, students with ASD in an inclusive setting have difficulty attending to meaningful and broad aspects of their inclusive setting (Klin, 2000). Specifically, their lack of social awareness and at times developmentally inappropriate behavior, make it difficult for them to “fit in” the secondary inclusion setting.

Overall, more than at the elementary level, middle and high school environments can be difficult for students with ASD as they struggle with transitions and lack of structure (Able, Sreckovic, Schultz, Garwood, & Sherman, 2014). A middle school student with ASD who is educated for the majority of the day in general education settings may see up to seven teachers a day and 28 peers per class (NCES, 2011), which makes it challenging for a student with ASD to adapt to each new setting, due to their need of consistency and routine. The inclusive school environment introduces a range of challenges for students with ASD, especially at the secondary level (Batten, 2005). Specific areas need to be understood to meet their unique needs, which often are limited or lacking when inclusion programs are looked at in the secondary setting (Simpson et al., 2003). Full inclusion can threaten the varied and intense service delivery options that advocates have spent years obtaining for students with disabilities (Mercer & Mercer, 2001). Specifically, trained general education teachers need to be knowledgeable, collaborative, assume responsibility and be responsive to the unique needs of students with ASD in the middle school inclusive setting.

Highlights of Best Practice in the Inclusion Setting

Instructional strategies that support students with ASD in the inclusive setting are one that is intentional and individualized. The demand for interventions to improve academic performances for the full range of students with ASD is growing as more individuals are being diagnosed and expected to meet the same academic standards of their typically developing peers (Fluery et al., 2014). Best practice within the inclusive setting is especially needed for adolescents with ASD in the secondary setting due to their distinctive needs (Lynch & Irvine, 2009).

Specifically, providing scaffolding coupled with explicit instruction to learn new skills is best practice for students with ASD to obtain an education equal to their peers in the secondary setting (Browder & Cooper-Duffy, 2003). It is also common for a student with ASD to have assessment and instructional accommodations (Scanlon & Baker, 2012). In particular, teachers accommodate students with ASD with organizational skills, homework management, remedial and strategic instruction within reading, math and writing skills (Browder & Cooper-Duffy, 2003). Progress monitoring, prompting, and having assessments ready are also part of the strategies needed to support students with ASD in the secondary general education classroom (McCurdy & Cole, 2014). These accommodations can be overwhelming for a core classroom teacher who teaches over one hundred students daily. Reliance on a special education teacher or paraeducator has been part of past practice to provide the accommodations; however, recently research indicates that prompt dependencies and a lack of independence can be the byproduct of paraeducator support (Milley & Machalicek, 2012). This is not beneficial as it creates a lack of engagement with the curriculum as well as inhibits social and interpersonal relationships and skills which are important for success in the school setting (Malmgren & Causton-Theoharis, 2006). Providing students with ASD opportunities for independence is one primary goal of an inclusive setting at the secondary level.

Summary

Prevalence of students with ASD has grown from 1.25% in 2011-12 to 2.24% in 2014, which has increased the need for supports to enable their participation in the general education

setting (CDC, 2015). While education in an inclusive setting can have great benefits, without supports in place, these students may experience a myriad of challenges. Few research studies have examined how general education teachers adapt their instructional strategies to accommodate for students with disabilities (Moores-Abdool, 2010). In addition, the secondary inclusion school setting presents many other challenges, such as multiple teachers, changing schedules, and not enough knowledge by staff in evidence-based practices for supporting students with ASD (Hedges et al., 2014). Lack of teacher support of inclusion, as well as teachers not being prepared to meet the needs of the students with ASD compound the challenges further. Specific interventions that provide positive academic outcomes are needed to provide students with ASD the scaffolding needed within the inclusive middle school setting (Osborne & Reed, 2011). Identifying specific interventions will be optimal for supporting the student with ASD.

Purpose of the Study

Peer mediated instruction/interventions (PMII) have become one avenue to provide the supports needed for students with ASD within the general education inclusive classroom. Peer mediated instruction/interventions have become more common in the past decade, and research has shown this has increased connectedness in the school environment for students with disabilities (Randolph & Johnson, 2008). However, most PMII focus heavily on social support rather than academic support (Miley & Machalicek, 2012). Given the increased academic demands at the secondary level it is imperative that interventions be put in place and be implemented with fidelity, to help students with ASD access the general education curriculum in inclusive settings. One type of PMII, peer support arrangements, is emerging as an effective alternative to traditional paraprofessionals supporting students with disabilities in accessing the general curriculum (Carter, Cushing, Clark & Kennedy, 2005). This study investigated the academic attainment and student attitudinal outcomes of students with and without ASD who participate in a peer support arrangement at the middle school level, as well as the specific supports peer partners provide to their peer with ASD.

This study addressed the following research questions:

1. What are the perceptions of students with ASD and their peers who participate in a peer support arrangement?
2. What effect does participating in a peer support arrangement have on students' academic achievement?
3. What supports are actually being implemented in peer support arrangements to better access the general education curriculum and do students find them beneficial?

Chapter 2: A Review of the Literature

It is often difficult for students with ASD to access the general education curriculum. In order to better understand why students with ASD have difficulty in gaining knowledge and/or demonstrating knowledge of the curriculum, it is important to understand the characteristics of ASD and the impact it has on a student's ability to access the general education curriculum equal to their peers when in an inclusive setting. This chapter will include: (a) a brief history and characteristic overview of children with ASD; (b) a review of characteristics that have hindered access and independence; (c) a conceptual framework which supports collaborative peer mediated interventions; (d) a brief overview of academic strategies; (e) a description of the intervention facilitators; (f) a review of peer mediated interventions and peer support arrangements; and (g) the research questions this proposal seeks to address based on the reviewed literature.

History of ASD

Students with ASD exhibit a wide range of abilities. Some students are very high functioning, yet lack social reciprocity. Other students with ASD have lower cognitive ability, and display inappropriate behaviors due to factors that include lack of communication skills. Historically, when Leo Kanner and Hans Asperger described the characteristics of autism in the early 1940's, they focused their work on the difficulty with social interaction and communication skills of their patients (Asperger, 1944). Both researchers used schizophrenic patients as part of their studies and believed if their patients were explicitly taught how to function, they would be able to navigate the society in which they lived more like neuro-typical children (Asperger, 1944). Asperger believed that autism was caused by genetics as well as a contribution from

extrinsic factors. He observed parents and patients with similar mannerisms and saw an eccentric and intelligent group of families (Asperger, 1944).

Kanner studied children with the more classic symptoms of autism, some of whom were nonverbal and had preservation issues. He began his studies in 1938 at John Hopkins clinic in Baltimore, Maryland. He saw common characteristics unique to children in the areas of self-sufficiency, not being aware of their environment and acting as if hypnotized (Kanner, 1943). He recognized a comparison between schizophrenia and the children he was observing, but noticed more of a difference as the children appeared able to intelligently interact with inanimate objects (Kanner, 1943). Kanner's descriptions of the relationship between the children and their parents began autism research.

In 1981, Lorna Wing continued to contribute to the world view of autism. She changed the concept from autism to autism spectrum and used literature on autism to inform parents of what to look for and help aid in the care of children with autism. Looking at children with special needs, Wing introduced educational and therapeutic methods to support children with autism. In addition, Wing rediscovered Asperger's work and focused on high functioning autism which became known as Asperger syndrome (Wing, 1993). In 1975, with the Education for All Handicapped Children Act of 1975, financial support for special education services included those for students on the autism spectrum (ASD). This has had a major impact on the way students with ASD were educated. During the 1940's and 1950's students with autism were placed in special programs that were separate from the general education classrooms. This isolation within self-contained classrooms has given way through the Education for All Handicapped Children Act of 1975 Act, now the IDEA (2004) to supporting students with all disabilities, including autism, within the general education setting if found to be the least restrictive environment for their learning (U.S. Dept. of Ed, 2012).

Characteristic Overview of ASD

Autism spectrum disorder is characterized by qualitative impairments in social interaction, communication, restricted, repetitive and stereotyped behaviors (APA, 2013).

Characteristics of ASD are associated with intellectual disability, difficulties in motor coordination, attention and can be co-occurring with cognitive deficits (Myles & Simpson, 2001). Physical issues such as sleep and gastrointestinal disturbances can also be associated with the disorder. Visual skills, music, math and art can be strengths for persons with ASD. Research has shown an increase in ASD diagnosis over the past 40 years, and current data estimates approximately 1 in 68 eight-year-old children have ASD (CDC, 2010). Studies show autism is four to five times more common among boys than girls (1 in 189) and affects over 3 million individuals in the U.S (CDC, 2015).

Specific characteristics of ASD make it difficult for individuals with ASD to access the general education curriculum at the secondary level. Every student with ASD displays different characteristics that impact their attainment and output of academic achievement in the middle school setting. Likewise, the degree of intervention needed to facilitate academic supports for secondary students with ASD differs greatly depending on the individual student. Some areas students with ASD may struggle in include: Theory of Mind, comprehension and making inferences, executive functioning and social nuances.

Theory of Mind. Individuals with ASD often have difficulty with Theory of Mind, which is the ability to understand other people's beliefs, emotions and ideas (Baron-Cohen, 2001). This has implications in the educational setting because students with ASD might have difficulty understanding that other students have thoughts and feelings that are different than their own, which can provoke anger and frustration. The ability to evaluate the behavior of other people on the basis of mental state such as goals, emotions and beliefs are important factors for school age children. It is often described as the ability to put yourself in someone else's shoes and it is considered a high-order cognitive ability (Sorensen, 2009). This ability is shown to affect the way students with ASD output information. This includes false-belief tasks that require a child to distinguish between the real world and the way it might be incorrectly represented in the mind of another person (Tager-Flusberg, 2007). Difficulty with Theory of Mind can result difficulty accessing the general education curriculum because students with ASD

have literal interpretation of situations. Pragmatics involves sensitivity to speaker and listener, which also involves context (Baron-Cohen, 2001). Without Theory of Mind, pragmatics is difficult for gaining understanding of concepts being taught in the classroom setting. This is evident with students with ASD as they often do not respond appropriately to questions posed due to the lack of understanding the questions. Students with ASD who lack Theory of Mind may have inappropriate responses to adults and students, misperceive how others think or feel. These challenges have a large impact on the educational process for students with ASD across the curriculum and are especially evident during the middle school years due to the multidisciplinary nature of the educational setting.

Comprehension and inference. Students with ASD have been reported to demonstrate poor comprehension performance compared to their intellectual ability (Mayes & Calhoun, 2008). This may be, in part, due to their difficulty understanding the meanings of words or phrases and the communicative intent of the expressions (McGregor et al., 2002). Students with ASD often have difficulty with making inferences or understanding intent due to their concrete thinking (Myles & Simpson, 2001). This affects students with ASD in the middle school inclusive setting from understanding metaphors and idioms which are part of higher level text at this grade level. Inferencing is a skill that is hard for students with ASD to output due to their lack of social experience which does not allow them to draw on background knowledge for understanding what is not explicit. Curriculum at the middle school ELA classrooms include many texts that require personal interpretation and this makes it difficult for students with ASD to participate in discussions or score well on inference referenced assessments. A challenge for students with ASD is the emotional intent of messages for them to understand the world around them (Quill, 2000). Additionally, students with ASD often have difficulty synthesizing text because they have a hard time sequencing events (Myles & Simpson, 2001). This is due to their focus on specific events or detail, and their ability to rote memorize, which inhibits their ability to understand the steps that lead up to the final product. Students with ASD have difficulty discerning relevant from irrelevant information and tend to spend more time than needed on facts

that do not contribute to the breakdown of the information they need for understanding of classroom curriculum text.

Executive functioning. Students with ASD more often tend to have difficulty generalizing and socializing which directly affects their ability to integrate into the school setting. They have challenges engaging in the classroom due to filtering unnecessary information and the lack of ability to shift focus (Ochs, Kremer-Sadlik, Solomon & Sirota, 2001). Successful work completion can be difficult as students with ASD can have executive functioning deficits which challenge their ability to stay on task with required assignments (Ozonoff & Strayer, 2001). Learning rules and strategies and breaking down information are areas of weakness in some students with ASD (Ozonoff & Strayer, 2001).

Executive functioning is a term that encompasses various higher-order cognitive processes considered necessary for preparing and performing complex goal-directed behaviors in situations where automatic behaviors are not sufficient (Blijd-Hoogewys, Bezemer & Van Geert, 2014). Specifically, executive functioning includes cognitive flexibility, task initiation, planning, working memory, self-regulation, and response inhibition (Ozonoff & Jensen, 1999). Students with ASD often have executive functioning deficits (Kenworthy et al., 2008). Deficits in organization and planning have a direct effect on students with ASD being successful at the middle school level. Keeping material organized from one class to another, understanding multi-step directions and independence in following through on assignments and note taking are all challenges that impact the student with ASD being successful in the middle school inclusive setting (Fleury et al., 2014).

Social nuances. Deficits in social skills and the ability to form relationships can greatly impact the progress students with ASD make in inclusive middle school settings. Students with ASD have incomplete awareness of social influence or peer relationships which are crucial at the middle school level (Jackson & Campbell, 2009). Deficits in socio-emotional functioning can be a predictor for academic outcomes and social behavior (Gifford-Smith & Brownell, 2003). Research indicates students who do not fit in and are socially rejected demonstrate off-task

behavior, fighting, and increased levels of anxiety (Gifford-Smith & Brownell, 2003). Peer attitudes can negatively influence an inclusive middle school setting from being a positive experience for the student with ASD, to ultimately resulting in the student with ASD demonstrating inappropriate adolescent behavior such as acting out, shutting down and limited social engagement (Ledford & Wehby, 2015). This is due to the student with ASD feeling isolated and different, and due to their lack of communication skills, behaviors become their expression of their emotions. Therefore, a major implication at the secondary level is difficulty with social skills which impedes both the academic and social domains of middle school settings. Described below is the social learning framework as it relates to students with ASD and strategies that have been designed to ameliorate the challenges students with ASD often experience due to these challenges in the inclusive middle school setting.

Conceptual Framework

Learning can be a highly social activity as it often involves learning from another person (an adult or peer) and applying that knowledge across many different contexts. This study explored a type of peer mediated instruction/intervention (PMII), drawing on the theoretical framework integrating work of Lev Vygotsky and the theory of cooperative learning. Vygotsky's theory addresses cognitive development within a social role. His theory centers on learning taking place within a cultural context, dependent on interactions between individuals (Vygotsky, 1978). Belief that children develop by interacting with others, as well as within themselves is the basis of Vygotsky's framework. Additionally, the theory is based on the premise that the individual cannot succeed without the group also succeeding.

The importance of Vygotsky's theory in relation to peer mediated interventions is in the way children learn. Learning as a process is collaborative, and dynamic in nature (Eun, 2010). Social interaction must take place and be part of the environment for learners to understand what is being taught and then apply it to other situations. This view of gaining knowledge through constructed social interaction requires peer modeling for others to gain in social and academic skills (Jaramillo, 1996). Vygotsky's model for learning states that not only must a model be

present, but there needs to be active interaction and engagement between the peers to be able to have growth in learning.

Using Vygotsky's theory, peer interactions must be provided for students with ASD so they can acquire and generalize needed skills across all curriculum and settings. This is important as students with ASD often have difficulty generalizing to other environments. Furthermore, Vygotsky's theory expands on collaborative peer learning with his theory of the zone of proximal development. This view states that children gain cultural views by interacting with others who are more competent (Kozulin, Gindis, Ageyev, & Miller, 2003). Learning is twofold in this theory, one where we use what is learned previously and second, where we develop skills to enhance future learning.

The term zone of proximal development is widely used in teaching and academic disciplines. The impact for students with ASD is best seen in peer mediated instruction or cooperative learning, where a typically developing student can be paired with a student with ASD to help in gaining access to the curriculum and appropriate interactions. Vygotsky has also noted in his work that if teachers can pinpoint the "zone" and know where optimal learning will take place, they can teach to engage the zone of proximal development and accelerate learning (Kozulin, Gidis, Ageyev & Miller, 2003). Within this collaboration, Vygotsky identifies the "range of tasks". This refers to when peers work together the number of tasks can be greater than when working alone (Kozulin, Gidis, Ageyev & Miller, 2003). Implementing Vygotsky's social development theory and the zone of proximal development can support socialization and cognitive development (Vygotsky, 1978). Both theoretical perspectives guided the current study.

Academic Strategies for the Inclusive Classroom

There are several strategies teachers can implement to support secondary students with ASD academically within the inclusive classroom. While the National Professional Development Center on ASD has identified 27 evidence-based practices for students with ASD, recently Fluery and colleagues categorized effective practices for supporting secondary students with ASD specifically in inclusive classroom settings. These include: antecedent based

interventions, scaffolding student's thinking, and facilitating skill generalization and independence (Fluery et al., 2014). Specific interventions will be described under each of the following categories as they directly relate to the current study and are consistently used at the middle school level.

Antecedent based interventions. Antecedent based interventions are identified as strategies taught prior to a future occurrence to eliminate either a behavior or an action that is undesirable (Browder, 2001). Challenges to students with ASD are inherent in secondary settings (Fleury et al., 2014). Due to executive functioning deficits, the need to have structure and supports in place are necessary for their success (Simpson, deBoer-Ott, Smith-Myles, 2003). Specifically, the middle school environment inherently can cause sensory overload, in part, because of the transitioning taking place by multiple groups of students at one time during the school day. To prepare the students with ASD on what to expect, and to provide some control for their ownership of their day, schedules can be used to front load their daily classes in order for them to see the next event they will be expected to attend. Visual supports are any tools that can help the student with ASD interact with their environment (Hume, 2008). Visual supports are important for students with ASD as researchers believe these types of students are visual learners, rather than auditory. Further, language deficits can place students with ASD at a disadvantage in the middle school setting as most of the instruction is verbally communicated (Knight, Sartini & Spriggs, 2015). Pictures, written words, maps and calendars, highlighting and graphic organizers are all examples of visual supports that can be integrated to increase on-task behavior and comprehension across all subject areas (Simpson, Myles, Ganz & Dettmer, 2000 & Bryan & Gast, 2000). Students with ASD who can utilize visual support both at school and at home learn to transfer this skill and develop routines which support independent functioning.

Visual schedules are a common visual support strategy to develop social skills, academic attendance and independence (Knight, Sartini & Spriggs, 2015). For the middle school student, the schedule can be placed inside their folders so that they do not need to look different than their peers, yet can utilize them to help navigate their day. Non-intrusive schedules can

provide help with transitioning activities in the middle school inclusive classrooms. Teachers can incorporate schedules for whole class interventions, with placing each day's activities on the board for all students to see. Building in unusual or per day activities can also help prepare the student with ASD in what might not be ordinary, so they can utilize skills to help them cope through the event. Additionally, priming or front loading can alleviate stress for students with ASD (Fleury, et al., 2014). Priming can be helpful for students with ASD because they often experience anxiety if they are not prepared or do not know what to expect (Myles & Simpson, 2001). Research has shown that better outcomes academically are achieved when students with ASD have procedures and tasks shown to them prior to beginning a new activity (Dunlap et al., 2005).

Scaffolding student's thinking. To teach students with ASD new academic skills, content needs to be broken down and explicitly taught for best attainment. Scaffolding is the temporary support structures to assist students in accomplishing new tasks and concepts they cannot yet do on their own (Olson & Platt, 2000). Utilizing visuals, questioning and working on tasks together with another student or teacher all support learning (Olson & Platt, 2000). Prompting, explicit instruction and task analysis are all strategies that can be used to scaffold students with ASD's processing skills.

First, prompting is a strategy that is used by adults or peers to cue students with ASD in what they need to be attending to for any given skill (Neitzel & Wolery, 2009). Gestures, verbal, and physical prompting can all be used to target skill or behavior acquisition. Prompting helps the learner to perform a desired behavior. An example of prompting for students with ASD whom often have difficulty with writing tasks at the middle school level is providing a sentence starter to prompt thinking on topic. Students with ASD can make a graphic organizer on the topic and with prompting, can begin to fill in the necessary text to be able to write a quality product. Verbal prompts can help elicit a response through the teacher starting a sentence and the student with ASD filling in one word to complete. These are just a few of the types of prompting that are included in scaffolding student thinking.

A second strategy utilized to support student with ASD's thinking is explicit instruction (Koegel, Koegel, Frea, & Green-Hopkins, 2003). This strategy utilizes a specific step for students with ASD to help complete a task, remember steps in how to complete a task and in modeling the correct way for them to accomplish it. Cognitive strategies to aid in memorizing are required in middle school classrooms as problem solving has become a large component of secondary curriculum (Barnett & Cleary, 2015). For example, providing formulas for math instruction will aid students with ASD in the process of calculating the answer rather than focusing on the memorization of the formula themselves. Additionally, modeling has been shown to be effective in targeting teaching of new skills for students with ASD (Hume, Loftin & Lantz, 2009). Peers can be utilized as models, which allows for students with ASD to be able to feel familiar with the participants. Students with ASD visually can make sense of their environment, and using modeling can help relevant information be the focus of instruction. Additionally, when modeling is presented, it can be done or shown many times over which also addresses the need for repetitive instruction for students with ASD due to their deficits in executive functioning which directly affects their academic success.

A third strategy that is used often in middle school settings is task analysis. This is utilized to break down a larger concept into smaller chunks (Franzone, 2009). Tests, new units of study and writing can all be task analyzed for better outcomes for students with ASD. Assessments can be chunked, with topics grouped together so that the student with ASD would not have to manage large amounts of visual material at one time. Teachers can identify skills that they would like to teach the student with ASD, and utilizing step by step instruction, can build proficiency with the task. As an example, writing can be difficult for students with ASD due to the complexity of planning, organizing and revising which are all common impairments for these students (Minshew, Goldstein & Siegel, 1997). Breaking large writing assignments down into sentence and/or paragraph completion enables the student with ASD to feel successful at each step of completion.

Facilitating skill generalization and independence. Generalization is defined by students being able to learn a skill and transfer and appropriately apply it to another setting (Fleury et al., 2014). Practicing skills across many settings will help to support the generalization of skill attainment. Identifying the possible context for which the learner can perform the skill is important for optimal learning. Teaching students with ASD possible situations for when they can utilize the skill provides a context for them to better comprehend the skill needed to be demonstrated (Kaiser et al., 2000). For middle school students, being able to generalize curriculum is vital in cross curriculum inclusion classrooms. Core subjects all utilize material that crosses over topics and assignments at the secondary level. Understanding the basic skills needed and being able to transfer them to all settings is most important when working with many different teachers and peers. Students can practice skills needed at home to help support the student in developing a strong understanding of specific information (Morrow & Carnahan, 2010).

Additionally, students with ASD need to begin to develop independence as they are faced with complicated procedures, many different classes and many transitions in the middle school inclusion setting (Baker et al., 2001). In order to gain independent skills, self-management strategies are needed to be taught and self-monitoring skills need to be established (Morrow & Carnahan, 2010). For example, managing their own behavior at home and at school reduces the need for adult guidance (Myles, Ferguson, & Hagiwar, 2007). Oftentimes rewards are utilized to help motivate to obtain the desired results. Many middle schools have now implemented Positive Behavior Supports to help with academic and social outcomes for students with ASD (Tincani, 2007).

Lastly, Positive Behavior Intervention Support (PBIS) is utilized to encourage and motivate students with ASD. Positive Behavior Intervention Support has been endorsed within IDEA (2004) as a preferred form of intervention for managing the challenging behavior of students with ASD (Tincani, 2007). Students are rewarded for positive behaviors using tokens, passes, treats and other items to encourage the continuation of appropriate behavior. Creating a

reward system based on students with ASD's interests can encourage students to buy into rules and routines. Teachers and peers can acknowledge the student with ASD, and both verbal praise and tangible rewards can be utilized (McKevitt, Dempsey, Ternus, & Shriver, 2012). For example, students with ASD who complete tasks can earn a break as a reward. This system has been shown to be effective as a research based intervention that improves learning outcomes for children with ASD (Heflin & Alaimo, 2007).

Intervention Agents

Addressing the challenges of full inclusion has been in the past facilitated by hiring paraeducators, also called paraprofessionals, to support students with ASD within the general education environment. The use of paraprofessionals involves trained adults supporting the student in the inclusive general education setting. The IDEA (2004) precisely states that schools may use paraprofessionals who are appropriately trained and supervised, in accordance with state law, regulations, or written policy (IDEA, 2004). They can be assigned to one student with ASD or work with small groups of students in the educational setting (Symes & Humphrey, 2011). This practice as a widely acknowledged support strategy has been implemented in an attempt to educate all students within the general education setting. However, this practice can be problematic when utilized with students with ASD in the general education inclusive setting. Implementing paraprofessionals to support students with ASD might actually be a barrier to student learning, as it can isolate students from their peers (Chopra & French, 2004). Currently, there is no standard for when paraprofessionals should be available as a means of support. Relying on paraprofessionals may feel effective, but evidence has shown students do as well or better in school without this support (Fin, Gerber, Achilles, & Boyd-Zaharias, 2001). Lack of independence often results in more frequent prompting from teaching staff or the assignment of an individual paraprofessional to provide ongoing prompting (Milley & Machalicek, 2012). Unfortunately, this popular service delivery model may have far-reaching negative implications; one being that overreliance on adults may adversely impact independent social, academic, and vocational functioning (Milley & Machalicek, 2012). At the middle school level,

paraprofessional support can hinder rather than help students with ASD within the general education setting.

Roles of paraprofessionals have become increasingly instructional (Wallace, Anderson, Hoppe, 2009). Paraprofessional support can limit opportunities for peer interactions when the adult is in close proximity to the student with ASD. In the middle school setting, this close proximity by the paraprofessional may stigmatize these students from having typical peer relationships (Brown, Farrington Knight, & Ziegler, 1999). Moreover, the literature suggests training should specifically include approaches related to decreasing dependence and fading prompts often associated with excessive and prolonged proximity of adults (Giangreco, Edelman, Luiselli & MacFarland, 1997).

The number of paraprofessionals has steadily increased over the years, and their roles have increased to instructional providers (Wallace, 2004). In addition, teacher engagement can be hindered by the additional adult presence in the classroom environment. Teachers may view the paraprofessional as the only adult in the classroom needed to interact with the student with ASD, and not feel the need to join in or support the educational engagement process (Hoff & Robinson, 2002).

Problematic with this model is the fact that the least qualified, lowest paid employees are supporting our most complex learners within the general education setting. Literature suggests that far too many special education paraprofessionals continue to engage in potentially inappropriate roles and remain inadequately trained, despite decades of calls for these basic standards of quality (Giangreco, 2010). Typically, this can impact students in the middle school setting as the paraprofessional lacks the basic understanding of the curriculum they are trying to differentiate for the student with ASD.

Reliance on adult-delivered supports to promote inclusion may not be yielding the social and academic benefits that educational teams intend (Carter & Kennedy, 2006). Though promoting general education curriculum for students with ASD is continually highlighted in the literature, potential social and academic benefits available within inclusion classrooms remain

intangible for many middle and high school students (Carter, Sisco, Melekoglu, and Kurkowski, 2007). Individually assigned paraprofessionals is the approach most often used with students with ASD, which can be the least effective model during this crucial time in their academic and social development. Proliferation of paraprofessional support has insufficient conceptual theoretical and evidence bases to continue unfettered without closer scrutiny as a critical issue (Giangreco, 2010). Instead of adult support, Milley & Machalicek (2012) believe that promoting independence in daily instruction from a combination of factors, including using peer support, will ultimately yield better outcomes for students with ASD. By embedding these strategies that purposefully promote independence, including teaching of daily living skills, teachers may not only find a reduced need for adult support but also increased academic engagement; a combination that may have positive effects on students with disabilities adjusting to the general education setting (Milley & Mahalicek, 2012). Recent research has started to examine using peers as intervention agents in the context of peer mediated instruction/interventions.

Peer Mediated Instruction and Interventions (PMII).

Peer Mediated Instruction/Interventions (PMII) are intervention practices designed to teach neuro-typical peers ways of successfully interacting with students with ASD (Sperry, Neitzel, & Engelhardt-Wells, 2010). This practice is important for students with ASD as they do not usually imitate what is modeled on their own. A characteristic of students with ASD is their lack of involvement with peers. Peer Mediated Instruction/Interventions are designed primarily to enhance social engagement with peers and to help students with ASD generalize and acquire new skills to a variety of settings. Research has shown systematic instruction can result in PMII being an effective strategy to increase the social and academic gains of students with ASD (Sperry, Neitzel, & Engelhardt-Wells, 2010).

Upper elementary and middle school peers can focus on areas that include initiation, interaction continuum, engaging in conversation, sharing and taking turns, as well as helping others and asking for help (Kamps, Leonard, Vernon, Dugan, Delquadri, Gershon, Wade, & Folk, 1992; Thiemann & Bourgue, 2012; Theiman & Goldstein, 2001). Initiating requests for

help is instrumental in developing independence and understanding especially when in an inclusive middle school classroom setting. Peer Mediated Instruction/Interventions for older students can involve modeling contextually relevant communication skills, providing positive feedback and facilitating interactions with others (Carter & Kennedy, 2006). Research has shown that PMII can be very effective for students with ASD, particularly at the secondary school level. Survey studies suggest that PMII's are considered acceptable and practical for high school educators and paraprofessionals to provide for their students with ASD (Copeland et al., 2002).

Peer Support Arrangements

Peer support arrangements, a type of PMII, are one promising approach for promoting rigorous, relevant learning experiences and expanding opportunities for students in the secondary setting to establish new relationships (Carter, Cushing & Kennedy, 2008). Specifically, they are arrangements of one or more peers helping students with disabilities by working closely to support academic attainment and teach social skills within the inclusive classroom (Carter et al., 2015). Due to the challenges of secondary classroom demands, peer support arrangements can provide the student with ASD at the middle school level a support system that can identify with the curriculum assistance needed for their success. Secondary level classrooms are often characterized by increasingly hard curriculum content, faster instructional pacing and raised expectations for student performance (Carter & Kennedy, 2006). Research has supported peer support arrangements as a useful approach to reduce the student with ASD's reliance on adult support and provide opportunities to interact with peers in a one-on-one partnership (Fleury et al., 2014).

Peer support arrangements consist of selecting students who are in need of additional assistance, training and monitoring peers by paraprofessionals and/or educators and having peer-delivered modified instruction (Carter & Kennedy, 2006). More specifically, implementing a peer support arrangement begins with selecting peers that are within the same classroom as the student with ASD. Paraprofessionals and teaching staff train the peers in modeling age-

appropriate behavior for both academic and social skills and teach the students strategies to support the student with ASD academically, behaviorally, and socially (Carter, Sicsco & Chung, 2012). The adults monitor support and provide feedback to individualize the support for the student with ASD (Carter & Kennedy, 2006). The goal of a peer support arrangement is to supplement instructional rather than supplant, so that the content and expectations closely mirror that of the typical peers in the general education inclusive classroom (Giangreco, Carter, Doyle, & Suter, 2010).

Academically, peer support arrangements can have distinct advantages over traditional strategies, such as individually assigned paraprofessional support. Peer supports make sure their partners are staying on-task, working on similar instructional activities and obtain needed feedback (Carter, Cushing, & Kennedy, 2008). Concerns have been raised that the peers supporting the student with ASD will fall behind in their own class work, but research has shown this not to be the case. Students who themselves are struggling academically have been shown to make improvements of one to two letter grades (e.g., Carter & Kennedy, 1997) and research indicates teachers do not feel peer partners are burdened academically by supporting their partner (Carter et al., 2015). Peer support arrangements offer an effective intervention strategy that is feasible to implement within the general education setting (Carter, Cushing, & Kennedy, 2008). This is especially true in the middle school setting, as teachers promote interaction with both peers and the curriculum when using direct instruction techniques.

Limited studies in peer support arrangements for middle school students with ASD have been designed and implemented to enhance academic attainment. Few in number, studies have highlighted the importance of specific peer support strategies that are particularly useful with adolescent students with ASD (Thiemann & Goldstein, 2004). Carter et al. (2015) did one such study that supports peer support arrangements in the secondary setting. Carter and colleagues utilized paraprofessionals to facilitate a peer support arrangement which resulted in improved outcomes in social and academic engagement for the students with disabilities. Results indicated students with ASD gained access to new opportunities to practice social and communication

skills, decreased their reliance on paraprofessionals and felt the peer support arrangement contributed to an overall feeling of wellbeing (Carter et al., 2015).

LINKS. One peer support arrangement currently being implemented in Michigan schools as part of the inclusion model is LINKS, a research-based peer to peer program model for students with ASD (Ziegler & Schoemer, 1999). LINKS is a peer support arrangement that involves teachers, paraprofessionals, administrators and general education students to support students with ASD. Specifically, there are six components to the LINKS Program:

1. Dignity
2. Medium of Exchange
3. Behavior Management
4. Curriculum
5. Academic Modification Hierarchy
6. Recruitment, Training and Maintenance of the LINK program

LINKS examines the student with ASD's needs and preferences, so that the peers can utilize their high interest level to connect with them as they help support students with ASD in the inclusive setting. The goal of LINKS is to provide a high level of participation with instruction and participation within a general education classroom at the level the student with ASD can participate. The program was developed specifically for middle school students to provide the opportunity to succeed in a multi-classroom setting (Ziegler & Schoemer, 1999). Academic, behavioral and social integration are met with adult and typically developing student support. Fifteen steps are incorporated into the LINKS program which is described in Table 1. They include:

1. Recruitment of peer members to work with students with ASD
2. Creating a vision statement for desired outcomes
3. Obtaining administrative support
4. Organizing team procedures
5. Identifying development needs

6. Developing program specifications
7. Adapt forms
8. Develop a budget for supplies and positive supports
9. Select students needing support (target students)
10. Select students who will be peer assistance
11. Match students with need with peer assistances per classroom (1-2 peers per target student in each class)
12. Schedule and conduct peer training and develop bi-monthly check-in meetings
13. Evaluate the program continuously throughout the year
14. Plan celebrations for all participants; coordinating with the general education teachers
15. Publicize success in the school

This specific program has been implemented successfully in many Michigan schools and is still expanding in secondary level buildings across varied districts. However, research results of LINKS have yet to be published. Therefore, to better understand the current research base of peer support arrangements, a review of all peer support arrangement studies that have been implemented with middle or high school students with disabilities will be reviewed subsequently.

Narrative of Peer Support Arrangement Studies

Peer support arrangements have been implemented across secondary grade levels and have been shown to be beneficial for students with ASD in the middle school setting. Peer support arrangements incorporate traditional interventions such as paraprofessional support and collaborative learning groups in a new, more intensive and individualized method for improved outcomes. To this author's knowledge, only four empirical studies and one qualitative study have examined peer support arrangements in secondary settings. All four empirical studies used an observation model to collect data, with two of these studies (Carter et al., 2011 & 2015) incorporating a checklist to derive their results. A brief narrative of the current research base is provided below.

The first published peer support arrangement study was conducted by Carter et al. (2005) and was the only article that included middle school students. Focal students included one high school student with moderate intellectual disability (ID) and two middle school students (both with ASD and ID). The intervention study alternated one and then two typically developing peers with one target student to examine the differential impact of one versus two peers. The high school students worked with the focal student in an eleventh grade ELA class. The middle school students worked with the focal students in a science classroom. Interventions included adapting class activities, providing instruction related to IEP goals, implementing behavior intervention plans (BIP's), providing feedback and promoting communication with other peers. Utilizing a reversal single case design, the researchers alternated between one and two peer supports for each focal student. Both academic and social outcomes for the focal students were measured using direct observation for each participant. Results indicated several benefits, including: a frequency of higher levels of social and academic interactions when two peers were introduced to the focal students, typical peers can modify instruction effectively when two peers worked with students with disabilities, and students with ASD interacted more frequently with peers and the curriculum.

Two additional studies also used a single case design to examine the efficacy of peer support arrangements, but included only students in high school (Carter et al., 2007; Carter et al., 2011). Using a multiple baseline across participant's design both studies examined the impact of peer support arrangements on the academic and social outcomes of students with intellectual disabilities in elective classes (culinary arts and ceramics). Results from Carter et al. (2007) indicated academic engagement was higher when peers were present. Further, three of four participants' decreased reliance on paraprofessionals and all students had higher social engagement from baseline to intervention. Likewise, in Carter et al. (2011), social interaction increased and interactions with paraeducators decreased for all three students once the peer support arrangement was in place. Carter and colleagues (2011) developed a support behavior checklist to document specific supports peer partners utilized with the focal students. The

supports were taught to the peer partners during their orientation with an interventionist prior to working with the focal students. The interventions were developed from prior peer-mediated intervention studies. Results of the study showed that the peer interaction increased social output for all focal students involved in the study. Academic engagement remained comparable across conditions for all three students. Carter and colleagues (2011) additionally collected social validity data from teachers, paraeducators, peer partners, and students with disabilities. Results indicated teachers and paraeducators felt the intervention was beneficial for peer partners and focus students when interviewed. Peer partners and the students with disabilities both reported positive experiences. Additionally, the students with disabilities stated they wanted to continue working with peer partners in the future.

The final peer support arrangement study, Carter et al. (2015), differed from the other three studies reviewed as it was a multi-year randomized controlled experimental design. Specifically, the study incorporated a randomized controlled trial study with pre, post, and follow-up measures at the secondary level. This study examined students with severe disabilities in high school general education classes over twenty-one high schools in twelve districts. Paraprofessionals and special education teachers facilitated 106 peers who supported thirty-two students with ASD, fifty students with ID and 10 students with both ASD and ID. Peers supported students academically by encouraging contributions; sharing materials, collaborating on assignments and modeling social skills within the general education setting. Results indicated substantial increase in social interactions, less time out of class, more classroom participation and engagement with the curriculum. Facilitators felt all students benefited with general educators noting the amount of time to implement was reasonable. This empirical study utilized a support behavior checklist developed by Carter and colleagues (2015) for validity of observations. The checklist categorized specific academic, social and other supports for the peer partner, and adults who delivered the interventions to implement. Specifically, peer partners being in close proximity to their focus students, peer partners assisting the focus students with academics and lastly, interacting with the focus students had the largest percentage of

implementation. Findings of the supported peer observations suggested peer partner support increased both social and academic and was seen as a promising alternative to adult support for students with disabilities at the secondary level. Focal students were interviewed. Peer partners and focus students reported generally feeling they enjoyed the intervention and desired to continue working together.

One qualitative study investigated the perspectives of peer partners who participated in a peer support arrangement for students with moderate or severe disabilities in seven high schools (Copeland et al., 2004). This study differed from the above studies in that focus groups were utilized to obtain the perspectives and feedback of peer partners. Students volunteered to join a peer buddy program during a service-learning class to help support students with disabilities in regards to both academic and social support. Peers were trained and referred to Buddy Manuals for information on their target students. Six of the seven schools participated in focus groups, with 32 peer buddies in attendance. Results from the focus groups detailed four categories that were seen across buildings and students: perceived challenges to general education access, peer buddies needing to provide support to increase the access for improved outcomes, recommendations for improving the program, and benefits of the peer support program were all identified. Peer buddies reported that their roles were varied; they felt they served as a friend, instructor, and teaching assistance. Overall, favorable reports were noted by the peer buddies in relation to positive outcomes for students with disabilities.

Summary

Research on inclusion has primarily focused on social outcomes for students with disabilities, but the question yet to be answered is how to best approach this topic so that teachers and all students can benefit from this model and achieve a quality education in the process. Limited research for secondary students with ASD impacts how we educate these students. Students with ASD find social interaction challenging at the secondary level, which impedes on developing skills for group work within the classroom setting. Reliance on peers for group work is necessary for full academic success in the classroom (Attwood, 2000). Systems must be put in

place to make integration possible, as the social and academic skills for students with disabilities are not automatic even with exposure to other children within the classroom setting. Likewise, students without ASD need to be taught how to interact with students with ASD to help them better understand the nuances of having peers with disabilities as part of their school environment.

Peer support arrangements have shown promise in facilitating the successful inclusion of students with disabilities in accessing both the academic and social curriculum at the secondary level (Carter, Cushing, Clark & Kennedy, 2005). Peer supports can be used to increase individual student contact time and help support students academically in the general education setting rather than paraprofessional support (Ryan, Reid, & Epstein, 2004). Using typical peers to model and assist can academically and socially benefit the student with disabilities in areas that traditional support does not address. The reviewed studies indicate there is evidence of effectiveness of peer support arrangements on students with disabilities accessing the general education curriculum. Review of the research demonstrates peer support arrangements can be an effective alternative to traditional paraprofessional models for students with disabilities at the secondary level (Carter, Cushing, Clark and Kennedy, 2005).

Implications of theory and practice, and future strategy direction need to be researched to help support the opinion that peer support not only aids in social interaction and acceptance for students with ASD, but with academic connections within the core classroom curriculum. While empirical studies provide promising support for peer support arrangements, a closer look is needed to determine the effects of these interventions for students with ASD at the middle school level. More research in this area will bring to light the strengths and challenges of this approach and directions for future research and practice. The purpose of this study was to obtain the input from the students with ASD and the peer partners on their feelings of being part of a peer support arrangement. Additionally, the study purpose was to focus on the supports that were utilized to help gain insight into best practice for peer support arrangements and collect the data to support those interventions that were utilized.

Research Questions

1. What are the perceptions of students with ASD and their peers who participate in a peer support arrangement?
2. What effect does participating in a peer support arrangement have on students' academic achievement?
3. What supports are actually being implemented in peer support arrangements to better access the general education curriculum and do students find them beneficial?

Chapter 3: Methodology

This study investigated the experiences of middle school students who participated in a peer to peer support arrangement through face to face interviews, observations, and work samples using qualitative methodology. A qualitative approach to research allows for a description of experiences people encounter in a specific situation. Researchers can learn from participants to understand the meaning specific interventions might have on their lives (Marshall & Rossman, 2006). Qualitative research is an approach that is systematic and employs description to provide understanding of the nature of a phenomenon in regards to a particular context (Brantlinger, Jimenez, Klingner, Pugach & Richardson, 2005). Furthermore, in a thematic analysis qualitative study, themes are frequently noted through data collection and can provide a deep perspective of the impact peer support arrangements can have on students with ASD as well as their peer partners (Braun & Clarke, 2006).

Additionally, triangulation, or cross-validation, was used to ensure that each assessment measurement was measuring the same construct, and any deficiencies in one area were compensated for in another area. In this manner, triangulation yielded more accurate results when each measure of data converged on the same theme. For this qualitative study, three different data collection methods were used (i.e., interviews, observations and work samples). Utilizing multiple methods leads to more valid and reliable results (Oliver-Hoyo & Allen, 2006).

The aim of this research study was to describe as accurately as possible the perspectives and experiences of students with ASD and their peer partners when in a peer support arrangement in a middle school inclusive setting. More specifically, the purpose of this study was to better understand what specific strategies peer partners use to support their peer with ASD, the impact of peer support arrangements on the academic outcomes of students with ASD and their peer partners, and the acceptability of the intervention from the perspective of students with ASD and their peer partners.

Participants

Participants with ASD. This study included four students with ASD. The following inclusion criterion was used to invite students with ASD to participate in the study. To participate in this study all students must have been in middle school and must have already been participating in a peer support arrangement (i.e., LINKS; please see description under Design & Procedures). Additionally, all students had signed permission from their parent/guardian and assent to participate. Two students with ASD were in the sixth grade and the other two students with ASD were in the ninth grade. Each of the students with ASD had their own peer support arrangement. All of the students had a diagnosis of ASD as indicated in their Individual Education Plan (IEP).

Focus student 1 (FS1). FS1 was a twelve-year-old Caucasian male student in the sixth grade who participated during his second hour ELA class. Specifically, at the lower middle school FS1 had an IEP with ASD as his eligibility. His full scale IQ was in the 4th percentile with a standard score of 73. Processing speed was in the 5th percentile. FS1 had speech and language services as well as social work goals as addressed in his IEP. FS1 utilized assistive technology to complete assignments and had occupational therapy services to support fine motor skill deficits. Visual reminders were included as an accommodation in his IEP. Academically FS1 had difficulty completing graded writing assignments in the general education curriculum and difficulties in organizational skills. Math skills were also a weakness for FS1 and he struggled with problem solving. Socially, FS1 had difficulty beginning and maintaining conversations with peers.

Focus student 2 (FS2). FS2 was a 12-year-old Hispanic male in the lower middle school as a sixth grade student. He participated in the study during his fifth hour ELA class. His primary special education eligibility was under ASD, with an ADHD medical verification. His IQ was reported to be 81 which falls in the 10th percentile. His lowest score was in working memory at 69 percent and in the 2 percentile. FS2 took medication for his inattentive behaviors as indicated in his IEP. FS2 had a behavior plan to motivate him to complete academic tasks. Goals in his IEP

supported his demonstrated need in the areas of speech and language and written expression. He utilized a scribe, visual cues, visual highlighting, adapted assignments and task analysis to access the general education curriculum.

Focus student 3 (FS3). FS3 was a 16-year-old Caucasian male who had an area of disability under ASD. He was a ninth grade student at the upper middle school. He participated in this study during his second hour ELA class. FS3 had a high level of anxiety and a behavior plan to address his need. Occupational therapy, speech and language and social work were all part of his IEP plan. His transitional plan for his IEP stated that FS3 would like to be a professional hockey player upon high school graduation. His goal was within the area of math for problem solving deficits and negotiation skills as he disengaged and shut down when not interested in a topic during social settings. Academically FS3 was within the 92nd percentile in reading fluency and below average in comprehension and math concepts. Scores fell in the average range for writing. FS3 can have minimal output when he shuts down or is angry though his ability level was shown to be overall average.

Focus student 4 (FS4). FS4 was a Hispanic sixteen-year-old male who was eligible for special education under the area of ASD. He took medication for ADHD and saw an outside counselor for anxiety and anger issues. His goals were in the area of speech and language, social work and mathematics. His transition plan indicated that he would like to work in the field of culinary arts or technology when he graduates high school. Accommodations were use of technology for written work and to break problems and assignments into smaller chunks for best output result.

Peer Partners. This study included eight peer partners (PP 1-8; i.e., the peers that worked with the student with ASD in the peer support arrangement). All peer partners who were in LINKS and who were in an English Language Arts (ELA) classroom with the focus students (FS 1-4) and had a B or better with no discipline referrals were asked to participate in the study. English Language Arts is the basics for understanding all academic subjects which made it a preferred core classroom for this study.

FS 1 included PP 1A & PP 1B who were both female students at the lower middle school in sixth grade. They had participated in LINKS at their elementary schools in fifth grade. PP 1A knew FS1 in elementary school, but had not worked directly with him.

FS 2 peer partners included one female (PP 2A) and one male (PP 2B) who were both sixth grade students at the lower middle school. Both of the students had known FS2 from their fifth grade classroom but neither had been peer partners with him during that time period.

At the upper middle school, FS 3 included one male (PP 3A) and one female (PP 3B) both ninth grade students. PP 3A moved from Florida the year before and did not know FS 3 prior to this school year. PP 3B was in the same grade last year with FS 2 but did not support him in the LINKS program during her eighth grade year.

Lastly, peer partners for FS 4 included one male (PP 4A) and one female (PP 4B) ninth grade student. They had classes with FS4 last year but neither were his peer partner previously.

Adult participants. Three general education English Language Arts (ELA) teachers participated in the study. The sixth grade ELA teacher taught both of the students with ASD at different hours in her classroom in the lower middle school. This teacher had past experience with LINKS. At the upper middle school, two different teachers at different hours supported the two ninth grade students with ASD. One of the teachers had participated in the LINKS school program, the other teacher did not have LINKS experience. All teachers attended a meeting with the researcher prior to the study. During the meeting the researcher explained that their role was to place the peer partners seats near each other and to collect the checklists weekly. The researcher also stated that any concerns could be emailed to the researcher so that they could be addressed at the bimonthly meetings.

Two social workers, one social worker at the lower middle school and one social worker at the upper middle school, participated in this study, as well. The social workers met with the researcher individually prior to the start of the study where specifics of the study and expectations were discussed. Additionally, the social workers had interest questionnaires and first hand information on the students as they service all students with ASD in each building. The

primary responsibility of the social worker was to facilitate the bimonthly meetings with the peer partners and the orientation meetings for the participants with ASD and peer partners.

Setting

School. This study took place in two middle schools, one lower (sixth and seventh grade) and one upper (eighth and ninth grade) traditional school, in a school district in a rural setting in the Midwest United States. The enrollment at the lower traditional middle school was 663 and the enrollment for the year round lower middle school was 157. The enrollment at the upper middle school was 806. The total population of the district for the 2015/16 school year was 5,666.00. The district demographics were made up of: white (4,892), black (43), Hawaiian, (5), American Indian (18), Asian American (34), Hispanic (113) and Multi-Racial (118) students.

Classroom. The study focused on four ELA classrooms, two at the lower middle school (grades six and seven) and two at the upper middle school (grades eight and nine). In the lower middle school, the same teacher taught both hours that included student groups FS 1 and FS 2. Students in group FS 3 and FS 4 both had different teachers for their ELA classes. All four students with ASD and their eight peer partners were chosen from an ELA classroom. The two students in the lower middle school both had the same ELA teacher but were in different hours.

Design & Procedures

Qualitative design. This was a qualitative study. Insight that is deep and meaningful can be gleaned from qualitative studies as the process of collecting data involves emerging questions, observations and work samples to build particular themes (Leech & Onwuegbuzie, 2007). Qualitative research is an approach in understanding an event derived from the sense of the experience (Brantlinger, Jimenez, Klingner, Pughach & Richardson, 2005). In this way the researcher can interpret the data for meaning and gain insight and add to current literature into the appropriateness of peer support arrangements for students with ASD in the middle school setting. It is an umbrella that encompasses many different types of studies. It is answering questions about what is happening and why or how it is happening (Shavelson & Town, 2002).

Qualitative research includes the process of reasoning and can be deductive in nature (Brantlinger, Jimenez, Klingner, Pughach & Richardson, 2005).

Recruiting students with ASD. Students with ASD at the two middle schools were chosen from the list of participants in LINKS at the school in which they attended. The two students with ASD from the lower middle school and the two students with ASD from the upper middle school were chosen in alphabetical order by last name. Potential students with ASD were identified by staff during move up meetings (i.e., placement meetings for the following year) in the spring. All eligible students were able to obtain the specifics on the peer support arrangement study during schedule pick up in August and were able to sign up for the program. The students with ASD were asked if they would like to participate in the study and if they were willing to work with that specific peer partner, and if not, another peer partner was asked to participate. The first four students with ASD who were invited to participate were interested. It is common in peer support arrangement studies to focus on a small number of students with ASD (e.g., Carter et al., 2005). Focusing on only four students allowed the researcher to more thoroughly investigate the experiences of those students and their peer partners. Their parents returned consent forms and students signed assent forms.

Recruiting peer partners. In each core content area, the student with ASD had two peer partners. All peer partners of the consented students with ASD who supported the student with ASD in the ELA classroom were asked to participate in the study. Data were given to the researcher from the school social worker's files on participants that would have similar interests to the students with ASD, students that would be committed to the study, and have had past experience with students with disabilities. There were two original peers that declined prior to beginning the study, and two others were then chosen. There were five female peers and three male peers who participated in the research study.

Forms. A letter of introduction to the study for parents was available for interested students during schedule pick up at each middle school (Appendix 1). A letter of introduction for the students to obtain their assent for participating in the peer support arrangement were also

available at schedule pick up (Appendix 2) for students who were interested in participating in this study. At this time the peer support arrangement training form for parents (Appendix 3) was also provided to provide consent for participation in the training during the school day, should the student decide to participate in the current study. Peer partner consent forms for participants (Appendix 4) and consent forms for students with ASD (Appendix 5) were made available at a LINKS table during the scheduled times parents and students picked up their schedules. For parents who did not attend, the consent form was sent home with the student and signed. It then was returned to their ELA teachers. The researcher collected the forms from each of the ELA teachers when notified they had received them back from parent. Some parents emailed the signed form back to the researcher directly. The peer to peer support training consent form (Appendix 3) was mailed home to all peers who agreed to be part of the study and who did not pick one up on the day of schedule pickup. This was to inform peer partners and their parents, of the time and importance of the introduction meeting describing the study.

Introductory Meeting. Once all participants returned their introduction permission and consent forms, including the students with ASD, a meeting was established by the building social worker. The researcher and the school social worker held the first meeting, which was an introduction to the specifics of the study including the procedures and checklist that were utilized by the peer partners in the study (described subsequently). During this time students with ASD and the peer partners were given student assent forms (Appendix 4 for peer partners and Appendix 5 for students with ASD) to sign if they did not already do so. They all agreed to participate in the study. Students with ASD (focus students) during this first meeting had the opportunity to get to know their specific peer supports (peer partners). Each of the student's with ASD and the peer partners who accepted to participate in the study agreed to participate, and at this time signed the assent forms and fulfilling all of the requirements for the study.

LINKS Program. The specific peer support arrangement that has been established for all students with ASD at the middle school is called LINKS. LINKS, is a voluntary program at the lower and upper middle school to help support students with ASD in an inclusive setting and was

established from a grant. It provides many opportunities for students with ASD to develop responsibility for their own learning as well as provide peer partners with an increased understanding of individual differences in learning styles. Peer partners are trained to help specific students with ASD in their inclusive classrooms. Orientation for the peers includes learning about the student with ASD, discussing goals for the student, sharing ideas among each other regarding ways to support the students and to go over the specific strategies they are to use to help support the student with ASD within the academic setting.

LINK procedures and formats were incorporated as part of this peer support arrangement study. Participants in this study participated in all LINKS procedures (see table 1 for descriptions). Furthermore, focus students and peer partners who participated in this study met at a different time than did the overall school LINKS program, to be taught how to utilize the checklist of supports for this specific study. Also, participants in this study met at additional times for orientation and biweekly meetings so that the social worker could teach strategies and provide precorrections to students to remind them to use the strategies in class with their partner with ASD. The specific procedures for this peer support arrangement are outlined below. The students who chose to participate in this peer support arrangement study responded to this researcher's time and meeting requests.

Introduction Meeting. Once all participants returned their introduction permission and consent forms, including the students with ASD, a meeting was established by the building social worker. The researcher and the school social worker held the first meeting, which was an introduction to the specifics of the study including the procedures and checklist that were utilized by the peer partners in the study (described subsequently). During this time students with ASD and the peer partners were given student assent forms (Appendix 4 for peer partners and Appendix 5 for students with ASD) to sign if they did not already do so. They all agreed to participate in the study. Students with ASD (focus students) during this first meeting had the opportunity to meet and see the peer supports (peer partners). This was on a social basis and no pairing took place at this time. Each of the student's with ASD and the peer partners who

accepted to participate in the study agreed to participate, and at this time signed the assent forms and fulfilling all of the requirements for the study.

Orientation Meeting. An orientation meeting was held for the peer partners participating in this study. The researcher and the school social worker (different social workers per middle school) co-facilitated the meetings. During the meeting the checklist of academic supports were taught using direct instruction (i.e., explained, modeled and described for the peer partners). Questions were appropriately asked by the peers when they were unclear of a specific support. At the conclusion of the meetings (i.e., one at the lower middle school and one at the upper middle school), the school social worker and the researcher filled out the treatment fidelity peer partner orientation form (Appendix 6).

Additionally, the social workers for each building shared the names of the focus students and their preferred interests to give more insight to the peer partners on how to better relate to the focus students. At the end of the introductory meeting, the date of the introductory meeting for the students with ASD were given to the peer partners so they could attend at the end and meet their specific focus student.

The students with ASD that participated had their own orientation meeting and the researcher and the social worker filled out the treatment fidelity focus student form for each focus student (Appendix 7) so that the system and expectation of the peer support arrangement in the specific classrooms could be explained to them. The students with ASD were then introduced to their peer partners at the end of the meeting. They were able to get to know each other prior to their peer support arrangements officially beginning in this controlled setting. During the orientation meeting when the peer partners joined, it was in an informal manner regarding the support the focus students would receive. In this way, the students with ASD were not surprised on the additional help they received from their classroom peers and understood why they were seated near those students. General education teachers participated by pairing the students with ASD with their peer partners in seating arrangements as well as in collaborative learning groups. The general education teachers also collected the checklists completed by the

peers weekly and held them for the researcher to pick up. The researcher utilized the checklists done on the days of observations for data collection.

Bi-Monthly Meetings. Subsequent bi-monthly meetings were also scheduled for the peer partners per grade level for the entire eight-week study, which focused on supporting the peer partners with additional strategies for best practice with their checklists, concerns that might need to be addressed and specific questions that peers might have had after working with their focus student.

Twice a month meetings with only the peer partners were utilized to address their concerns that developed while working with the students with ASD. The checklist of strategies was reviewed at the bimonthly meetings for the purpose of this study. The social workers from their perspective buildings lead the meetings and problem solved with the peers whenever necessary.

IRB. The researcher obtained IRB approval at the University of Michigan – Flint in July, 2016.

Timeline. The peer support intervention took place for a total of eight weeks. At the start of the study, fall 2016, the researcher collected pre district assessment grades and work samples from the ELA teachers for all the study participants. The researcher collected data during two observations (Appendix 9) for each of the students with ASD in their ELA classrooms during this time period. After the eight-week intervention the researcher conducted individual interviews (Appendix 10) with both the students with ASD and the peer partners. Additionally, after the eight-week intervention the researcher collected post district assessment grades and work samples from the ELA teachers for all the study participants.

Data Collection

Observation. Based on direct observation for each of the four focus students by the researcher, and a checklist that was provided to the peer partners to fill out, data were compared to obtain a consensus on the academic strategies utilized during the intervention within the study.

Each observation was done during the full-length class period (approx. 55 min.). The researcher utilized the peer support observation strategies checklist during both of the observations. The first observation was completed during the second week of the study on the focus students at the lower middle school. The first observation for the upper middle school focus students was completed during week three of the study. The second observations for the focus students were done during the sixth week of the study at the lower middle school and the seventh week at the upper middle school. All were completed during their perspective hours in ELA classrooms, with the exception of one. One classroom went to the media center during the time of the observation. The researcher also observed in that setting and documented the change of location. Field notes were taken for all of the observations. Based on the data from the field notes and checklists, themes and subcategories were identified.

The observations were conducted to see what the peer support arrangement looked like in context. The researcher conducted the observations and collected data on specific strategies the peer supports implemented to support the students with ASD. To obtain information on the strategies peer partners implemented the researcher used a checklist. The same checklist was utilized for each of the observations for all focus students. This checklist was used in both a 2011 and a 2015 study by Erik Carter and colleagues. Erik Carter and colleagues implemented this list during the 2011 study in a controlled trial study with 3 students with disabilities and 6 peer partners. The checklist contained information for both social and academic supports, with each category broken down to specific interventions. For the purpose of this study, only the academic supports were utilized. The checklist contains 15 items (Appendix 9). If the researcher observed the strategy being used the research placed an X for that strategy. If a strategy was utilized more than once only the first occurrence was recorded.

In addition to the peer support observation checklist, the researcher took field notes on the context around the support behaviors. For example, on one occasion a peer asked the student with ASD to copy notes from the board, and the student with ASD continued to refuse. This information was noted at the time of the occurrence. The activities and materials present were all

described in the field notes. The researcher walked around the classrooms while taking the notes to document the specific activities taking place and to reduce focus student's reactivity to another person watching them. Interactions between the students and their peer partners, including the setting (i.e. classroom, media center, computer lab) and materials utilized were all noted by the researcher. When relevant, the researcher documented quotes, inflection and body language of participants in the study (Kurth et al., 2015). Handwritten field notes were transcribed and all forms of supports were recorded. Field notes are a secondary method to obtain data within observation methods (Groenewald, 2004). All observation materials were kept in a locked file cabinet with code numbers replacing student names so that all data was de-identifiable.

To minimize student reactivity during the observation the researcher walked around the room doing fake observations on other students so the students became used to the researcher being in the room. On one occasion, the student with ASD was having a "bad day" (e.g., the student with ASD escalated, threw his iPad at the teacher and walked out). The researcher did another observation on a different day in which the student with ASD was more compliant. Each observation included the peer support observation strategies checklist (Appendix 9) and field notes. During the observations the researcher did not participate with the peers or their peer partners. Sufficient time was spent doing each observation, as the researcher stayed in the classroom for the entire class period.

Work samples. For all students with ASD and peer partners, pre and post work samples were utilized to compare if gains in academic output occurred during the eight weeks the students participated in a peer support arrangement. The general education teacher of each ELA class collected the pre and post district wide ELA assessments and graded them. The researcher obtained both sets of data from the ELA general education teacher for each participant and coded them with the student numbers used for de-identifiable purposes. All documents were then kept in a locked file cabinet which only the researcher had access to.

Pre-tests (prior to peer support intervention) and post-test (after peer support intervention) work samples were collected for the peer partners and the focus students who participated in this study from their perspective ELA teachers. Two of the groups, the sixth grade students, all had the same teacher for ELA. They were in different hours during the day, yet each had the same assessments given to them. They were then graded by their teacher according to a rubric measurement scale that each of the teachers developed. The students in ninth grade had different ELA teachers and therefore, had different assignments per class requirement. Both ninth grade teachers provided grading for their students, which reflected the classroom grading rubrics for each independently of the other.

Accommodations according to the individual education plan (IEP) for each of the focus students, were reflected in their pre and post grades. The students were allowed to take their tests in small group with it being read to them, with a scribe or with the use of technology as documented in their IEP's. The manner in which the tests were given were the same for the pre-test and the post-test. All four focus students participated in the pre-test and the post-test within an allotted time frame.

Interviews. Data collection consisted of open-ended interview questions (Appendix 10) conducted with each participant in a one-on-one setting at a pre-determined time to fit the participants' schedule. The session was audio taped and transcribed verbatim by Rev, a reputable transcription service. The interviews were all conducted in a room with the door shut at the back of the media centers for each building. Additionally, to protect the participant's privacy, the researcher created a code number for each participant so all data was de-identifiable. The code list was kept in a locked cabinet with only the researcher's ability to access them. Interview questions were used based on a 2011 study conducted by Carter and colleagues (2011). Carter and colleagues (2011) conducted the interview with three high school students with ASD and six peer partners who participated in the study. These questions changed slightly based on observations and the strategies that were utilized from the checklist.

The interview began by asking questions to ensure the comfort level of each of the participants. The participants were told at the beginning of the interview that there will be no wrong or right questions to try to alleviate any anxiety that might be felt by the student with ASD. They were also informed that they could stop the interview at any point. For students with ASD the researcher provided additional supports, such as simplification and clarification of the questions, and a card with the question on it for a few students to read while the researcher was stating the question to allow for a visual support. This was to help the students with ASD successfully participate in the interview (e.g., Hedges et al., 2014).

Interviewing validity requires that views stated are fair and representative of what has been stated, and can be checked across strategies and contexts (Oliver et al., 2005). Credibility when interviewing was done by using questions that were designed to have sub questions added if needed for clarity. The researcher utilized reasonable questions, clearly worded and appropriate, and sufficient for exploring themes without leading. The researcher was courteous and respectful and did not offer advice or opinion. A written protocol with the questions was developed so notes may be taken during the interview process. Recording and transcription of interviews adequately represented the exact wording from participants. Documentation from the interviews was word for word.

Treatment Fidelity. To be certain the intervention was implemented as intended several treatment fidelity checklists were collected throughout the study. First, treatment fidelity was collected utilizing the treatment fidelity forms during the orientation meetings for both the peer partners and the students with ASD (Appendix 6 and 7, respectively). Both the social worker and researcher completed the treatment fidelity orientation form and a measure of interobserver agreement (IOA) was obtained by adding the number of agreements and dividing by dividing the total number of agreements between the social worker and the researcher and dividing that number by the total number of questions on the case conference sheet and multiplying by 100. Second, during every observation, the researcher filled out a peer support observation fidelity checklist (Appendix 9). This observation fidelity checklist included thirteen areas of support and

recorded if they were observed or not observed during each observation of the peer partners working with their focus student. The purpose of this form was to determine if the peer support arrangement was actually being implemented with fidelity in the ELA classrooms. Last, to make certain a measure of treatment integrity was upheld for this study, a peer support bi-monthly case conference sheet (Appendix 8) was completed by the meeting facilitators (i.e., the school social worker) and the researcher, after each of the bi-monthly meetings. A measure of IOA was obtained for the bi-monthly meetings.

Data Analysis

Observation. Field notes were used to derive themes from the data which showed both mundane, expected and surprises when trying to understand the core concepts to develop themes in the study (Creswell, 2007). Data were analyzed and themes were determined based on commonalities across all four students with ASD's and the peers' responses to the intervention. All data was described to contextualize the occurrences seen (Onwuegbuzie & Leech, 2004). The researcher disclosed both positive comments and concerns when analyzing the data by keeping a separate log of her thoughts and feelings to reduce bias. Contrary findings were evident between one of the focus students and their peer partner which is mentioned in chapter 4. The researcher looked for commonalities/themes across the checklist to better understand what supports were being used. Emphasis was placed on the development of an overall picture from both the checklist and the observation of how the peers utilized the supports listed on the checklist.

Work Samples. Pre and post district writing assessment results were analyzed by the researcher. To conceptualize the impact of the peer support, the researcher analyzed the data using the ELA rubrics (see Appendix 13) designed for all students in 6th – 9th grade. This rubric criterion describes low, middle and high achievement for three writing areas: development of ideas and specific evidence, organization and purpose and language conventions. Specific criteria within each of the levels was described and graded based on students writing on a pre and post-test. This rubric was based on their individual grasp of their written expression. The

researcher compared the pre and post-tests using the rubrics to determine if students improved on the specific areas noted above.

Interviews. In qualitative research, interviews are utilized to gain people's views and perspectives of the world and their reaction to events they experience within the context (Lewis, 2004). Thematic analysis was used by the researcher to analyze the data obtained from the interviews from both the peers and the students with ASD. Based on Holloway and Todres research (2003), this approach in thematic analysis is a foundational method for qualitative methodology. This method is an approach to guide and provide structure when the researcher is analyzing the interview data (Braun & Clarke, 2006). This method follows a logical methodology, yet flexible and absent of a clear or concise guideline. Furthermore, the theme is not dependent on quantifiable measures but rather on the ability to capture something important in relation to the overall research questions (Braun & Clarke, 2006).

Within this qualitative method, the inductive method was focused on for this study as it was driven by the researcher's interest area and provided a rich description of the overall data obtained resulting in themes around the topic or questions posed. Inductive analysis is a process of coding the data without fitting it in to a preexisting frame, meaning the themes identified are linked to the data themselves (Braun & Clarke, 2006). Six phases of thematic analysis were also used for this study to determine the themes that would be later described by this researcher. Specifically, thematic analysis is a way of identifying, analyzing and reporting patterns or themes across data.

Phase one began by the researcher identifying key concepts and placing them in categories from all interview text (Potter & Levine-Donnerstein, 1999). Devising categories based on organizing the data from reoccurring conversations or thoughts observed or expressed by the participants was utilized. Phase two developed initial codes from the researcher reviewing and generating a table to illustrate the themes identified in the text. Making sense of the data and coding them into categories or themes helped explain the phenomena (Basit, 2003). The researcher used a hand colored coding system to categorize the transcribed data. Thematic

analysis provided the researcher the opportunity to evaluate the relationship among the results of the interview content and determine a coding schema based on the codes developed from the interview text (Braun & Clarke, 2006). Phase three involved the researcher putting together the data that were relevant to each other to sort in potential themes. Once coded, the evidence based on the original theory was described as supporting or not supporting results (Hsieh & Shannon, 2005). Phase four involved reviewing the themes and then color coding them into a map. Next, phase five included putting names on the themes that best fit the category. Last, phase six, related the themes back to the research questions and then examples were chosen that best illustrated what the participants revealed. This was used by the researcher to guide the discussions of the findings.

Triangulation. Triangulation permitted the researcher to compare all information to determine corroboration to cross-validate all of the data constructed from the different methods used for this study (Wiersma, 2000). The researcher drew conclusions of the findings from data collected from the three methods to achieve more accurate and valid qualitative results for this study. Additionally, the researcher developed a coding system showing how each of the three different data sources were used to answer the three research questions. (Oliver-Hoyo & Allen, 2006). Comparing the data from the observations, interviews, and work samples allowed the researcher to construct an overall findings and support these findings through triangulation. This accounted for errors inherent in each of the methods to average out when the researcher completed the analysis. Not all of the evidence fit a category. Specifically, results were grouped by themes and tabulated by the data collected from all three methods described previously to produce results that were weighed and measured against each method results. The researcher focused on the primary themes that emerge from the observations, interviews and work samples compiled. Description of each method of data collection was provided based on the triangulation of the multiple methods.

Credibility. Qualitative research is the development of hypotheses that are studied in relation to theory and developed and described in a deductive manner that illustrates what is

happening so others can understand the specific experience (Brantlinger, Jimenez, Klingner, Pugach & Richardson, 2005). This is done primarily utilizing interpretation of occurrences by the researcher. Specific strategies employed for qualitative studies must be incorporated to ensure credibility. Brantlinger, Jimenez, Klingner, Pugach and Richardson (2005) provide credibility measures for qualitative research, which the researcher utilized for this study as part of the thematic analysis method. First, the researcher triangulated the data, which is a credible measure and converged three varied data sources to provide credible evidence for this study (Brantlinger, Jimenez, Klingner, Pugach & Richardson, 2005). Specifically, the researcher extrapolated disconfirming evidence, which allowed for inconsistencies within the themes to be looked at for any discrepancies in the data collected. Next, the researcher employed reflexivity. This attempted to have the researcher understand and self-disclose any personal assumptions or beliefs that could skew the results when describing and allowing for others to validate the results this researcher finds. External auditors (i.e., the researcher's advisor) examined and confirmed the inferences developed by the researcher. Debriefing with the researcher's advisor added validity and credibility to this study. During the interviews and observations, specific times and dates were kept track of and documented so that sufficient time in the field could be confirmed. Field notes and interview descriptions including direct quotes were described in detail after all data had been analyzed. Transparency of all the methods used in this qualitative study was described by the researcher at the conclusion of the study, such as triangulation, disconfirming evidence, external auditors, peer debriefing, audit trail, prolonged engagement and prolonged field engagement (Brantlinger, Jimenez, Klingner, Pugach & Richardson 2005).

Role of the Researcher. Moreover, the credibility of this research study was based on the researcher's work on gathering clear information from all participants. The researcher acknowledges she is an employee of the district where the study took place. The researcher also acknowledges knowing the students and analyzed the information with minimal bias so as not to interfere with any results recorded or reported. However, the researcher is in an administrative position and her job responsibilities do not include direct interaction with students. Therefore,

the researcher's job did not have any relationship with the study besides the fact that the study was conducted in the district the researcher worked. In this study the researcher conducted the observations, collected the test data after the teachers graded them, individually interviewed both the peer partners and the focus students, and analyzed all data. In this particular study, no other role was taken on by this researcher.

Chapter 4: Results

The purpose of this study was to investigate peer support arrangements for middle school students with ASD in inclusive classroom settings. More specifically, this study aimed to provide the perceptions of students with ASD and their peers who participate in peer support arrangements and to see what specific supports help the students with ASD access the general education curriculum in inclusive settings. An additional aim of this study was to see if there was any effect on both the students with ASD and the peer supports on their academic grades while they participated in this arrangement.

This study included observations, work samples and interviews of both the student with ASD and the peer partners. The responses were analyzed using a thematic analysis qualitative approach; triangulating the data for all three data collection methods. Through analysis of the observations, work samples and interviews, themes and subcategories were discovered. The findings are described below first in regards to the data collection method and then summarized by research question.

Observations

Observations: Field notes. The researcher took running log notes on the eight observations (two per peer support arrangement) for later analysis. The researcher paid particular attention to the demonstration of peer support by the peer partners and wrote continuous notes while students worked on their own or received assistance. Coding of the field notes were based on the checklist of the academic strategies that were apparent during the observation, or lack thereof. The observations, when coded, were then woven together and two themes were found based on the data. One theme that emerged was missed opportunities for support. Across peer support arrangements the researcher observed several situations where peer partners could have supported the focus student but they did not. A second theme that emerged was on the relationships between the peer partners and their focus students. The researcher observed across peer arrangements when the students talked and joked about issues other than

academics, more supports were utilized. Results are described below by theme in context of each of the observations per focus.

Missed opportunities for support.

FS 1 OB #1: The first peer support arrangement that the researcher observed that clearly highlighted missed opportunities for support was in a lower middle school sixth grade ELA classroom. Students were arranged in groups of four, with FS 1 and the peer partners grouped at one table. FS 1 was sitting appropriately and putting his books out on his desk. One peer sat beside FS 1 and the other peer across the table. No greeting was evident. The peers were talking to each other but not directly to the FS 1, and did not provide support for FS 1 in getting organized for the start of class. The boys at a table behind him were talking; FS 1 turned around, but did not join into the conversation. PP 1A and 1B did not redirect him to focus on his materials and the teacher needed to intervene and re-direct him. The teacher walked around the room and provided whole group instruction to the students during this observation period. FS 1 was observed reading on his own, while the peers focused on their own work. The peer partners had the checklist out on their desk, but did not appear to look at it or check anything off during the observation. Questions were raised by the teacher to the whole class and FS 1, without prompting, raised his hand to respond when it was not appropriate. The peer partners had an opportunity to prompt FS 1 to wait until the teacher was finished with speaking. The teacher directed the class to write in their journal and at that time, both peer partners redirected FS 1 which was the first support noted. The class period ended with four academic strategies utilized from the checklist as observed by the researcher.

FS 2 OB#1: The second observation took place in the same lower middle school sixth grade teacher and classroom as FS 1 used earlier in the day. The seating arrangement was in a four square, with FS 2 sitting across from PP 2 A and next to PP 2B. FS 2 was observed watching PP 2B from the beginning of him taking his seat. FS 2 was playing with pencils and copying what PP 2B was writing, but did not take the opportunity to encourage or offer support to FS 2. FS 2 appeared to be unfocused, with hands on his head and eyes not looking at his

paper. After a while, PP 2A highlighted something on FS2's paper, but did not prompt him to continue. The teacher was observed walking over, redirecting him, and asked him to continue to highlight. FS 2 played with his hands and his legs were constantly moving up and down. FS 2 rubbed his eyes and put his head in his hand. He began to make sleeping noises. PP 2A and B tried to redirect him once, but they did not offer any encouragement or additional support to change his behavior. PP 2A wrote notes in his planner with no help, and the peer partners did not check to see if it was done correctly. The checklist was not evident on the peer partner's desk. The class period was over with no evidence of other supports utilized during this observation, such as sharing materials, helping student with organization or checking to see if what he wrote in planner was correct. The peer partners took out the checklist and marked the strategies they utilized after the focus student left the room.

FS 3 OB#1: The third peer support arrangement was observed in the upper middle school during FS 3's second hour ELA classroom. The seats in this room were in rows and columns, with FS3 sitting in the front row across from the teacher's desk and closest to the board. PP 3A was sitting next to him while PP 2B was behind him. The researcher observed PP 3A supporting FS 3 from the beginning of class. PP 3B who was sitting behind FS 3 did not engage him in any activity, did not offer support for finding papers needed to work on, nor did she redirect or encourage when opportunities were available to do so. The checklist was not out on her desk, and she appeared to be looking and talking to the person behind her instead of toward PP 3B. PP 3B at the end of the hour acknowledged FS 3 and walked out of the room. PP 3A was the consistent peer partner to help FS 3 with some of the strategies on the checklist, such as redirecting, checking for understanding and organizing papers on his desk. The researcher observed many additional opportunities that PP 3B could have reinforced or implemented a strategy on the checklist which were not evident during the observation which could have made a difference for FS 3 engaging with the curriculum. Both peer partners filled out their checklists at the end of the class period.

FS 4 OB#1: The last classroom for first round observations were held in the upper middle school that utilized a Spanish room for the ELA class period. The seating arrangement was in long rows. FS 4 was seated in the middle of the classroom with PP 4A next to him and PP 4B behind him. No greeting was observed by the researcher from the peers to the FS 4. FS 4 was in his seat with head phones on when initially observed. The teacher was giving whole class directions for a board activity. FS 4 was not attentive or focused at the board. Neither peer partner spoke or redirected FS 4. The teacher called on FS 4 and the student did not respond. The peer partners did not prompt the focus student. The teacher walked over and asked to see FS 4's paper, and the student ripped it up. The teacher noticed his phone in his pocket and asked for it. The student refused to give it to her. Peers were silent at this time and they did not try to redirect or encourage FS 4 to do the right thing. No one looked at FS 4. FS 4 began to escalate and was observed walking to the teacher's desk throwing the phone and walking out of classroom. The special education teacher came in to support FS 4, spoke with the general education teacher and left. FS 4 returned to his seat and kept his head down. The researcher did not observe evidence of any strategies being implemented for the remainder of the class period by either peer. They appeared to want to remain separate from FS 4 and did not look at him or help him to reorganize after his escalation. The checklist was not visible during this observation, but was handed to the classroom teacher at the end of class.

FS 1 OB#2: This observation took place in the same room as the first observation. The teacher asked the class to read their stories to each other. Seating arrangements were the same as the first observation, with four students to a table and peer PP 1A sitting beside FS 1. PP 1B sat across from him. FS 1 spoke to PP 1A about the board work to be done. Peer partners provided verbal encouragement for FS 1 to read the paper and it was observed that he did respond verbally to the peers and began reading. The peer partners redirected FS 1 when he lost his place once, and helped him complete the task during his time of reading. FS 1 accepted the help without any conversation between them. When done with the reading, FS 1 raised his hands in victory. Conversation that was noted did not appear to be curriculum centered. The researcher noticed

the checklist on the peer partner's desks the entire time during the class. The researcher observed opportunities that the peer partners could have assisted FS 1 with an academic strategy, but they did not utilize any strategies at any other time during the class period. For example, after FS 1 was done with the reading assignment, the peers could have assisted him with organizing his material for the next activity. They also could have taken his planner out so that he would be ready to write down the homework on the board as instructed by the teacher. At the end of class peer partner 1A helped him write in his planner quickly as she was getting her own planner filled out.

FS 2 OB#2: The second observation for this focus student was in the same location as the first. When the researcher walked into the classroom, FS 2 was in his seat playing with paper. The teacher directed him to take out paper from his binder; both PP 2A and B begin to redirect him, but only after the teacher had intervened. FS 2 was often observed putting his head down by the researcher. During the first half of class, both peers seemed social and often observed redirecting the focus student with his academic tasks. The second half of class, the teacher directed the whole class to clean up their materials and line up to go to the media center. Both PP 2 A and B encouraged FS 2 to stand with them in line, and then talked with him as they walked down the hall. PP 2 was observed appropriately walking in hall, and conversing. PP 2, once in the media center went directly to book shelves alone and picked up a book that the teacher stated was an inappropriate read for him. Peer partners were not with FS 2 at any time in the media center. He followed directions and chose a different book. The class lined up and FS 2 went to stand with both PP 2A and PP 2B. The peer partners were engaged talking with each other and did not include FS 2 in their conversation. On return to class they put their own things away and class was then over.

The researcher observed some of the strategies from the checklists utilized during the classroom observations (e.g., motivating/encouraging the student, helping him participate in a group activity and prompting). Though some strategies were utilized by the peer partners, which were more evident than in the first observation of this peer support team, peer partners were not

following the checklist when opportunities presented themselves, such as during media center time which was half of the class period. The peers also did not include FS 2 in conversation during the walk back to the room, which from the researcher's view, seemed to disengage the focus student from the group as he walked alone back to class.

FS3 OB #2: This observation took place in the same classroom as the first observation. Seating arrangement noted that PP 3A sat next to FS 3, with PP 3B seated behind them. The researcher noted that while the teacher placed the curriculum on the overhead, conversation between FS 3 and PP 3A was continuous. It was overheard to be both academic and social in nature. PP 3B did not interact and was turned to the student behind her for most of the class period missing many opportunities to provide support to FS 3. During the observation FS 3 was called down to the office as he does daily. On his return, PP 3A showed him what needed to be completed and gave him his paper to copy what he had missed. PP 3B did not interact or converse with either the FS 3 or PP 3A. Class ended with only PP 3A filling out the checklist as observed by the researcher.

FS4 OB #2: Seating and room arrangement was noted to be the same as for observation one. FS 4 was observed with headphones on, playing with his hands and sitting in his seat. He was not interacting with anyone, and his peer partners were focused on their own papers. He did look over to his peers once instruction began but there was no interaction. Presentations began with a student speaking in front of the classroom and FS 4 put his head down and watched the board from that position. He proceeded to lift his head up and down throughout the presentations with no redirection from either peer partner. FS 4 began playing with his ears and headphones. There was no reaction from him during any presentation. He did not participate or answer any questions posed by the presenters. Class ended with his headphones on and no support from either of his peer partners noted by the researcher. Checklists were not evident or utilized during this observation period.

Relationship of peer partners and focus student.

FS1 OB#2: During the first half of the second observation for FS1, the researcher noted more social interaction from the peer partners which engaged the focus student in attending with his work. The peer partners began the class period greeting the focus student. They went on to ask him how he would be spending the upcoming holiday. They started talking among the three of them about non-academic interests prior to the teacher redirecting the class to the curriculum. Additionally, strategies implemented by both PP 1A and PP 2A such as encouragement when FS1 began independently reading, redirection when he lost his place, and help with completing the worksheet at the end of reading time was observed, with more conversation than in the previous observation. It was recognized that FS1 accepted this help without any apparent apprehension or behavior. At the end of the activity FS 1 raised his hands in victory, and both PP 1A and PP 2A smiled and congratulated him.

FS 2 OB#2: During this second observation for FS2, the researcher noted that both PP 2A and PP 2B begin to talk to FS 2 and then redirect him. FS2 started his activity, but then put his head down on his desk. PP 2A and PP 2B started redirecting him, encouraging him and talking to him. The teacher asked the students to take turns reading aloud, and the peers took turns reading to FS 2. The two peer partners ask FS 2 if he would like to walk with him in line to the media center after teacher asked the class to line up. PP 2 was observed verbally saying yes and walked and talked with both peers until they entered the media center area.

FS 3 OB#1: This student was observed in the upper middle school during his second hour ELA classroom. The seats in this room were in rows and columns, with FS 3 sitting in the front row across from the teacher's desk and closest to the board. PP 3A was sitting next to him while PP 2B was observed behind him. From the start of class PP 3A exhibited a friendly relationship with FS 3, as I could hear them discussing a movie they both had watched and were discussing plans for the weekend (these were independent plans). PP 3A began helping him with finding his papers. They began talking back and forth. PP 3B leaned forward and joined in. The teacher redirected the class to work and all responded. While transitioning to next activity, PP 3A began

to interact with FS 3 on a social basis. FS 3 responded, picked up pencil and began to write. FS 3 was called down to office as he does daily. On his return, FS 3A showed him what he needed to do and what he missed and gave him his own paper to copy. PP 3B was talking to students around her, but not directly to FS 3. PP 3A continually talked and guided FS 3 until the end of class. It was observed that FS 3 directly spoke to PP 3A and wrote in his planner, though it was not observed if writing was on topic. Both PP 3A and 3B took out their checklists and checked the strategies that they felt were used for the day.

FS 3 OB #2: Observation took place in same classroom as the first observation, with seating arrangement and peer placement also identical. Checklists were evident on both peer partners' desks. The warm up was on the overhead displayed on the front board. PP3A was observed talking with FS 3 on how to do it and what to do. The students work quietly and were all on task. The teacher began reading answers and when asked, FS 3 appropriately answered independent of peer help. Sharing and reading among the whole class occurred, with FS 3 and PP 3A talking and sharing with each other. They were both doing what all other students were doing in class for the remainder of the period, with small conversation going on between them which appeared appropriate; both socially and academically focused. At one point during the observation the classroom teacher spoke to PP 3A about not speaking while she was talking as the focus student was too social and needed to pay attention to the direction of the teacher.

FS4 OB#1: For FS 4 the researcher observed a lack of relationship. This lack of relationship was seen in both observation 1 and 2. The researcher noted on the field notes that no interaction took place between FS4 and PP 4A and PP 4B. Neither peer partner during either observation engaged in any social conversation or tried to utilize the checklist to help prevent behavior that was evident during the class period. At no time during the 55-minute time period did either peer look at FS4 or try to share any non-academic task or conversation. Both PP 4A and PP 4B were obviously uncomfortable during FS4's escalation during the first observation. No strategies were used during either class period and FS4 did not output any curriculum during these peer support arrangement times.

FS 4 OB#2: Researcher noted FS 4 had headphones on the entire time of the observation. This makes it more challenging for interaction with his peers. FS 4 did not make eye contact with his peer partners. PP 4A and PP 4B did not make eye contact with FS 4. No strategies were utilized during this class period. There was no engagement from the peer partners with the focus student evident.

Observations: Checklist. The researcher and peer partners both utilized an academic strategies checklist for all focus students. During both the first and second observations for each focus student, the checklist was filled out by the researcher and peer partners (either during class or after class). In comparing the data for each academic strategy, data collected illustrated inconsistencies between the researcher's checklists and that of the peer partners (see Table 2). Inconsistencies were evident as demonstrated as peers marked helping students organize yet the researcher did not see this strategy utilized during the observation. Accordingly, the researcher marked hearing words of encouragement from the peer partners to the focus students, yet the peers did not check this as having been implemented during the class period.

The checklists supported the themes the researcher found in the observations. Many strategies were not used, (i.e., modifying or adapting assignments during class, assisting in taking notes, paraphrasing lectures) which could have been utilized to help support the focus students in their academic attainment. The peer partners that demonstrated having a relationship with the focus student utilized more strategies than when there was minimal or no relationship evident between the two groups. On the contrary, the teams that had no relationship at all (i.e., FS 4 and PP 4A and PP 4B) had the least amount of strategies that were utilized during this study.

Table 2
Checklist of Supports

Strategy	FS 1-1	R	FS 1-2	R	FS 2-1	R	FS 2-2	R	FS 3-1	R	FS 3-2	R	FS 4-1	R	FS 4-2	R
1. Assist with completing class assignments	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
2. Motivate/encourage FS		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓			
3. Redirect		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	
4. Help participate in group activity	✓				✓	✓	✓	✓	✓	✓	✓	✓				
5. Help student organize			✓		✓		✓			✓	✓	✓				
6. Share materials	✓							✓	✓	✓	✓	✓				
7. Assist in note taking			✓	✓				✓	✓	✓		✓				
8. Prompt FS to answer a question				✓		✓		✓	✓	✓	✓	✓			✓	
9. Paraphrase lectures or discussions		✓	✓			✓	✓			✓		✓				
10. Modify or adapt work																
11. Read aloud a book or section							✓	✓	✓		✓					
12. Write down answers given orally/with a	✓			✓	✓	✓	✓	✓	✓							

device															
13. Other academic-related supports			✓		✓	✓	✓			✓		✓			
None of these supports													✓		✓

Note. R = researcher; FS = focal student; PP = peer partner

Below is a description of what intervention strategies were directly observed by the researcher and that which the peer partners checked during classroom instruction.

Researcher: Thirteen academic strategies were included on the check list. During the observations, the researcher checked the strategy observed only once, not counting per occurrence. The researcher observed strategies #1 and #3 (peers assisting with completing class assignments and redirecting when the student is off task respectively) as the most often implemented, with six occurrences each. Strategy #2 (motivating and encouraging the students) and strategy #8 (Prompting student) were both observed five times. Strategies #4, 7 and 9 (i.e. helping the focus students in a group activity, assisting in note taking and paraphrasing) were all evident four times. Strategies #6, 12, and 13 (i.e., sharing materials, writing down answers and other academic supports) were used three times. Strategy #5 (Helping student to organize) was utilized twice, and strategy #11 (Read aloud) was observed once. Strategies # 10 (i.e., modify/adapt assignments) was not used at all.

Students: Peer partners reported more times of utilizing the academic strategies listed on the checklist. Thirteen strategies were listed and students marked the first three strategies (i.e., assist with completing class assignments, motivate/encourage the student and redirect when the student is off task) most often. Students never marked strategy #10 (modify/adapt assignments during class) as utilized at all. All of the other strategies were sometimes utilized as marked by the students during the observations.

Discrepancies between the researchers recording of occurrences and that of the peer partners were evident, and will further be discussed in chapter 5.

Observation summary. The observations described above reflected both field notes and checklist analysis. Interesting points regarding the peer partner's lack of support for the focus student during various opportunities throughout the class period was shown in both the field notes and the checklist examination. The relationship between the peer partners and the focus students appeared to increase the amount of strategies utilized by the peers. The researcher observed social conversation between the focus student and their peer partners which enhanced the number of support strategies utilized by the peer partners. Peer partners were observed not knowing how to help the focus students in accessing the general education curriculum. Specifically, they did not know how to help the focus student when they were disengaged and not participating in the general education classroom, or when behavior was present. Peer partners at times showed a lack of attention to the needs of the focus students, as there were times when implementation during the classroom period should have occurred. This left the focus student either asking for help, looking at peer partner's papers to copy answers, or being ignored. Strategies that were implemented were not done across each class period, even when needed.

Additionally, the focus students were observed not following the directions of the peer partners and searching out the instructions from the teacher. One of the focus students did not engage at all with their peer partners. The researcher observed another focus student needing to have their peer partners explain to them why they were helping them with the specific strategy as if the focus student had no idea why they were helping him.

Relationships, when field notes were marked for themes by the researcher, reflected that the stronger the relationship of the peer partners to the focus student the more support the focus student received. The conversations observed were not only curriculum focused, but also interactive and social. Specific attention was paid when analyzing focus student 3's peer support arrangement in both observations as they both showed him asking his peer partner's for help

during conversations with his peer partner. These enhanced strategies were implemented and accepted by focus student 3. It was also noted that the peer partner seated next to the focus student had much more interaction with the focus student than did the peer partner seated behind them.

Work Samples

Students with ASD. When comparing the pre-test and post-test grades for the four focus students, grades stayed steady or rose for three out of four students. One student, FS 3, grades showed a decline from pre-test to post-test. FS 4 showed 100% growth from his pre-test to his post-test results. Please see Table 3 for pre and post scores for participants with ASD. Table 3

Table 3

Pre and Post Test Scores for Focus Students

Name of Focus Student	Grade	Pre-Test Score	Post-Test Score
FS 1	6 th	8/8 (100%)	8/8 (100%)
FS 2	6 th	4/8 (50%)	8/8 (100%)
FS 3	9 th	14/15 (93.33)	12.5/15 (83.33%)
FS 4	9 th	0/15 (0%)	15/15 (100%)

Note. FS = focus student

Peer partners. All of the peer partners' grades either rose or were consistent with their pre-test assessment grades. Seven out of the eight peer partners had pre-test results of 100%. Peer partner 1A had a baseline score of 25%. Post-tests demonstrated that the seven peer partners remained at 100% level and that Peer partner 1A had an increase in her score to 75%.

Table 4
Pre and Post Test Scores for Peer Partners

Name of Peer Partner	Grade	Pre-Test Score	Post-Test Score
PP 1A	6 th	2/8 (25%)	6/8 (75%)
PP 1B	6 th	8/8 (100%)	8/8 (100%)
PP 2A	6 th	8/8 (100%)	8/8 (100%)
PP 2B	6 th	8/8 (100%)	15/15 (100%)
PP 3A	9 th	14/15 (93.33%)	15/15 (100%)
PP 3B	9 th	14/15 (93.33%)	15/15 (100%)
PP 4A	9 th	15/15 (100%)	15/15 (100%)
PP 4B	9 th	15/15 (100%)	15/15 (100%)

Note. PP = peer partner

Interviews

Three major themes emerged from the data. These themes include: (1) Overall Student Satisfaction (2) Training and (3) Relationships between peer partners and focus students. Substantial overlap was observed between “training” and the theme that emerged from the observations “missed opportunities of support”. It was evident in the interviews that missed opportunities of support were related to participants needing additional training on their roles. Further, the idea of building a relationship between the peer partners and focal student’s emerged again during the interviews. The themes that emerged from the interviews, as well as subthemes, are described below.

Overall student satisfaction. The participants viewed the peer support arrangement as a positive experience. Responses to the first open-ended interview question “How would you describe your experience working with your peer partner or focus student” revealed that the peer partners and the focus students all had positive feelings regarding their experience in the study as shown by their responses. Peer partner 2A responded, “It’s really good!” and focus student1 stated, “Yes, they are very cool.” After going over the transcriptions multiple times, and coding the responses for this theme, it was discovered that two subthemes emerged: curriculum attainment and feelings of satisfaction.

Curriculum attainment. All participants felt satisfaction in utilizing a peer support arrangement, specifically in their times of directly helping the focus student with the curriculum. For example, peer partners in response to the question, “How have you personally benefited from the experience of being a peer support to your partner” in relation to helping them with curriculum attainment expressed: “Redirecting if the teacher’s talking or showing something on the board.” A second peer partner echoed that comment and stated: “I give him advice, like what you need to do, and repeat what the teacher said.”

Additionally, focus students voiced the same feelings of satisfaction when they were given support. For example, one focus student said “They helped me work when I am stuck.” A second focus student specifically mentioned a time when they liked being helped as they expressed: “They help me finish logs.” Specifically, another peer partner showed satisfaction with the help they received when he commented: “They instruct me to do what I need to do.”

Feelings of satisfaction. Participants described their feelings of satisfaction in either providing or being the recipient of the learning strategies that they experienced as a result of the peer support arrangement. The responses yielded a variety of comments from each group. Examples from select participants revealed strong and positive outcomes as noted in the following statements from some of the peer partners: One peer partner expressed, “Actually pretty fun to help a student that’s struggling.” A second peer partner also felt the same about supporting a focus student when he confirmed by his comment, “Well, he definitely started doing more of his work and he started interacting with people more socially.” Interesting, one comment made by a peer partner reflected their own relationship growth when they said, “I really didn’t talk much to people, so I felt like I’ve been more talkative.” Many peer partners expressed really enjoying having to talk to another student in class, which in turn fostered a relationship that would not have existed outside of this study. One student noted, “Well, he definitely started doing more of his work and he started interacting with people more socially.” This response was in answer to how she felt she did as a peer partner as she became acquainted with the focus student over the eight-week study. Reflecting on the focus students gain, this peer was excited to

share her statement with me. Lastly, a third peer partner stated, “I can help them and they can help me.”

Similar responses were recorded from the focus students as two students expressed: “I enjoy spending time with them and they are a great help.” Echoing that sentiment, the second focus student replied, “I like best that they are friendly and fun to work with.”

Overall, the majority of the peer partners and the focus students’ perceptions expressed feeling supported by the interventions. The interview responses described that both groups, peer partners as well as focus students, had experienced positive feelings from the supports provided or experienced positive outcomes from the supports received within the classroom setting.

Training. The second theme that was shown to be significant was in the area of training for both the peers, the focus students and the teachers. From the coded interview data, three subthemes emerged which supported the evidence of the need for additional training. Specifically, undefined roles of peer partners, undefined roles of the focus student and the undefined roles of teachers were expressed as a need to be addressed. Below are the concerns that were commented on by both peer and focus students during the interview process which support each of the subthemes.

Undefined roles of peers partners. Participants revealed that they felt they needed more scaffolding with instruction prior to participating as a peer partner. In some cases, the peer partners appeared to feel lacking in knowledge of how to support focus students when they did not want to engage. One peer partner, described how it was hard to know what to do when faced with this situation when they stated, “I just kind of tell him to get on task, but not really sure if I should do that anymore.” A second peer partner shared, “I don’t always know what to do.” Additionally, during the interview one peer partner could not even describe the exact strategy they implemented when working with their focus student in class. They responded to that question with, “By just doing a lot of things with them.” Peer partners went on to further describe the involvement or lack of from the teachers during the peer support arrangement which

made it difficult for the students to play the roles they needed to for the intervention to be done with fidelity.

Undefined roles of focus students. Over the course of the interviews, some focus students felt they did not get any curriculum support while others did, but not all the time. One focal student stated, “I don’t really know if having a peer is good. Not sure how they help me with my work.” When asked “What sort of additional help or information would have been beneficial for you to have?” students’ responded that the roles they played would have been easier if more clearly defined. A response by a focus student illustrated he felt the same way as the above focus reflection when he stated “I just like them as friends, not peer tutors” and “I did not know how to respond to what they were telling me.” This was acknowledging that they did not see the peers in the role of mentors, but more in a social context. One focus student spoke of not always understanding the role the peer partner played in their acquirement of the curriculum task, yet did not state that they could have asked questions or for help from the peer during the study. One focus student stated, “I don’t like them as peers, I just like them as friends” which was almost word for word stated by another focus student. A parallel comment by a focus student demonstrated the same feeling of need of definition of their role as acknowledged, “In a way these guys are supposed to be students as well, they should be getting help from teachers not being peer teachers themselves.” None of the focus students spoke of taking ownership themselves or asking for clarification or support with any of the tasks on the checklist. Below are additional comments based on the students’ perception of teachers needing to have their roles better defined.

Undefined roles of teachers. Both focus students and peer partners felt that the general education and special education teachers in their classrooms were not supportive of the peer support arrangement. It was spoken about during the interview by many students that the teacher’s role was also not clearly defined when students responded to the question “What has been the most challenging (or hardest) part of being a peer partner (or focus student)?” For example, one peer partner stated, “The person sitting across from him (the other peer partner)

really didn't interact as much as the person beside him." In this particular instance the students other peer partner was not sitting in proximity to the focal student. Adjusting student seating arrangements is one of the responsibilities of teachers to ensure that peer partners and focal students are sitting next to one another. Another peer partner responded to the same question with, "Mr. Z was watching him and all that stuff, so I didn't get to help that much." The peer partner's comment reflected that opportunity was insufficient to help her peer partner due to the special education teacher's intervention and presence. Additionally, one peer noticed a lack of opportunity to help their focus student as the teacher removed the student from the class. They affirmed, "The focus student was out of the room a lot." Teachers did not give opportunity all of the time or validate the peer partners as being important to accessing the curriculum as they took the student during these peer support arrangement times.

Similarly, the focus students acknowledged that the teachers all played different roles as some teachers provided the assignment and directions when others did not. One focus student declared, "Adults have more knowledge than a regular student, I like getting assignments from Ms. R.W...." which impacted his interaction and acceptance of support from the peer partner. Overall, the students who participated in the study expressed that the roles of both the participants and the teachers should be more clearly defined so that they can participate fully in the roles they are assigned within the peer support arrangements.

Support Strategies. The second subtheme after analyzing the interview statements by the participants spoke of the need for additional support in their own understanding of providing strategies to help the focus student with assessing the curriculum. This theme was evident across both the peer partners and the focus students' responses when asked, "What sort of additional help or information would have been beneficial for you to have?" Peers and focus students both replied that they saw a need in additional strategies on how to handle different situations that occurred as well as more modeling in the specific strategies to be able to fall back on when these issues occurred. The focus students commented that the peer partners would have been more helpful if they could have explained the work more clearly. The peer partners responded that

they did not understand how to explain the work or at times be able to implement the strategy to the focus student. One comment showed this area of need when they said, "It would have been helpful to have more information on the strategies."

Many participants shared thoughts on additional ways they could have been more prepared for specific times of difficulty when working with their peers. One peer partner commented, "Challenging when he got distracted and I didn't know what to do." A second peer echoed that concern when they replied, "I was wondering how to help him during reading." A third peer confirmed this feeling of needing more strategies when they responded, "How do I get him to pay attention, because he talks sometimes...he'd tell you his life story!"

Focus students responded in much the same way as the peer partners in response to the above question as the statements from these participants reflect. One focus student stated, "Explaining the work really would help." This was an acknowledgment that they did not feel that they were getting the help they needed from the peer support student. A second focus student articulated the same sentiment in a different manner when they replied, "I just don't feel that it (telling me what to do) makes any sense."

Additionally, peer partners acknowledged that at one time or another during the study they did not know how to appropriately help their peer partner. This was evidenced with many comments made during the interview by the peer partner. One replied, "How to get him to pay attention, because he talks and I can't help him during this time." Another peer partner said, "When I try to redirect him he just sat there and made noises or was drawing something, not working."

Further comments from the peer partners also indicated more support strategies in working with peer partners was needed as they said, "He didn't really want to listen and I didn't know how to help him listen." Another peer partner was honest and replied, "Would have liked to know more about tutoring or anything he needed help with." Lack of knowing what to do also was expressed as frustration in this student's quote, "Sometimes when he gets mad he doesn't want to be on task."

Last, it was recognized by the peers supporting the high need focus student that if they had more adult support and strategies, they might have had better outcomes with supporting the focus student in obtaining the general education curriculum.

Relationships. The third theme that was evident when analyzing the interview transcription was in the impact of having a relationship between the peer partners and the focus students. Some relationships were developed through the peer support intervention as stated by a peer, “I didn’t know her that well prior to this” as others were already acquainted and redefined. The interview questions “What sort of additional help or information would have been beneficial for you to have” and “Do you see your partner outside of this particular classroom?” supported that relationships between the peers and the focus students played a role in the amount of support strategies that were utilized and the realization that the peer partners were in need of additional experience in order to support learning optimally for the focus students.

In analyzing the transcripts of the interviews, experience in both learning about the focus student and peer partners needing more experience to deal with them was affirmed. Peer partners had varied experience with the focus students as shown in their replies. For example, one peer partner stated, “We began to talk while doing this, but it took time.” They went on to express that now that they did work with this focus student, they enjoyed getting to understand him and how he learns, but if there had been another experience it would have happened sooner. A second student echoed that feeling when they voiced the comment, “We hang out and have some stuff in common, which I would not have known except for experiencing it now.” Indications from the comments support that experience to gain better understanding of each other was a reoccurring thought for the focus students and the peer partners during the intervention classroom sessions.

Yet another peer commented, “I have worked with a bunch of ASD kids before” referring to having had a past experience with being a peer partner. He went on to reflect that having been a peer partner prior to this experience gave him a foundation in being able to provide support, but stated, “It was different this time.” This peer was very expressive when speaking about this experience, and commented that he would like to be a peer partner again in the future.

Frustrated, one peer partner commented, “I didn’t benefit from this experience; I was a LINK for two years before and had an easier time.” This peer partner had been working with the focus student who shut down and walked out of the classroom and though had experience, never worked with a student with more significant behavior needs prior to this study. Another comment that a peer partner spoke about was, “I didn’t get the opportunity to learn about him personally.” During the class time with her focus student they either worked or did not talk to each other. There were many opportunities for the focus student and the peer partner to speak with each other across all study classrooms, but they did not take advantage of that opportunity.

Comments continued from the peer partners about being frustrated when asked what more support they could have had before going into this role. One peer partner articulated, “A little more experience with some people like him so I know how to deal with it or how to help him.” A second peer who worked with a different focus student responded similarly when asked what more support they could have used. She replied, “Just more experience to help my difficult student I guess...I would just ignore all of it.”

Themes from the observations, work samples and interviews that emerged when all three were analyzed showed all focus students felt positive about curriculum attainment which was validated by increases in grades from the work samples. Additionally, during observations missed opportunities were noted which also was confirmed by the participants during their interview sessions. The specific needs were all evident from the data collected in all three methods when analyzed which supports all of the themes and subthemes mentioned above.

Research Question One: What are the perceptions of being in a peer support arrangement of students with ASD and their peers who participate in a peer support arrangement?

During the interviews, all peer partners were given the opportunity to respond to the questions on their perceptions of being a peer support for students with ASD. They shared their feelings in their responses to “How would you describe your experience working with your partner? and “How have you personally benefited from the experience of being a peer support to

your partner?” One peer partner responded, “Actually pretty fun to help a student that’s struggling.” A focus student stated, “They helped me work when I am stuck, and “It’s really good!” The responses as noted previously were concise and most were in agreement that they perceived being a peer partner to be positive and rewarding. One peer partner did not feel like they benefited from the experience but went on to say in the interview they would do it again and enjoyed it. The focus students were asked what help did they like receiving from the peer partners which resulted in different perspectives. Some focus student perceptions were more focused on their peers being friends than on their support of academic attainment. Specifically, one peer partner and their focus student became friends during this study and had frequent conversations during the class period that did not always focus on curriculum. One peer partner shared, “We began to talk while doing this.” A second comments such as, “We hang out and have some stuff in common” also demonstrated they communicated on a social level. They liked the peer support arrangement as it allowed them time to talk with each other which they would not have been able to do if they were not seated together.

While the majority of participants enjoyed participating in the peer support arrangement they also highlighted areas of improvement. Areas of need expressed by the peer partners were also noticed by this researcher during observations, which were in the areas of training and relationships. Findings substantiated the need for additional facilitation for training of the participants, as many missed opportunities for support was evident during the observations. This was confirmed by the peer partners as a need during the interviews, as they stated they “Would have liked to have had more help in understanding their focus students needs.” Additionally, data reinforced when peer partners and focus students interacted during non-instructional times, interventions utilized increased. This was consistent throughout all observations and frequently expressed during interview sessions.

Research Question Two -What effect does participating in a peer support arrangement have on students' academic achievement for both students with ASD and the peer partners?

In analyzing the data from the observations, work samples and interviews the outcome produced a higher academic achievement for most focus students. One focus student slightly dipped in score from their pre to post test results. All peer partners had increases or stayed at their 100% level when the pre and post data was reviewed. Demonstrated interventions through the observation process were limited to a few yet during the second observation, more peer promoting and interactions were noted. Work samples of both the peer partners and the focus students showed all participants with increased scores. During the interviews, peer partners all stated that helping the focus students had positive impacts on their attainment to the general education curriculum. Specifically, a peer stated, "I needed to know the material so that I could explain it, which made me study more." Peer partners yielded additional comments such as this in regards to focusing more on understanding the material themselves so that they could help the focus student. This was evident when the researcher analyzed the work sample data.

Research Question Three -What supports are actually being implemented in peer support arrangements to better access the general education curriculum and do students with and without ASD in the study find them beneficial?

Observations and interviews both addressed this question. Specifically, during the observations conducted by the researcher across the different classrooms, three specific interventions were seen that supported the focus students. The researcher observed the peer partners utilizing prompts, redirecting students and assisting with class assignments. The peer's benefited from the academic interventions when observed by the researcher as they were able to accurately explain it correctly to the focus students as a depiction of understanding the material themselves. The focus students also responded in the interviews commenting they "helped when

they were stuck on work and they helped them finish reading logs.” The peer partners stated, “I give him advice like what you need to do, and repeat what the teacher said.”

During the interview sessions, focus students spoke of the interventions they were given that they felt were beneficial in outputting the general education curriculum prior to when the intervention had been done. They stated that they obtained instruction when they did not know what to do. A comment from a focus student illustrated this when he said, “They instruct me to do what I need to do.” Specific supports that the focus students integrated as part of the support was in reading assignments, helping their students stay on task and follow along, and redirecting the students. All students, those with and without disabilities found the specific strategies that were implemented to be beneficial. This was displayed when the researcher observed specific peer partners and their focus students. Conversations that were noted showed their focus students having a better understanding of what needed to be done and were able to independently complete tasks once shown.

Treatment Fidelity

To better understand if treatment fidelity was used throughout the study, four results were collected from checklists utilized in different settings. First, treatment fidelity orientation checklists (see Appendix 6 & 7) were both used by the researcher and the school facilitator. Results indicated that treatment fidelity was implemented with 100% fidelity. A second fidelity form that both the researcher and the facilitator filled out at the bimonthly meetings was the Treatment Fidelity for Bimonthly meetings (see Appendix 8). Both the researcher and the facilitators completed the forms and results indicated the bimonthly meetings were implemented with 100% fidelity. The last treatment fidelity form filled out was for each peer support arrangement observation.

A third fidelity form filled out by the researcher was a Peer Support Observation Checklist (Appendix 9), to determine if the peers were mediating the intervention. The form task analyzed four areas of intervention support. Thirteen questions on specific tasks were analyzed

for each observation. The lowest percentage was evident with one focus student-peer partner classroom (FS 4) displaying no tasks seen during the first observation, scoring a 0%. The highest percentage of tasks completed by the peer partners was with focus student 3, at 77%. The average treatment fidelity across all observation was 46.1% including FS 4. When looking at the average treatment fidelity across the other three peer support arrangements, for observation one the score was 42.25%. For observation two the average was 50%. Specifically the percentage for both observations for FS 1 was 46%. For FS 2, it was 88.5% and for FS 3 it was 77% with FS 4 being at 0%. The range for all peer support arrangements was 0 – 77%, including the arrangement where no observable interventions were reported. Additionally, the range without the outlier was 46%-77% (see Table 5). The median score was 9 out of 13 for all focus students. Questions one and three which denote peer partners working with and conversing with focus students had the highest percentage of observable data. See Table 5 for treatment fidelity data per observation.

Table 5

Peer Support Observation Checklist

Name of Focus Student (FS)	Observation #1	Observation #2
FS 1	5/13	7/13
FS 2	7/13	9/13
FS 3	10/13	10/13
FS 4	0/13	0/13

Chapter 5: Discussion, Recommendations, and Conclusion

This study examined peer support arrangements for students with ASD in the inclusive middle school setting. Three fundamental questions framed this research study: 1) What are the perceptions of being in a peer support arrangement of students with ASD and their peers who participate in a peer support arrangement? 2) What effect does participating in a peer support arrangement have on students' academic achievement for both students with ASD and peer partners? 3) What supports are actually being implemented in peer support arrangements to better access the general education curriculum and do students with and without ASD in the study find them beneficial? These research questions were addressed by themes that emerged from the data, and will be further discussed in this chapter in relationship to why they are important for supporting students with ASD in the inclusive middle school classroom. Strong instruction within the general education classrooms is important for middle school students, as it provides strong instruction in core subjects as well as provides opportunity for shared learning with peers (Carter, Bottema-Beutel, & Brock, 2014). Triangulation of the data resulted in indications that peer support arrangements are effective, yet further improvements are needed for more support for the peer partners. Pre and post assessment data showed growth in academic attainment after support strategies were implemented for the focus students. This chapter reviews and discusses the findings which extend literature in the area of peer support arrangements in the middle school inclusive setting.

This chapter is organized by broad themes that emerged from the data collected from observations, pre and post test results and one on one interviews with both the peer partners and the focus students. Findings of this study demonstrated peer supports are a means of improving learning for students with ASD in the inclusive setting. First, the student's feelings regarding the peer support arrangement will be discussed. Next, specific support strategies will be analyzed including a discussion on how relationships impacted the implementation of support strategies. Third, academic tests for pre and post results are outlined. Fourth, training is detailed for both the

peer partners, focus students and the teachers in context to prior research findings. Finally, educational implications, limitations of the study and future research will be examined.

Feelings of Student Participants

A major goal of this study was to examine the perceptions of being in a peer support arrangement for students with ASD and their peer partners. Results from this study indicate that (1) there were feelings of satisfaction from both students with ASD and peer partners who participated in the peer arrangement; (2) intrinsic value was evident from the participants, (3) students developed new interactions; and (4) students described benefiting from participating in the peer support arrangement.

Previous research in peer support arrangement studies have shown positive social validity of peer partners (e.g., Carter et al., 2007, 2015) yet; input from the students with ASD has rarely been examined. A prior study obtained peer partner feedback, and concluded that peer partners identified multiple ways students with disabilities and peers benefited from having opportunities to learn alongside each other (Carter et al., 2011). More specifically, peer partners reported their peer with disabilities had enhanced independence and increased confidence as a result of participating in the peer support arrangement (Carter et al., 2011). Carter et al. (2015) also affirmed positive outcomes from a high school peer mentoring program for students with severe disabilities, which reflected on the positive feelings of the focus students and the peer partners when they documented the enjoyment the students felt after their participation in the arrangement. While Carter et. al (2015) included participants with severe disabilities, this current study extends that work by examining perceptions of students with disabilities who have fewer support needs. In addition, this study adds to the literature by describing the experiences of participating in a peer support arrangement from the point of view of both the students with ASD and the peer partners using one-on-one interviews.

First, three out of four peer partners described their ability to engage and help students with ASD increased as part of this intervention, which equated for them as a feeling of satisfaction. This is important because when peer partner's attitudes are positive they are more

likely to increase interaction with their focus student, which increases output from the student with disabilities (Morse & Richards, 2003). This cognitive aspect shows that positive belief about an issue, and the emotional response or feeling that develops regarding the issue, can impact how we experience it which is an important factor for the success of peer support arrangements (Morse & Richards, 2003). A poor attitude was noted from one focus student during times of observation. Evidenced during the observations and noted by the researcher and the focus student was limited output from the focus student, which supports that his attitude did play a role in his lack of engagement with his partners.

Second, the results of the current study indicated that the outcomes might not have been ideal for all participants, yet the intrinsic value of participation was clearly evident. Notably, this study indicated that the peer partners felt rewarded by helping other students even when the help was not positively received. Additionally, many peers began to see the students with ASD as friends as stated in the interviews, which was an unexpected outcome of the study.

It is important that peer partners feel intrinsic motivation to support their peers with disabilities, which develops when there is a relationship between the peers. Previous research documents the importance of interactions between students with disabilities and peers without disabilities within an inclusive setting (e.g., Carter et al., 2011; Carter et al., 2016). Noteworthy, it points out that children become open to learning and change, and are more flexible when they are able to empathize with their peers who have special needs (Ogelman & Secer, 2012). This finding was evident as peer partners described having a better understanding of the needs of their focus students after the intervention took place. Additionally, they remarked that they would like to continue to be in a peer support arrangement to learn more about students with ASD.

Third, specific findings from the interviews showed most of the peer partners developed new interactions, obtained academic understanding to be able to explain curriculum to their focus student and became more aware of the needs of the students with ASD which attributed to their positive experiences from the intervention. Comments highlighting this from the peer partners specifically described better understanding of students with ASD, improved communication

skills for themselves and comprehension of the work needed to support curriculum in the general education setting for students with behavior needs. All eight partners stated they would like to participate in another arrangement as they liked the roles that they played in this study.

Fourth, all four focus students in this study expressed having benefited from the support their peers provided them in the general education classroom. Though focus student 4 did not display evidence of this based on observational data, his perception was that the peers did support him within the classroom setting as stated in his interview. This is consistent with previous research which found both peer partners and focus students benefited from their relationship and emerging interactions (Carter et al., 2015). This study extended that research by providing an opportunity for the peer partners and the students with ASD to share their perspectives on the peer support arrangements in the middle school setting.

Support Strategies and Peer Relationships

The support strategies investigated in this study extend the literature in three ways. The current study demonstrated that (1) when strategies were implemented they made an impact, (2) when there was a positive relationship between the partners and the students with ASD more strategies were initiated and, (3) the lower middle school participants utilized more strategies than the upper middle school participants.

First, when the strategies were utilized, they positively impacted students with ASD with their academic engagement. During observations, when strategies were utilized they appeared to engage the student with ASD back to the curriculum task. For example, the number of strategies utilized increased between the first observation and the second observation for three out of the four peer support teams. It was observed that the students with ASD began to independently work on the classroom assignment after the introduction of these strategies. The importance of utilizing the strategies with fidelity is significant to note. Frequency and quality of interactions play a part in supporting the students with ASD in their core classrooms. The findings of this current study are consistent with previous research which documents that when peer support

arrangements are implemented, students with disabilities academic and social success are enhanced (Cushing, Clark, Carter & Kennedy, 2005; Feldman, Carter, Asmus & Brock, 2015).

Interestingly, in the current study peer partners consistently utilized the same strategies. If peer partners had been provided an opportunity to reflect with the facilitators after class, it may have resulted in an increase of peer partner implementation of more strategies and could have positively impacted focal student participation with the curriculum. To assure that the peer support strategies are ongoing and effectively implemented, consistent evaluation and support from a facilitator is needed. The current study lacked facilitator support which may have negatively impacted the strategies peer partners utilized. In other words, had a facilitator been present during more of the intervention class periods, it likely to have enhanced the strategies peer partners utilized. Research supports that adults, when paired with peer partners can further engage students with ASD with the curriculum (Carter et al., 2015).

In the current study, peer partners differed on the use of the strategies being delivered by the peers with fidelity. Specific strategies were checked by peers that were not shown evident during the researcher's observation when the checklists were compared. Shukla, Kennedy, and Cushing (1998, 1999) found that peer-delivered supports, (i.e., sat near the students, adapted specific assignments, provided support of goals from the students Individualized Education Plans) when delivered by the general education peers, were most successful when an adult supervised the peer partners. Adults need to be instructed on best practice for peer support arrangements for optimal support. For example, Brock and Carter et al. (2015) found when special educators delivered professional development to adults when implementing peer support arrangements, outcomes improved in three of the four students in their study. In regards to fidelity for this study, adult support within the classrooms where peer support arrangements are being implemented might have assisted with more frequent and accurate use of the supports. In the current study while an adult facilitator was present for the bimonthly meetings, the interventions were run by the peer partners in the classrooms. During the researchers' observations, additional opportunities were available for the peer partners to utilize more of the

specific twelve strategies. This suggests that with additional modeling, practice and adult supervision, the impact of the strategies might have shown improved output for all four of the students with ASD. To date, this data is limited on the role adults play in supporting peer partners specifically with students with ASD (Huber & Carter, 2016). The current study illustrates the need for additional adult support for peer partners to be able to draw on additional strategies. The findings demonstrated inconsistent use of strategies by peer partners and missed opportunities for support. Therefore, the opportunity and use of the strategies to target academic attainment for students with ASD should be facilitated by offering additional adult support for the arrangement to be done with fidelity.

The current study focused on the application of overall strategies being utilized by the peer partners and did not measure the individualized implementation of any specific strategy. Findings for this study reflect a need to have additional investigation on how to individualize the strategies to adapt for the individual needs of the student with ASD. Although individuals with ASD share common deficits, their academic support needs vary widely. Understanding their individual needs by peer partners did make a difference in this particular study when looking at the strategies utilized and the outcome for the focus student. When there was evidence of strategies utilized among the four peer partners that had observable implementation, outcomes increased for three out of four focus students across this study. As revealed in the previous chapter (Table 5), peer partners assisted with completing classroom assignments, encouraged verbally the focal student and redirected off task behavior most often. These best practice strategies did equate into observable focus student engagement when implemented.

The second point of discussion is whether the relationship between the peer partners and the focus students impacted the implementation of support strategies. Relationship building was not part of the purpose or instruction of this study, but appeared to influence the outcome of supports that were given to the focus students. During observations when students engaged in friendly conversation and seemed to have a friendly relationship, the peer partners implemented more strategies and the students with ASD were more receptive to follow them. The impact of

the intervention was obvious when the peer partners were utilizing the intervention as the student with ASD began focusing and returning to the task at hand after prompting. The students with ASD were also observed reading and filling in the blanks after the peer partners supported them in a large group setting.

Previous research has documented the importance of fostering a relationship between peer partners and focal students. For example, a recent study identified appropriate ways for peers to provide support for students with disabilities and included engaging them in conversation about a common interest (Feldman, Carter, Asmus & Brock, 2015). Some of the arrangements in the current study developed this naturally, while others did not. The feedback from the interviews revealed that the more the peer partners knew about the focus students, and had a friendship with them, the more the strategies were utilized within the classroom setting. Though there is literature on relationships of peers and students with ASD for increasing social interactions (Carter et al., 2005), there is limited literature on the impact of relationships between the peer partners and the students with ASD in relation to academic achievement especially at the middle school level.

The third point of discussion for this study was with the observance of the younger peer group (lower middle school) utilizing more strategies more often than the older peer group (upper middle school). Part of this might reflect the teacher guidance in these classrooms, as the same teacher was participating for both the lower middle school focus students. This teacher had experience working with LINK students in the past, and was an advocate for students with ASD within her classrooms. Nevertheless, this researcher observed that the peer partners for FS 1 and FS 2 appeared overall to center their attention on their focus students, provided the strategies more consistently and did try to engage their focus students often with the classroom activities. Additionally, there was an increase in strategies utilized from observation one to observation two for these peer support arrangements. During the interview process, both the lower middle school groups acknowledged having friendly conversation and having fun when working with each other. This agreement among the six students demonstrated that relationship among them

provided a forum of allowing engagement to take place naturally in the classroom setting. Benefits of this arrangement for the younger aged partners might be explained from their recent experience as LINKS in the elementary setting. Having learned skills such as developing friendships likely positively impacted communication and social behavior which enhanced the success of the peer support arrangements.

Although increases in academic engagement and peer supports were evident in the younger middle school support arrangement, the results were mixed for the upper middle school classrooms. Placement of students could have been a factor, as the second peer partner for focus student 3 was sitting behind the focus student for the entire 8-week study time. This might have contributed to this peer partner displaying minimal support to FS 3. The inverse was noted by the second peer partner who sat directly next to him and appeared to have a friendly relationship with FS 3 as they chatted easily back and forth throughout the class period observed. Research suggests that students in the secondary setting want to conform to peer pressure (Carter et al., 2015), and this was evident to this researcher when observing both peer partner 3B and FS 4's classrooms and during interview comments. These peer partners were much more interested in the entire class actions than in focusing on their focus students. In this study, in the upper middle school classroom dynamics centered on the teachers engaging the whole class rather than in small group instruction which was evident at the lower middle school setting. Limited focal student academic engagement in the upper middle school could be a result of the difficulties students with ASD have in interpersonal skills, which make it more difficult for them to participate in large group activities.

Research also suggests that the potential for social and academic participation for middle and high school students with disabilities can be elusive (Carter et al., 2007). Observed during the FS 4 arrangement, the focus student's behavior appeared to impact the peers' interactions. Neither peer partner was observed to engage this focus student when behavior was displayed that was different than the peers within their classroom. The peer partners after the escalation did not look at or speak to the FS 4. During the interview sessions with the peer partners for FS 4, they

both mentioned not knowing how to utilize the strategies with FS 4 during his escalated behavior. Additionally, it appeared as if FS 4 did not want to accept help from his peer partners, which was also stated by him during the interview session. Research suggests understanding the interactions that emerge when students work together at the secondary level would help clarify learning opportunities these peer support interventions actually promote (Carter et al., 2007).

Understanding the impact that the grade the students attend is important when implementing a peer support arrangement for best outcome. Literature is limited in this area for students with ASD in the upper school settings, yet inclusion calls for this important factor to be considered. Middle and high school classrooms have higher academic requirements and expectations for students as well as the peer culture impacting the way students behave (Carter & Kennedy, 2006). The feedback from the students during the interview process reflected that a relationship was important throughout this study, even though it was not the predominant goal. Results from this study indicate there is a need to build a strong relationship between peer partners and students with ASD to promote acceptance of the students' disabilities.

Academic Tests

Results from the current study indicate that participating in a peer support arrangement has academic benefits for both students with ASD and their peer partners. The findings of this study indicate that the overall effectiveness of the peer support arrangement for the students with ASD was successful and bring three issues to the forefront for discussion. First, the ability level and specific supports that are noted on their IEP's for each of the students in regards to their scores on norm based assessments should be addressed. For FS 4, his behavior which is noted on his IEP as a need, impacts his grades. It is important to evaluate the demonstrated appropriateness of participation for students with ASD (Simpson, Boer-Ott, and Smith-Myles 2003). This student showed an increase from a 0% to 100% from pre to posttest assessment. When this student with ASD is participating, his output increases at a significant rate, which is noted on his IEP. For FS 3, his ability level is also within his grade level range, having dipped from an A- to a B in score. Additionally, this is notable as students with ASD show difficulty in

output of curriculum due to difficulty in attainment of new skills, generalizing and following group instruction which inhibit the successful delivery of instruction (Simpson, Boer-Ott, and Smith-Myles, 2003). The decline in grades shown for the above student could have been affected by these or other external factors which this researcher would not be privy to. The overall findings for the focus students support the use of the peer support arrangement to increase academic attainment for middle school students with ASD.

The second point of discussion is the tests results of the peer partners. There is limited research to date on the effects of participating in a peer support arrangement for the peer partners in the middle school setting (Feldman et al., 2015). Findings in this study demonstrated that the peer partners achieved academic grades that were not negatively impacted by participating in a peer support arrangement. Increases for all the peer partners for their post test scores indicate that there is no detriment to the peer partners falling behind in their own academic attainment. Though there is a growing field of research and desire to implement peer support arrangements at the middle school level, concern for the peer partners regressing in their own academic attainment has been voiced. Deutsch and Spencer (2009) showed that the individual relationship between the peer partner and the focus student as well as the components of the program must be understood to have an effective relationship and yield benefits for both the peers and the focus students.

The third point of discussion that is important to note is that all the peer partners started out with high grades on their pre tests, yet they did not incline on their post test grades. It would be beneficial to see if students grades improved if they had a lower pre test score. Research also has substantiated that a peer support arrangement can contribute to higher levels of engagement of curriculum for both the peers and the focus students (Carter, et al., 2005). The current study is consistent with previous research indicating that participating in peer support arrangements did not have negative academic effects for both peer partners and students with disabilities.

Training

The third theme that was clearly identified in this study and is an important component of a successful peer support arrangement was in the area of training. Three specific areas of need were shown through this intervention to be impactful: training of the peer partners, the focus students, and training of the teaching staff. Demonstrated need of each is further discussed below.

Based on the findings of this study, peer partners each expressed that training appeared lacking in teaching them skills to be able to know how to deliver the support strategies effectively with their focus students and desired more adult support. The participants felt confused about what their roles were during intervention class periods. Previous research (Copeland, 2004) indicates that peer partners feel they have varied roles when they serve as a peer support (e.g., friend, instructor, teaching assistant). More clearly defining the varied roles of peer partners through training might lead to a higher probability of students following through with their roles. Recommendations from the Copelan (2004) study were similar to those gleaned from the interviews and observations in this study such as the need to increase opportunities to support and interact with focus students, obtain more structure for the peer support arrangement for the peer partners to follow, and receive more specific training based on the focus student's needs. The majority of peer partners responded in the interview session that if they had had more modeling or training they feel they would have been more helpful to the focus students. In the middle school, students are only in classes approximately 55 minutes. This is an inherent obstacle in supporting students with ASD as they are in need of very intentional supports. This requires peers to have a skill level that they can utilize quickly and when the demonstrated need appears. Arranging opportunities for training the peer partners prior and during the intervention might improve student outcomes for the students with ASD in the middle school setting. Research indicates when peer partners are taught the skills to interact with students with ASD it results in increasing positive outcomes (Rohbreck et al., 2003).

Additionally, research documents the importance of explicitly training peer partners how to positively and effectively interact with students with ASD (Sperry, et al., 2010). Teachers should provide assistance and praise to support the interaction between the peer partners and the focus students prior to and throughout the intervention. Time to practice what is being taught by the facilitators can provide peer partners additional opportunities to understand the strategies to be implemented in the classroom so that they can support the focus students for optimal output. For example, the facilitators can work directly with peer partners on assignments, role play and participate in whole group activities prior to the peer partners providing support for the focus students (Ogilvie, 2011). This study demonstrates the need for facilitators to continually support peer partners throughout the intervention.

In the current study training consisted of one introduction period and then bi-monthly meetings to address need for the peer partners. According to the study results, this limited time frame was not enough time to support the peer partners in the middle school setting for an effective peer support arrangement. It would have been beneficial to have strategies modeled for the peer partners in their classrooms, time to practice the strategies before needing to implement them on their own, and have opportunity to work with the focus student in different settings to get to know them personally. Peer partners also need to learn how to identify when they need to provide support to the focal student. Strategies that have been consistent in other peer mediated interventions include skill instruction, adult modeling and skill rehearsal (Laushey and Heflin, 2000). The goal of having peer training is to provide adequate background information on the student with ASD as well as provide necessary supports for successful implementation by the peer. In regards to this study, the previously mentioned supports could have aided the peer partners in supporting students with ASD.

The results of this study were similar with the results of a study done by Carter et al (2015) in regards to specific strategies utilized. Carter and colleagues (2015) found three areas were observed to be implemented most often, i.e., proximity to focus student by peer partner, interaction between the peer partners and the focus students and assisting with the focus student

by helping them participate in group activities. Interesting, the current study revealed the same support strategies were utilized the most often, even though more training was expressed as needed. This is an important finding to note as these interventions appear to be utilized without much adult support for peer partners.

The second area of importance in this study was of a lack of a systematic training for the focus students. The responses from these participants focused on not knowing the roles they played or that of their peer partners within the intervention study. The focus students could not identify the roles the peers were playing within in the interviews?. This is an important factor in the success of a peer support arrangement due to the characteristic of rule following for many of our students with ASD. When peers begin to take on the role of teachers, many students with ASD do not feel that this is an appropriate role for them to be assigned, and the focus student either becomes escalated or shuts down to the peers' initiation of instruction. Priming students with ASD in what will happen or how they are to react to situations has well been documented in research as effective in providing access to the general education curriculum and classroom environment (Gately, 2008). Priming students also provides a comfort level in making the work familiar to the students with ASD, which can increase attention, work completion and appropriate responses to others (O'Connor and Klein, 2004). This was not incorporated in this study, and given the time to do so might have given the students with ASD more support from a familiar peer. This factor might have improved academic attainment and output. Feedback for the focus students after training and the intervention has also proven to be an effective means of support during the peer support arrangements in the inclusive setting (Carter, et al. 2005).

Based on the findings of this study, the third area that was noted in the interview process in supporting the focus students was in the lack of evident training of the adults who work with the students directly. Teachers in this study did not follow the protocol of supporting the peer intervention as intended. Indications of the need for improved teacher training were also revealed in the comments from the participants as the classroom teachers and special education teachers though aware and in agreement with the study, did not promote best practice in helping

the peers provide the support with fidelity. For example, peer partners were not always placed near the focus students or kept in the classroom during the intervention. These lowered the impact of the strategies that could be utilized during these class periods.

Research demonstrates that there is a need for training staff in the specifics of understanding ASD characteristics, as well as effective strategies and resources that are needed for them to support these specific students (Brock et al., 2016). Additionally, ongoing training in best practices to support students with ASD and being able to be flexible to meet the student's needs are important when working with students with ASD (Brock & Carter, 2015). In the realm of the higher grades, there is limited research on teacher training and implementation of research based practices such as peer support arrangements. A study by Copeland et al., (2004) highlighted a peer buddy program in the high school setting, and found that adult expectations impacted the results of the program. Specifically, it was noted that the teachers made a difference between those students with disabilities that were in general education classes and those that were in self-contained classrooms. This researcher also saw similar lack of opportunities provided to the focus students due to teachers not appropriately seating peers near them, taking them out of the class during the intervention period or stepping in and directing the focus student when the peer partner would have been able to support them (Copeland et al., 2004). Participants in the current study mimicked comments made in Copeland's study (2004) almost word for word when the students acknowledged they could have had additional guidance and structure from the adult teachers. Specific types of structures were identified, such as having a specific daily schedule of suggested activities to engage their partners, having a manual for information provided by the teachers, regular meetings to talk about how the intervention is going for the peer partners and lastly, having journals they could reflect back to the teachers.

Educational Implications

Peer support arrangements offer an alternative approach for supporting students with ASD in the middle school setting and can have positive educational implications. Rather than utilizing paraprofessionals as direct supports, using peer support arrangements to promote access to the general education curriculum was shown in this study and in other studies (e.g., Carter et al. 2015) as a viable alternative in inclusive middle school classroom settings. This study reinforces past research as an alternative method of support even though strategies were not implemented with 100% fidelity. The arrangement made a positive academic impact and required very little staff support even though there were missed opportunities observed by the researcher. This is important as the peer support arrangement provides a feasible way for teachers to meet some of the needs of students with ASD without investing too much time. Results of this study indicate four areas to guide practitioners to better support the implementation of peer partner arrangement in middle school settings. First, it is imperative that peer partners understand the specific strategies. The orientation meeting and bimonthly meetings could be time to go over and re-teach the strategies to be utilized for support of the focus students. Additionally, this time can be utilized to give further information on specific characteristics that the students encounter to help them meet specific needs for the students with ASD. Many peers stated during the interviews, and were also observed by the researcher, that they choose to not implement the strategies or try to communicate with the focus student even after they de-escalated from a prior situation as they were unsure of how to proceed. The peer partners should have opportunity to practice the learned strategies in varied settings (i.e., lunchroom, classroom and special classrooms) and with students that have behaviors similar to those they are working with. This can be obtained by teachers supporting the program and working with the peer partners by providing information on the focus students they would be working with as well as teaming up during non-instructional time. Modeling and utilizing a checklist just for the peer partners, might help support peer partners in implementing the strategies more frequently.

Additionally, a way to provide for greater support for the peer partners would be to provide them a script they would be able to utilize in specific situations. In this way, the peer partners might be more deliberate and intentional in utilizing the supports that were on the checklist in order to support success for the students with ASD. In the middle school setting, students do not stay with their same peers for the entire day. Utilizing a script would better help the peer partners who are only engaged with their student for one class period to intentionally support the focus student's needs for that time period and provide structure for opportunities for support. Missed opportunities were more common than not in this study, and hindered the overall peer support arrangements fidelity.

Second, in-service professional development for the teachers who are involved in supporting the peer arrangements is needed. In the middle school setting, teachers see many students daily and usually lack time to always meet the needs of the students with ASD without another adult or peer providing the support. This system can prevent a teacher from really knowing a student in their class period well, which also can translate to a lack of understanding of their students with disabilities individual needs in their inclusive setting. In-depth preparation for gaining knowledge of specific characteristics for students with ASD would allow teachers to support the peer partners to improve the educational outcomes for their students. Several participants stated in their interviews that the staff did not properly support the program. One possibility is staff either did not know the protocol for the peer support arrangement, or did not want to relinquish control to the peer partners who were taking responsibility for the focus students engaging with the curriculum. Either way, it would be beneficial for the staff to develop understanding, and have an opportunity to ask questions and be more prepared to support their students who are part of a peer support system.

Finally, it is imperative to incorporate the needs and characteristics of the students with ASD when preparing the specific strategies that are incorporated into the peer support arrangement. Effective instruction involves implementing specific methods that are differentiated to meet the needs of all students. Providing the peer partners with an individual

checklist based on the students with ASD's need would be recommended. Meeting the individual needs of the focus students in the peer support arrangements will optimize the effect of the program to support the students with ASD at the middle school level.

Limitations

There are several limitations in this study which warrant acknowledgment. This study included a small sample size, which is not large enough to generalize to other students with ASD. Data was collected on 4 students with ASD and 8 peer partners. In order to draw more accurate results to generalize, a larger sample size should be considered. The purpose of qualitative research is not to generalize but to describe a particular experience to learn from the participants as it seeks to reveal more fully the essences and meaning of human experiences (Newton & Rudestam, 2011).

Second, the peer support arrangement had a time constraint of only one class period per day. This component could have influenced the academic achievement results due to the limited implementation compared to extending it over all seven class periods available per day. It is unknown if having implemented the arrangement within a different core classroom (i.e., math, social studies or science) would have made a difference in the strategies used or output shown by the focus students. Additionally, the time constraint of the eight-week period of time may not have been enough to gauge the overall success of the intervention strategies employed during this study. In order to establish if a specific intervention strategy is more beneficial than another, or if the overall support for the students with ASD improves academic outcomes, peer support should be measured for an extended period of time.

Third, the observation data collected could have been extended. The researcher utilized a checklist that had only four areas in which to measure academic strategies used by the peer partners, and was only observed twice during the intervention period. It would have been beneficial to conduct more observations per peer arrangement so that the researcher could observe if the peer partners were truly doing what they were acknowledging on their checklists daily.

Fourth, this study employed pre and post assessments for measuring students' growth in academic attainment; however, generalizations over different formats of assessments or different settings were not utilized for this study which could have impacted the results. Generalization across assessments (i.e., multiple-choice) or setting (i.e., different classrooms) might have given a clearer picture of need of different strategies for implementation by the peer partners.

Lastly, the researcher was not the staff member who collected the work samples from the students. Additional information such as if the pre and post tests were taken in small groups, if the tests had been "chunked" or if graphic organizers were utilized would be of interest to see if results would differ if these accommodations had been or not been in place.

Future Research

A number of recommendations for future studies emerged from this research study. First, future research is needed to examine the most effective trainings for staff and student participants as training was found to be an integral part of enabling the intervention to be successful. Additional research should examine the effects of providing continuous reinforcement for the peer partners during the support arrangement. In this current study, there was only occasional adult facilitator support for the peer partners in addressing the strategies they were implementing in the classroom daily.

Second, identifying the most effective strategies for implementation for supporting the students with ASD in academic outcomes is necessary. Academic output deficits for this population require instruction to be relevant to their individual needs in order to be effective. In this study a list of the same strategies for all focus students were provided to the peer partners. Personalizing strategies for each focus student would be beneficial. Additionally, increasing generalization for the skills in a variety of settings should also be researched.

Third, a future direction that would be beneficial for determining academic impact for the peer partners in peer support arrangements if pre test grades were not already high as were the students in this study. Could their grades be shown to go higher after participating in the peer

support arrangement if they began lower, supporting research that peer partners do not have negative academic attainment when involved with peer support.

Fourth, research should examine if the peer support arrangements could be effective with students with ASD in the high school setting. Little is known from the perspective of high school students with ASD if they would like to have peer support or if it would be a detriment to their output.

Fifth, future research could examine the long-term maintenance of the intervention effects. Would the strategies once learned by the students with ASD increase their attainment of the curriculum on their own without the peer supporters being in their other classes? Research should also look at other core academic curriculum which might need different strategies to enable the students with ASD to output academic productivity.

Sixth, future research could examine other best practice strategies and the impact on academic attainment for students with ASD. A question arises if the specific strategies utilized in this study increased academic engagement, would utilizing the other best practice strategies have shown even more focus and higher output ultimately from the focus student? Additionally, would these strategies have transferred to other classrooms when implemented over time?

Last, future research should explore how students across the autism spectrum respond to peer support arrangements. Studies could include how students with mild, moderate, and severe symptoms of ASD respond to peer partner support in academic attainment. Similarly, future research could look at the effects of off task behavior being due to the fact that they are unable to complete the task asked of them without additional support from the peer partner.

Conclusion

This study expands on previous research as it looked at the effects of academic strategies and the perspectives of the participants at the middle school level in a peer support arrangement. Findings from this study revealed insight to the researcher's questions through investigation of peer partners working with students with ASD on curriculum attainment. Outcomes from this study revealed both the students with ASD and the peer partners found the arrangement to be a

positive experience. Academic achievement overall for the participants improved after the study was implemented. Specifically, assisting with completing assignments, motivating the students with ASD and redirecting them were shown to be most often implemented during the peer support arrangement. The results of this study validate the use of peer support arrangements with students with ASD for accessing the general education curriculum in inclusive educational settings. Future research efforts exploring the use of peer support arrangements to increase acquisition of academics among students with ASD is recommended.

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Table 1 *Links Implementation Steps*

Step	Implementation	Description
1	Recruiting	Recruit from special education, general education, administrator's counselors; Must explain time commitment
2	Create a vision statement	Develop a vision statement and refine as needed
3	Administrator support	Schedule a meeting with school administrators Share the program vision Asks for resources.
4	Organize Procedures	Establish a schedule for team meetings and communication methods
5	Development Needs	Find out what peers know about students with ASD. Identify resources for training and decide where and when training will take place.
6	Program Specifications	Develop eligibility criteria for peer assistants. Develop list of roles and responsibilities.
7	Forms	Develop and adapt application, letters to parents and activity logs
8	Supply Budget	Identify cost of training and incentives and any material costs
9	Selection of students	Inform faculty about program. Develop application process. Analyze appreciation and select peers based on developed criteria.
10	Select ASD students	Speak to students and parents of ASD students after teachers' recommendations.
11	Matching students	Review schedule. Match according to needs and schedules.
12	Training	Locate materials. Gather information and develop outline.
13	Evaluate	Conduct surveys, assess grades, discipline and conduct interviews with participants including staff.
14	Plan celebrations	Plan end of year celebration such as field trip.
15	Publicize success	Have students write articles for paper or posters for school.

Appendix 1

Letter of Introduction to study for Parents Assent

[Date]

[Address]

Dear Parent:

Researcher X, Ph.D. of the University of Michigan-Flint, Department of Educational Leadership, invite your child to participate in a research study entitled Peer Support Arrangement. You and your child are being contacted because we would like to have your permission to have your child participate.

The purpose of this study is to see if peer partners will support students with ASD for both academic and social achievement in an inclusive classroom setting. We plan to ask students at the lower and upper middle schools to participate in the research study. Observations, interviews and data collection will be the methods used to collect the data and will be reported in the study.

If you agree, your child will talk to an interviewer about topics such as specific interventions they helped incorporate in the classroom. The interview is expected to take about 45 minutes to complete and will be done within the school day. We would like to audiotape the interview. Taping is required for your child to be part of the study. Two observations will be conducted over an eight-week period. ELA district assessments for pre and post results will be examined.

While your child may not directly benefit from participating in our interview, we hope that this study will contribute to the improvement of supporting students with ASD. Answering questions may be difficult for your child. The interviewer has been trained to work with children and will stop the interview if your child seems upset.

We plan to publish the results of this study, but will not include any information that would identify you, your child or family members. To keep this information safe, the audiotape of your child's interview will be placed in a locked file cabinet until a written word-for-word copy of the discussion has been created. As soon as this process is complete, the tapes will be destroyed. The researchers will enter study data on a computer that is password-protected. To protect confidentiality, your child's real name and the names of any family members will not be used in the written copy of the discussion. The researchers plan to keep this study data indefinitely for future research about caregivers.

There are some reasons why people other than the researchers may need to see information your child provided as part of the study. This includes organizations responsible for making sure that the research is done safely and properly, including the University of Michigan, government offices, or the study sponsor. Also, if your child tells us something in the interview that makes us believe that your child or others have been or may be physically harmed, we may report that information to the appropriate agencies.

The researcher will call you to let you know when the appointment to interview your child will be taking place. We hope that you will be willing allow your child to share his/her experiences with us.

If you have questions about this research study, you can contact Researcher X., University of Michigan Flint, Department of 303 E. Kearsley, Flint, MI 48502, (810) 762-3384 researcherx@umflint.edu.

If you have questions about your rights as a research participant, please contact the UM Flint Institutional Review Board, 303 E Kearsley, 4204 William S White Bldg, Flint, MI 48502-1950, (810) 762-3384, irb-flint@umflint.edu.

Sincerely,

Researcher X, Ph.D.

University of Michigan Flint

Parental Permission

By signing this document, you are agreeing to allow your child, _____, to be part of the study entitled *Peer Support Arrangement for Students with ASD*.

Appendix 2

Student Assent for Peer Support Arrangement Study

[Date]

[Address]

Dear Student:

I am a Researcher from the University of Michigan-Flint, Department of Educational Leadership, and am inviting you to participate in a research study entitled Peer Support Arrangement. You are being contacted because the researcher would like to have your written permission to participate.

The purpose of this study is to see if peer partners will support students with ASD for both academic and social achievement in an inclusive classroom setting. We plan to ask students at the lower and upper middle schools to participate in the research study who are part of the LINKS program.

If you agree, the researcher will be doing observations and interviews about the specific interventions that were incorporated in the classroom. The study will begin in September and run for eight weeks. Two observations will be done by the researcher during this time period. The interview is expected to take about 45 minutes to complete and will be done within the school day. We would like to audiotape the interview, but taping is not required for you to be part of the study. While you may not directly benefit from participating in the study, the researcher hopes that this study will contribute to the improvement of supporting students with ASD and development of peer support arrangements at the middle school level.

We plan to publish the results of this study, but will not include any information that would identify you, or family members. To keep this information safe, the audiotape of your interview will be placed in a locked file cabinet until a written word-for-word copy of the discussion has been created. As soon as this process is complete, the tapes will be destroyed. The researcher will enter study data on a computer that is password-protected. To protect confidentiality, your real name and the names of any family members will not be used in the written copy of the discussion. The researcher will keep this study data indefinitely for future research about peer support arrangements.

There are some reasons why people other than the researcher may need to see information you provided as part of the study. This includes organizations responsible for making sure that the research is done safely and properly, including the University of Michigan, government offices, or the study sponsor. Also, if you tell the researcher something in the interview that makes us believe that you or others have been or may be physically harmed, the information may be reported to the appropriate agencies.

The interviewer will let you know ahead of time when the appointment to interview will be taking place. We hope that you will be willing to share your experiences with us.

If you have questions about this research study, you can contact Researcher X., University of Michigan Flint, Department of 303 E. Kearsley, Flint, MI 48502, (810) 762-3384 researcherx@umflint.edu.

If you have questions about your rights as a research participant, please contact the UM Flint Institutional Review Board, 303 E Kearsley, 4204 William S White Bldg, Flint, MI 48502-1950, (810) 762-3384, irb-flint@umflint.edu.

Sincerely,

Researcher X, Ph.D.

University of Michigan Flint

Student Permission

By signing this document, you are agreeing, _____, to be part of the study entitled
Peer Support Arrangement for Students with ASD.

Appendix 3**Peer Support Arrangement Training Form Consent**

Dear Peer Support Students, Parents and Guardians,

Hello and thank you for participating in the Peer Support Arrangement Study for Students with ASD. The staff of the Peer Support Program will be holding training for students who have signed up for the study and returned their signed consent forms.

The training is scheduled for _____ at _____

Building in Room Number _____. Lunch will be provided by the program coordinators.

We are looking forward to meeting all the students participating in the Peer Support Arrangement Study for Students with ASD. If you have any questions, please call the one of the number below and a staff member will assist you.

Sincerely,

The Peer Support Arrangement Program Staff

810-538-1639

Appendix 4

**University of Michigan Flint
Assent to Participate in a Research Study
Middle School Peer Partners**

Consent Form Version Date: 8-16

IRB Study

Title of Study: Peer Support Arrangement Study for Students with Autism

Principal Investigator: Michele Cook

Principal Investigator Department: School of Education

Principal Investigator Phone number: 248-505-2606

Principal Investigator Email Address: michelco@umflint.edu

Faculty Advisor: Melissa Sreckovic, PhD

Faculty Advisor Contact Information: msreck@umflint.edu

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your parent, or guardian, needs to give permission for you to be in this study. You do not have to be in this study if you don't want to, even if your parent has already given permission. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?

The purpose of this research study is to learn about ways that middle school students can support other students with their academics by having a peer help instead of an adult. You are being asked to be in the study because you would be a good peer partner to work with students who may need support.

How many people will take part in this study?

There will be approximately 12 people in this research study.

How long will your part in this study last?

This study will last approximately eight weeks and start near the beginning of September and last approximately until November, 2016. You will (1) participate in a 30-45 minute training, (2) attend meetings twice a month for 8 weeks during lunch with the peer group for 30 minutes, (3) be observed twice and (4) participate in an interview session at the completion of the 8 week study.

What will happen if you take part in the study?

If you participate in this study, you will:

- Participate in a short training about ways you can help other students understand and participate in their academic classes.
- Participate in regular meetings during lunch with your peer partners
- Participate in an interview at the end of the 8 week study
 - NOTE: the interview will be videotaped so researchers can see how the groups are going.

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. The benefits to you from being in this study may be learning different ways to interact with students who may have different social interaction and academic needs.

What are the possible risks or discomforts involved from being in this study?

There are minimal risks to participate in this study. You may feel uncomfortable when being interviewed but you can stop the interview at anytime.

How will information about you be protected?

All paper records for this study will be kept in locked file cabinets. All electronic or computer records will be password-protected. Only the members of the research team will have access to records that identify you.

Participants *will not* be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, U of M Flint will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety.

What if you want to stop before your part in the study is complete?

You can withdraw from this study at any time, without penalty. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

Will it cost you anything to be in this study?

It will not cost you anything to be in this study.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions about the study, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board by email to IRB_subjects@umflint.edu.

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

Your signature if you agree to be in the study

Date

Printed name if you agree to be in the study

Signature of Research Team Member Obtaining Assent

Date

Appendix 5

University of Michigan Flint Assent to Participate in a Research Study Middle School Students with Autism

Consent Form Version Date: 8-2016

IRB Study

Title of Study: Peer Support Arrangement Study for Students with Autism

Principal Investigator: Michele Cook

Principal Investigator Department: School of Education

Principal Investigator Phone number: 248-505-2606

Principal Investigator Email Address: michelco@umflint.edu

Faculty Advisor: Melissa Sreckovic, PhD

Faculty Advisor Contact Information: msreck@umflint.edu

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your parent, or guardian, needs to give permission for you to be in this study. You do not have to be in this study if you don't want to, even if your parent has already given permission. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?

The purpose of this research study is to learn about ways that middle school students can support other students with their academics by having a peer help instead of an adult. You are being asked to be in the study because you have expressed interest in having a peer support you during your academic classes as part of the LINKS program.

How many people will take part in this study?

There will be approximately 12 people in this research study.

How long will your part in this study last?

This study will last approximately eight weeks and start near the beginning of September and last approximately until November, 2016. You will (1) participate in 30-45 minute training, (2) attend meetings twice a month for 8 weeks during lunch with the peer group for 30 minutes, (3) be observed twice and (4) participate in an interview session at the completion of the 8 week study.

What will happen if you take part in the study?

If you participate in this study, you will:

- Participate in a training meeting
- Participate in an interview at the end of the 8 week study
 - NOTE: the interview will be videotaped so researchers can see how the groups are going.

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. The benefits to you from being in this study may be learning different ways to complete your class work.

What are the possible risks or discomforts involved from being in this study?

There are minimal risks to participate in this study. You may feel uncomfortable when being interviewed but you can stop the interview at anytime. You should report any problems to the researcher.

How will information about you be protected?

All paper records for this study will be kept in locked file cabinets. All electronic or computer records will be password-protected. Only the members of the research team will have access to records that identify you.

Participants *will not* be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, U of M Flint will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the for purposes such as quality control or safety.

What if you want to stop before your part in the study is complete?

You can withdraw from this study at any time, without penalty. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

Will it cost you anything to be in this study?

It will not cost you anything to be in this study.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions about the study, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board by email to IRB_subjects@umflint.edu.

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

 Your signature if you agree to be in the study

 Date

 Printed name if you agree to be in the study

 Signature of Research Team Member Obtaining Assent

 Date

 Printed Name of Research Team Member Obtaining Assent

Appendix 6**Treatment Fidelity (Peer Partners)**

Name of Peer Support _____ Date _____

Where the following components covered during the orientation meeting?

1. Introduce the expectations and purpose of this study Y|N
2. Discuss and model specific academic supports that are to be used with the student with ASD in the ELA classroom. Y|N
3. Discuss and model specific social supports that are to be used with the student with ASD in the ELA classroom. Y|N
4. Team students together and have them practice while the program mentor is watching Y|N
5. Feedback individually provided Y|N
6. Feedback as whole group is provided Y|N
7. Question and answers Y|N
8. Dates and times provided for future bi-monthly meetings Y|N

Appendix 7**Treatment Fidelity (Students with ASD)**

Name of Student _____ Date _____

Where the following components covered during the orientation meeting?

1. Meet and greet Y|N
2. Explain purpose and procedure for the peer support arrangement study Y|N
3. Ask each student to respond to interest profile questions, including past supports, either verbally or visually Y|N
4. Show a picture of their peer supports (2) in the ELA classroom Y|N
5. Explain the observation and if possible the date and times the researcher will be attending Y|N
6. Explain the interview at the end and provide a date in advance for the meeting Y|N

Appendix 8**Bi-monthly Case Conference Sheet**

1. Did the facilitator ask the peer partners to share the best experience they had while working with the student?
Y N

2. Did the facilitator ask the peer partners to share something they weren't sure how to handle?
Y N

3. Did the facilitator ask the peer partners to let us know if there was something they were frustrated with?
Y N

4. Did the facilitator ask the peer partners to describe the biggest accomplishment that was made by the student they are supporting?
Y N

5. Did the facilitator ask the peer partners to describe the biggest accomplishment made as a peer partner?
Y N

6. Did the facilitator ask the peer partners what help or suggestions would they like to receive from us?
Y N

Appendix 9

Peer support Observation Checklist

Student: _____ School: _____

Facilitator: _____ Coach: _____

Date: _____

Peer Supports Present:

Researcher will circle Y (yes) or N (no) based on whether or not these behaviors occurred during the observation.

1. Y N Are peer supports in **close proximity** to the student during class?
 - Y N Do the students sit next to each other?
 - N/A Y N Do the students remain in close proximity during out-of-seat class activities?
 - N/A Y N During group activities, do the students join the same group?
 - Other notes about proximity?

When does proximity occur during class (circle all that apply): Beginning Middle
End

2. Y N Are peer supports **interacting** with the student in class?
 - Y N Do they greet the student (e.g. "Hi" or "see you later")?
 - Y N Do students engage in conversation?
 - Y N Do peer supports include the focus student in interactions with other peers?
 - Other notes about interactions?

When do interactions occur during class (circle all that apply): Beginning Middle
End

- 3. **Y** **N** Are peer supports assisting the focus student **academically**?
- Y **N** Do the peer supports help the student participate in class activities?
- Y **N** Do peer supports repeat or rephrase instructions for the student?
- Y **N** Are peer supports appropriately prompting the focus student?
- Y **N** Do peer supports provide appropriate feedback to the focus student?
- Y **N** Do students work together on classroom activities?
- Y **N** Do students share work materials?
- Other notes about academic assistance?

When _____ do support behaviors occur during class (circle all that apply): Beginning Middle
End

Appendix 10

Interview Questions

Peer Supports

1. How would you describe your experience working with your partner?
2. Do think he or she benefited from having a peer support? If so, how?
3. How have you (personally) benefited from the experience of being a peer support to your partner? Or what have you learned as a part of this experience?
4. What has been the most challenging (or hardest) part of being a peer support?
5. What sort of additional help or information would have been beneficial for you to have?
6. Do you ever see your partner outside of this particular classroom?
7. Are you likely to provide help to a peer in a similar way in another class next semester (not in connection with this study, but on your own)?
8. Would you recommend this experience to a friend? Why or why not?

Students with Disabilities

1. Do you enjoy spending time with your peer support? Why or why not?
2. What are some of the things you do together in class?
3. What help do you like to receive from peers?
4. What help do you like to receive from adults?
5. Do you see your peer support outside of the classroom?
6. Would you like to work with peer supports again in the future? Why or No

Appendix 11

6 -9 Expository/Explanatory Writing Rubric

Scoring Criteria	High	Middle	Low
Development of Ideas And Elaboration of Evidence	<ul style="list-style-type: none"> • Clear, complete position statement or thesis/topic • Chooses the best evidence • Explains evidence with specific details/citation of sources • Makes important connections and inferences 	<ul style="list-style-type: none"> • Clear position statement • Uses evidence • Explains evidence 	<ul style="list-style-type: none"> • Names the topic • No evidence or inappropriate evidence • Little to no explanation
Organization and Purpose	<ul style="list-style-type: none"> • Organizes complex ideas effectively • Engaging introduction, developed body, insightful conclusion • Effective topic sentences introduce body paragraphs • Varied transitions 	<ul style="list-style-type: none"> • Logical sequence (beginning, middle, end) • Uses adequate transitions • Topic sentences used 	<ul style="list-style-type: none"> • Expected parts are missing • Disconnected • Unfocused • Few/No transitions • No topic sentences
Language and Conventions	<ul style="list-style-type: none"> • Engaging, academic voice/diction • Varied sentence structure/syntax • Skillful grammar, spelling and mechanic 	<ul style="list-style-type: none"> • Formal voice/diction • Limited sentence structure/syntax • The few grammar errors do not distract from meaning 	<ul style="list-style-type: none"> • Informal voice • Lacks sentence structure • Many errors that interfere with meaning