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Inclusion of Students with High Need Autism:
General education teachers' attitudes and beliefs versus practice

Arcadia University
Ed.D. Program in Special Education

Joanna Wynn Davis

A DISSERTATION
IN
EDUCATION

Presented to the Faculties of Arcadia University in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

2016

Dr. Kimberly Dean
Dissertation Chair

©

Joanna Wynn Davis

Inclusion of Students with High Need Autism:

General education teachers' attitudes and beliefs versus practice

2016

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Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements of Doctor of Education.

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Abstract

Given the simultaneous rise in rates of autism and the expectations for school-based inclusion of students with disabilities, research targeting inclusive practices continues to be a priority. Researchers have examined the attitudes and perspectives of general education teachers and best practice for including individuals with high functioning autism spectrum disorders. However, there is little research exploring the relationship between attitudes and practice with regard to the inclusion of individuals on the low functioning end of the spectrum. The purpose of this study was to explore the self-reported attitudes and perspectives of general education teachers in relation to what was observed and practiced in their general education classrooms when including a student with high need autism (HNA).

The researcher conducted a pre- and post- self-reported attitudinal survey exploring beliefs about inclusion of students with disabilities in general and later the same survey asking specifically about inclusion of students with HNA. There was very little difference in the results from the two surveys. In general, teachers reported that they were willing to support inclusive practices and generally viewed inclusion as a positive experience. Twelve classroom observations of the general education teachers, the student with HNA and a typically developing comparison peer were completed (two per target student). Results reveal HNA students were actively engaged less than comparison peers (16% vs 28%). A greater disparity occurred for passive engagement, 16% for the student with HNA and 49% for the comparison student. When looking at off-task behavior, HNA students were off-task at a far higher rate than comparison students, primarily demonstrating off-task with a motor response. The rate of interaction between the general

education teacher and the student with HNA was three times lower than the rate of interaction with the typically developing comparison peer. There was very little interaction between the targeted HNA student and any classroom peers.

The findings implicate that general education teachers reported positive attitudes toward inclusion and demonstrated structural and environmental best practices in their classrooms. The findings also show that there appeared to be a lack of meaningful inclusive education opportunities for HNA students and the author calls for further research exploring how to optimize the value of time spent in the inclusive classroom.

Author Note

The completion of this dissertation was a process that not only involved me, but also involved many family members, friends, and professors. The dissertation process has taught me what perseverance truly means. First, and foremost, I give thanks to God for providing me with the mental and physical strength during every stage of this dissertation process. Although moments seemed daunting and the tasks seemed impossible at times, God continued to provide me strength and help me regain focus and persevere through one of the most difficult but rewarding aspects of my life.

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I am grateful for the cooperation of the school district, teachers, and parents of the students who participated in this study. Without each of you, this study would not have been possible. I cherish my learning experiences from each of your classes and for the information you provided via surveys and allowing me to observe in your classroom. The dissertation process was an invaluable learning experience that I will always treasure.

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Chapter 1

Introduction

Overview

Autism spectrum disorder (ASD) is a range of complex neurodevelopmental disorders ranging in character and severity. ASD occurs in all ethnic and socioeconomic groups and affects every age group and gender. The cause of ASD is still unknown, despite efforts of scientists. Prevalence rates continue to increase and are now second in frequency only to intellectual disability among serious developmental disorders. The range of impairment and the increase in prevalence continues to generate challenges to the educational system in effectively meeting the needs of this complex population. Although research related to educational and behavioral interventions for children with ASD is extensive, there continues to be a lack of research focusing on inclusion of students with ASD on the more complex end of the spectrum (Crosland & Dunlap, 2012).

Inclusion, while the legal mandate and common practice for students with mild disabilities, continues to be a controversial issue in the field of education in regard to meeting the educational needs of individuals with autism. Research has shown many benefits to inclusive programming; social integration, an increase in self-esteem, a better understanding of other students, and the upholding of individual human rights (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2006; Wu-Tien, 2007). Inclusive education allows students to become a part of a community and to be viewed as no different than any another child (Leatherman, 2007). Inclusion, while a legal term, encompasses a wide array of practices in implementation. It is a term that is difficult to define and is therefore interpreted differently across people and settings. Mahat (2008) provides a concise

definition for inclusion, which is adopted for purposes of this research. The term *inclusive education* will be used and is further defined as follows:

> "[Inclusive education is] based on the notion that schools should… provide for the needs of all students…This means that students with disabilities are educated in the company of their regular age peers in a regular school and classroom and provided with instructions that effectively and efficiently meet their educational needs. The ideal of inclusive education is that schools … ensure that students with disabilities have their special needs met and are considered full members of the classroom community" (Mahat, 2008, p82).

Trends in Autism

For several decades the population of students with disabilities has been on the increase, peaking in 2004-05 with 13.8% of the national student body identified with a disability. Since 2004-05, the percent of students identified with a disability has been on a decreasing trend, largely due to the reduction in students identified with specific learning disabilities (SLDs). However, offsetting a portion of the recent decline, there has been an increase in the population of students identified with ASD. Since 2000-01, the percent of students with ASD has quadrupled from 1.5% to 5.8% in 2009-10. In addition, Pennsylvania has the highest percentage-point change in the identification rate of students with disabilities between 2000-01 and 2009-10 for 3.29% (Scull & Winkler, 2011). In Pennsylvania, during the 2014-2015 school year, approximately 10% of all students identified with a disability between the ages 6 and 21 educated were identified as having a diagnosis of ASD under IDEIA (http://penndata.hbg.psu.edu/FederalReports.aspx).

With the increasing identification of children affected with ASD, inclusion continues to be the main trend in serving students with ASD. Researchers explore and share the "perfect" strategies for successful inclusion, including individualized strategies as well as group strategies. In addition, research discusses the importance of organizational/systems changes, which focuses on the school environment with efforts such as school wide positive behavior supports (SW-PBS) or response to intervention (RTI) (Crosland & Dunlap, 2012). Although, inclusion is a strong trend in educating students with ASD, there continues to be a significant amount of research support alternative methods, such as using applied behavior analysis (ABA) which, due to its demand for consistent and frequent therapeutic interactions, may come into conflict with many models of inclusive service delivery.

Defining High Need Autism

Autism spectrum disorder encompasses the DSM-IV autistic disorder, Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified. Individuals identified with ASD show varying levels of deficits in social communication, social interaction, and restrictive repetitive behaviors, interests, and activities (www.dsm5.org). Although autism is a spectrum disorder, the DSM-V does not specify the characteristics across the varying levels of autism. For example, the DSM-V does not specify the characteristics or deficits for individuals that fall on the lower end of the spectrum. For the purpose of this research, the term HNA will be used to identify those individuals with ASD falling on the low end of the spectrum who may or may not also have an intellectual disability and behavioral concerns.

Researcher's Experiences

Currently in suburban schools, there continues to be a strong push for inclusive education for students across all levels of the spectrum. Inclusion supports a range of students that need minor academic or social support to students that require 1:1 attention at all points throughout the school day due to strong deficits in communication, social competence, behavioral regulation, or academic skills. Although inclusion seems to be the main focus for educating students with ASD, it has been my experience that training and support for effective inclusive practice is not provided to general education teachers. General education teachers rely heavily on special education teachers and paraprofessionals for guidance, support, instruction, and behavior interventions. In addition, I have found that general education teachers are sometimes resistant to including students with HNA in their classes for all or part of the school day. Although there is considerable research supporting inclusion and effective strategies for students with ASD in the inclusive setting, there is a lack of research supporting students with HNA in the inclusive setting. Further there is a paucity of research relating to supporting students with HNA in any school-based setting. Most research for students with HNA is focused on applied behavior analysis (ABA) strategies and there is a lack of research support for teacher strategies that are successful for students with HNA in the inclusive environment.

Similarly, there is a healthy inclusive education research base exploring how the attitudes, beliefs, and perspectives of general education teachers impact their acceptance of students with various disabilities into their classrooms. However, this research tends to focus on more mild disability groups. Inclusion of more complex students places a unique demand on general education teachers. There is little research about the attitudes, beliefs, and perspectives of general education teachers with respect to students with HNA.

As a special education teacher supporting elementary-age students with ASD, I found surprising reluctance that teachers are showing toward appropriately accommodating the needs of students with ASD in their classroom has been surprising. For example, in the experience of this author, an early elementary student was included in the general education classroom for the entire school day. She received occupational therapy, physical therapy, speech therapy, and social skills support outside of the classroom for short periods during the week. The student was academically on grade level and was capable of completing all academic work. The student demonstrated some rigidity and flexibility issues and also attempted to control the environment by completing work on her own terms. On one occasion, the general education teacher demanded that the student use a pencil to complete her work. After much explanation and debate, the general education teacher was still unwilling to budge. When providing the student with choices (such as an alternate color writing implement), the student willingly selected a color and completed her work. After several months of requiring the student to write in pencil and many inappropriate behaviors occurring, the Autistic Support Teacher instructed the paraprofessional to give the student choices when writing. Within a short period of time, the student's inappropriate behaviors decreased and work completion increased. A simple modification involving choice of a different color for writing tasks continued to be an unacceptable modification in the general education teacher's perspective. This raises critical questions about the key components to successful inclusion of students with disabilities. What were the gaps in the general educator's knowledge that prevented her from making this simple accommodation? Is it her belief about the classroom or her beliefs about students with disabilities that impede the success of inclusion?

Purpose of the Study

Teachers who experience positive interactions with students with ASD tend to view inclusion as successful and are more willing to support and accommodate students (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2004; Wu-Tien, 2007). Lohrmann & Bambara (2006) also reported that teachers become more self-confident, utilize more inclusive practices, and are more motivated to include their students when they have continued experiences with inclusive education. Legal mandates require educational systems to provide inclusive opportunities for all students, all disabilities, and all ages. As there continues to be a lack of research supporting inclusive practices for students with HNA, the study attempts to explore the relationship of inclusion and HNA. In addition, there continues to be a lack of research supporting teachers' attitudes versus their practices in relation to students with HNA. Therefore, this study also attempts to explore the relationship between teachers self-reported attitudes and their practices n the classroom.

Research Questions

The purpose of this study was to explore the relationship between the attitudes of general education teachers regarding inclusion practices and their actual current practices when teaching students with HNA. The null hypothesis states: there is no relationship between general education teachers' self-reported attitudes and perspectives and their observable educational practices in the classroom.

In this study, several questions were explored. These questions are as follows:

1. What are the behaviors and practices general education teachers exhibit in serving students with HNA?

2. What are the attitudes, beliefs, and feelings of general education teachers regarding students with disabilities, particularly students with HNA?
3. Is there a relationship between teachers' attitudes, beliefs, and feelings regarding educational placement and services for individuals with HNA included in the general education class and the current behaviors and practices exhibited by the general education teachers?
4. Is there a relationship between the attitudes, beliefs, and feelings of general education teachers regarding individuals with any type of disability and the individuals with HNA currently being taught in their general education classrooms?

Nature of the Study

The study took place in a suburban school district in Pennsylvania, Mid Atlantic School District. Mid Atlantic School has been practicing inclusion with their students with disabilities for several years. The students with disabilities are dual assigned; they are assigned to a general education classroom and special education classroom. The students participated with their peers for varying parts of the school day, as determined by the individualized education program (IEP) team. Throughout the study, it was observed that students were included for activities including morning meeting, specials (art, gym, computers, library, and music), science and social studies. Enrollment for Mid Atlantic School District is approximately 11,400 and educates approximately 5,400 elementary students in 10 different elementary schools. Of the 5,400 elementary students, approximately 15% of the total school district received special education services (http://paschoolperformance.org/Profile/xxx Altered for privacy protections).

In order to address the research questions previously identified, indirect and direct data collection methods (survey and direct observation) were used to examine general education teachers' perspectives in relation to their practice. There were eight teachers that participated in the study including general education teachers and specials teachers. First, a general survey was distributed to the participating teachers. Following the general survey, 2 observations were conducted where the researcher observed on-task/off-task behavior of the student with HNA and a comparison peer. The researcher also completed a best practice checklist and tallied the type of interactions that occurred throughout the observation. Following both observations, an autism-specific attitudinal survey was distributed to all eight participants.

Significance

The findings of this study offer potential impact to society considering that there is a growing increase in the number of students with ASD that are included in general education classrooms. The greater demand for inclusive practices of students with HNA justifies the need for continued understanding of how attitudes and perspectives impact the general education teachers practice in the classroom. It also justifies the need to further understand how general education teachers' practices impact the experiences and behaviors of students with HNA. In gaining a better understanding of how teachers' attitudes and perspectives impact their inclusive practices in the classroom, more precise education and professional development can be provided to help general education teachers enhance their teaching skills. It will also help pre-service teacher education programs develop more systematic approaches to instructing future teachers in how to prepare the classroom environment, design lessons, and plan for effective differentiation in the classroom. For the researcher, this study will help uncover relationships between attitudes and practice in the educational system focused on students with HNA. This

study will provide further research examining inclusion of students with HNA where there is currently a gap.

Chapter 2

Literature Review

Introduction

The benefits of inclusive educational programming have been shown to include social integration, increase in self-esteem, better understanding of other students, and the upholding of individual human rights. Inclusive education allows all students, regardless of their strengths and weaknesses, to become a part of a school community (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2004; Wu-Tien, 2007). Inclusive education allows "all children to just be seen as children" (Leatherman, 2007, p. 602). Inclusion is a place where other children become more accepting and sensitive to students with disabilities (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2004; Wu-Tien, 2007).

The Historical Context of Special Education

Special education continues to be redefined as educators learn more about disabilities, effective strategies, and the broader importance of quality of life. Individuals with disabilities and their advocates continue to demand equal opportunity in the educational setting. "There is only one child in the world and that child's name is ALL children" (Carl Sandburg, quoted in Villa & Thousand, 2005, p. 1). Although we continue to make leaps and bounds in the education of children with disabilities, we still have a long way to go before there is true access, equality and acceptance.

Where We Started

Until approximately the 1800s, education in the United States was predominantly for the elite, excluding individuals with disabilities, racial minorities, the poor, and those that spoke a different language (Villa & Thousand, 2005). Between 1842 and 1918, due to

an influx of immigrants, Horace Mann was able to persuade the affluent members of the American society that it was in their best interest to educate those of "lower" class. Not long before, in 1817, Thomas Gallaudet established the first educational program (institution) for individuals with disabilities. By the early 1900s, almost every state had built institutions for individuals with disabilities, such as the blind, deaf, and people with intellectual disabilities (Villa & Thousand, 2005).

The Education for All Handicapped Children Act (1975) was one of the first major laws in the United States to address the needs of school-aged individuals with disabilities. Preceded by and evolved from the Disability Rights Movement, the Education for All Handicapped Children Act required public schools to provide equal access to education for children with physical and intellectual disabilities. Public schools were also required to partner with parents in evaluating children with disabilities and develop an individualized educational plan (IEP) that addressed their strengths and weaknesses and that granted them access to the general education curriculum and to students without disabilities (P.L. 94-142).

In 1990, the Education for All Handicapped Children Act (P.L. 94-142) was renamed and reauthorized as the Individuals with Disabilities Education Act (IDEA). IDEA moved the special education debate from segregated programs that excluded students' access to schools and classrooms, to consideration of less restrictive environments with higher expectations (Allbritten et al., 2004). IDEA required a free and appropriate public education (FAPE) to all students with or without disabilities, and implemented the right for all students to be educated in the least restrictive environment. IDEA continues to be

revised and amended, as there were amendments made in 1997, 2004, and most recently in 2007.

Where We Are Now

Reauthorized and renamed in 2007, Individuals with Disabilities Education Improvement Act (IDEIA) became aligned with No Child Left Behind Act of 2000 (NCLB). NCLB is a United States federal education law reauthorized from the Elementary and Secondary Education Act to decrease the student achievement gap between mainstream and minority student populations by holding teachers and schools more accountable for academic progress for all students. It requires schools to use evidenced-based practices for all instruction and has created a means to support students in evidencing skills related to grade-level standards.

Special education, according to the Individuals with Disabilities Education Improvement Act (IDEIA) of 2007, means providing specially designed instruction, at no cost to the parents, to meet the unique needs of a child with a disability. IDEIA defines a child with a disability as someone with mental retardation [intellectual disability], hearing impairments (including deafness), speech or language impairments, visual impairments, serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities and who needs special education and related services. (2007)

The No Child Left Behind Act of 2000 further defines children with disabilities by categorizing them into high-incidence and low-incidence. High-incidence disabilities consist of children with specific learning disabilities, speech or language impairment, mental retardation, emotional disturbance, and developmental delay. Children with low-

incidence disabilities consist of children with hearing or vision impairment, severe orthopedic impairment, traumatic brain injury, autism/autism spectrum or any combination of these (NCLB, 2000). This study will focus on children within the low-incidence category, but more specifically children with autism spectrum disorders.

Autism spectrum disorder (ASD) is a "developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, which adversely affects a child's educational performance" (IDEIA, 2007). Other characteristics often associated with ASD are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.

Although IDEIA requires schools to provide a free and appropriate education in the least restrictive environment for all students with disabilities, that did not mean that students were educated in the inclusive setting. It was not until the 1980s that students with mild to moderate disabilities were integrated into the general education classroom on a part-time basis (Villa & Thousand, 2005).

A class action lawsuit in the state of Pennsylvania, Gaskin, originally filed in 1994, alleged that students with disabilities had been denied free and appropriate public education (FAPE) with appropriate supplementary aids and services. When settlement was made in 2005, the principal provisions included many changes and monitoring systems for the Pennsylvania Department of Education to follow with regards to least restrictive environment (LRE). The settlement required an advisory panel to be established, an updated annotated IEP compliance monitoring called "LRE monitoring" to ensure districts were complying with IDEIA and other federal and state laws, a compliant resolution

process to investigate complaints from parents concerning alleged inadequacy of inclusive practices, and funding for advocacy programs for inclusive education (Gaskin v. Commonwealth, 2005). The number of schools attempting inclusive educational programming has been slowly rising over the years. In 2005, the push for inclusive education grew immensely due to the Gaskin settlement. However, there still remains a debate over a clear definition and understanding of inclusion.

Inclusion

The term inclusion originally was referred to as *mainstreaming*, or the inclusion of students with special needs in the general educational process. Mainstreaming included students that spent any part of their day with their general education peers. These students may or may not have received additional support services in the general education class setting. More recently, the term *full inclusion* replaced the term mainstreaming. Full inclusion typically refers to students with severe disabilities. In this model, students with severe disabilities are placed full-time with their general education peers and all services and supports are provided within the general education classroom (Lewis & Doorlag, 2005). Currently, according to Lewis & Doorlag (2005), the educational field describes inclusion as the placement of students with disabilities in the general education classroom within their neighborhood school.

Advocates for inclusion hold that this paradigm of education for students with disabilities should be a flexible model where all children can learn, where all children are different, and where all children can be educated together (Forlin, 2007). Inclusion is based on acceptance, belonging, community, and differentiation for all students (Forlin, 2007; Lambe & Bones, 2006; Lindsay, 2007; Koutrouba et al., 2006; Puri & Abraham, 2004; Wu-

Tien, 2007). Inclusion uses collaboration, academic curriculum, and social reform to educate all students and can be interpreted differently across school districts. The factors that may impact the interpretation of inclusion include discrepancies with the term *inclusion*, resources available in the students neighborhood school versus being bused to another school within the district, discrepancies between educating students with high-incidence and low-incidence disabilities, and whether to provide support services within the general education class or as a pull-out service (Yssel et al., 2007). These factors confirm "inclusion is still an elusive term, in which, people may view inclusion as a 'program' or they may see inclusion as a research-devised strategy. The underlying assumption, however, is that inclusion is a way of life, a way of living together, based on a belief that everyone is valued and does belong" (Villa & Thousand, 2005, p10).

Inclusion and Least Restrictive Environment

To further support the elusiveness of the term *inclusion*, nowhere in our current special education laws of IDEIA and NCLB is the term *inclusion* or *inclusive education* used or defined. *Inclusion* refers to a mandate that students with disabilities, when appropriate, receive their education in the general education classroom and are provided access to the general education curriculum, which is referred to as *least restrictive environment* (LRE) (Villa & Thousand, 2005).

According to P.L. 94-142, least restrictive environment requires schools to (1) educate students with disabilities to the maximum extent appropriate with their nondisabled peers, (2) only separate students with disabilities when the nature or severity of their disability and the use of appropriate supplementary aids and services cannot be achieved satisfactorily in the general education class, (3) not exclude students with

disabilities from the general education class if they cannot achieve at the same level as their classmates (students with disabilities are required to make meaningful progress in their goals as listed in their IEP), (4) not remove a student with a disability from the general education class based solely on the nature or severity of their disability or on the necessity of additional costs or administrative convenience, and (5) access to a full continuum of placement options will be provided by school entities. Since the implementation of P.L. 94-142 in 1975 when only about one in every five students with disabilities was educated, more students with disabilities have been diagnosed and more students with disabilities are being educated.

The increase in inclusive education has affected every aspect of contemporary schooling. The *36th Annual Report to Congress* reported that, in 2012, a total of 94.8 percent of students ages 6 through 21 served under IDEIA, were educated in regular education classrooms for at least a portion of their school day. Of that 94.8 percent, 80 percent of the students were educated in the regular education classroom for at least 40 percent or more of their school day. More specifically, 57.6 percent of students with ASD served under IDEIA were educated in the regular education class for at least 40 percent of their school day (http://www2.ed.gov/about/reports/annual/osep/2014/parts-b-c/index.html#download).

Ryndak, Jackson, and Billingsley (2000), in a review of literature, report that there is no single definition of inclusion for students with moderate to severe disabilities that is agreed upon in the field; definitions vary widely. However, researchers have incorporated the following four components as the sole definition or in conjunction with the other components. The four components consist of (a) attending the neighborhood school, (b)

being placed in general education classes, (c) receiving supports within general education classes to allow students to benefit from placement, and (d) accessing and participating in the natural community (Ryndak, Jackson, & Billingsley, 2000).

Mahat (2008) provides a definition for this elusive term. For the purpose of this research, the term inclusive education will be used and is defined as follows:

> "[Inclusive education is] based on the notion that schools should, without question, provide for the needs of all students, whatever their level of ability or disability. This means that students with disabilities are educated in the company of their regular age peers in a regular school and classroom and provided with instructions that effectively and efficiently meet their educational needs. The ideal of inclusive education is that schools not only accept every child that walks through the doors but also ensure that students with disabilities have their special needs met and are considered full members of the classroom community" (Mahat, 2008, p82).

Unveiling Autism

Recently, ASD is described as not one disorder but a group of conditions with a range of symptoms and characteristics from mild to severe (Kluth, 2010; Valente, 2004). As a complex disability and having no biological markers associated with it, individuals with ASD have delayed or abnormal functioning in social interaction, communication, and/or patterns of behavior (restricted, repetitive, stereotyped), interests, and activities (Kluth, 2010). Individuals with an ASD can display disruptive and destructive behavior in some or all environments that individual contacts (Valente, 2004). In addition, the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013) also states that individuals with ASD must demonstrate delays or abnormal functioning, with the

onset prior to age three in social interaction, language as used in social communication, and/or symbolic or imaginative play (American Psychiatric Association, 2013).

There are several labels used to classify individuals with ASD depending on their symptoms, such as Asperger's syndrome, pervasive developmental delay-not otherwise specified (PDD-NOS), and childhood disintegrative disorder. In addition, Rett syndrome, Williams' syndrome, fragile X syndrome, and Landau-Kleffner syndrome share similar characteristics to those on the spectrum (Kluth, 2010). However, the diagnosis of ASD should be excluded if another psychiatric, medical, or substance abuse disorder explains the disorder more effectively (Valente, 2004).

A Look at Prevalence

With the increase in number of individuals diagnosed with ASD and the current focus on least restrictive environment, the National Center of Educational Statistics (NCES) also looked at the percentage of time students with ASD were spending within the general education classroom or being included with their general education peers. The NCES reported that in 2007-2008, 34.6% of identified students were educated less than 21% of the time in the special education classroom, 18.2% were educated 21-60% of the time in the special education classroom, and 36.9% were educated more than 60% of the time in the special education classroom. It was also reported in NCES, that 8.7% of students with ASD were educated in separate schools and less than 1% were placed in residential facilities, hospitalized, and were parentally placed in regular private schools.

ASD remains prevalent in students today. The Center for Disease Control and Prevention reports that in 2010 an average of 1 in 68 children in the United States will have an ASD. ASD is almost 5 times as more prevalent in boys than girls. It is estimated that 1 in

42 boys have an ASD diagnosis and 1 in 189 girls have an ASD diagnosis. (http://www.cdc.gov/ncbddd/autism/data.html)

Identified Prevalence of Autism Spectrum Disorder
ADDM Network 2000-2010
Combining Data from All Sites

Surveillance Year	Birth Year	Number of ADDM Sites Reporting	Prevalence per 1,000 Children (Range)	This is about 1 in X children...
2000	1992	6	6.7 (4.5 – 9.9)	1 in 150
2002	1994	14	6.6 (3.3 – 10.6)	1 in 150
2004	1996	8	8.0 (4.6 – 9.8)	1 in 125
2006	1998	11	9.0 (4.2 – 12.1)	1 in 110
2008	2000	14	11.3 (4.8 – 21.2)	1 in 88
2010	2002	11	14.7 (5.7 – 21.9)	1 in 68

Figure 1.

A Brief Look Back in Time

Leo Kanner, in 1943, studied eleven children with early infantile autism through observation only and observed solitude, excellent rote memory, the ability to speak at a usual age or after a bit of delay, intrusion from loud noises, delayed echolalia, obsessive desires, repetitions, need for sameness, and a lack of spontaneity (Neumärker, 2003). Shortly after Kanner's discovery, Hans Asperger published information on Asperger's syndrome through his own research. Some seventy years later, researchers continue to see some of the same characteristics as defined by Kanner in 1943 in children with autism spectrum disorders.

Common Characteristics in ASD

Children with ASD, like all children, learn, behave, look, and communicate in different ways. However, there are several characteristics that children with ASD tend to share, such as differences in movement, sensory, communication, socializing, and learning. In addition, children with ASD typically share special interests or fascinations that are different from their typical peers (Kluth, 2010).

Differences in movement is described as an excessive, atypical, or loss of typical movement. Topographically, movement differences may present themselves as rocking, flapping, stuttering, or walking with an uneven gait. Occasionally, a child's posture, actions, speech, thoughts, perceptions, emotions, or memories may be impeded. These movements may result in extreme frustration or confusion for both the individual with ASD and to the individual observing (Kluth, 2010).

Sensory differences, the most common difference people associate with ASD, are subcategorized as tactile, auditory, visual, or olfactory differences. Tactile, or touch, variances can effect an individual's use of space, how they interact with others, and how they work with supplies. Auditory variances, or sensitivity to sound, and olfactory variances, or sensitivity to smell can affect the environment in which an individual with ASD is educated. Visual, or sight, variances can effect an individual's ability to concentrate and focus. All sensory differences are difficult for the observer to understand and in some cases may seem irrational (Kluth, 2010).

Differences in communication usually affect an individual's speech and language, their timing in a conversation, their rhythm of speech, their intonation, and their understanding of expressive or receptive language. In addition, individuals with communication differences may have repetitive speech and may struggle with social skills.

However, communication or social differences does not mean that an individual with autism has the desire to be alone or the desire to not make friends. Many times, although individuals with ASD struggle with appropriate social interactions, they still desire friendships just as much as their peers (Kluth, 2010).

The last two characteristics common in individuals with ASD are learning differences and special interests or fascinations that are different from their peers. Learning differences for individuals with ASD are typically found in the areas of processing and interpreting information and understanding the presentation of the information. However, individuals with ASD do not always have issues with intellect. Finally, individuals with ASD develop special interests, fascinations, and passions that are different from their peers. While these interests often represent opportunities to program effectively toward a student's interests, the intense focus can become obsessive. The interests and fascinations of individuals with ASD should be carefully examined, as they can become valuable outlets in education (Kluth, 2010).

ASD as a High Need Population

Researchers have been successful in classifying the ability levels of individuals with autism into what is now known as the Autistic Spectrum Disorders. Autistic Spectrum Disorders are defined according to the criteria found in the DSM V. ASD is a new DSM-V name that reflects a scientific consensus that four previously separate disorders are actually a single condition with different levels of symptom severity in two core domains. ASD now encompasses the previous DSM-IV autistic disorder (autism), Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified. ASD is characterized by 1) deficits in social communication and social interaction

and 2) restricted repetitive behaviors, interests, and activities (RRBs). Because both components are required for diagnosis of ASD, social communication disorder is diagnosed if no RRBs are present. The Autism Diagnostic Observation System (ADOS), the Autism Diagnostic Inventory, and the Autism Behavior Checklist are a few of the rating instruments used to help identify children with ASD, however these instruments do not categorize children with ASD into high functioning versus low functioning. The Childhood Autism Rating Scale (CARS) is an instrument used to identify children who are lower on the autism spectrum and it has been found to compare favorably to other instruments used in studies of children with ASD, most of whom have intellectual disabilities (Mayes, et al., 2011).

ASD and intellectual disabilities overlap in symptoms and often co-occur, which makes it extremely challenging in the diagnosis (Hartley & Sikora, 2010). This is better defined as comorbidity. Comorbidity, which is the occurrence of two or more forms of psychopathology in the same person (Matson & Nebel-Schwalm, 2005, Matson & Shoemaker, 2009). One of the most prominent areas research has focused on is attention deficit/hyperactivity disorder. However, comorbidity in the assessment of ASD has been infrequently addressed.

Comorbidity in ASD is frequently paired with intellectual disability (ID) and symptoms of ASD, such as language delays, stereotypies, and self-injury increase as the severity of ID increases (Matson & Nebel-Schwalm, 2005, Matson & Shoemaker, 2009). While, Asperger's does not involve ID, the more prevalent conditions of pervasive developmental delay and ASD involve high rates of ID. It has been found that 66% of a given population of children with ASD scored below 70 on an I.Q. test and therefore have a

co-occurring diagnosis of ID. Although ID and ASD have a high relation of comorbidity, researchers in the field of ASD have also discussed comorbidity in autism in relation to psychopathology (Matson & Nebel-Schwalm, 2005).

The most frequent comorbid psychopathology with ASD is a mood disorder, depression, resulting in approximately 2% of children with ASD being diagnosed with depression. According to Matson & Nebel-Schwalm (2005) the general lack of measures for assessing comorbidity in ASD may have resulted in a lower percentage. Other contributing factors that may mask or reconfigure depression profiles consist of the severity of ID or the severity of ASD. The second mood disorder, bipolar disorder, has been proved both difficult to differentially diagnose and treat. The literature within the ASD population is almost non-existent (Matson & Nebel-Schwalm, 2005). Other comorbid psychopathologies consist of phobias, anxiety, obsessions, and psychosis. However, little information directly testing these hypotheses has occurred. In addition, the symptomology in many of these psychopathology diagnoses overlap with ASD (Matson & Nebel-Schwalm, 2005, Matson & Shoemaker, 2009).

The DSM-IV and like publications do not present a clear picture of what low-functioning ASD, or as discussed in this study, HNA, looks like. Researchers refer to the criteria in the DSM-IV for ASD, which incorporates disorders from Asperger's to Autism. In the DSM-V, the diagnostic criteria for ASD encompass Asperger's, childhood disintegrative disorder, pervasive developmental disorder, and autistic disorder. The DSM-V presents a continuum from mild to severe degree of impairment. For the purpose of this study, low-functioning autism will be termed *high-need autism (HNA)*. HNA will be defined as describing an individual with a primary diagnosis of ASD and a secondary diagnosis of ID

or speech and language delay. In addition, an individual with HNA, in the educational setting requires a classroom support person (this is defined as a personal care individual or a classroom aide), receiving at least two related services (i.e. speech, occupational therapy, behavior consultation, or physical therapy), and has a significant delay in social skill development.

Intervention

Debate and considerable research have focused on discovering the best methodology to use in educating children with ASD (Weiss, Fiske, & Ferraioli, 2008). Inclusion and differentiated instruction appear to be two of the best ways to teach children with any disability, but ASD in particular. Inclusion establishes an environment for all people to be welcomed and valued regardless of any differences (Renzaglia et al., 2003). Differentiated instruction is a student-centered approach in which learning experiences are designed in response to learn needs (Santangelo & Tomlinson, 2012). This form of teaching allows for the least restrictive environment, access to the general education curriculum, opportunities to increase social skills through interaction with general education students, and higher standards. However, inclusion is only one type of educational opportunity for children with ASD and is typically used when teaching students with high-functioning autism or Asperger's. There are several other types of treatments used in combination to inclusion or as a completely separate entity. These treatments, such as applied behavior analysis (ABA) and teaching play (social skills) strategies, are often used for individuals with HNA or co-occurring disabilities (Weiss, Fiske, & Ferraioli, 2008).

Behavior analytic treatment of children with ASD currently has the greatest evidential support regarding its effectiveness for learners with ASD (Herbert & Brandsman,

2002). Over time, the behavior analytic, or applied behavior analysis (ABA) intervention was demonstrated to be effective in increasing skills and reducing the degree to which challenging behaviors interfere with learning. Researchers indicated that individuals with ASD learned best when there were clear instructions, repetition and practice, and immediate reinforcement for correct responses, commonly known as discrete trial instruction (DTI) (Weiss, Fiske, & Ferraioli, 2008). However, it has been found that discrete trial teaching has been more effective when paired with natural teaching methods (Lovaas, 1987).

Natural teaching methods include incidental teaching, previously milieu teaching, pivotal response training, natural language paradigm, natural environment teaching, and verbal behavior language (Christensen-Sandfort & Whinnery, 2013; Weiss, Friske, & Ferraioli, 2008). Incidental teaching requires the teacher to arrange or contrive learner interest, which increases initiation and spontaneity. The learner is leading the exchange, is motivated by the topic because it is a learner selected topic and therefore, creating the opportunity for instruction (Weiss, Friske, & Ferraioli, 2008). Pivotal Response Training and Natural Language Paradigm emphasize using very motivating topics, teaching in natural contexts, and following the child's lead to target deficits in language. Similarly, Natural Environment Teaching emphasizes the use of intrinsically motivating materials and follows the child's lead in language instruction. It also focuses on the use of Skinner's (1957) theory of the behavioral acquisition of language to ensure comprehensive attention to the functions of language (Weiss, Friske, Ferraioli, 2008).

The final treatment, also theoretically based in behavioral learning theory, is Direct Instruction (DI). DI has been applied to a variety of curricular areas, including language,

reading, mathematics, and writing. However, the primary research in this area has been conducted outside the realm of ASD (Haberman, 2010). It is noted, that although Direct Instruction may be effective, modifications might need to be made and more research in the field of autism needs to be conducted (Weiss, Friske, & Ferraioli, 2008).

Non-behavioral interventions, although most are not considered evidenced-based treatments, are also currently in use. Non-behavioral interventions are broken into two different groups: biomedical interventions and social-educational interventions/psycho-social interventions. Biomedical interventions include gluten-casein free diet, medical interventions (serotonin reuptake inhibitors, atypical antipsychotics, and psychotropic), secretin therapy (injections to alleviate gastrointestinal difficulties), chelation (detoxification of heavy metals), sensory-motor interventions or sensory integration, auditory integration training (helps correct abnormal reactions to common auditory stimuli), and facilitated communication (Weiss, Friske, & Ferraioli, 2008).

The first social-education/psycho-social intervention considered for treatment is the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) (Schopler & Bristol,1980). TEACCH provides a flexible, individual-based environment to promote independence across the life span. It is a program to create an environment to manage behavior and foster real world success. However, the gains within TEACCH may not be easily generalized to other settings (Weiss, Friske, & Ferraioli, 2008).

Learning Experiences an Alternative Program (LEAP) is based upon the core deficit of ASD, or social learning (Strain & Bovey, 2011). Here it is proposed that the remediation of social deficits will lead to gains in other aspects of a child's life. Children attend

integrated classrooms to benefit from peer modeling and parents participate in behavioral skill training. Frequent group activities occur to help children generalize skills they have learned in a smaller group or through more direct instruction (Weiss, Friske, & Ferraioli, 2008).

A third, non-behavioral intervention capitalizes on social interactions to facilitate skill acquisition. This is referred to as Developmental Individual Difference Relationship-Based Model (DIR) or sometimes called "floor time" or Greenspan approach (Wieder & Greenspan, 2003). This method attempts to recreate the developmental process by working with the child in a one-to-one setting and following the child's lead while providing an emotionally supportive environment (Weiss, Friske, & Ferraioli, 2008).

The final approach is Relationship Development Intervention (RDI) (Gutstein, 2007), which targets perspective taking and the processing of non-verbal cues through naturalistic strategies. In this approach, the child engages in a serious of "games" in which the targeted response can only be reached through the interpretation of another individual's gestures and facial expressions (Weiss, Friske, & Ferraioli, 2008).

The key to a successful intervention plan for a child with HNA is to provide a consistent routine, clear and concise direction, an organized environment and/or setting, motivational systems, and limited distractions (Weiss, Friske, & Ferraioli, 2008). After these are in place, professionals need to become educated in the various treatments and decide through thorough evaluation and assessment which treatment will help the child be successful. Professionals need to be mindful of the interventions being used, track progress and make adjustments as needed (Weiss, Friske, & Ferraioli, 2008).

Inclusion and ASD

The philosophy of inclusion is to urge schools, neighborhoods, and communities to embrace diversity, welcome and value everyone, and to develop a belief system that everyone belongs regardless of differences (Renzaglia et al., 2003). History has shown that individuals with disabilities have been provided with services based on available options, as opposed to unique programs being created to address individual needs and desires. Founded on the principle of normalization, inclusion focuses on equality, quality of life and human rights. The principle of normalization is defined as providing individuals with disabilities with patterns and conditions of everyday life, which are as close as possible to that of the typical society. This has been part of the philosophical foundation of service delivery for persons with disabilities.

As with other disabilities, ASD presents itself in varying degrees from mild to severe. To date most educational research in relation to the inclusion of students with ASD has primarily focused on the higher functioning end of the autism spectrum, examining inclusion of students with high functioning autism and Asperger's syndrome. Individuals with ASD on the severe end present with the same characteristics, however these are present at a higher intensity and there is often more significant delay in cognitive function as assessed in formal measures.

As stated by Ryndak & Alper (2003), severe disabilities imply a "condition in which the development of skills typical for chronological age is significantly delayed (p 6)." Individuals with severe disabilities typically have difficulties in learning, memory, generalization, communication, sensory development, physical development, and social skill development. Individuals will require ongoing assistance from an individual without a disability, as categorized by extensive support or pervasive support (Ryndak & Alper,

2003). Extensive support includes daily involvement from an individual without a disability in some environments, such as school and/or home. Pervasive support includes constancy and high intensity support provided across all environments (home, school, and community).

Best Practice for Inclusion of Students with ASD

"I was amazed when I started fifth grade and my teacher seemed to understand my problems. She let me complete the achievement tests at my own pace. When I finished them, she let me choose my own reading material and write book reports. She never criticized my bad penmanship. She allowed me to start and edit a class poetry journal" (Prince-Hughes, 2004, p. 47 in Kluth, 2010, p. 249).

Understanding, recognizing and supporting students is the essence of inclusion. This quote illustrates a teacher that learned about her students, accepted her students, and differentiated her instruction to accommodate and include each student to their maximum potential. However, this is just a small picture of all that needs to be considered with regard to best practices of inclusion. Persons with ASD are often highly sensitive to the world around them. Further complicating educators' efforts to provide the optimal educational experience, each individual presents with a unique set of sensory and learning challenges requiring individualized planning and programming. Following are several areas that educators must consider in their efforts to support students on the ASD in their classrooms.

The first area that all teachers need to address is the classroom environment. When supporting students with ASD, classroom environment is a crucial area to develop with considerable thought. An appropriately supportive classroom environment will help facilitate organization, communication, comfort, focus, and many other important

components for all students to learn and make progress. As teachers think about the physical environment, the furniture should be arranged with clear visual boundaries and careful contemplation as to where the student with ASD should be physically situated (Palko & Frawley, 2009). Various types of seating should be available to help facilitate sensory needs, such as rocking chairs, seat cushions, floor mats, lounge chairs, armchairs, and beanbag chairs (Palko & Frawley, 2009). In addition to the visual boundaries set by the furniture in the classroom, all materials should be organized to eliminate visual clutter. Other organizational practices may include the use of containers, labels, and diagrams of their desk to help them locate items (Palko & Frawley, 2009).

A second area to consider is the type of lighting and amount of sound that might be in the classroom. Students with ASD often have sensitivity to light and sound (Kluth, 2010). Although in many cases, there may be very little control over these two areas, there are several suggestions that Palko & Frawley (2009) refer to. Students with ASD tend to be affected by fluorescent lighting, which may impact their behavior, their comfort level, and their ability to concentrate. Teachers can experiment with using floor lamps, natural light, colored overlays, or simply reducing the existing fluorescent lights being used. Sounds can also affect a student with ASD ability to learn and focus. Using carpet to reduce noise, placing adhesive felt pads on the bottoms of chairs, or providing students with short breaks when the noise level is too great for them are a few ways to help students with ASD be more comfortable and less distractible (Palko & Frawley, 2009).

Next, teachers should consider their instructional strategies when teaching students with ASD. First, the use of visual supports has been shown to increase time on task, social engagement, and academic engagement (Palko & Frawley, 2009). Visual supports, which

can be in written or picture form, include schedules, concept maps, idea maps, globes, models, directions, webs, charts, diagrams, drawings, calendars, mnemonics, and rules. These supports can be used to prompt joint attention, encourage conversation, promote recall, enhance attention, increase comprehension or language concepts, and facilitate communicative intent and social initiation (Johnston et al., 2003 in Palko & Frawley, 2009).

Teachers will need to optimize on the high interests of students and use those interests as instructional tools to create motivation and drive in each student. It is often difficult to engage and motivate students with ASD to learn about topics unrelated to their topic of interest. However, learning how to incorporate each student's interest into activities can quickly change the motivation and increase success of that student. For example, placing reading passages or math problems on a picture of high interest to a student is one example of how to capture motivation. Teachers may systematically fade out the high-interest item as success and motivation toward the academic activity continue within the student (Palko & Frawley, 2009).

Transitions are typically a struggle for students on the spectrum and teachers need to plan accordingly for all types of transitions (transitions from activity to activity, transitions to new environments, transitions from grade to grade/school to school, etc.) (Kluth, 2010). Transitions can be overwhelming for students with ASD; they may cause high anxiety in students or levels of frustration. The use of visual supports can help reduce the anxiety and frustration level in students with ASD. Kluth (2003) provides several points to consider when planning for transitions: give the student reminders of the amount of time left, use a transitional activity, use peers to remind students of an upcoming transition,

create transition rituals, and give the students something to carry that is an indicator or reminder of the next class/activity (Palko & Frawley, 2009).

Lastly, it is important to encourage independence and to help students with ASD understand their differences in an effort to establish self-determination and self-advocacy. One way to encourage self-determination and self-advocacy is to teach effective communication forms and skills. Communication can range from various modes of communication (vocal language, assistive technology, and sign language) to more subtle aspects of communication, such as social cues in the environment, language, phrases, vocabulary, syntax structure, and much more. "I love language more than anything…it links people…it gives us dignity and individuality" (Sellin, 1995, p. 154 cited in Kluth, 2010). Individuals with autism spectrum disorders often use many different forms of communication that need to be taught to them directly (Kluth, 2010). Individuals, especially with HNA, need to learn how to communicate from the simplest form of saying "hi" and recognizing their name (infantile state) to using sentences and reading social cues in their environment. As members of a community and society, communication and language is a foundational skill to self-determination, which enables people to freely choose and act upon their own goals for life (Wehmeyer, 2014). Which there is a body of research about best practices for students with ASD. There continues to be gaps in the practices employed by teachers in general education classrooms.

Perceptions and Attitudes

Stowe et al. (2007) reported that the public in the United States views individuals with disabilities as a burden on society and a drain of time, energy, and money. This research found negative attitudes about people with disabilities; lack of understanding and

experience; lack of understanding of genetics; and communication of the attitudes toward disability and genetics to be potential reasons for the overall negative feeling. Because of an extreme lack in knowledge about the lives of people with disabilities and a large focus on disability as the determining factor for an individual's identity, capabilities, and quality of life, it is believed by many that people with disabilities cannot work or contribute to society through their activities (Stowe et al., 2007). "There are conditions, disabilities, different things that happen where people are suffering, but the perception out there is that everyone across the board is suffering with a disability and that's not true. I mean there are people living day in and day out lives and being very productive and they're living with a disability. They're not suffering from a disability" (Stowe et al., 2007, p198). The perceptions and attitudes of society at large have potential impact on policies and opportunities for people with disabilities. In the daily lives of children and families the perceptions and attitudes of those in the educational community play a significant role.

Wright (1983) and Marom et al. (2007) suggest that teacher's views on inclusion of individuals with disabilities are generally positive and typically more favorable to those individuals with physical disabilities than those with cognitive disabilities. Positive experiences foster success for inclusion, therefore when teachers have positive experiences, inclusion is then viewed as successful (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2004; Wu-Tien, 2007).

Although it has been reported that general education teachers' attitudes toward inclusion are generally positive, Lohrmann & Bambara (2006) reported that some teachers' attitudes were not changed until they experienced a positive and successful opportunity with inclusion. The elements that seem to evoke a positive change in teacher attitudes and

beliefs about inclusion have been intervention and experience. As a result of experiences with inclusion, teachers utilized more inclusive practices, became more self-confident, motivated, and hopeful about including other students (Lohrmann & Bambara, 2006).

In Lohrmann & Bambara's (2006) study of fourteen general education elementary school teachers, initial and transformational attitudes toward including students with challenging behaviors, as well as describing the supports that teachers believed to be essential for students to be successful were examined. Teachers were interviewed on three different occasions over an eighteen-month period of time. The first interview was designed to gather background information and familiarity with including students with challenging behaviors. The second interview consisted of the participants describing their day-to-day experiences, while including the focus student in their general education classes. The third, and final, interview had the participants reflect on their experiences including a student with disabilities and challenging behaviors. Of the fourteen teachers, ten expressed having initial apprehension about including a student with challenging behaviors and many of them questioned their own ability as teachers. "They (students) come with a reputation." (Lohrmann & Bambara, 2006, p. 162). In addition to the reported reputation that comes with the students, teachers had concerns with supports that would be provided and they had struggles with students, parents, colleagues, and the administration. However, despite all of the initial concerns teachers reported, all of the teachers reported experiencing a positive change in their attitudes and beliefs about inclusion. Some teachers' experiences positively validated their beliefs about inclusion. The teachers' confidence in their ability to teach students with challenging behaviors continued to increase as they encountered direct and successful experiences with their focus student.

In support, Leatherman (2007) studied eight teachers of inclusive early childhood programs who shared their experiences as inclusive educators. This study reported teachers' reflections on their own experiences and what resources they used to increase the success of inclusion. Most teachers reported positive experiences with inclusion at the early childhood level. Teacher attitudes and beliefs changed as a function of their exposure to and successful experiences in interacting with students with disabilities (Nevin et al., 2007).

Although exposure to and experiences with students with disabilities have changed attitudes, Lohrmann and Bambara (2006) explored the impact that holding dual certification in general education and special education had on teachers. The authors found that teachers with dual certification demonstrated an increased level of confidence with including individuals with disabilities into the general education classroom. Additionally findings suggest that even if teachers were or were not provided with trainings in inclusion and disabilities, over time all teachers became more confident and more comfortable with including students with all different abilities (Lohrmann & Bambara, 2006). Having exposure and experience with inclusion appears to be a relevant variable in teacher comfort and confidence in serving students with disabilities.

Griffiths (2007) studied the attitudes and perceptions of teachers in mainstream schools (schools that follow the inclusive model) compared to teachers in schools for individuals with disabilities. In this study of sixteen students, eight from a mainstream or inclusive school and eight from a school for individuals with learning difficulties, Griffiths examined the preconceptions that mainstream and special school pupils hold of each other and their associated educational contexts. In this study, their usual classroom teachers

interviewed the participants. They were shown a standardized power-point presentation and then asked to respond to four key questions. Results suggest the students from the special school had lower measures of self-esteem and the individuals from the mainstream or inclusive school perceived themselves as superior. Griffiths found that one of the participants, a teacher of special education, still felt the need to shield her students in the next phase of inclusion. Griffiths found that teachers that taught in schools for individuals with disabilities generally feared a negative perception of their students and were fearful of students being bullied in the mainstream school. They were also afraid that the mainstream school did not offer a secure learning environment for their students. In contrast, the teachers that taught in mainstream (inclusive) schools thought of inclusion as a positive process. They were willing to withhold judgment and were willing to accept students from the schools for individuals with disabilities. Griffiths found that the self-deprecating comments made by the students alongside the wary attitude of her colleague's led her to question the ability to create a truly inclusive environment (Griffiths, 2007).

Researchers Rao and Lim (1999) reported that teacher attitudes have a significant effect on the success of inclusion. In a 2006 study conducted in the United States by Lohrmann and Bambara, elementary education teachers were interviewed to determine their beliefs about essential supports needed to make inclusion successful. The researchers reported that teachers were initially apprehensive, afraid, and a little anxious about the idea of students with disabilities included in the general education with all types of disabilities, including students with behavioral disabilities.

To further explore the findings of Lohrmann and Bambara, Cook et al. (2007) looked at general education teachers' attitudes toward inclusion. This study, part of a larger study,

was designed to pilot a new rating scale measuring teaches' attainment, concern, indifference, and rejection of their students and replicate and extend existing investigations of inclusive teachers' attitudes toward their students. Participants for this study consisted of 50 inclusive teachers who completed a rating scale regarding their attitudes toward their students. The rating scale indicated a modest reliability; however there was some fluctuation in attitudinal portion. The attitudes held by teachers toward their students were categorized as attachment, concern, indifference, and rejection. Within the attachment category, students would receive more teacher praise, less criticism, and higher quality questions. These students were favored by teachers and were, in turn, successful in the regular education classroom. Students that score in the concern category receive high levels of praise, frequent feedback, and frequent opportunities to respond. According to Cook et al. (2007), teachers had a strong desire to support these academically struggling children. Students receiving little positive evaluation and feedback were placed under the category of indifference. Here, teachers were generally disinterested in the student and removed from their academic and social performance. The final category, the rejection category, the students were engaged with the teacher on a regular basis but for behavioral matters. There was limited instructional feedback and the students were often criticized based on their behavioral performance (Cook et al., 2007). Teachers' attitudes, whether positive or negative, generally influence decisions about their students whereas teachers rely on their feelings toward students, rather than logical analysis in choosing a different potential course of action Cook et al., 2007). Cook et al. found that teachers rated themselves as significantly more concerned, indifferent, and rejecting toward their included students with disabilities, as compared to their students without disabilities.

Type of Disability & Age

With respect to inclusion, perspectives and attitudes can be positive or negative, with respect to inclusion, and are often related to the type of disability (Freeman, 1985). Teachers report a belief that there are academic and social benefits to inclusion of individuals with disabilities, and individuals who are gifted, whereas parents reported a belief there are some disadvantages (Freeman, 1985). Perspectives of inclusion vary greatly based on types of disabilities. Three different dimensions define positive and negative perspectives and attitudes: affect, cognitive, and behavioral (Mahat, 2008). Within each dimension of attitude, inclusion was described as physical, social, and curricular. The affective dimension represents feelings and emotions associated with inclusion (Mahat, 2008). Therefore, a positive attitude in the affect dimension would include statements like: "I am pleased", "I am comfortable", or "I am happy". On the contrary, a negative attitude in the affect dimension would include statements like: "I am frustrated", "I get upset", or "I am uncomfortable". The cognitive dimension represents teachers' perceptions and attitudes associated with inclusion (Mahat, 2008). Therefore, a positive attitude in the cognitive dimension would include statements like: "I believe that an inclusive school is…". On the contrary, a negative attitude in the cognitive dimension would include statements like: "I believe that an inclusive school is not…". The behavioral dimension implies teachers' intention to act in a certain manner toward inclusive education (Mahat, 2008). Therefore, a positive attitude in the behavioral dimension would include statements like: "I am willing." On the contrary, a negative attitude in the behavioral dimension would include statements such as: "I am unwilling.".

The literature describes a scale that is used to classify and prioritize inclusion for individuals with certain types of disabilities. Paterson (2007) reported that students with learning disabilities had always been included in general education with a consultation model, where trained teachers collaborate and instruct general education teachers. Students with physical difficulties and speech impairments were viewed as having the highest priority with regards to inclusion. The presence of these students had minimal negative impact on the classroom and provided a positive experience for all students. Students with learning differences, hearing difficulties, visual difficulties, and giftedness typically fell in the middle range of priority for inclusion. Students with severe behavioral and emotional disorders were regarded as the most problematic with regard to general education teachers' perspectives on inclusion (Cook et al., 2007).

Although teacher attitudes can be determined through experiences, attitudes can also be determined based on the type of disability. When educating children with behavioral and emotional disorders in the inclusive setting, success typically occurred when the appropriate supports were provided to both the teacher and the student (Lohrmann & Bambara, 2006). With appropriate supports, observed improvement in behavior was observed when students with emotional and behavioral disorders were included in general education classes, and teachers' attitudes were generally positive. In order to teach children to be accepting and respect differences, positive attitudes of teachers are necessary (Lambe & Bones, 2006; Wu-Tien, 2007).

Furthermore, Leyser et al. (1994), in an international study, researched the attitudes of current teachers' inclusion, which was based on the age of the student instead of the type of disability. Leyser et al. (1994) found that teachers with the most favorable

attitudes toward inclusion were teachers of secondary level students. In contrast, a study in the United States found teachers of elementary level students had the most positive attitudes toward inclusion (Chalmers, 1991).

Kniveton (2004) discussed further the issue of attitudes about inclusion related to age of students in a study consisting of 507 parents and teachers. Participants were interviewed to ascertain the preferred age at which children should be included in general education; the type of difficulty most often regarded as a problem; the type of difficulty that should receive the highest priority for inclusion; and the type of difficulty or giftedness that should receive the highest priority for the allocation of resources. With regard to age, it was found that most interviewees reported thinking children with disabilities should be included in inclusive classrooms between the ages of five and eleven. These results are in contrast to many studies that have found no correlation between the age of students with disabilities and the attitudes or perceptions of their teachers (Kniveton, 2004).

Teachers' attitudes, based on academic performance and social engagement, can be positive or negative not only based on the type of disability but by the nature of the environment. Since communication is a vital part of general education classrooms, Kniveton (2007) reported that teachers were resistant about teaching children with speech and language difficulties because most of their classroom routine was centered on communication. In comparison, teachers were apprehensive about students with physical disabilities in technical subjects because there was a lack of appropriate resources available.

However, it is not clear if teacher attitudes to inclusion result in specific teaching behaviors, and therefore to changes in the learning environment. It is also unclear if the

changes in the learning environment will then produce changes in acceptance of included individuals, which will, in turn, result in a change in attitude (Gibb et al., 2007). Successful inclusion is defined as positive academic progress, positive social acceptance from peers and teachers, appropriate behavioral support, and a sense of unity where all students are involved and differentiated instruction is used (Gibb et al., 2007). Koutrouba et al. (2006) stated that successful inclusion would increase if there were a general change in the perceptions of individuals with disabilities.

Effective Inclusion

Successful inclusion is based on knowledge, effective teaching, school culture, effective school management, communication, availability, and hands-on support, as well as the child's ability to cope with the demands of mainstream education and its social aspects. The effectiveness of inclusion is based on appropriate academic skills being taught, using an appropriate curriculum, teaching social skills, and focusing on school-wide acceptance of all individuals (Gibb et al., 2007). A supportive environment, teacher acceptance, adaptation of curriculum and instruction, parent involvement, and peer acceptance need to be present for inclusion to truly be successful (Forlin, 2007; Wu-Tien, 2007; Yssel et al., 2007).

For successful inclusion, teachers and parents must advocate for their students. Multidisciplinary teams (IEP teams) including teachers and parents should be actively involved in each student's academic life and constantly provide input and feedback to each other. Open communication and a strong parent-teacher relationship will help make inclusion successful and effective (Yssel et al., 2007).

There is a general consensus that it is impossible to teach all the diverse needs presented in one general education class without the positive attitudes of teachers and students, appropriate resources and supports, and without the appropriate and adequate training (Lambe & Bones, 2006). Although there are several positive outcomes to inclusion, researchers have reported concerns of parents and teachers toward inclusion. Parents are generally concerned about the quality of instruction and knowledge teachers demonstrate in the area of special education (Gibb et al., 2007; Leyser & Kirk, 2007; Palmer et al., 2001; Peck et al., 2004). Several researchers indicated an overabundance of parents and educators feeling there is a lack of training and education in inclusion and in knowledge of different disabilities (Gibb et al., 2007, Leyser & Kirk, 2007). The lack of competence, resources, training, and awareness may undermine teachers' implementation of effective inclusion. In addition to parents' concerns with training and knowledge of classroom teachers, researchers report there is a growing concern about paraprofessionals or special education assistants that work with students with disabilities. Researchers found teachers to be concerned with the lack of training paraprofessionals receive, the undefined roles of paraprofessionals and the little time for collaboration with the classroom teacher (Gibb et al., 2007; Leyser & Kirk, 2004; Lindsay, 2007; Lohrmann, 2006; Yssel et al., 2007).

Classroom teachers identified an issue with the amount of time allotted for collaboration between paraprofessionals and themselves; they have also expressed a concern that the availability of general and special education teachers is limited, which results in decreased time to plan and collaborate. In addition, time is not allotted for both general and special education teachers to plan and collaborate between home and school (Gibb et al., 2007; Leyser & Kirk, 2004; Lindsay, 2007; Lohrmann, 2006; Yssel et al., 2007).

Further, in regard to collaboration between home and school, parents expressed a need to advocate for their children. However, parents do not want to break down the collaboration by being overbearing but they feel a desire to stand up for their children (Gibb et al., 2007; Leyser & Kirk, 2007; Palmer et al., 2001; Peck et al., 2004). In doing so, parents may make requests that are difficult for teachers to implement in the classroom setting. Yssel et al. (2007) further discussed this concern of empty promises being given to parents. 'Empty promises', as described by Yssel et al., are when teachers agree to something (an instructional strategy, behavior protocol, adaptation, modification, etc.) for the student and then do not follow through with the agreement or promise made. Empty promises will typically break down the trust and collaboration between home and school and tension within the parent-teacher relationship may rise. Tension between home and school may limit the ability to focus on the student's needs and disrupt the learning process of that student (Yssel et al., 2007).

Parents and teachers, as suggested by several researchers, are not only concerned with the learning process of the students with disabilities but they are concerned with the learning process of all students (Gibb et al., 2007; Leyser & Kirk, 2007; Palmer et al., 2001; Peck et al., 2004). There is a fear that, depending on the severity of the disability, a child may disrupt the learning process or potentially injure another student in the class. The severity of a disability may lead to concerns about the potential to overburden the general education teacher, special education teacher, or students in the classroom (Gibb et al., 2007; Leyser & Kirk, 2007; Palmer et al., 2001; Peck et al., 2004).

Finally, researchers have identified several other concerns with effective inclusion. Some of these concerns include but are not limited to bullying and isolation of students, the

physical environment and classrooms not being designed for inclusive settings, and the cost to remodel for inclusive settings being too great (Gibb et al., 2007; Leyser & Kirk, 2004; Lindsay, 2007; Lohrmann, 2006; Yssel et al., 2007). For inclusion to be successful in all environments and for all individuals there needs to be collaboration and open communication with all stakeholders or individuals involved with the student (Yssel et al., 2007).

In a study by Young et al. (1997), three students, each with a diagnosis of ASD and intellectual disability, were fully included in a general education classroom with a 1:1 paraprofessional. Direct observations assessed the students' on-task behavior, if the students were in their seat, self-stimulatory behavior, and inappropriate vocalizations as a function of the paraprofessional's proximity to the student and the class activity (group, independent, 1:1 with peer, and 1:1 with adult). Observations were 30 minutes in duration with a 20-second observation and a 10-second record protocol. The observations were conducted over 12 days per student over a one-month period. When the paraprofessional was within 2 feet of the student, the students remained on task 73%, 68%, and 84% of the time. Respectively, when the paraprofessional was more the 2 feet away but still in the room, the students remained on task 67%, 82%, and 76% of the time. A greater discrepancy was seen when the paraprofessional was out of the room, resulting in on task behavior for 58%, 100%, and 83% of the time (Young et al., 1997). Similarly, when the paraprofessional was within 2 feet, the student remained in his seat 82%, 88%, and 93% of the time. When the paraprofessional was in the classroom but not within 2 feet, the student remained in his seat 87%, 96%, and 82% of the time. Finally, when the paraprofessional was out of the room, the student remained in his seat 73%, 100%, and 96% of the time

(Young et al., 1997). Young et al. (1997) found that the adults directly affected the behavior and performance of the students. However, the results indicated that for one of the students, the paraprofessional was out of the room 64% of the time. On the contrary, for another student, the paraprofessional was within two feet of the student 73% of the time. Young et al (1997) indicated that having three participants was a definite weakness, as the three participants and how their districts operate in reference to paraprofessionals may not be generalized to other districts. They also indicated that on task behavior was defined as looking at the teacher and skill acquisition was not assessed. Although there were several limitations to this study, it was discussed that further research in this area should be conducted (Young et al., 1997).

In 2001, Shuster, Hemmeter, and Ault conducted a study using twelve students with a diagnosis of intellectual disability who were included in grades kindergarten through third as participants. These twelve students were observed solely in their inclusive environment, despite having contact with a special education teacher during the day. Two observations were conducted for each student over the course of the spring semester. During these observations, which lasted the duration the student was receiving academic instruction in the general education setting, frequency data were collected on teaching opportunities delivered based on pre-selected IEP objectives. In addition to frequency data, data was also recorded on the type of instruction being delivered (whole group, small group, 1:1, self-instructed, and shared learning) (Shuster, Hemmeter, & Ault, 2001). Over the 12 students observed, there were 433 teaching opportunities delivered with an average rate of 0.224 opportunities per minute. However, 4 out of the 12 students did not receive any teaching opportunities on their pre-selected IEP objectives, and 1 student only

received 1 opportunity. The mean percent of IEP objectives that received a teaching opportunity was 45%, with a range of 0%-100% (Shuster, Hemmeter, & Ault, 2001). In addition, the number of teaching opportunities presented in different contexts was also reported. It was found that 1:1 instructed received the greatest percent of teaching opportunities, with 76% respectively. The teaching opportunities presented in small group instruction were 15%, whole group instruction was 8%, and both shared-learning and self-instructed was below 1% (Shuster, Hemmeter, & Ault, 2001). It is clear that the pre-selected IEP objectives were being incorporated into the general education classroom, however it is not reported if IEP objectives had a higher rate of opportunity in the special education classroom. Some other limits to this study consist of the small number of participants, which does not allow the researchers to generalize their findings (Shuster, Hemmeter, & Ault, 2001). Skill acquisition was not assessed in this study to determine if the students were making progress on their IEP objectives in relation to the number of opportunities presented. There are also no comparison data on the learning goals for the students without IEP goals and how often those learning goals were presented (Shuster, Hemmeter, & Ault, 2001). The authors recommend further research in this area to expand across different settings and contexts.

Research has provided valuable information on teachers' attitudes and perspectives towards individuals with disabilities and examined best practice teaching for individuals with disabilities in the inclusive environment. However, given the limitations in the current research, there are still questions to be answered. The purpose of this study is to explore the relationship between the attitudes of general education teachers and their current

practices when teaching students with HNA. This study was designed to answer the following questions:

1. What are the behaviors and practices general education teachers exhibit in serving students with HNA?
2. What are the attitudes, beliefs, and feelings of general education teachers regarding students with disabilities, particularly students with HNA?
3. Is there a relationship between teachers' attitudes, beliefs, and feelings regarding educational placement and services for individuals with HNA included in the general education class and the current behaviors and practices exhibited by the general education teachers?
4. Is there a relationship between the attitudes, beliefs, and feelings of general education teachers regarding individuals with any type of disability and the individuals with HNA currently being taught in their general education classrooms?

Chapter 3

Research Design and Methodology

Introduction

This study is a descriptive exploratory study using survey and observation research strategies. Descriptive research describes a phenomenon through reporting frequencies, averages, and percentages (Glatthorn & Joyner, 2005). Exploratory research uses the descriptive data collected on a specific phenomenon and examines the relationships found within the data (Creswell, 2008). This study took a descriptive picture of general education teachers' behaviors and practices in the classroom regarding inclusion of students with HNA and then explored the relationship between the general education teachers' self-reported attitudes, beliefs, and feelings. The study took place in a suburban school district in Southeastern Pennsylvania, Mid Atlantic School District (the name of the school has been changed in the interest of confidentiality), which uses an inclusive model of teaching. Survey research, designed to describe the attitudes, opinions, behaviors, or characteristics of the population targeted (Creswell, 2008) was used as one instrument to collect data. Attitudes concern feelings about particular social objects and this research study concerns the attitudes of students with disabilities and ASD (Nunnally, 1970). The attitudes of the participants were evaluated using self-reported measures. Self-reported measures of attitudes are understandable and subjects typically feel more confident with their responses (Nunnally, 1970). Rating scales, such as Likert scales, are extremely important in the scaling of attitudes and values as they obtain absolute responses (Nunnally, 1970). Survey research, through the use of questionnaires or interviews, quantified the data collected and was descriptively analyzed. The analyzed data describes the trends in the

teachers' responses to the questions; test the research questions or hypotheses proposed, and guides the researcher in interpreting the meaning of the data as it relates to inclusive best practice teaching (Creswell, 2008).

The inclusive education movement has increased the frequency of students with disabilities being educated alongside their non-disabled peers (Cook et al., 2007). Despite the increase in frequency, issues are still prevalent when educating children with varying levels of disabilities. Parents and teachers appear to be less comfortable and knowledgeable with the concept of inclusion for students with severe behavioral disabilities (Cook et al., 2007; Forlin, 2007; Lohrmann & Bambara, 2006). In inclusive settings, the increased severity of a disability results in a need for more professional development opportunities and the need to acquire knowledge of inclusion and students with low incidence disabilities (Lohrmann & Bambara, 2006). Inclusion, which functions well when collaboration is a key component, is an environment where all children are educated together using differentiated instruction and focusing on acceptance, belonging, and developing a community (Forlin, 2007; Lambe & Bones, 2006; Lindsay, 2007; Koutrouba et al., 2006; Wu-Tien, 2007).

Context

For the purpose of this study, the targeted context consisted of suburban elementary schools in Mid Atlantic School District. Mid Atlantic is comprised of a population of more than 72,000 community members, covering five different townships, which span approximately 72 square miles. Mid Atlantic School District began using an inclusive education model for their students approximately 8 years ago. The inclusive model in Mid Atlantic is defined for the purposes of this research as students with

disabilities, with a focus on students with HNA, being educated with their typical peers in the general education classroom. Supplementary supports and services are delivered within the general education setting, requiring minimal pull-out services for speech or other related services. Enrollment for the school district is approximately 11,400 and educates approximately 5,400 elementary students in 10 different elementary schools. Of the 5,400 elementary students, approximately 15% of the total school district population received special education services. (http://paschoolperformance.org/Profile/118)

Role of the Researcher

In this study, the researcher acted as such for all participants. The primary roles of the researcher were to arrange all logistics, collect and analyze all data, and conduct follow-up interviews with participants if more information was needed. However, as a researcher, some bias did exist. The researcher worked as a special education teacher within the school district approximately ten years ago. The researcher currently is employed as a special education teacher in a neighboring school district and has had several experiences with inclusion, some positive and some negative. This experience could directly impact any pre-conceived ideas or hypotheses. However, the researcher has not had any direct contact with the general education teachers with in the participating school district. These experiences and connections may present bias in the research findings and interpretations of the data.

Participants

District level personnel, Special Education Supervisor, Special Education Director, and Superintendent, provided verbal and written consent for this research study to take place. Elementary schools within the district were examined by the researcher and Special

Education Supervisor to determine which schools fit the following criteria: 1.) the school must have at least one student with HNA, in which the Special Education Supervisor determined and provided that information to the researcher, and 2.) the student with HNA must be included in the regular education classroom for a minimum of forty minutes per day. The qualified elementary schools were contacted by the Special Education Supervisor and through a formal letter explaining the purpose of the study. Following the formal letter, the researcher provided the Special Education Supervisor with copies of the consent forms for the teachers and students.

The participants approached for were current elementary teachers within the school district. All of the participating teachers fit the following criteria: 1.) Teacher must be a certified general education teacher or certified specialist teacher (i.e. art, music, physical education, library, computer), 2.) Teacher must be currently teaching a general education class (a homeroom class, music, art, physical education, computer, or library class), 3.) Teacher must have at least one student with HNA included in their general education classroom, and 4.) Student(s) with HNA must be included in the general education class for a minimum of 40 minutes. The Special Education Supervisor gave each qualifying teacher a letter describing the study and their role as a participant and a consent form to participate (see Appendix A).

In addition to the general education teacher participation, informed consent from the parents of students with HNA was also required (see Appendix B). Upon consent of the general education teacher, the Special Education Supervisor distributed 2 copies of the information letter and consent form. The first copy of the letter and consent form was signed and returned to the general education teacher. The second copy was for the parents'

own record. The Special Education Supervisor, also, distributed the informational letter and consent form to the general education teachers for the parents of each student without HNA (see Appendix C). The consent forms were returned, placed in an envelope, and given to the Special Education Supervisor. At this time, the Special Education Supervisor contacted the researcher to pick up all of the signed consent forms.

All general education teachers and their respective student(s) with HNA that returned consent forms automatically became participants in the study. In addition, a comparison student, a student that does not have HNA, was identified for each child with HNA. This student was selected based on the students that returned consent forms. The researcher attempted to find a comparison student with similar demographic characteristics and was an overall average student. For the purpose of this study, an average student held an academic grade equivalent to a "B" average in all subject areas, participated actively and passively as appropriate, did not require significant redirection or repetition, and interacted with his or her peers during appropriate times. Selecting an overall average student will provided a more generic comparison, as the student was most likely not the highest or lowest in any of the observed variables.

Instruments

Attitudinal Survey. Since the main purpose of this study was to explore the relationship between the attitudes, beliefs, and feelings of general education teachers with regard to students with HNA included in their general education classrooms and the observed behaviors of those teachers, it was critical to use an instrument that would adequately assess the attitudes, feelings, and beliefs of the general education teachers. In 2008, Mahat discussed the importance of attitudinal scales in educational research and

found that most attitudinal instruments were used for specific research situations and only used once. Mahat (2008) further discussed that many of the attitudinal instruments measured only a single dimension (2008). Therefore, Mahat proposed to "develop a multidimensional instrument that would effectively measure affective, cognitive, and behavioral aspects of attitudes within the realm of inclusive education that includes physical, social, and curricular inclusion" (Mahat, 2008, p. 83).

Mahat (2008), from a concept map, constructed more than 100 items based on previous attitudinal research. As several questions were ambiguous and very similar, these 100 items were quickly paired down to forty-one items. A Likert-type scale was used as the format for measurement, as it clearly acknowledges that questions require expressed opinion. Likert-type scales are not difficult to create and allow for a large number of items that can be answered quickly. They also provide precise information about the degree of attitude and remain highly reliable (Mahat, 2008). Mahat used a six point rating scale (strongly disagree, somewhat disagree, disagree, agree, somewhat agree, and strongly agree) for the thirty-six items that comprised the final version of the *Multidimensional Attitudes toward Inclusive Education Scale* (MATIES). The MATIES was checked for validity through having experts in the field review the questions and through piloting the scale using a random selection method with primary and secondary teachers (Mahat, 2008). Through the validation process, several more questions were eliminated, which created the final eighteen question MATIES form that will be used as a survey guide in this study.

The two surveys that were used in this research study were delivered at two different times: the first survey was delivered prior to the observations and the second survey was delivered after the observations were complete (see Appendix D and E). The

first survey was divided into two parts. The first part generated general demographic and background information of each of the participants. The participants were asked to identify their gender, current roles within the district, primary role within the school building, years of teaching experience, experiences with students with disabilities, what type of disability, and the amount of time the student with a disability was included in their classroom.

Part two used a six point Likert-type scale, as seen in the MATIES, ranging from strongly agree to strongly disagree. The Likert-type scale consisted of twenty-three items and a space for additional narrative comments, if desired. The survey consisted of eighteen items that were a replica of the items found in the final version of the MATIES. These items were selected due to the validity and the ability to incorporate three different dimensions (affective, behavioral, and cognitive). The remaining five questions are more generic questions regarding attitudes, beliefs, and feelings toward inclusion of students with disabilities.

The first and second survey consisted of the same Likert-type scale questions, however the second survey did not include the demographic and background information questions. In the first survey, the participants were asked to answer the questions while thinking about students with disabilities with a general mindset: thinking about inclusion for all individuals and all types of disabilities. In the second survey, the participants were asked to answer the questions while thinking about the student(s) with HNA that were included in the general education class.

Observation. When the researcher contacted the participants with the first survey, the researcher also started scheduling the two observations. The researcher gathered a

preference list of days and times from each teacher and then scheduled the observations based on that information. A behavioral observation data sheet, which included anecdotal records, was used to observe the general education teacher's behavior within the general education class with regard to the student with HNA and one comparative student without HNA (see Appendix F). The observational period was 40 minutes in duration. The behavioral observation form was divided into two parts. The first part of the observation form, which took approximately five minutes, included overall layout of the environment, narrative notes, and some demographic information about the classroom and activities. The number of students, number of students with autism, number of teachers, and number of assistants were recorded. The type of activity was also recorded by circling the corresponding abbreviation. Activities were defined as:

ISW: TPsnt – student completing individual seatwork with teacher present

ISW: TSmGp – student completing individual seatwork and the teacher is working with a small group

SmGP: TPsnt – student is working in a small group (<10) and the teacher is working with that group

LgGp: TPsnt – student is in a large group (10+) and teacher is working with large group (Shapiro, 2011).

A layout of the classroom was sketched. Within this sketch, student desks, teacher position, targeted student, comparative student, and materials being used for the lesson were clearly marked. The final section of the first part of the observation form consisted of any narrative notes necessary to help understand the lessons, location of the teacher,

directions, or other important information that was observed throughout the duration of the observation.

The second part of the observation form, an interval sample data sheet, was used to gather behavior data on the targeted and comparison student and all interactions that occur within the classroom setting. Two different types of data were collected within a thirty-minute observation period with one-minute intervals per observation. For the first 55 seconds of the interval, tally marks were record to reflect the interactions that took place. At second 55, the observed behavior observed and for the remaining 4 seconds, the observed behavior was recorded.

The interval observation, a modified BOSS (Shapiro), was designed to assess student engagement. Behaviors that were targeted for observation were on-task (active engaged time), on-task (passive engaged time), off-task motor movement, off-task verbal, and off-task passive (see operational definitions below). The corresponding abbreviation was circled to represent the observed behavior in a given moment. In addition to the observed behavior of the student, the interactions between the student and teacher, student and paraprofessional, student and peer, and whole group instruction were recorded. Tally marks were made to represent one interaction between the student and the appropriate individual. A new interaction was recorded if there was at least a three second break in between (Shapiro, 2011).

- For the purpose of this research, the following behaviors were defined as:
- Active Engaged Time (AET) – student is actively attending to the assigned work. Some examples include: writing, reading aloud, raising hand to answer a teacher's question, talking to the teacher about assigned material, talking to peer

about assigned material, looking up word in dictionary, and typing essay on computer

- Passive Engaged Time (PET) – the student is passively attending to the assigned work. Some examples include: listening to lecture, looking at an academic worksheet, reading assigned material silently, looking at the blackboard during teacher instruction, and listening to peer respond to a question
- Off Task Motor (OFTM) – any instance of motor activity that is not directly associated with an assigned academic task. Some examples are: out-of-seat behavior, aimlessly flipping pages of a book, manipulating objects not related to academic task, physically touching another student when not related to academic task, bending or reaching, drawing or writing that is not related to academic task, turning around in one's seat, oriented away from classroom instruction, and fidgeting in one's seat
- Off Task Verbal (OFTV) – any audible verbalizations that are not permitted and/or are not related to an assigned academic task. Some examples include: whistling, humming, forced burping, talking to another student about issues unrelated to assigned task, talking to another student about when prohibited by teacher, making unauthorized comments/remarks, and calling out answers to academic problems when prohibited by teacher
- Off Task Passive (OFTP) – student is passively not attending to an assigned academic activity. Some examples include: quietly waiting after the completion of an assigned task but is not engaged in an activity authorized by teacher, sitting quietly in an unassigned activity, looking around the room, starring out the

window, and passively listening to other students talk about issues unrelated to assigned academic activity (Shapiro, 2011)

The second part of the interval observation form occurred during each interval for the first 50 seconds of the interval. This section was comprised of tally marks for each interaction and/or direction given that occurred between the targeted/comparison student and the other individuals within the classroom. Tally marks were recorded for interactions between:

- Targeted student/comparison student and teacher (T)
- Targeted student/comparison student and paraprofessional (IA)
- Targeted student/comparison student and peer (PR)
- Whole group instruction or direction given (W)

Inclusion Best Practice Checklist. The third and final observation instrument used in this study was a checklist that outlines the core aspects of a successful and effective inclusion environment. This checklist (see Appendix G) was comprised of 8 areas, 62 items that are observable and are considered to be core elements in inclusion. The checklist was completed during the last five minutes of the observation period for each teacher.

The inclusion best practice checklist was comprised of a list of core elements identified by researchers, experts, and professionals in the field of inclusion and knowledgeable with ASD. See Appendix A. This tool was developed collaboratively with expert informants prior to initiating the research project. The *Inclusion Best Practice Checklist* was distributed to 3 special education and 3 general education teachers with inclusion experience. The individuals that received the checklist were asked to read through and cross out any items that were not a priority or of importance in making

inclusion successful. From the original list that was sent out to the 6 teachers, 62 items were left on the list that was separated into 8 different categories.

In the context of the data generation in this study a “yes”, “no”, and “N/A” was used to record if the item was observed or not. Upon completion of the checklist, the total number of observed items (items with a “yes”), the total number of items not observed (items with a “no”), and the total number of items that were not applicable or unable to answer (items with a n/a) were tallied.

Reliability

For every observation, a primary researcher and a secondary researcher were present for validity and reliability. The secondary researcher was thoroughly trained with all three-observation instruments. The primary researcher instructed the secondary instructor in how to complete the class layout/narrative form, the interval sample/tally form, and the best practice inclusion checklist. During instruction, the primary researcher went through each aspect of all three forms and answered any questions that arose. Following instruction, the primary and secondary researcher watched three different videos of classroom instruction and collected data using the observation interval/tally sheet. The primary and secondary researcher also observed 1 non-participating classroom to practice data collection. The two researchers reached an inter-rater reliability score of 90% or above on all four observations (See Table 1 and 2). At this point, formal observations were scheduled and conducted.

Table 1.

	T	IA	PR	W
Video #1	100%	100%	100%	80%
Video #2	100%	100%	100%	100%

Video #3	100%	100%	100%	80%
Classroom	95%	95%	95%	90%

Table 2.

	AET	PET	OFTM	OFTV	OFTP
Video #1	80%	100%	100%	100%	100%
Video #2	100%	100%	100%	100%	100%
Video #3	80%	80%	100%	100%	100%
Classroom	90%	95%	95%	100%	100%

Data Collection

Following the written consent of the school district, consent forms were distributed to each of the qualifying teachers and parents of all students. The teachers and parents of students were provided with an email address and phone number if they had any questions or needed clarifying details. No teacher participants emailed or called the researcher with questions. There was one parent that contacted the researcher with clarifying questions via email. The researcher responded and no more questions were received. The District Supervisor collected all of the consent forms and returned them to the primary researcher.

The primary researcher emailed the first survey to all of the participating teachers. The email included a brief set of directions, a date that the survey should be completed by and the link to the survey for completion. The teachers were directed to think about inclusion in general terms (inclusion for all individuals) when responding to the survey questions. The teachers were given approximately one week to complete the first survey and were sent one reminder email approximately 4 days after the initial email.

During this time, each teacher was contacted to set up observation days and times. When the researcher scheduled observations, the following were taken into consideration:

pull out services, push-in services, and special events. Observations did not occur during these times. All observations were scheduled about two weeks in advance. For most observations, they time of day the students were included were very similar. Therefore, the researcher had to schedule one observation per day and on occasion was able to schedule two in one day. A confirmation email was sent to each participating teacher with the two dates for observations. A schedule was also sent to the special education supervisor depicting all of the observations for that school. The special education supervisor contacted the building principals and secretaries with the scheduled observation dates. Several observations had to be rescheduled due to unexpected weather. In these instances, the researcher contacted the teachers to reschedule and then confirmed with the special education supervisor with the new dates for observations.

Observations took approximately 45 minutes, with the following break-down: 5 minutes to outline what the classroom looks like and take preliminary field notes, 30 minutes for an interval sample data sheet on on-task/off-task behavior, which includes tally marks for interactions with the targeted student, and 10 minutes to complete the best practice inclusion checklist and record any follow up notes. This process occurred for each of the two observations for the participants.

After taking a cue from the teacher on a good location to sit, the researchers took approximately five minutes to fill out the first page of the observation form. On this page, both researchers filled-out the total number of students, the number of students with ASD, the number of teachers, and the number of assistants present in the classroom during the lesson. The researchers also recorded the subject or activity occurring and what type of instruction was delivered (small group, independent work, large group, etc.). In addition to

the background information, the researchers drew a diagram of the classroom layout. The researchers made notes to indicate where the targeted student was located, where the teacher and IA were located, and if any changes occurred during the observation. The researchers also recorded any important narrative information such as, the subject being taught or any important directions the teacher gave.

Upon completion of the background information, the researchers began collecting interval data of on-task/off-task behavior and frequency of interactions. Both researchers used a pre-recorded indicator to inform when tally marks should be recorded and when momentary time sampling of on-task/off-task behavior should be recorded. The pre-recorded indicator was set for 55 seconds of tally data at 5 seconds for momentary time sample data. During the first 55 seconds, the researchers recorded the number of interactions that occurred between the targeted and/or comparison student and the teacher, instructional assistant, peer, and whole class. During the last 5 seconds, the researchers took a momentary time sample of active engaged, passive engaged, off-task motor, off-task verbal, or off-task passive and circled the corresponding abbreviation.

There was one comparison student selected for each student with ASD in the class. The comparison student selected was chosen from a list of students that returned consent forms. The researcher tried to select a comparison student that had similar demographics as the student with ASD. For the thirty-minute observation, the researchers collected data on the student with ASD for the first four intervals and then the comparison student on the fifth interval. This continued for the thirty-minute observation period. On two occasions, there were multiple students with ASD that qualified for participation. In both cases, the

primary researcher selected a name at random from pulling one from a hat. The selected student was used for both observations for consistency with data collection.

For the final ten minutes of the observation, the researchers completed the basic inclusion checklist. They filled-out the checklist based on what they observed in the classroom during those ten minutes and throughout the previous 35 minutes of observing. The researchers looked for the 20 items on the checklist and provided a "yes", "no", or "N/A" if that item was seen, not seen, or unable to be observed. The items on the checklist were available throughout the forty-minute observation, however, were completed at the end of the each observation.

This process was completed for both the first and second observation. At the end of the second observation, the primary researcher emailed each participant the link to the second survey for completion. The participants were given one week to complete the survey and were sent one reminder email about 4 days after the initial email. Table 3 illustrates a timeline of events for the study.

Table 3.

Instrument	**Time Provided**	**Notes**
Inclusion Checklist for Feedback	Teachers were given one week to review and comment	
Consent/Assent Forms	Sent out in January	District Supervisor handled all consent forms
First-Survey (General Inclusion)	Sent out in February, following returned consent forms	Survey Monkey lInk
First-Survey (General Inclusion) Reminder	Sent out 4 days after initial contact	
1st round of observations	Followed pre-determined schedule	5 minutes – diagram 30 minutes – interval time sample & interaction tally 10 minutes – inclusion best

		practice survey
2nd round of observations	Followed pre-determined schedule	5 minutes – diagram 30 minutes – interval time sample & interaction tally 10 minutes – inclusion best practice survey
Second-Survey (Specific to Target Student)	Sent out immediately following completion of 2nd observation	Survey Monkey link
Second-Survey (Specific to Target Student) Reminder	Sent out 4 days after initial contact for second survey	

Data Analysis

Since this study is largely a descriptive statistics study with some exploratory elements: most of the data analysis conducted followed the guidelines of descriptive statistics. To remain consistent and make sure all documents from one student with ASD can be easily identified, each student with ASD was given a pseudonym. The pseudonym was written on the top of each document related to that teacher (observation and checklist), which allowed for easy grouping. Since survey monkey was used and identifying information was not required, the surveys could not be linked to specific teachers and/or students with ASD.

Data analysis allowed researchers to thoroughly examine the information they have gathered and to make meaning of that information. In this research study, data analysis occurred in a few parts as culminating sessions. Using statistics to help analyze the data helped the researcher understand and interpret the data that has been collected (Salkind, 2008). More specifically, using descriptive statistics allowed the researcher to organize and describe the characteristics of a collection of data (Salkind, 2008). In this study, descriptive

statistics was used to analyze and interpret the first-survey, the second-survey, and the best practice inclusion checklist.

The demographic information and the responses to the survey questions from the first-survey were compiled into one list. The researcher first assessed the demographic information. A frequency distribution that tells the researcher how often something occurs (Salkind, 2008) was generated to display age, years teaching, and experience teaching individuals with disabilities. A frequency distribution was also generated to show the types of disabilities with which the teachers have had experience working. This information provided the researcher with solid background information about the participants involved in the study.

Second, the responses for the first survey and second were displayed in a frequency distribution chart and translated into a bar chart. The chart showed the researcher if there was any difference in the responses of the participants between the first survey and the second survey. The researcher also used the survey information to determine if there is any relationship between the responses in the first survey, when the participants were thinking about inclusion in general and the second survey, when the participants were thinking about inclusion related to the student with HNA. The first and second surveys were also analyzed to see if there is any relationship between how the participants answered and what was observed in their classroom via the observation and the best practice inclusion checklist.

Third, the researcher analyzed the best practice inclusion checklist, separately calculating a percentage of observed items. This percentage was recorded at the top of each checklist.

Fourth, the researcher analyzed the observation data using two different formats. The researcher calculated the on task/off task behavior and the tally marks of interaction.

On task/off task. The researcher calculated the percentage of each on task behavior by dividing the total number of on task by the total number of intervals scored. The researcher then tallied the number of each individual off task behavior by dividing the total number of the specified behavior by the total number of intervals scored. These numbers helped the researcher determine how engaged the student was during the given lesson. The percentages of the targeted student and the comparison student were compared and discussed for all variables.

Tally of interactions. The second part of the observation data sheet was for the researcher to examine the percentage of interactions that have occurred during the thirty-minute observation interval data collection period. The percent of interaction for teachers, peers, instructional assistants, and the whole group were tallied. For each percent, the total number of tally marks was added and divided by the total number of intervals scored. This provided the researcher with an average of interactions per minute.

The final stage in data analysis was to take all three elements of data and determine if there were any relationships found. Relationships were looked at within the surveys, within the checklist, and within the observation. In addition, relationships were examined across the surveys and checklists, across the surveys and observations, across the checklists and observations, and across all three. A graphical representation was developed to show the relationships discovered throughout the analysis. When all of the data was collected, analyzed, and summarized, an assessment was conducted to determine if a statistical assessment could be run.

Chapter 4

Results

Introduction

First, this chapter describes the demographics of all participants and then explores the results of the observations across all participants. Next, individual student data is reported and finally, data from surveys completed by teachers is detailed. This study was designed to answer four research questions:

1. What are the behaviors and practices general education teachers exhibit in serving students with HNA?
2. What are the attitudes, beliefs, and feelings of general education teachers regarding students with disabilities, particularly students with HNA?
3. Is there a relationship between teachers' attitudes, beliefs, and feelings regarding educational placement and services for individuals with HNA included in the general education class and the current behaviors and practices exhibited by the general education teachers?
4. Is there a relationship between the attitudes, beliefs, and feelings of general education teachers regarding individuals with any type of disability and the individuals with HNA currently being taught in their general education classrooms?

This summary is a result of data collected in two suburban elementary schools across six students with HNA and eight general education teachers. Specific results for each tool used and each research question are presented in mini-case study summaries. Data were collected across two observations per student. Six students with HNA and eight

general education teachers participated. Six general education teachers, one librarian, and one physical education teacher were observed. There was 100% participation for the demographic portion of the global-survey and 88% participation for the Likert scale (see Appendix J for a detailed results). The autism-survey resulted in 100% participation for the entire survey (see Appendix K for a detailed results).

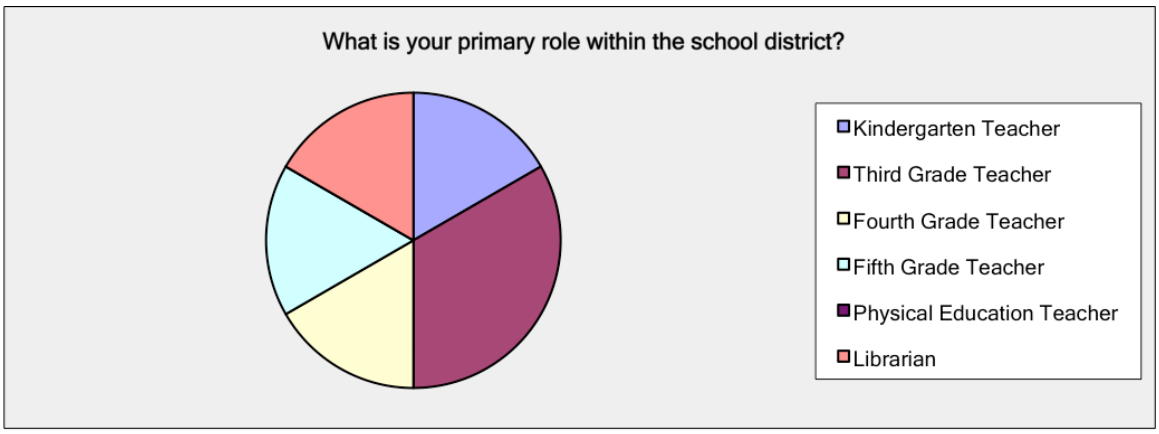

Figure 9. Demographic Information, Grade Taught

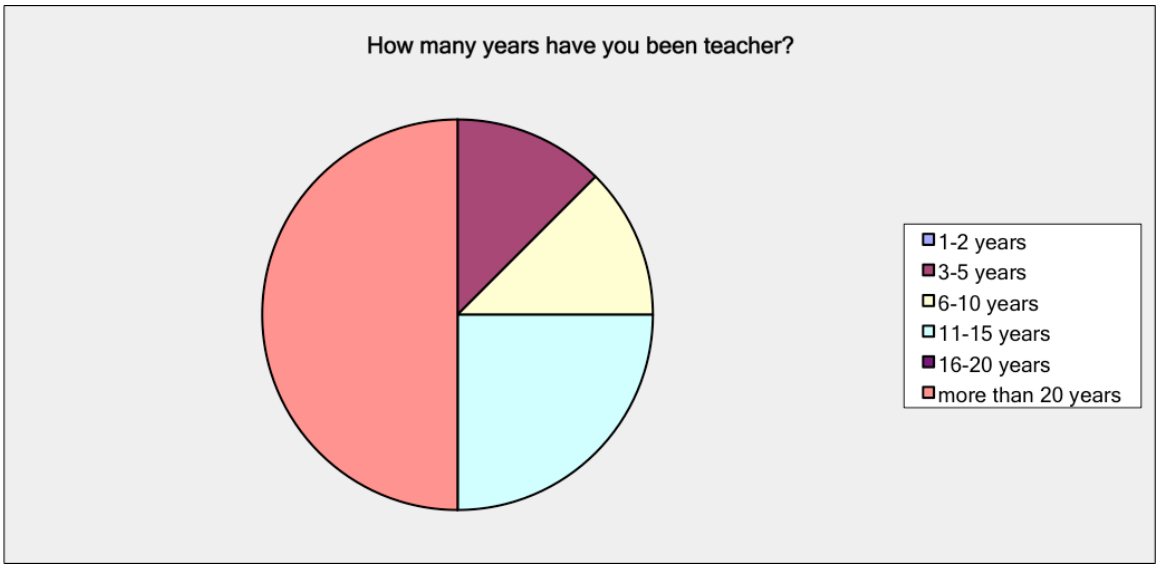

Figure 10. Demographic Information, Years Taught

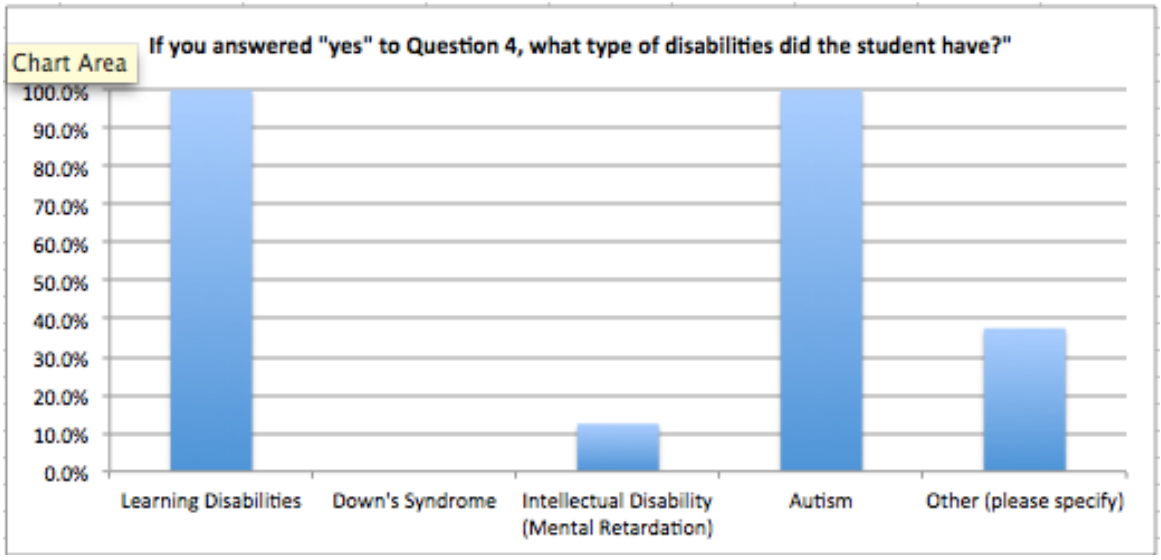

Figure 11. Demographic Information, Types of Disabilities Taught

Of the eight participants, all of them reported that they were classroom teachers. (See Figure 9, 10, & 11) One individual reported that they were a committee member, but did not specify what committee. One individual reported to be a team member and one reported that they were a mentee. When asked what their primary role was, there was one kindergarten teacher, two third grade teachers, one-fourth grade teacher, two fifth grade teachers, one librarian, and one physical education teacher. Half of the teachers, 4, reported to have more than 20 years experience. Twenty-five percent reported to have between 11 and 15 years experience and one teacher reported to have between 6 and 10 years and one teacher reported to have between 3 and 5 years experience. All teachers reported to have had a student with a disability in their class at some point during their career. In addition, all teachers reported that they have taught an individual with learning disabilities, as well as ASD. In addition, one teacher reported that they have taught a student with an intellectual disability and three teachers reported that they have taught students with other disabilities (disabilities that included various physical disabilities, visually impaired,

ADHD, emotional/behavior needs). Teachers reported that students with disabilities were included in the general education classes for varied amounts of time depending on the time of disability and need of the student. Some students may only be included a few times per month. Some may be included for a full subject or multiple subjects. Others might only be included for morning meeting. Summary of the Results

Reliability

A reliability observer was present for two of the twelve observations (17%). Inter-rater reliability was calculated based on those two observations. Inter-rater reliability was calculated for on task and off task behavior observed and for the interactions that occurred during the observation. Inter-rater reliability was also calculated for the inclusion best practice checklist.

During the first observation, there was 100% agreement between the first and second observer for off task passive behavior. For active engaged time, the 2 observers agreed on 2 occasions and disagreed on one occasion. For passive engagement time, the observers agreed on 3 occasions and disagreed on one where observer one recorded passive engaged and observer 2 did not record passive engagement. For off task motor, there were 11 occasions of agreement and 2 of disagreement. There was only one disagreement with off task verbal. The inter-rater reliability for all occasions of on-task/off task behavior was 85%, on 3 out of 20 occasions the researchers differed in response. On two out of the 3 disagreements, the researchers did not agree that the student was either on-task or off-task. However, on one occasion the researcher did agree that the student was off-task, one researcher recorded a motor and verbal off task and the other researcher only recorded a motor off task.

There was 100% agreement between the two observers that interactions occurred between the student and teacher, student and instructional assistant, student and peer. During one occasion, the researchers were not in agreement with whole class directions being given, therefore there was a 95% agreement for whole class interactions. Overall, there were 75 out of 80 occasions of agreement, or 94%, when comparing the frequency of interactions across all intervals scored.

During the second observation, there was 100% agreement between the first and second observer for off-task passive behavior. For active engaged time, the 2 observers agreed on 10 occasions and disagreed on one occasion. For passive engaged time, the observers agreed on 4 occasions and disagreed on 3 occasions. For off-task motor, there were 8 occasions of agreement and 2 occasions of disagreement. There were 7 agreements and 2 disagreement for off-task verbal. The inter-rater reliability for all occasions of on-task/off-task behavior was 85% (26 occurrences out of 30 occasions). On one occasion, the researchers agreed that the student was on-task and on one occasion, the researchers agreed that the student was off task. On two occasions, the researchers did not agree that the student was either on-task or off-task.

There were four occasions where the observers did not agree if an interaction occurred during the interval. Each of the four occasions occurred once during a teacher interaction, once during an instructional assistant interaction, once during a peer interaction, and once when the whole class was given a direction. During these four instances, one observer recorded an interaction and the other observer did not record an interaction. Overall, there were 114 out of 120 occasions of agreement, or 95%, when comparing the frequency of interactions across all intervals scored.

The inter-rater reliability for the best practice checklist was also calculated. During the first and second observation, there was 100% agreement between both observers. Both observers scored the same results on the best practice checklist across the two reliability checks that were conducted.

Observational Data

This section explores the results of observational on-task/off-task data, frequency of interactions, best practice checklist, and two self-reported attitudinal surveys. On-task/off-task observations recorded looked at five components and was collected in the form of a momentary time sample (at a given moment the observed behavior was recorded). The five components included: active engaged time, passive engaged time, off-task motor, off-task verbal, and off-task passive. The frequency of interactions was recorded in a tally format for each interaction observed during the thirty-minute observation. The interactions that were observed were between targeted/comparison student and teacher, targeted/comparison student and instructional assistant, targeted/comparison student and peer, and whole class instruction.

Overall Data Across Students. Overall, the students with ASD were on-task an average of 16% of the time, whereas the comparison student was on-task an average of 39% of the time (see Appendix H for individual data). The students with ASD were off-task an average of 22% of the time and the comparison students were off task an average of 9% of the time. The students with ASD were actively engaged 16% of the time, whereas the comparison students were actively engaged 28% of the time. Students with ASD were passively engaged 16% of the time, too. However, there was a significant increase in passive engagement for the comparison students with an average of 49%. Off-task with a

motor response seemed to be the highest overall average for students with ASD, at 46% of the time. The comparison students were only observed to be off-task with a motor response 19% of the time. Students with ASD demonstrated an average of 12% off-task behavior with a verbal response, where the comparison students demonstrated an average of 7%. Off-task passive behavior was the lowest observed behavior at 7% for students with ASD and 0% for comparison students. (See Figure 1)

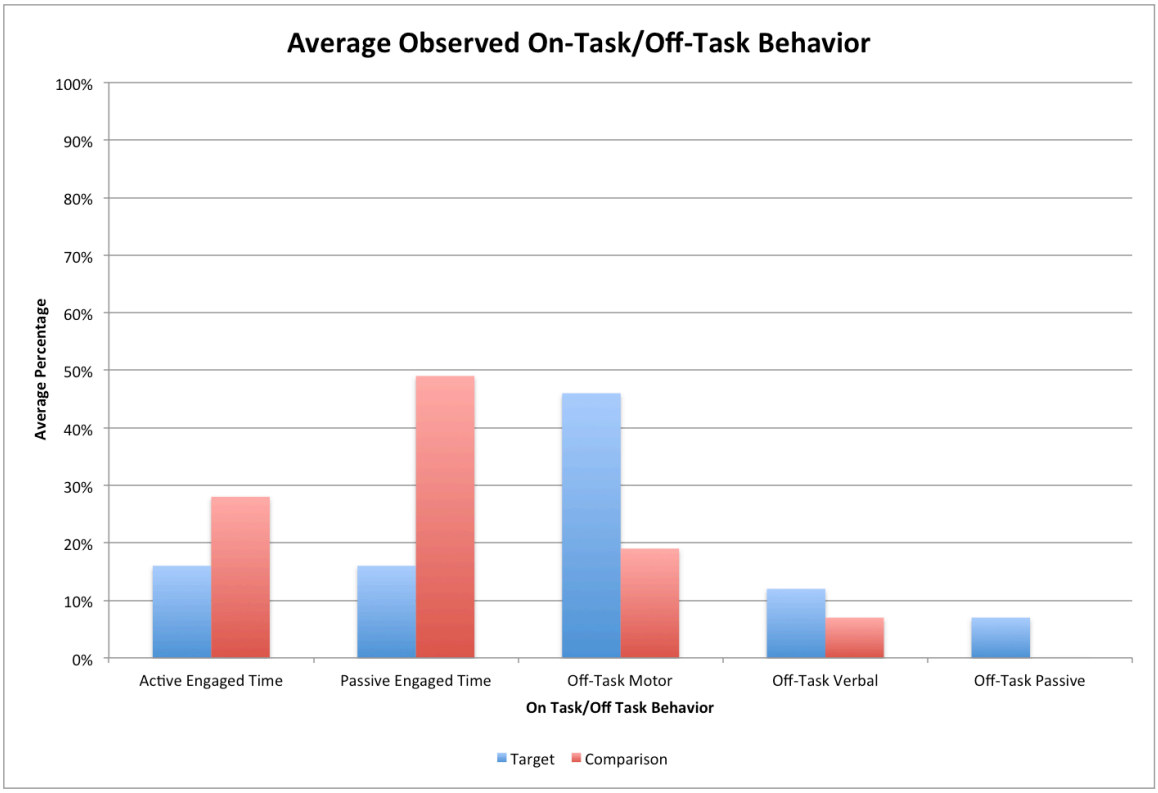

Figure 1. On-Task/Off-Task Behavior

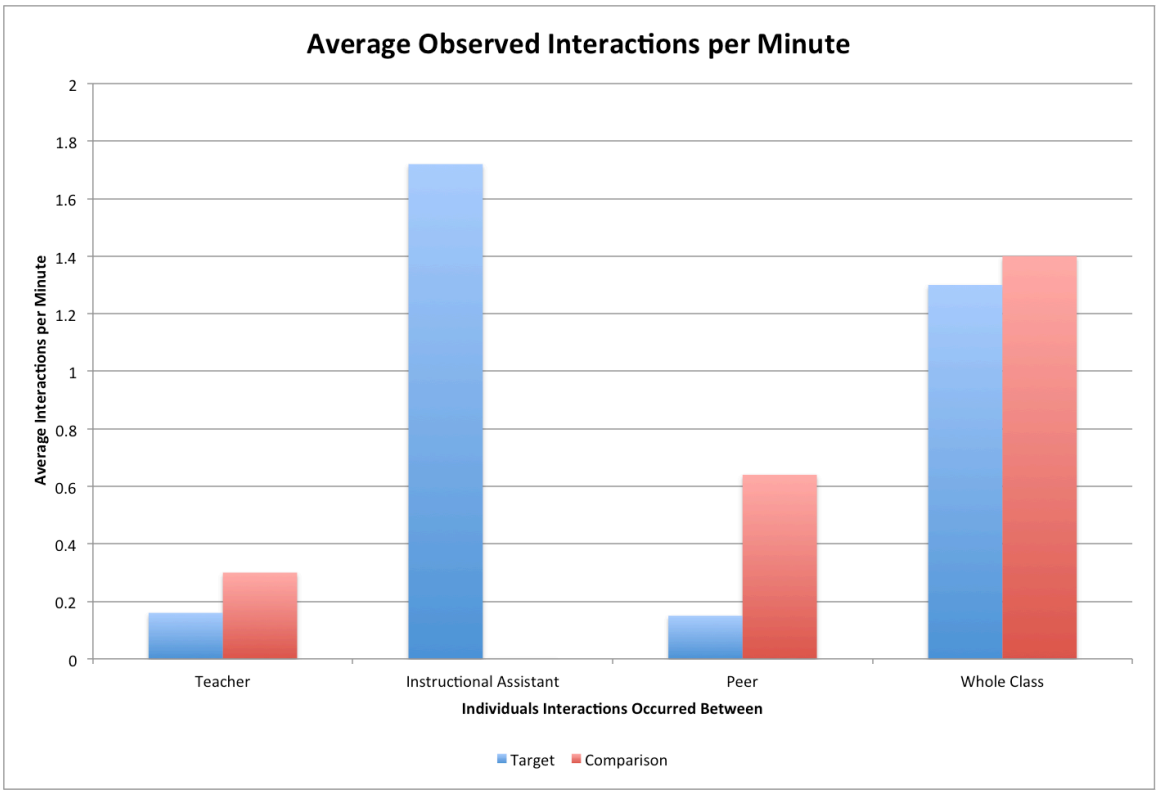

Figure 2. Interactions per Minute

During each observation, tally marks were recorded for each interaction that occurred between the targeted student and the teacher, the selected comparison peer, or instructional assistant. Tally marks were also recorded for the intervals when the comparison student was being observed. In addition, tally marks were recorded for each whole class instruction and/or direction that was provided by the teacher. The raw number was used to determine the average interaction per interval, which in this case was one minute. (See Figure 2)

Overall, the teachers engaged with the targeted student, the student with HNA, an average of 0.16 times per minute and the comparison student, the typically developing student an average of 3.00 times per minute (see Appendix H for individual data). The general education teachers appear to interact with typically developing students at a

higher rate than students with HNA. The instructional assistant interacted with the student with ASD an average of 1.72 times per minute but did not interact with the comparison student. On a few occasions the instructional assistant was observed interacting with a typically developing peer, however not the comparison student used for the observation. There was a significant difference in peer interactions between the student with ASD and the comparison student. The peers interacted with the comparison student an average of 0.49 more times per minute than the student with ASD. Peers interacted with the student with ASD for an average of 0.15 and the comparison student an average of 0.64 times per minute. The average rate of whole class instructions during the observations for the student with HNA and during the observations for the typically developing student was very similar. The overall combined average of whole class instruction was 1.32 interactions per minute.

In considering the results of the observation data, it is important to recognize the difference in the number of intervals assessed for the target and comparison students. The students with HNA were observed 24 out of 30 intervals or 80% of all intervals scored. Every fifth interval, the typically developing students were observed (20% of all intervals scored). However, averages across number of intervals make it possible to compare the two groups. The current trend in overall teacher interactions results in a 0.14 difference between the students with HNA and the typically developing students, favoring the typically developing students. Although the data collected is from a small sample size, it would be predicted that over more observations and more time, teachers would continue to interact with typically developing students at a significantly higher rater than students with HNA.

Individual Student Data

				% of occurrence during total intervals					average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive	Teacher	Instructional Assistant	Peer	Whole Class
Bob 1	Gym	30	Target	21%	0%	79%	0%	0%	0.33	2.58	0.67	2.04
			Compare	50%	33%	0%	17%	0%	0.33	0.00	2.50	2.00
Bob 2	Morning Meeting	16	Target	15%	0%	31%	8%	8%	0.00	0.46	0.08	0.85
			Compare	33%	0%	67%	33%	0%	0.33	0.00	1.33	1.00

Table 1. Data Summary of Bob

Case Study: Bob. For the first observation, Bob, a fifth grade student, was participating in a fifth grade physical education class with his same aged peers and a 1:1 instructional assistant. During the class period, there were two types of instruction occurring: large group instruction where the teacher was addressing the entire class and individual practice while the teacher was working with small groups. Bob remained in physical education for the full thirty-minute observation. There was one teacher and two instructional assistants present. Each instructional assistant was assigned to a student with ASD. However, only one student with ASD was observed for this study.

As shown in Table 1, Bob was actively engaged 21% of the time, whereas the comparison student was actively being engaged 50% of the time. This shows a 29% difference in active engagement. Passive engagement was not observed for Bob, however his peer was observed to be passively engaged 33% of the time. When looking at off task behavior, Bob was off-task with a motor response 79% of the recorded intervals. His peer was not observed to demonstrate off-task with a motor response. On the contrary, Bob did not have any occurrences of off-task with a verbal response, but his peer was observed to be off-task with a verbal response 17% of the recorded intervals. Off-task with a passive response was not observed for either Bob or the comparison peer.

During the second observation, Bob was with the general education class for morning meeting and morning announcements. During this time, the instruction provided was large group instruction with the teacher present. There were no small groups or individual work time occurring. In addition to the classroom teacher, there was one instructional assistant present supporting two students with ASD. For the purpose of this observation, the same student from the first observation was observed. Bob only remained for morning meeting/morning announcement for 16 of the 30 minutes he was scheduled for inclusion. It was observed that the class was very noisy and that may have affected Bob's demeanor, as he was wearing headphones.

Bob was actively engaged 15% of the time, a decrease from the first observation and his comparison peer was engaged 33% of the time, also a decrease from the first observation. Passive engagement was not observed for either Bob or the comparison peer during the second observation. Interestingly, Bob was observed to be off-task with a motor response 31% of the time, significantly less than the first observation. However, the comparison peer was observed to be off-task with a motor response 67% of the time, a significant increase from the first observation. Off-task with a verbal response was observed 8% of the time for Bob and 33% of the time for the comparison peer. Off-task with a passive response was observed 8% of the time for Bob and was not observed for the comparison peer.

During the first observation, the physical education teacher interacted with both Bob a total of 8 times during scored intervals and the comparison student a total of 2 times during scored intervals. This was an average of 0.33 times per minute for both observed students. The instructional assistant interacted with Bob a total of 62 times during scored

intervals. It was observed that the instructional assistant was prompting Bob to remain on task and participate in the activities that the physical education teacher had planned. Bob was willing and responded to the direction from the instructional assistant without much protest. During the physical education class, the peers in the class interacted with the comparison student a total of 15 times during scored intervals and interacted with Bob a total of 16 times per scored intervals. Although, this appears to be very similar when the average per minute is calculated, a significant difference is shown: comparison student average is 2.50 and the average for Bob is 0.67 times per minute. The physical education teacher addressed the whole class a total of 49 times during the observations for Bob and a total of 12 times during the observations for the comparison student. The physical education teacher provided whole class instruction an average of 2.03 times per minute.

During the second observation, the teacher did not interact with Bob and had one interaction with the peer comparison student. The instructional assistant only interacted with Bob a total of 6 times, which was surprising as Bob was off-task in some form 47% of the time. A peer interacted with Bob a total of one time but interacted with the comparison peer a total of 4 times. During this observation, the class was given several opportunities to socialize with each other. It was observed that Bob remained in his seat and did not initiate any conversations with his peers. During the one instance of peer interaction, a peer had approached Bob. Whole class instruction was given an average of 0.88 times per minute.

				% of occurrence during total intervals					average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive	Teacher	Instructional Assistant	Peer	Whole Class
Oscar 1	Morning Meeting	20	Target	6%	13%	69%	6%	0%	0.25	2.13	0.00	1.13
			Compare	50%	50%	0%	0%	0%	0.25	0.00	0.50	1.00
Oscar 2	Morning Meeting	20	Target	0%	31%	44%	13%	13%	0.25	1.00	0.06	1.56
			Compare	25%	75%	0%	0%	0%	0.00	0.00	0.00	1.50

Table 2. Data Summary of Oscar

Case Study: Oscar. Oscar, a third grade student, participated with his third grade general education peers for morning meeting on two occasions where large group instruction was occurring. On both occasions, Oscar was present for 20 minutes of the morning meeting and an instructional assistant was there to support him for the entire time. During the first occasion, Oscar was directed to leave at the 20-minute mark. It was observed that he was not sitting in his seat and was not following the class directions. On the second occasion, Oscar was directed to leave at the 20-minute mark. However, during this occasion, Oscar was sitting in his seat and following directions, but the class was very noisy and having a difficult time following the teachers directions. There was one classroom teacher present and one instructional assistant. The instructional assistant was solely supporting Oscar.

Oscar, scheduled to be included for thirty-minutes, was not engaged in the lesson, which may be why he was directed to leave early by the instructional assistant. He was actively engaged for 6% of the time during the first observation and 0% during the second observation (Table 2). In comparison, the peer was actively engaged for 50% of the time and 25% of the time respectively. Oscar was passively engaged for 13% and 31% of the time, whereas the comparison peer was passively engaged 50% and 75% of the time. In further support of Oscar being directed to leave early, he was observed to be off-task with a motor response 69% and 44% of the time, off-task with a verbal response 6% and 13%, and off-task with a passive response 0% and 13% respectively. The comparison peer was not observed to be off-task in any form during the observation.

During the two observations the teacher interacted with Oscar a total of 4 times for each observation and similarly interacted with the comparison peer a total of one time during the first observation and 0 times during the second observation. Oscar was included for morning meeting and the students were sharing what they did the night before on both occasions. During the second observation, the comparison peer shared during an opportunity that Oscar was being observed, which explains the why the interactions were 0. The instructional assistant interacted with Oscar a total of 34 times and 16 times but did not interact with the comparison student. There was little opportunity for peer interactions during both observations, however, a peer interacted with Oscar one time during the second observation and interacted with the comparison students 2 times during the first observation. Whole class instruction was given an average of 1.1 times per minute during the first observation and 2.05 times per minute during the second observation.

				% of occurrence during total intervals					average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive	Teacher	Instructional Assistant	Peer	Whole Class
Steve 1	Morning Meeting	22	Target	22%	28%	50%	0%	0%	0.06	1.94	0.11	1.39
			Compare	25%	75%	0%	0%	0%	0.25	0.00	0.00	1.75
Steve 2	Morning Meeting	20	Target	23%	15%	46%	8%	8%	0.15	1.69	0.23	1.54
			Compare	0%	100%	0%	0%	0%	0.00	0.00	0.00	1.75

Table 3. Data Summary of Steve

Case Study: Steve. On two occasions, Steve was observed in his third grade class for morning meeting with his general education peers and a 1:1 instructional assistant. Steve participated in morning meeting for 22 minutes during the first observation and 20 minutes during the second. For both observations, large group instruction with the teacher present occurred. There was one instructional assistant that was solely supporting Steve. At one point during the observation, a second instructional assistant and student with ASD

entered the classroom but left shortly thereafter. There was no small group instruction or individual work occurring during either observation.

Steve was observed to be actively engaged 22% and 23% of the time (Table 3). Similarly for the first observation, the comparison peer was actively engaged 25% of the time. However, for the second observation, the comparison peer was observed 0% of the time to be actively engaged. Passive engagement was observed 28% and 15% of the time for Steve. However, the comparison peer was observed 75% and 100% of the time to be passively engaged. Steve demonstrated off-task behavior with a motor response almost 50% of the time for both observations (50% and 46% respectively). During the second observation, Steve was observed 8% of the time to have off-task behavior with a verbal response and off-task behavior with a passive response. Steve was not observed to be off-task with a verbal or passive response during the first observation. Likewise, the comparison peer was not observed to be off-task in any form during either observation.

During morning meeting for Steve, the teacher interacted with him a total of 1 and 2 times respectively. During these opportunities, Steve was instructed to share about his night, in which the teacher directly interacted with him. The teacher only interacted with the comparison peer a total of 1 time for the first observation and 0 times during the second observation. Although the instructional assistant and peer did not have any interactions with the comparison student during either observation, the instructional assistant did interact with Steve a total of 35 times and 22 times. A peer interacted with Steve a total of 2 times for the first observation and 3 times for the second observation; in the second observation all peer-initiated interactions were in response to what Steve had shared with the group during morning meeting. A combined overall average of whole class

instruction was 1.46 times per minute during the first observation and 1.35 times per minute during the second observation.

				% of occurrence during total intervals					average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive	Teacher	Instructional Assistant	Peer	Whole Class
Matt 1	Library	30	Target	17%	0%	25%	0%	4%	0.04	0.29	0.04	1.34
			Compare	17%	50%	33%	0%	0%	0.33	0.00	0.00	1.17
Matt 2	Science	30	Target	17%	21%	58%	4%	0%	0.04	2.29	0.33	0.58
			Compare	67%	33%	0%	0%	0%	0.33	0.00	1.33	0.33

Table 4. Data Summary of Matt

Case Study: Matt. During the first observation, Matt, a fifth grade student, was observed with his fifth grade general education peers in library. During library, a 1:1 instructional assistant supported Matt and he remained with the class for the full thirty-minute observation. There were two instructional assistants, in addition to the librarian. The instructional assistants were supporting three different students with ASD. For the purpose of this study, only one of the students with ASD was observed. The librarian provided some large group instruction and some individual work for the students. During this observation, Matt remained in the library with his typical peers, however he did not participate in the instruction that was provided by the librarian. At approximately five minutes into the observation, Matt left the group instruction was directed by the instructional assistant to the computers. Matt remained on the computers while the librarian was providing instruction about safety for the next 16 minutes until the entire class joined Matt on the computers. For the duration of the observation, Matt was on the computers but participating in a different activity than the other students, as directed by the instructional assistant. Therefore, the data calculated for Matt is based on eleven

minutes of participation (he was present for 37% of the observation) when he was with the entire group (Table 4).

Matt was actively engaged for 36% of the time and passively engaged 0% of the time, where his peer was actively engaged 17% of the time and passively engaged 50% of the time. Matt was not observed to be off-task with a verbal response during the observation. Similarly, the comparison peer was not observed to be off-task with a verbal or passive response. However, Matt was observed to be off-task with a motor response 55% of the time and off-task with a passive response 9% of the time. The comparison peer was off-task with a motor response 33% of the time.

During the second observation, Matt was included with his fifth grade general education peers for science class with his 1:1 instructional assistant. During science, the teacher provided large group instruction and opportunities for small group instruction where the students worked in their lab groups. Matt remained in science for the full thirty-minute observation and was included in a lab group with an instructional assistant supporting him during that time. In addition to the teacher and instructional assistant supporting Matt, there was a second instructional assistant supporting two other students with ASD.

Matt was actively engaged 17% of the time where his peer was actively engaged 67% of the time. Matt was passively engaged 21% of the time and his peer was passively engaged 33% of the time. Matt did demonstrate some off-task motor behaviors 58% of the time and off-task verbal behaviors 4% of the time. The comparison peer did not demonstrate any off-task behaviors of any form. Likewise, Matt did not demonstrate any off-task passive behaviors during the observation.

During Library, the teacher interacted with Matt a total of 1 time and the comparison peer a total of 2 times. The instructional assistant interacted with Matt a total of 7 times and did not have any interactions with the comparison peer. The peers in the class interacted with Matt on one occasion and the comparison peer 0 times. Overall class instruction was given a total of 33 times during observations for Matt and 7 times during observations for the comparison peer. It was noted earlier that during this observation, Matt was a participating in what the whole class was doing for approximately 37% of the total observation. The librarian provided an average of 1.33 whole class instructions per minute.

During the second observation, Matt was participating in science class where they were doing lab work. The teacher interacted with Matt a total of 1 time and the comparison peer an average of 2 times. However, the instructional assistant interacted with Matt a total of 55 times. The comparison peer was not in the same lab group as Matt and, therefore, there were no interactions between the comparison peer and the instructional assistant. During lab work, there was a significant amount of time for peers to interact with each other. However, it was observed that Matt only interacted with a peer a total of 8 times. Similarly, the comparison peer interacted with a peer a total of 8 times, too. However, when the average interactions per minute were calculated, there was a significant difference in peer interactions. Peers interacted with Matt an average of 0.33 and the comparison peer an average of 1.33. During science, the teacher gave an average of 0.63 whole class instruction per minute.

				% of occurrence during total intervals					average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive	Teacher	Instructional Assistant	Peer	Whole Class
Henry 1	Morning Meeting	30	Target	17%	13%	29%	50%	4%	0.33	2.75	0.13	1.46
			Compare	33%	50%	17%	0%	0%	0.17	0.00	0.17	1.83
Henry 2	Morning Meeting	30	Target	4%	13%	63%	29%	17%	0.33	2.83	0.08	1.29
			Compare	17%	33%	33%	17%	0%	0.83	0.00	0.83	1.67

Table 5. Data Summary of Henry

Case Study: Henry. Henry, a kindergarten student, was observed on two occasions during morning work and morning meeting, which consisted of individual work with the teacher present and large group instruction. In addition to the teacher, there was one instructional assistant that supported Henry throughout the duration of the observation. Henry arrived on time and remained for the duration of morning meeting during both observations. However, during the first observation, Henry became upset and was removed for two intervals but did return after those two intervals.

Henry was observed, as shown in Table 5, to be actively engaged 17% or 4% of the time, where his peer was observed to be actively engaged 33% and 17% of the time. Comparably, Henry was observed to be passively engaged 13% on both occasions, whereas the comparison peer was observed to be passively engaged 50% and 33% of the time. Henry was observed to demonstrate off-task behavior with a motor response 29% and 63% of the time, where his peer was observed 17% and 33% of the time. Henry was observed to be off-task with a verbal response 50% and 29% respectively. He was also observed to be off-task with a passive response 4% and 17% respectively. The comparison peer was observed to be off-task with a verbal response during the second observation 17% of the time. The comparison peer was not observed to engage in any off task behavior

with a verbal response in the first observation and was not observed to engage in off-task behavior with a passive response in either the first or second observation.

On both observations, the teacher interacted with Henry a total of 8 times for each observations, however, the instructional assistant interacted with Henry significantly more with a total of 66 and 68 times. During observations for the comparison student, the teacher interacted with the comparison student a total of 1 times and 5 times, but the instructional assistant did not interact with the comparison student. There was not a great opportunity for peer interaction, however it was observed that peers interacted with Henry a total of 3 and 2 times. The comparison student interacted with a peer a total of 1 and 5 times. Henry required a significant amount of interaction from the instructional assistant, which may have impacted the ability for peers to interact with him. Whole class instructions were given on an average of 1.53 times per minute during the first observation and 1.37 times per minute during the second observation.

				% of occurrence during total intervals					average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive	Teacher	Instructional Assistant	Peer	Whole Class
Bill 1	Library	30	Target	38%	17%	29%	25%	0%	0.04	2.17	0.00	0.75
			Compare	17%	17%	50%	17%	0%	0.50	0.00	1.00	1.00
Bill 2	Social Studies	30	Target	13%	38%	25%	0%	25%	0.13	0.50	0.04	1.33
			Compare	0%	67%	33%	0%	0%	0.33	0.00	0.00	1.33

Table 6. Data Summary of Bill

Case Study: Bill. For the first observation, Bill was in library class with his fourth grade general education peers where the librarian was providing large group instruction. Bill remained with the group for the duration of the thirty-minute observation. In addition to the Librarian, there was one instructional assistant supporting Bill.

As shown in Table 6, Bill was actively engaged 38% of the time and passively engaged 17% of the time. The comparison peer was actively engaged 17% of the time and also passively engaged 17% of the time. Bill was observed to be off-task with a motor response 29%, where his peer was surprisingly observed to off-task with a motor response 50% of the time. Bill was off-task with a verbal response 25% of the time compared to his peer at 17% of the time. Both Bill and the comparison peer were not observed to demonstrate off-task passive behaviors.

During the second observation, Bill was included for social studies. There was a short period of time where the class was doing independent work with the teacher present and then the class was directed to participate in large group instruction. Bill remained in social studies with his general education peers for the full thirty-minute observation. There was one instructional assistant supporting Bill during social studies.

Bill was actively engaged 13% and passively engaged 38% of the time. The comparison peer was not actively engaged but was passively engaged 67% of the time. Bill was off-task with a motor response 25% and off-task with a passive response 25% of the time. The comparison peer was off-task with a motor response 33% of the time and was not off-task with a passive response. Both Bill and the peer were not off-task with a verbal response during the observation.

During library, Bill had interactions with the teacher one time and the comparison student had interactions a total of 3 times. Bill interacted with the instructional assistant a total of 52 times during the observation. The high rate of instructional assistant interactions may explain why there was such a low rate of teacher interactions. However, the activity that was occurring was a large group activity in which the teacher was giving a

lesson to the whole class. Thus, the students had a limited amount of time to interact with their peers. Bill did not interact with peers at all during the observation, however the comparison student interacted with his peers a total of 6 times. During library, the teacher gave whole class instructions an average of 0.8 times per minute.

During the second observation, Bill was included in his fifth grade social studies class where large group instruction was taking place for the majority of the observation. A 1:1 instructional assistant for the entire social studies class supported Bill. Bill interacted with the teacher a total of 3 times, in which he was called on to answer a few questions. The comparison peer interacted with the teacher a total of 2 times, in which he was also called on to answer a few questions. The instructional assistant only interacted with Bill a total of 12 times. In support of the low number of instructional assistant interactions, Bill was engaged for a combined 51% of the time. Bill only interacted with a peer a total of 1 time, however, the comparison student did not interact with the peer during the observation. Whole class instruction averaged to be 1.33 times per minute for both Bill and the comparison student, however there was a significant difference in the total number of whole class interactions. During social studies, the teacher gave whole class instructions an average of 1.33 times per minute.

Behavioral Data and Interactions

During the twelve observations (see Appendix H for individual data) that were conducted, 58% of those observations the targeted student with ASD remained for the full duration (see Figure 3). The other 42% of the observation, the targeted student left the classroom early. In addition, 58% of the observations were conducted during a morning work/morning meeting instructional time (see Figure 4). The other 42% of the observation

consisted of 25% in specials (physical education and library) and 17% in other subjects (science and social studies).

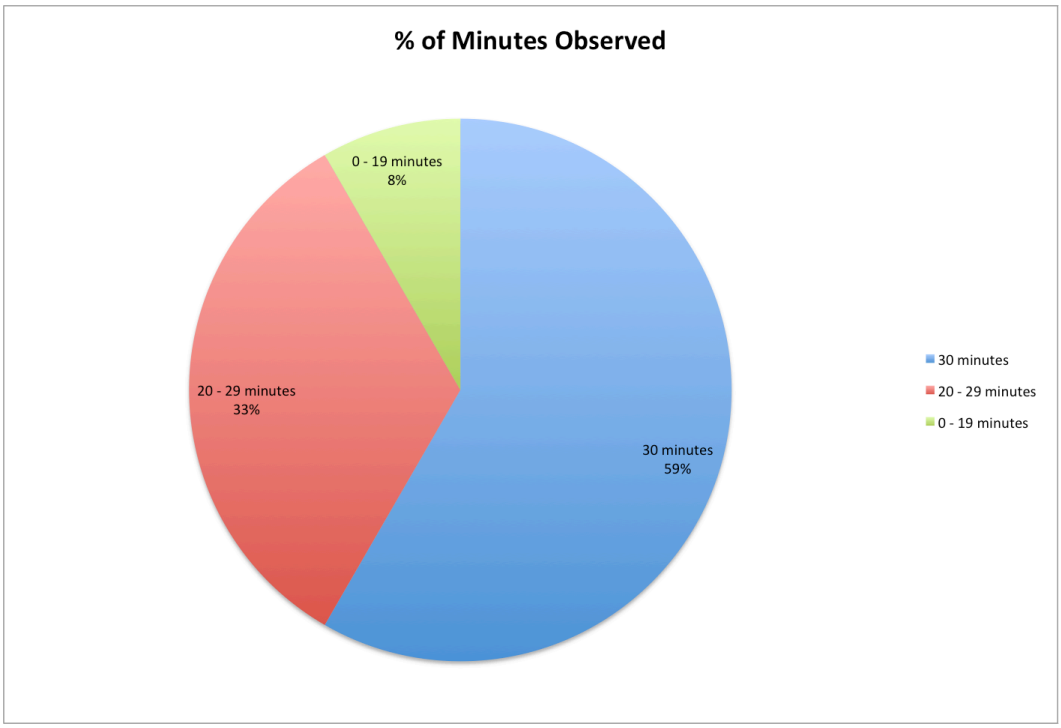

Figure 3. Summary of Minutes Spent in Inclusion Across all Observations

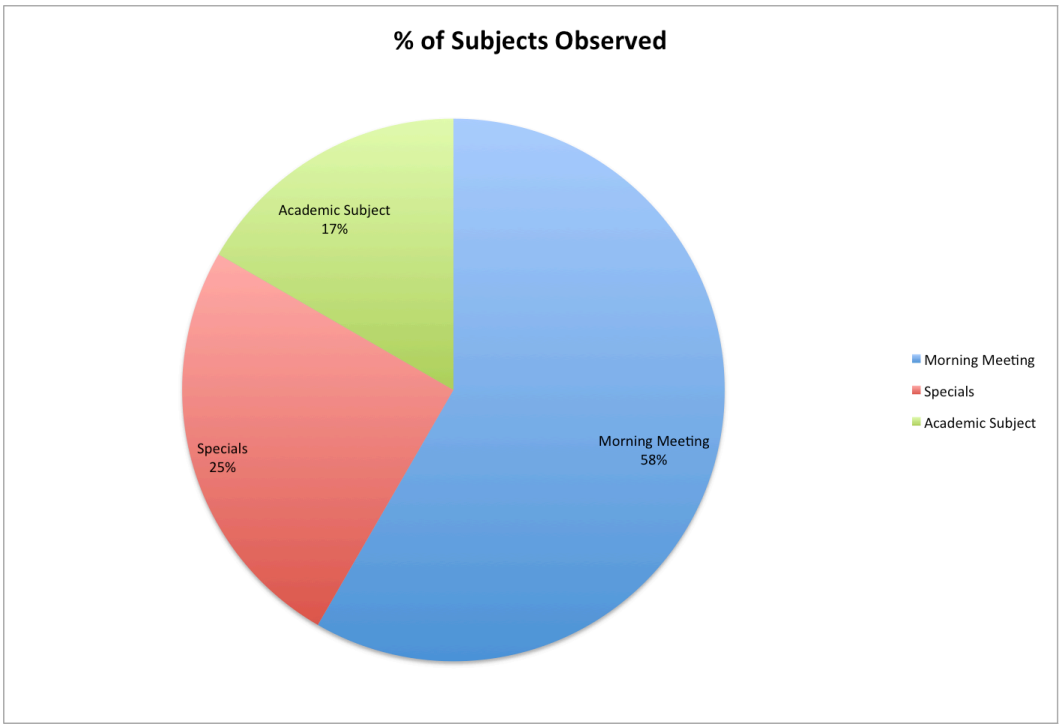

Figure 4. Summary of Subjects Observed

Students with ASD were more actively engaged during specials (library and physical education) then during morning meeting or a specific subject (see Figure 5). Students with ASD were actively engaged 32% of the time during specials, as compared to morning meeting, 12% and social studies/science, 15%. However, students with ASD were more passively engaged during social studies/science, 30%, then either of the other two subject areas. In comparison, the student without ASD, the comparison student, was more frequently actively engaged in all three areas, with the exception of specials. In addition, the comparison student had more instances of passive engagement than the student with ASD, 33% specials, 55% morning meeting, and 50% social studies/science. Off-task behavior with a motor response showed higher percentages for students with ASD than for the comparison peers. Students with ASD were off task an average of 54% in specials, 47% in morning meeting, and 42% in social studies/science. The comparison peer was off-task

with a motor response an average of 28% in specials, 17% in morning meeting, and 17% in social studies/science. The 54% off-task behavior with a motor response was surprising, as students with ASD were observed to be actively engaged 32% of the time. However, off-task with a verbal response and off-task passive were significantly lower for specials with an average of 8% and 1% respectively. For the comparison peer, the average off-task verbal and off-task passive for specials was 11% and 0%. Off-task verbal and off-task passive remained low for morning meeting and social studies/science for both the student with ASD and the comparison peers.

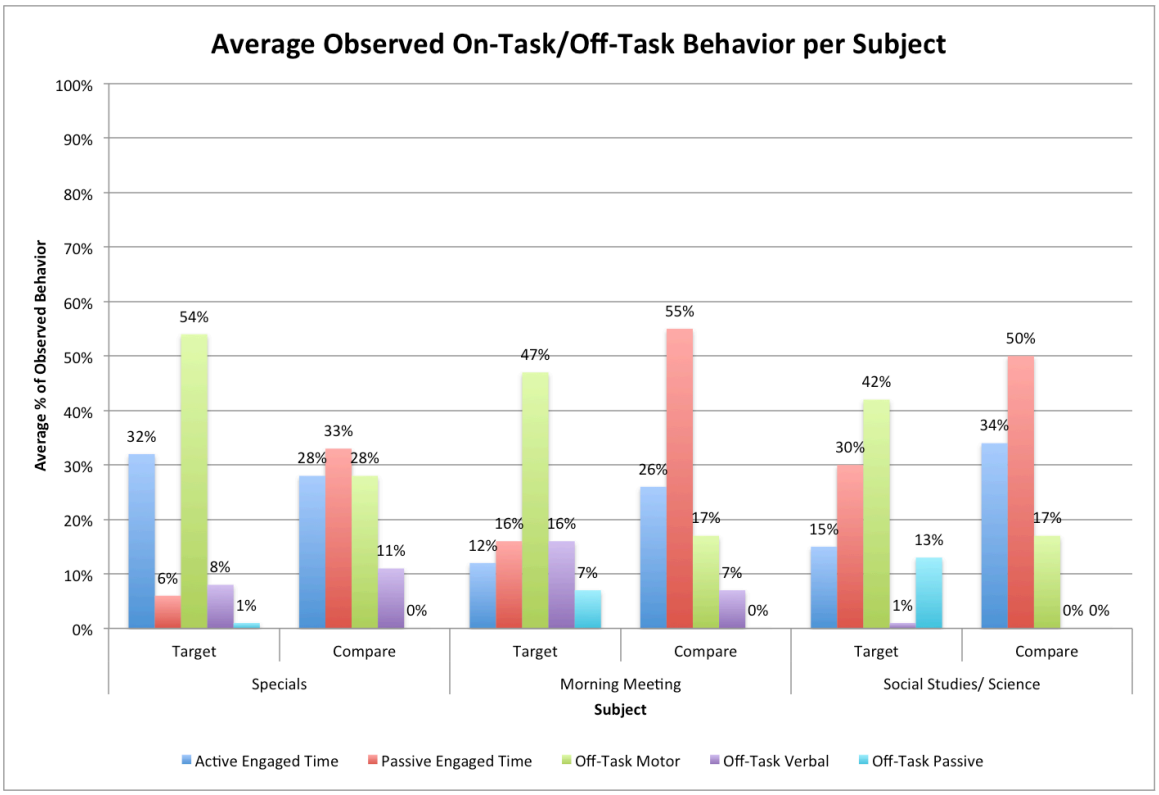

Figure 5. Summary of On-Task/Off Task Behavior per Subject

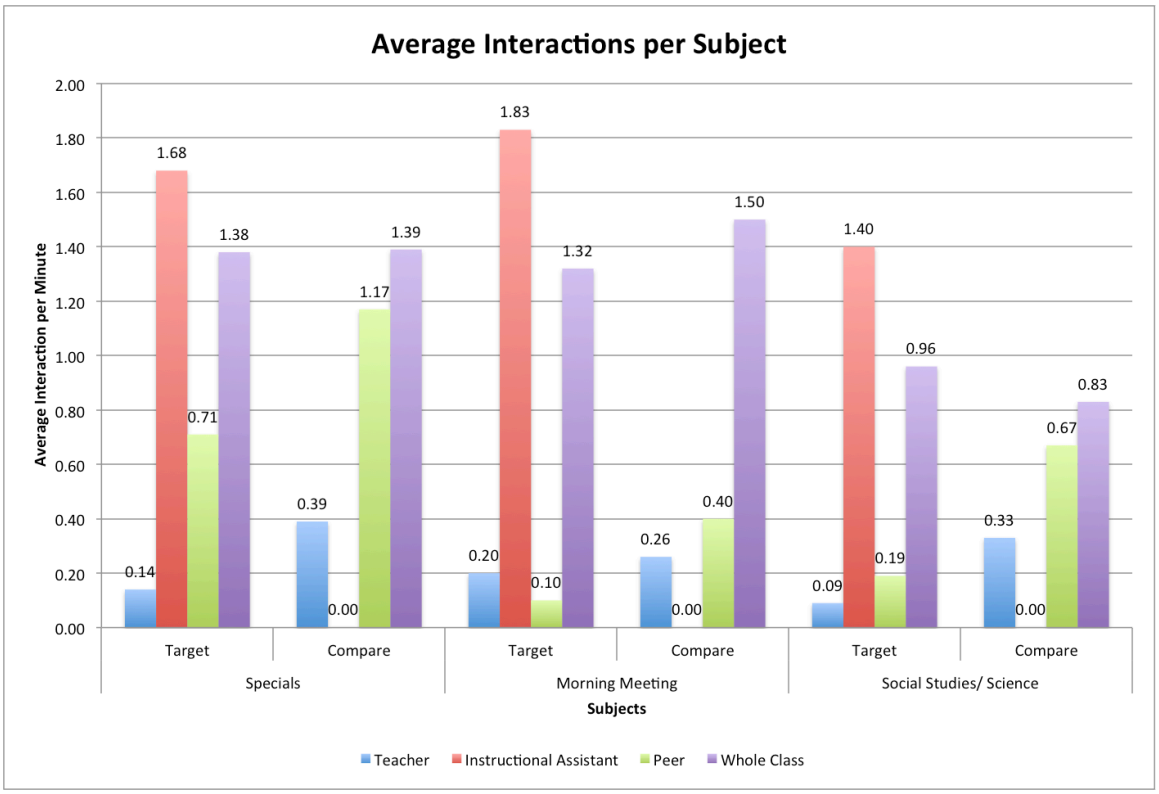

Figure 6. Summary of Interactions per Minute per Subject

When calculating the number of interactions across the three subject areas (see Figure 6), the average number per minute was used to better compare the results. Teacher interactions were low, as compared to the interactions between the comparison student and the instructional assistant, throughout all three-subject areas and across both student with ASD and comparison student. The results were all below an average of 0.4 interactions per minute. The instructional assistant, as anticipated, only interacted with the student with ASD during the observations. During each of the three-subject areas, the instructional assistant interacted with the student with ASD over 1.4 times per minute, 1.68 times during specials, 1.83 times during morning meeting, and 1.4 times during social studies/science. Peer interactions were much lower than anticipated. However, during specials, the peers interacted with the comparison student 1.17 times per minute but only interacted with the

student with ASD 0.71 times per minute. Peers did tend to interact with the comparison student slightly more than the student with ASD during morning meeting and social studies/science.

Inclusion Best Practice Checklist

The best practice checklist was completed at the end of each observation, totally twelve, (see Table 7 or Appendix 1 for detailed results) and consisted of 62 items. The items were marked with a "yes", "no", or "n/a" based on what was observed. The self-reported attitudinal surveys were presented in a Likert scale ranging from strongly agree to strongly disagree, with no option for neutral. One survey was distributed prior to the observations and focused on disabilities in general. The second survey was distributed after the observations and focused on students with HNA.

After an item analysis was completed, three items were discarded as they were marked "n/a" across all twelve observations, questions 39, 40, and 55. This took the total number of items from 62 to 59 on the best practice checklist. The researcher did not observe, nor was there an opportunity for, "people-first language" being used during any of the twelve observations. The researcher also was unable to determine if the student was attending the school in which he would attend if he did have a disability (home school). The researcher did not have access to any specific information for the students with HNA and the typically developing students. Finally, the students with HNA did not need any additional equipment to access technology across all twelve observations and therefore this item was discarded.

An itemized analysis was conducted for each question across all twelve checklists (see Appendix H) and an average percentage of "yes", "no", and "N/A" response for each

checklist was calculated. These averages were then broken out into the three subject areas: specials, morning meeting, and social studies/science.

	Questions	Yes	No	N/A
1	Does the student have the same textbook, workbook, and or worksheets as classmates?	6	3	3
2	If the student is using alternative materials, is the student using a textbook, workbook, and/or worksheets that include the same subject matter as classmates?	1	2	9
3	Is the classroom arranged to provide visual boundaries?	12		
4	Are there consistent places for students to get, put away, hand in materials?	11	1	
5	Are there different seating options?	4	8	
6	Are there different lighting options?	3	9	
7	Are there different options for potentially distracting/loud noises?	9	3	
8	Are all students included in cooperative learning groups?	5	3	4
9	Is the classroom accessible for all students?	12		
10	Can all students see and hear the instructor?	12		
11	Can the teacher see and hear all students?	12		
12	Does student arrive on time?	5	7	
13	Does student choose his/her seat?	5	7	
14	Is student sitting with other students?	11	1	
15	Is student oriented toward teacher?	9	3	
16	Does the student appear to be actively engaged, not just an observer?	1	11	
17	Does the student leave the classroom at the end of the period, not before the end of the period?	9	3	
18	If necessary, are modifications made to instruction, assignments, and/or demands?	7	1	4
19	If necessary, are adaptations made to instruction, assignments, and/or demands?	2	2	8
20	Is the student engaged in the same activity as the rest of the class?	10	2	
21	Is the student's involvement monitored and facilitated throughout the lesson?	11	1	
22	Is the teacher asking appropriate content questions to assess learning?	9		3
23	Does the teacher go over the objectives/schedule prior to the lesson starting?	10	2	
24	Does the teacher use multiple modalities to present lesson?	9	3	
25	Are the directions provided given by the teacher?	5	7	
26	Are the directions clear and concise?	12		
27	Does the teacher use a natural tone of voice?	12		
28	Does the teacher display energy/enthusiasm when teaching?	12		
29	Does the teacher incorporate breaks, movements, and/or sensory opportunities during instruction?	4	8	
30	Are transition tools being used?	2	10	
31	Are there connections made to student’s fascinations/topics of high interest?		12	
32	Are there opportunities for small group instruction, large group instruction, and individual work?	9	2	1
33	Is there a reinforcement system and/or classroom management system?	7	5	

34	Does the student have opportunities to communicate with peers?	7	5	
35	Does the teacher and/or peers talk directly to student?	2	10	
36	Is the student given opportunities to actively participate?	7	5	
37	Do all students help each other?	3	8	1
38	Is social skill instruction happening for all students?		11	1
39	Is "person-first" language being used in the classroom?			12
40	Does the student attend the school he/she would attend if he/she did not have a disability?			12
41	Are related services provided within the general education setting?		1	11
42	Is the student's name on all class lists, job lists, bulletin boards, etc.?	2	7	3
43	Does the student have a means to communicate at all times?	12		
44	Are there textual and/or pictorial schedules posted?	4	8	
45	Are there textual and/or pictorial rules posted?	4	8	
46	Are there textual and/or pictorial labels posted?	4	8	
47	Are there textual and/or pictorial cues posted to tell student where things belong?	5	7	
48	Are the rules presented in a positive manner?	4	6	2
49	Are the rules limited to five or less?	4	5	3
50	Are charts, diagrams, models, and/or concept maps used during instruction?	5	5	2
51	Are mnemonics used during instruction?	1	9	2
52	Is there a calendar posted to highlight important dates, reminders, due dates, upcoming tests, holidays, etc.?	6	5	1
53	Is there an organizational system used for subjects?	1	2	9
54	Does the student have visual supports?	1	10	1
55	If needed, does the student have the proper equipment available to use technology?			12
56	If needed, does the student have an alternative communication method available at all times?	2		10
57	If needed, is computer available to use for academic support?	2		10
58	If needed, is an adult supervising student while on computer?	3		9
59	If needed, does AAC device operate properly?	2		10
60	If needed, is AAC device programmed with content relevant to current learning activities?	1	1	10
61	If needed, do the educators demonstrate an understanding of how the student uses AAC device to communicate?	2		10
62	If needed, do the peers demonstrate an understanding of how student uses AAC device to communicate?	1	1	10

Table 7. Itemized Best Practice Checklist

Figure 7. Best Practice Checklist

It should be noted that the last eight questions were listed as "if needed/necessary" questions. Therefore, these questions were not always applicable, which is why there is such a high consistency of "N/A" for these questions. For one student, on both occasions observed, he used an AAC device to communicate. The other five students used vocal language to communicate. As shown in Figure 7, an average of 47% of the items were scored "yes" on the best practice checklist, whereas, an average of 34% were scored "no" and 19% were scored N/A.

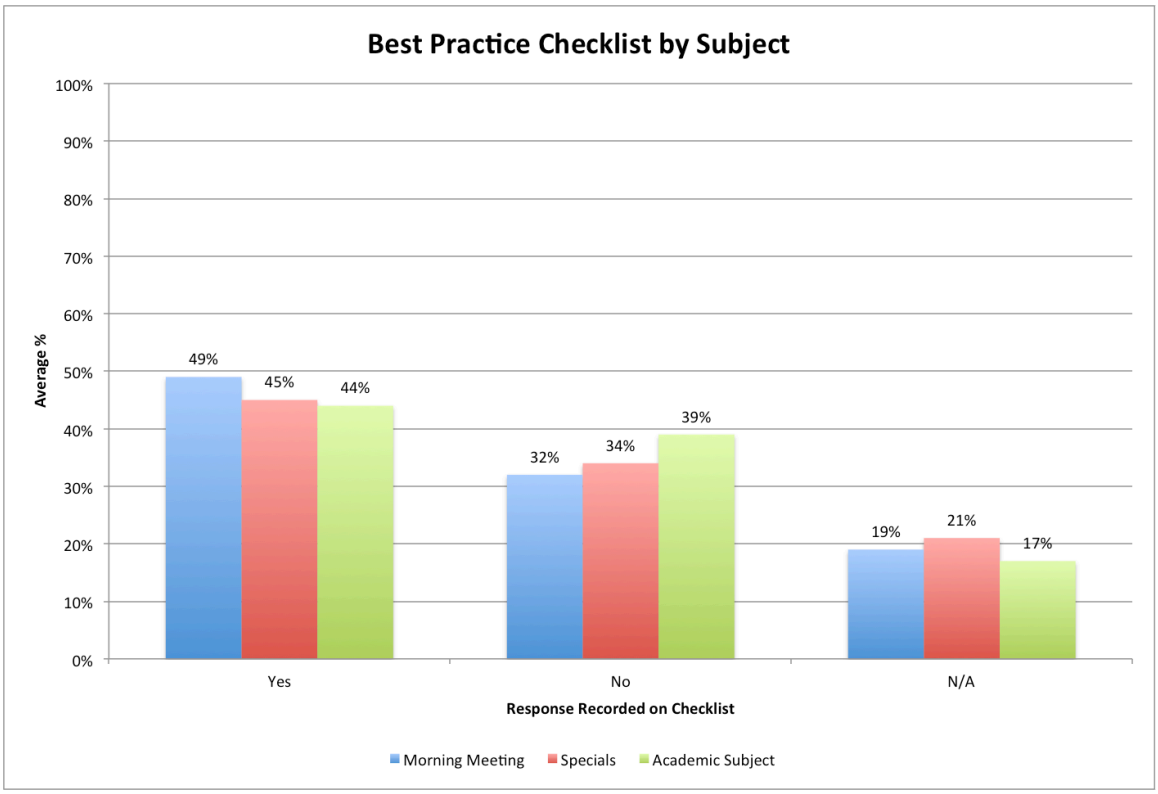

Figure 8. Best Practice Checklist per Academic Subject Area

During specials (see Figure 8), "yes" was scored an average 45%, "no" was scored an average of 34%, and "N/A" was scored an average of 21%. There were a few topics that were consistently recorded as a "no" in all of the specials. Those topics included rules being posted and names being posted on bulletin boards and around the room. During morning meeting, 49% of the items were recorded "yes", 32% of the items were recorded "no", and 19% of the times were recorded "N/A". Similarly in social studies/science, 44% were recorded "yes", 39% were recorded "no", and 17% were recorded "N/A". The average percentages scored "yes" and "no" were slightly surprising, as it was predicted that there would be a great number of "no" recorded on the best practice checklist. However, when the averages were calculated over the three subject areas, the "yes" responses were greater in each instance than the "no" column.

In contrast, when individual results were summarized, there were several occasions where the "no" responses out weighed the "yes" responses. For instance, the second observation for Bob during morning meeting, the "yes" response was 25% and the "no" response was 54%. This result is more similar to what was predicted. The second observation for Steve, during morning meeting, showed a 2% increase in no responses than "yes" responses. The final checklist that scored higher in the "no" response was Bill's second observation during social studies. During this observation, 37% were checked "yes" and 44% were checked "no", a 7% difference.

When looking at the itemized analysis, several key themes became evident. First, all eleven checklists reported that the students did not appear to be actively engaged. This shows a relationship with the average time that students demonstrated some form of off-task behavior. It was also found that social skills instruction was not occurring for all students during the times of observations, where on eleven occasions it did not occur and on one occasion is was not applicable. In addition, related services were not provided within the general education setting. In eleven cases, the related service schedule was unknown and therefore "N/A" was checked. However, on one occasion, related services were not provided within the classroom setting. A few other consistent responses included: different lighting options were not available on 9 occasions, transition tools were not used on 10 occasions, teachers and/or peers did not directly talk to the student on 10 occasions, mnemonics were not used during instruction on 9 occasions, and visual supports were not used on 10 occasions.

In contrast, there were several areas where "yes" was the primary response. For eight different questions, "yes" was checked 100% of the time. These areas included: visual

boundaries provided, accessible classroom for all students, students can see/hear instruction, instructor can see/hear students, directions were clear and concise, natural tone of voice was used, teacher displayed energy/enthusiasm, and the student had a means to communicate at all times. In addition, "yes" was recorded eleven times on three occasions: the students had consistent places to return/get materials, students were sitting with other students, and the student's involvement was monitored and facilitated throughout the lesson. Finally, "yes" was recorded ten times on two occasions: student was engaged in same activity as the rest of the class and teacher went over the objectives/schedule prior to lesson starting.

Teacher Participant Global and Autism Survey

During the first survey, participants were instructed to think in general terms and respond to the questions based on a global look at disabilities. Teachers were given the same questions from the first survey but were asked to respond based on the student with ASD that is included in their class. The questions within the inclusion practices survey provided self-reported attitudes and beliefs toward students with disabilities in general and students with HNA. The surveys were broken into three different factors: cognitive, affective, and behavioral. The first five questions are focused on general perspectives on inclusion. The next six questions relate to cognitive thinking, questions 12-16 focus on affective thinking, and the final six questions focus on behavioral thinking. The complete summary of responses for both the global-survey and ASD-survey can be found in Appendix J and K. A descriptive analysis was used to discuss the results as they relate to the broader categories of cognitive, affective, and behavioral.

During the global-survey, where teachers were asked to think about disabilities in a global sense, 100% of the teachers responded with some level of agreement that students with disabilities actively participate in the general education classroom. When asked if general education teachers were concerned that having students with disabilities in their classroom may disrupt the education of students without disabilities, 86% were in agreement and had some concern. Only 57% of the teachers agreed that having students with disabilities in a class makes it more difficult. In addition, 57% of the teachers agreed that being in a classroom with other students like themselves helps them develop socially and emotionally. Finally, 71% agreed that the extra attention that students with disabilities need does take away from the other students.

In comparison, results of the second survey, where teachers were asked to think about disabilities in a global sense, 75% agreed that students with ASD actively participate in general education classrooms. Sixty-three percent agreed that general education teachers are concerned that having students with ASD in their classrooms may disrupt the education of students without disabilities. Sixty-two percent disagreed that having students with ASD in a class makes it harder to keep order. Seventy-five percent disagreed that the extra attention students with ASD need takes away from the other students. Finally, 63% agreed that being in a classroom with other students like themselves helps students with ASD develop socially and emotionally.

Cognitive

Items within the cognitive dimension, questions 6-11 (see Appendix J or K) focused on teacher's perceptions and beliefs about inclusive education. This dimension included questions with "I believe" statements. In both the global and ASD-surveys, 100% of the

participants agreed at some level with the belief that inclusive schools permit academic progression for all students and the belief that inclusion facilitates socially appropriate behavior amongst all students. In both global and ASD-surveys, 100% of the participants disagreed at some level with the belief that students with disabilities should be taught in special education schools, with the belief that students with disabilities should be segregated because it is too expensive to modify the physical environment, and with the belief that students with disabilities should be in special education schools so that they do not experience rejection. When presented with the statement, "I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs", 71% agreed during the global-survey and 100% agreed during the ASD-survey. During the global-survey, when asked about general disabilities, 29% disagreed with this statement.

Affective

Items within the affective dimension, questions 12-17 in Appendix J and K, focused on teacher's feelings and emotions associated with inclusive education. This dimension included questions with "I get frustrated" or "I get upset" statements. Responses varied between levels of agreement and disagreement in both global- and ASD-surveys. When given the global-survey, and asked to focus on students with disabilities, 100% of the respondents disagreed that they get frustrated when there is difficulty communicating, that they get upset when students with disabilities can not keep up with the day-to-day curriculum, and that they are uncomfortable including students with disabilities in the regular classroom. Eighty-six percent of the respondents disagreed that they get irritated when they are unable to understand students with disabilities. Seventy-one percent of the

respondents disagreed that they are disconcerted that student with disabilities are included in the regular classroom and that they get frustrated when they have to adapt the curriculum to meet the individual needs of all students.

When given the ASD-survey, and asked to focus on students with HNA, 100% of the respondents disagreed with four different questions: they get upset when students with ASD can not keep up with the day-to-day curriculum, they get irritated when they are unable to understand student with ASD, they are uncomfortable including students with a disability in the regular classroom, and that they are disconcerted that students with ASD are included in the regular classroom. Eight-eight percent of the respondents disagreed that they get frustrated when they have difficulty communicating with students with ASD. Sixty-three percent disagreed that they get frustrated when they have to adapt the curriculum to meet the individual needs of the students. Overall, 88% disagreed with the statements given in the affective dimension during the global-survey and 92% disagreed with the statements during the ASD-survey.

Behavioral

Items within the behavioral dimension, questions 18-23 in Appendix J and K, focused on teacher's intention to act in a certain manner toward inclusive education. This dimension included questions with "I am willing" statements. During the global-survey, 100% of the teachers agreed that they are willing to encourage students with disabilities to participate in all social activities in the regular classroom. During the ASD-survey, only 88% agreed. Eight-six percent and 88%, respectively, agreed that they are willing to adapt the curriculum to meet the individual needs of all students regardless of their ability. One hundred percent of the teachers agreed at some level to the remaining four statements,

including: they are willing to physically include students, they are willing to modify they physical environment to include students, they are willing to adapt their communication techniques to ensure that all students can be successfully included, and that they are willing to adapt the assessment of individual students in order for inclusive education to take place. Overall 98% were in agreement with the statements in the behavior dimension of the survey for the global-survey and 96% were in agreement for the ASD-survey.

Consistencies between global- and ASD-survey

Within the first five questions, there were some inconsistencies between the responses across the global- and ASD-survey, more specifically there were relevant inconsistencies between question 2, 3, 4, and 5.

- Question 2: General education teachers are concerned that having students with HNA in their classrooms may disrupt/lower the education of students without disabilities.
- Question 3: Having students with HNA in a class makes it harder to keep order, compared to classrooms where there are no students with HNA.
- Question 4: The extra attention that students with HNA need takes attention away from other students.
- Question 5: Being in a classroom with other students like themselves helps students with HNA develop socially and emotionally.

	Global-Survey	ASD-Survey	Global-Survey	ASD-Survey
Question	Agree	Agree	Disagree	Disagree
2. General education teachers are concerned that having students with disabilities in their classrooms may disrupt/lower the education of students without disabilities.	5	6	3	1
3. Having students with disabilities in a class makes it harder to keep order, compared to classrooms where there are no students with disabilities.	3	4	5	3

4. The extra attention that students with disabilities need takes attention away from other students.	2	5	6	2
5. Being in a classroom with other students like themselves helps students with disabilities develop socially and emotionally.	5	4	3	3
16. I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability.	0	2	8	5
17. I get frustrated when I have to adapt the curriculum to meet the individual needs of all students.	3	2	5	5

Table 8. Inconsistencies with Global and ASD-Survey

In question two, 6 out of 7 teachers responded with agreement when considering students with disabilities but 5 out of 8 responded with agreement when considering students with ASD. Fourteen percent of the teachers disagreed during the global-survey and 37% disagreed during the post survey. Therefore, teachers were inconsistent with their responses when asked if they "were concerned with having students with disabilities/ASD in their classroom may disrupt/lower the education of students without disabilities/ASD".

In question three, when presented with the statement "having students with disabilities/ASD in a class makes it harder to keep order, compared to classrooms where there are not students with disabilities", teachers responded with almost a split decision in the global-survey, 57% agreed and 43% disagreed. In the ASD-survey, only 38% agreed and 62% disagreed.

Question four, which talked about extra attention that a student with disabilities/ASD need and how it takes attention away from other students, showed significant difference between the two surveys. In the global-survey, 71% of the participants agreed that the attention takes away from other students. However, in the ASD-survey, only, 25% of the participants agreed.

Question five resulted in a very close split between the agreement and disagreement. The focus of question five was on students with disabilities/ASD being in a classroom with students like themselves will help them develop socially and emotionally. The results of the global-survey showed that 57% agreed with this statement and 43% disagreed. Similarly, the results of the ASD-survey showed that 63% agreed with this statement and 37% disagreed. Taken together, it appears that overall teacher belief about inclusion for students with ASD are more positive then for students with disabilities in general.

In addition to the first five questions, there were three other questions that presented inconsistencies with responses. One question was in the cognitive dimension and two questions were in the affective dimension. Question nine, in the cognitive dimension, stated "I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs". The global-survey, 100% responded with agreement. However, in the ASD-survey, when the focus was students with ASD, 71% responded with agreement and 29% responded with disagreement.

In the affective dimension, questions 16 and 17 showed inconsistencies with responding. Question 16, "I am disconcerted that students with disabilities/ASD are included in the regular classroom, regardless of the severity of the disability", had 71% of the respondents disagree with the statement and 29% agree in the global-survey. In the ASD-survey, 100% disagreed with the statement. Teachers seem more willing to have students with disabilities in their classroom then students with ASD. Question 17, "I get frustrated when I have to adapt the curriculum to meet the individual needs of all

students", had 71% disagree in the global-survey and 63% disagree in the ASD-survey. Therefore, 29% agreed with the statement in the global-survey and 37% agreed with the statement in the ASD-survey. With the ASD-survey, teachers report less frustration and less disconcerted. The next chapter will explore the findings that emerged from these results.

Chapter 5

Conclusions, Implications, Recommendations

The purpose of this study was to identify the attitudes, behaviors and practices that general education teachers exhibit in serving students with high-need autism (HNA) and the relationship between their attitudes and practice as observed in the classroom. The goals of this investigation were to describe the practices observed in the general education setting, describe the observed on-task and off-task behaviors of students with HNA and typically developing peers, describe the interactions that occurred during an observed subject, and describe the attitudes and beliefs of general education teachers toward inclusion. Momentary time samples, frequency calculations of interactions, best practice checklists, and self-reported belief surveys were analyzed to determine the findings. This chapter discusses the findings that emerged from data analysis.

Momentary time sample data were used to explore students' on-task/off-task behavior, frequency recording was used to tally the interactions that occurred, and a pre-determined checklist was used to discover the presence of or absence of certain best practices occurring in each of the classrooms. In addition, two self-reported attitudinal surveys were employed to measure the cognitive, affective, and behavioral dispositions of the general education teachers with regard to inclusion of students with disabilities in general and then with regard to students with HNA. Descriptive statistics were used to analyze and compare the results of the four-component study.

Findings Related to the Goals of the Study

The results of this four-component study provided insight into inclusive practices across several different settings and subject areas for children with HNA. The first goal of

the study was to determine what behaviors and practices general education teachers used in their classrooms with regard to the inclusion of students with HNA. The results of the best practice checklist revealed that the structure and environmental components of the general education teachers' classroom supported inclusion. However, interaction rates and teacher behaviors related to providing academic support were less aligned with the expectations of effective inclusive practices.

The second goal of the study was to explore the attitudes and beliefs of general education teachers regarding students with HNA. The two surveys were broken into three dimensions: cognitive dimension, affective dimension, and behavioral dimension. The results of the cognitive dimension suggested teachers supported inclusive education for students with disabilities and with HNA. The results of the affective dimension showed that the majority of the general education teachers do not get frustrated or upset when students with disabilities or HNA are included in their classrooms. The results of the behavioral dimension show that the majority of the teachers report they are willing to adapt and support the needs of students with disabilities and HNA.

The third and fourth goals of the study were to explore if there was a relationship between teachers' attitudes and beliefs with regard to students with HNA and disabilities in general, and the current practices exhibited by general education teachers in the inclusive setting. Classroom structures aligned with the teachers' assessed positive attitudes toward inclusion. The results of the observations of students with HNA showed higher rates of off-task behavior, specifically off-task behavior with a motor response, as compared to their peers, which could be related to sensory processing needs (Kluth, 2010). The rate of interactions between the student with HNA and the classroom teacher were lower than

between the comparison peer and the classroom teacher. The rate of interactions varied across observations depending on the structure of the class. In some classes, the students were more actively engaged in the lesson, such as during gym class and library. However, in other classes, the structure was more of a lecture style where the students were required to sit and listen to the lesson being taught. This could have directly impacted the rate of interactions that occurred.

Observed Practices of General Education Teachers

Many best practices were observed, however, there were several items that the researchers were unable to observe (19%) and therefore were marked "n/a". There were similarities in the items observed across all classrooms. Overall, the items present out weighed the items not present. There were a higher percentage of items marked "n/a" than expected (19%). The items marked "n/a" were items not observable during the observation period. The non-observable items were items that the researcher did not have the information for or did not pertain at that moment. For example, related service providers were not present during the observations, therefore the researcher was unable to decide if related services were provided inside or outside the general education classroom. Similarly, the use of technology and AAC devices were not always being used during the observation periods. The researcher, therefore, was unable to decide if the items dealing with technology or AAC devices were present or not present.

There were several items that the observers consistently marked "no" on the checklist. Students with HNA seemed to not be actively engaged; rather they were more typically an observer. This finding related to a few other observations that should be noted. Connections were consistently not made to the interests and fascinations of the student

with ASD, visual supports were not provided for the student, social skill instruction was not occurring, the teacher and/or peer rarely spoke directly to the student with HNA, and transition tools were infrequently used (Kluth, 2010; Spencer & Simpson, 2009). Students with HNA often face challenges to meaningful and successful inclusion. In response to the challenges, adult support and levels of prompting are typically increased to help students with HNA experience meaningful and successful inclusion opportunities (Milley & Machalicek, 2012; Wellington & Stackhouse, 2011). However, adult support and prompting can lead to prompt dependency and limit the ability to become independent. Milley and Machalicek (2012) suggest that using visual supports, such as activity schedules can help students increase their independence as well as their on-task behavior and engagement. Visual supports provide predictability for students with HNA, assistance with transitions, and can increase the level of independence (Dettmer et al., 2000; Kluth, 2010; Milley & Machalicek, 2012). Visual supports are also used to help children with ASD maintain attention, understand spoken language, and sequence and organize their environments (Dettmer et al., 2000; Rao & Gagie, 2006).

In a little over half of the observations, the students with HNA were using the same materials as the other students. In 25% of the observations, the materials were not the same as the other students. For instance, in library, the class was sitting on the rug listening to the teacher's lesson. During this time, the student with ASD was removed from the group and brought over to the computer. The student proceeded to play on an academic website for the duration of the lesson. When the rest of the class was instructed to go on the computers to a specified website, the student with ASD remained on the academic website and did not participate with his typical peers. The peers were listening to Internet safety

tips on the computer, an activity that was easily adaptable to any level of learner. This was an ideal opportunity for the instructional assistant to support the student with HNA with the inclusion of shared experiences, as well as, serving as a source of future shared conversations with peers (Giangreco, Broer, & Edelman, 1999).

Providing choices for students with HNA was another common area where there were inconsistencies throughout the observations. In some classes, students with HNA were given the chance to choose their own seat, provided with different options for sitting, provided with different options for noise reduction and the lighting in the room. However, in many instances, choices were not offered. Students had assigned seats and were required to sit in the same manner and on the same medium as the other students in the classroom. The fluorescent lights were on in the classes without any covers or providing other options for light, such as only using some of the lights or using natural light. There was one student that wore headphones when entering and participating in the classroom lesson. However, on the second observation he was not wearing the headphones. Creating a comfortable environment that addresses sensory sensitivities, such as noise, is an area of potential growth for general education teachers. Environments that are comfortable, safe, and sensitive to sensory needs is extremely important in helping students with HNA adjust and feel a sense of calmness (Case-Smith, et al., 2015; Crosland & Dunlap, 2012; Iovannone, et al., 2003; Kern, et al., 2007).

In seven of the twelve classes, the students with HNA were given opportunities to participate by answering questions, raising a hand, having a job responsibility, and volunteering. Despite the opportunities to participate in their learning environment, the researchers consistently observed an absence of general education teachers talking directly

to the students with HNA. The general education teacher would either interact with the instructional assistant or would just allow the instructional assistant to direct the student with HNA in the activity at hand. It was found that the general education teachers did not talk directly to students with HNA in 10 out of 12 observations. This directly supports the weaknesses found within the best practice checklist around the area of interactions. In further support, general education teachers were found to not directly provide directions to the students with HNA. The researchers found this to be contradictory in relation to the general and ASD surveys. Overall, teachers reported a willingness to work with students with disabilities and HNA and an overall lack of frustration when students with disabilities or HNA need adaptions or struggle with communicating.

Tools for successful learning in the inclusive environment. Reinforcement systems are a primary motivational tool used in many classrooms and this is a recognized best practice for students with HNA (Crosland & Dunlap, 2012; Kluth, 2010). During seven out of the twelve observations there was a classroom wide reinforcement system observed. The students would "clip" up or down based on their behavior. However, on most of the classroom wide behavior management systems, the name of the student with HNA was not included. In addition, the majority of the students with HNA did not have an individualized reinforcement system that was observed. On one occasion, an instructional assistant used a white board with the target student. The instructional assistant would record short phrases of the task they were supposed to complete and would also record "stars" for following directions and completing his work. The use of positive behavior supports is often used with students with ASD. Positive behavior supports give teachers' preventative and supportive strategies to use with students on the autism spectrum (Leach & Duffy, 2009).

In addition to implementing preventative and supportive strategies, manipulating consequences (i.e. challenging behaviors) is often necessary (Leach & Duffy, 2009).

Another key teaching tool for students on the spectrum is the incorporation of visuals to help support learning, engagement, following directions, and appropriate behavior (Crosland & Dunlap, 2012). In the majority of the classrooms (8 out of 12) textual and/or pictorial visuals were not being used. In a few classrooms, the rules were posted (4 out of 12), however that was one of the few visual supports observed. In addition, very few classrooms used charts, diagrams, or even mnemonics to help with learning.

Attitudes, Perceptions and Beliefs of General Education Teachers

A second goal of the study was to examine what the attitudes, beliefs, and perceptions of general education teachers were toward inclusion of students with HNA as well as their attitudes toward inclusion of students with disabilities in general. Overall, the two surveys resulted in few differences across disabilities in general and HNA. In general, the regular education teachers reported that they agree with inclusive education in that they cognitively support inclusive education, self-reportedly do not get frustrated with different types of learners, and are willing to work with and modify their lessons to support individuals with disabilities and HNA. They believe that students with ASD taught in the inclusive environment will help facilitate socially appropriate behavior and that they can learn in the regular curriculum. They agreed that adaptions and/or modifications maybe necessary to support the success of students in the inclusive environment. Research has found that the level of experience they have had with inclusion impacts teachers' attitudes; more specifically positive experiences typically result in successful inclusion (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2004; Wu-Tien, 2007).

General education teachers reported that they typically do not get frustrated or upset when they have trouble communicating with students with ASD and when they cannot keep up with the curriculum. General education teachers also reported that they are not uncomfortable including students with ASD. However, contrary to the previous statement where teachers agreed that adaptations/ modifications are necessary, they reported that they sometimes get frustrated when they have to adapt the curriculum for individual needs. In further contrast, when general education teachers were asked if they were willing to adapt the curriculum, the majority of the general education teachers agreed that they were willing to adapt the curriculum. These three statements about adapting and modifying curriculum show significant variance in responses and speak to potential gaps between their beliefs and the complications inherent in the daily work of including students with HNA.

Snapshot of Inclusion for Students with HNA

The self-reported attitudes and beliefs generally show that teachers, philosophically, are in favor and support inclusion for all students. Although teachers are philosophically in favor of inclusion, the students with HNA were more typically disengaged that their typically developing peers. Disengagement is correlated to the observed off-task behavior. However, off-task behavior does not necessarily mean that a student was disengaged in the learning. Since researchers did not observe or analyze the learning process for students, it cannot be concluded that off-task behavior is defined as a student not being engaged. In addition to the on-task/off-task behaviors, researchers also examined the interactions students with HNA had with the teacher, instructional assistant and their peers. Since the researchers only looked at on-task/off-task behavior and the rate of interactions, this may

or may not tell the story that students with HNA were gaining academic skills during their time of inclusion.

On-Task or Off-Task Behavior Observed in Students. Looking at student behavior, the students with HNA were observed to have higher rates of off-task behavior, more specifically off-task behavior with a motor response (46% as compared to typically developing students at 19%). Although students with HNA were observed to be off-task with a motor response more consistently than the typically developing students, the students with HNA may have been listening to the class instructions. One characteristic of many individuals with ASD is their high rate of motor activity and sensory seeking behaviors based on weaknesses in sensory integration (Kluth, 2010). In review of sensory processing interventions Case-Smith, Weaver and Fristad (2015), reported, although data was inclusive at times, sensory integration therapy can reduce self-stimulatory behavior in children with ASD and show improvement in goal related activities. Therefore, although off-task motor behavior was frequently exhibited during the observations, this may not preclude the students' auditory engagement; it could have been a sensory need functioning to support the student in remaining focused on the instruction. During Henry's observation, the instructional assistant was observed to be giving Henry squeezes, hugs, and pressure on his arms and legs. Henry demonstrated a high level of off-task motor behavior despite the seemingly rich sensory input he was given.

Interactions between Students and Teacher, Instructional Assistant, and Peers. The frequency of interactions between the student with HNA and the instructional assistant were extremely high and the frequency of interactions between the typically developing student and the instructional assistant were consistently zero. Peer interactions varied

across students ranging from 0 to 16 interactions, between students with HNA and peer, in a given observation and from 0 to 15 interactions, between typically developing students and peers, in a given observation.

In specials and during academic subjects (science/social studies), the student with HNA interacted with his typical peers at a higher rate than during morning meeting (average of 0.67 and 0.1 interactions per minute respectively). During morning meeting, the students across all classroom observational opportunities were required to sit in a circle and share about their night/weekend one at a time. There was limited opportunity for peer interaction during morning meeting, thus the average number was as low as 0.1 interactions per minute for students with HNA and 0.4 interactions per minute for typically developing students. On the contrary, during physical education and library the students were working in small groups for part of the class. This allowed for more opportunities for the students to interact, therefore resulted in a higher frequency of peer interactions (average of 0.71 interactions per minute). Similarly, in the observation of science class, the students were working in their lab groups on an experiment. This may have elevated the frequency of peer interactions, as the number of interactions was increased (average of 0.33 interactions per minute).

The overall frequency of interactions between the teacher and the student with HNA (0.16) was slightly lower than the interactions between the teacher and the typically developing student (0.3). During morning meeting, teachers interacted with typically developing students (0.26) at a slightly higher rate than students with HNA (0.2). The teacher would comment and/or ask questions about what each student was sharing. However, during academic subjects and specials, there was a much greater difference

between teacher interactions with the students with HNA and teacher interactions with the typically developing students. During academic subjects and specials the students were working in cooperative learning groups for a portion of the class, in which the teacher was walking around and assisting a variety of different groups. Since the teacher was walking around assisting, the number of interactions should occur at a much higher rate. However, during academic subjects the teacher interacted with the students with HNA with an average rate of 0.09 interactions per minute and with the typically developing students with an average rate of 0.67 interactions per minute. During specials, the teacher interacted with the students with HNA at an average rate of 0.14 interactions per minute and interacted with the typically developing students with an average of 0.39 interactions per minute. The structure and turn taking of circle leads teachers to regular interaction with students with HNA. In academic tasks, teachers may have deferred teaching interaction to the 1:1 instructional assistant. For example, during circle time, the students were required to share their experiences from the weekend. This led the teacher to directly interact with the student with HNA when it was his turn. On the contrary, during social studies, the students were engaged in a lecture format for their lesson during the observation. This format and structure did not allow for the teacher to interact as frequently.

It is important to recognize that in a thirty-minute observation, the student with HNA was observed for an average of 0.8 intervals and the typically developing student was observed for an average of 0.2 intervals. The discrepancy between the interactions of the student with HNA and the typically developing student would significantly increase if the intervals were congruent. For example, if the typically developing student interacted with a

peer 4 times throughout 6 intervals, or an average of 0.67 intervals, it would be projected that there would potentially be 16 interactions with a peer in a period of 24 intervals (minutes), still at an average of 0.67 intervals. Although the data is comparable, as it was calculated based on the number of intervals observed, it is suggested that there would be an even greater difference in interactions if both the student with HNA and the typically developing peer were observed for the same number of intervals.

A major factor that may contribute to the lack of teacher interaction with the student with HNA is that the instructional assistant is present and assigned to support the student with HNA. In many situations, the role of the instructional assistant as increased over the past several years. Instructional assistants are not only responsible for supporting students during their non-academic opportunities but also required to observe, monitor, instruct and collect data (Wallace et al., 2001). Educators have many different roles during their professional day, including instructional roles, relational roles, curricular roles, and collaborative roles (Villa and Buese, 2007). According to a study by Valli and Buese (2007) the roles of teachers are changing due to federal, state, and local mandates. Between the years 2001 and 2005, Valli and Buese examined teacher tasks and the level of expectation the tasks held with general education teachers. The researchers found that the tasks continued to expand each year, as additional tasks were added to the list as the study was conducted over the three years. Specifically, Vallie and Buese found that inclusion instruction and instructional materials development were two tasks that were added to the list of responsibilities and were given high levels of expectation (2007). As teacher tasks continue to increase, their professional, instructional, and relational roles continue to change. Teachers need to work harder to keep a balance with the many different roles they

play, while keeping the rigor required by federal, state, and local entities (Villa and Buese, 2007). Based on these increased demands it may be that the teacher takes a back-seat role and does not interact with the targeted student as frequently. In addition, when teachers rely on instructional assistants to be the primary instructor, their sense of ownership is decreased. Many teachers that rely on instructional assistants do not take ownership for the students with ASD, and therefore do not treat them like the other students in the classroom (Giangreco, Broer, & Edelman, 1999).

Relationship between attitudes and beliefs and teachers' practices. Since there were only minimal discrepancies between the initial surveys where the teachers were required to think about disabilities in general and the second survey where the teachers were asked to think about students with HNA, the discussions in this section will be based on a combined examination of the two surveys. Survey results were further examined for their relationship to findings of the best practice checklist completed in the classrooms during observations. Where applicable, an overall look at the on-task/off-task and interaction data is incorporated. Examination of the relationships between the general education teachers' attitudes, beliefs and feelings with the practices observed in the classroom, revealed several interesting relationships.

First, in the survey, teachers agreed that they are willing to encourage students with a disability to participate in all social activities in the regular education class. In a similar context, the best practice checklist included the following items:

1. Students work in cooperative learning groups, small group, large group, independent work, etc.

2. Students engaged in same learning activities as other students and appropriate questions are asked
3. Teacher talks directly to student
4. Modifications and adaptations
5. Same Material
6. Time spent in inclusive setting

Cooperative learning groups and opportunities for small group, large group, independent work. On five occasions, teachers were observed to offer cooperative learning groups. Flexible grouping strategies or cooperative learning groups allow students with ASD to participate more autonomously and help to facilitate communication amongst peers (Hart & Whalon, 2011; Katz & Mirenda, 2002). Flexible grouping provides the opportunity to work in peer groups and being assigned different roles, including leadership roles (Hart & Whalon, 2011; Katz & Mirenda, 2002). Within cooperative learning groups, students have opportunities to interact socially, as well as, academically with each other. Based on the overwhelming response of teachers that agreed that they are willing to encourage students to participate in all social activities (7 out of 7 and 7 out of 8 strongly endorsed), the number of teachers that provided opportunities for social interaction was much lower than anticipated. One factor that may have impacted this relationship is that 58% of the observations occurred during morning meeting. Although, one would assume this might be a great opportunity for socialization, the classes observed during morning meeting were running highly structured activities where the students were required to sit and listen to

the speaker. A second factor that may have impacted this relationship is that the lesson scheduled for the day of the observation may not have lent itself to cooperative learning groups. The classroom teachers are required to follow a specific curriculum plan, which does not allow for socializing or a cooperative learning group everyday.

Engaged in same learning activities and asking appropriate questions. In ten out of twelve observations, the HNA students were observed to be participating in the same lesson/activity as the other students. Although the activity may not have been an activity with an opportunity to socialize, students participating in the same activities as others demonstrate the willingness to include students. During several morning meeting observations, all of the students were participating in the same morning work prior to joining on the rug for morning meeting. In addition, during physical education the student with HNA was expected to participate in the same activity as the rest of the class. Finally, in science, the student with HNA was part of a lab group and was responsible for helping with the experiment, recording the information found, and completing the lab notes. It appears that general education teachers in this study were willing to include students in the same activities as the class.

Similarly, teachers that ask appropriate content questions to assess learning show a willingness to include all students. When a teacher is asking the appropriate content related questions and assessing learning, they should employ differentiated questions for each learner. In nine out of the twelve observations, teachers were asking appropriate content related questions. The student with HNA participated frequently in the social studies lesson by raising his hand to answer questions. The social studies teacher asked a lot of questions that required the class to participate by raising his/her hand in agreement.

For example, she would ask the class if they have ever been to Disney World. The class would raise their hand based if they had traveled to Disney World or not. This provided all of the students with more frequent opportunities to be actively engaged in the lesson. In addition, during morning meeting when the students shared about their activities, the general education teacher, in most observations, would ask follow up questions. The general education teacher would ask questions like "who went with you?", and "was it fun?" The use of appropriate content related questions was a positive practice exhibited across a majority of the observations.

Teacher talks directly to student. Teachers need to talk directly to all students, including the students with HNA, in order to meaningfully invite them to participate in social and academic activities. Despite the majority of the teachers expressed willingness to encourage participation in social activities, general education teachers directly addressed the student with HNA in only two of the twelve observations. During ten of the observations, the general education teachers did not directly verbally address the student with HNA. In addition, the frequency of interactions between the teacher and the student with HNA was 0.16 interactions per minute as compared to 0.3 per minute for the typically developing student. One can conclude that if teacher interactions occur at a low rate and the teacher does not directly talk to the student with HNA, there is inconsistency with teachers expressed willingness to encourage social and academic engagement in the inclusive setting.

Modifications and adaptations. General education teachers highly endorsed a willingness to adapt the curriculum to meet the individual needs of all the students. It was observed that modifications and adaptations were made during the majority of the

observations where it was appropriate. However, it should be noted that during the observations, the instructional assistant was typically the individual making the modifications and/or adaptations to the lesson (5 out of 7 observed adaptations). Therefore, during most of the observations, the general education teacher did not make modifications and/or adaptations. This directly contrasts with their self-reported behaviors. Most of the general education teachers reported that they are willing to adapt the curriculum to meet the individual needs of all students. This was not observed during most of the observations. The role of paraprofessionals has changed drastically over the course of the past 50 years. Paraprofessionals, once responsible for preparing materials, routine clerical work, and monitoring students in non-academic settings, are now active participants in all components of the instructional process (Wallace et al., 2001). Paraprofessionals are now responsible for observing and documenting data, implementing behavior management programs, instructing individuals and small groups, and assisting teachers in modifying programs. Some paraprofessionals have reported that they feel wholly responsible for meeting the instructional needs of the students receiving special education services, including lesson planning, evaluating, and supervising the students (Wallace et al., 2001).

Modifications and adaptations do not have to be time consuming and do not always entail changing the curriculum. Modifications can be as simple as offering choices to students (Katz & Mirenda, 2002; Kluth, 2010). Providing choices of activities, materials, groupings and response methods has been shown to increase engaged behavior and improve task performance (Katz & Mirenda, 2002). In addition, allowing students to use their learning strengths (auditory, kinesthetic, tactile, and visual) rather than their deficits

will also increase their engagement and improve their task performance (Katz & Mirenda, 2002). As observed, the modifications and adaptations required during the observations included allowing the students with HNA to make choices and access the lessons through their learning strengths. In these situations, the modifications and adaptations did not require a lot of preparation and, therefore, general education teachers should be able to plan and provide the appropriate modifications and adaptations.

Same materials. During three out of nine observed occasions where textbooks, worksheets, or other materials were being used, the student with HNA was not observed participating in the same activity as the rest of the class. During these opportunities, the student was engaged in a completely different activity that did not relate to what the other students were doing. Teachers' willingness, as reported in both surveys, should also make sure that all students are engaged in the same content being taught. In more than half of the opportunities observed, the students were engaged in the same content and activities. However, in a third of the observed opportunities this was not the case. In addition to these slight discrepancies, the high percentage of off-task behavior is also a relevant factor. If there were more appropriate modifications and adaptations made during the lesson, would the student be more actively or passively engaged?

During one of the two library observations, the students participated in a lesson on the rug. The students were learning how to navigate through an Internet safety website that provided information that they could read themselves or that could we read to them. Approximately five minutes into the lesson, the student with HNA was removed from the group and relocated to the computer. There were no extremely disruptive behaviors observed at this time, however the student was off-task with a motor response when he

was removed. The lesson lasted about 15 more minutes before the group was directed to find a computer and explore the website they had just learned about. During the 15 minutes the student with HNA was on the computer and not part of the lesson, he was engaged in playing math games on the computer. When the other students joined him, he continued to play math games and remained off-task for over 50% of the observed intervals. He did not participate in exploring the Internet safety website. This was a missed opportunity for the student with HNA to be learning and engaged in the same materials as the other students. The website that the students were using did not need any adaptations or modifications, as the students could listen to information by clicking "play".

According to Katz and Mirenda (2002), in a review of literature on educational benefits, it was found that engaged behavior is a measure that has been shown to predict academic achievement. General education teachers that promote active engagement in students with ASD would expect to see improvement in academic achievement. It was also suggested that students' self-esteem and engagement are all affected by participating in the activities alongside their peers (Katz & Mirenda, 2002).

Time spent in the inclusive classroom. During the twelve observations, students with HNA spent an average of 20-30 minutes in the inclusive classroom. On several occasions, the student with HNA presumably left the inclusive setting early because of behaviors. Behaviors can be one of the key reasons that students do not participate in the inclusive setting for long periods of time. In general, teachers do not tolerate inappropriate behaviors from students. For students with HNA, inappropriate behaviors can be more intense, distracting, and potentially dangerous than their typically developing peers might exhibit. Therefore, the primary solution observed in this study was to remove the student

demonstrating inappropriate behaviors. These inappropriate behaviors can translate to limited time or shortened time spent in the inclusive environment. Research shows that placement decisions are often based on child-specific factors. For example, students with low communication abilities are more likely to be educated in self-contained classrooms, whereas, students with higher IQs and fewer externalizing behavior problems are more likely to be educated in the inclusive setting (Kurth, 2015). There are many factors that play a role in a general education teacher's ability to maintain a student with HNA and the potential problem behaviors that may arise in the inclusive setting. One of those factors is the difference between passive engagement and active engagement.

The data from this study suggests that morning meeting, while very frequently the targeted inclusive period, might not be the most optimal opportunity for inclusion for students with HNA, as there was a lot of passive engagement. The findings from this study indicate that when the students with HNA had more opportunities for active engagement, they remained in the inclusive environment for a longer duration.

The time spent in the inclusive environment was also influenced by the teacher lesson. On a few occasions the students with HNA left early because the general education teacher was finished with his/her lesson before the 30 minutes approached.

However, is duration the purpose of inclusion? In all observations, the researcher was unaware of the individual goals, educational goals, or inclusion goals of the student with HNA. Was the student included for socialization? Academics? Peer models? When looking at socialization, it seems as though morning meeting is not the ideal time for socialization. However, it was observed that the transitional period in the morning before morning meeting began involved a lot of peer interaction and discussion. This would be an

ideal opportunity for a student with HNA to participate in inclusion for peer socialization opportunities. Additionally, it appeared that transitional times (times in between subjects or lessons and times when students were preparing to relocate to another room) also allowed for high opportunities of socialization amongst peers. However, circle was chosen for several grades and is a common practice in elementary schools.

The law states that all children have the right to an education in the least restrictive environment with supplemental aids and supports. It was found through this study that the two elementary schools provide students with HNA the right to access the general education setting. The elementary schools seem to follow the "letter of the law", but maybe not the "spirit of the law". It seems as though the classrooms are surviving inclusion instead of creating and building meaningful opportunities. The research in this study shows that the classrooms have the structure and environment set up appropriately for inclusion, but other supports (visuals, routines, manipulatives, etc.) are missing from the inclusive experience. Although it cannot be determined if full inclusion would be a better model, it is worth discussing what the models of inclusive practices could offer a student with HNA. Kavale and Forness (2000) suggest that least restrictive environment; although progressive when developed, do not promote the full inclusion of all students with disabilities in all aspects of societal life. Although the trend has been greater integration for a greater number of students with disabilities, there is still a passionate debate about inclusive practices. Should inclusion be for all students and all aspects of societal life? Or should there be a more cautious policy warranted (Kavale & Forness, 2000). The research investigating inclusion clearly suggests that careful thought and preparation are required.

Significance and Implications

While six mini-case studies can not be widely generalized to help researchers and practitioners understand the relationships between attitudes and practice in the inclusive environment, this study would suggest that general education teachers self-report positive attitudes toward inclusion of students with HNA and demonstrate several positive practices in their classroom to support effective inclusion. This study begins conversations about the challenges of meaningful inclusion despite teachers' stated belief in the value of inclusion. Inclusive practices that were structured and could be planned were in place but in the moment-to-moment interactions was less inclusive than what teachers' responses would predict.

Additional research seems needed in the self-reported attitudes of general education teachers and their current practices in their classrooms. More specifically, more research is needed in relation to students with HNA. While there have been a few studies on self-reported attitudes and general education practices in the inclusive setting, there have been a very limited number of studies focused on the relationships between attitudes and practices in reference to students with HNA.

Research is also needed to examine the benefits of inclusion during different aspects of the day. Students with HNA were found to be included during morning meeting or circle time, specials, and occasionally social studies or science. Are there times during the school day that provide better structure or programming for inclusion? In addition to providing future research to support what subjects might be the most beneficial, research is also need to examine the why students with HNA are included. More specifically, researchers should look at students with HNA IEP goals to see if there is any relation to when the students are included. Are there goals supporting socialization, academics, and/or social behavior skills?

These are areas that need further research to continue to advance the field of ASD and inclusion.

Implications for Practice

Teacher education programs should be instructing pre-service teachers on best practice for inclusive education with a strong focus on the application of best practices. In a study by Allday, Neilsen-Gatti, and Hudson (2013), the researchers found that current literature does not address the extent to which pre-service elementary teachers receive preparation in general areas of special education. In their study, they examined four general areas of knowledge and skills necessary for successful inclusion. The researchers then examined 109 colleges and universities offering initial certification in elementary education and the curricula required as it relates to the four categories: characteristics of disabilities as it relates to special education, differentiation in instruction/inclusive practices, classroom and behavior management, and collaboration (Allday, et al., 2013). Allday et al. (2013) found that approximately 7 credits of education-specific coursework were dedicated to issues related to educating students with disabilities in inclusive settings. Many colleges and universities are not adequately preparing their graduates for inclusive classrooms. Teacher preparation programs need to start streamlining their curricular opportunities with inclusive practices. General education teachers not only need to be well-versed in pedagogy of teaching but also need to be well-versed in special education, disabilities, differentiation, and inclusive practices. General education teachers that are exposed strategies for inclusive education and the application of those strategies will seemingly have more positive attitudes toward inclusion and be more willing to implement those best practices when they become classroom teachers. However, as this

study reveals positive attitudes and beliefs toward inclusion are necessary but not sufficient in creating meaningful and effective inclusion.

Implications for Policy

Educational policy has changed drastically over the past several years. Students are mandated to be educated in the least restrictive environment and have access to general education (Marx et al., 2014). In turn, this has increased the number of students that are educated in the inclusive setting. For students with disabilities an individualized educational program (IEP) drives the education, modifications, accommodations, and percent of time spent in general education and special education classrooms. In this study, it was found that 8% of the observations (or 1 observation) the student with HNA spent less than 20 minutes in the general education classroom. It was also found that the students with HNA were included in general education classroom for 20-29 minutes for 33% of the observations. Scheduled observations indicated that the student with HNA was scheduled to be observed for thirty-minutes but there were a variety of reasons that he time was reduced (testing, schedule changes, student behavior, staffing issues). Therefore, the observers were unable to determine if the student with HNA was included for the appropriate amount of time as outlined in the IEP.

Despite this study setting selection guidelines that students with HNA be included with their typical peers for a minimum of 45 minutes, the researcher did not have access to the IEPs to confirm the amount of time the students with HNA were to be included in the general education classroom. This led to several remaining questions the researcher has included: Do the students with HNA attend the inclusive classroom for what the IEP indicates? Are the general education teachers following the IEPs? Are the general

education teachers knowledgeable about the services and amount of time a student should spend in the inclusive classroom? The information in the IEP documents for students with disabilities is important to consider in future research. It is important for general education teachers to understand and follow what is documented in the IEP. In addition to outlining the amount of inclusion, IEPs should contain goals and objectives that help IEP teams guide instruction and make decisions based on the needs of the student with HNA.

Another implication of this study is the importance of scheduling time for teacher and instructional assistants to collaborate and plan for inclusion. As the role of the instructional assistant has increased greatly over the past several years, it is important to schedule time for teachers and instructional assistants to plan for effective inclusive education (Wallace et al., 2001). Policy makers and school administrators have turned to paraprofessionals and instructional assistants to help support and expand the ever-changing roles of teachers. As a result, teachers have become managers of instructional assistants (Wallace et al., 2001). Teachers report there is insufficient planning time and communication with instructional assistants. In order to continue to increase the success of inclusive practice, time for planning and collaboration needs to be scheduled for teachers and instructional assistants.

Implications for Future Research

This study makes a contribution in that it provides detailed descriptions of general education teachers' self-reported attitudes toward inclusion and their current practices in the classroom, offering deeper insights about relationships between their attitudes and practice in relation to students with HNA. This study found that there was a relationship between the general education teachers' self-reported attitudes and beliefs and their

practices in the classroom. General education teachers' self-reported attitudes and beliefs showed positive correlations between inclusion of students with disabilities in general and student with HNA. In addition, the general education classrooms were designed to support inclusion of students with HNA. There were clearly defined areas in the classroom and students with HNA had a designated seat included with the other students.

Future research should strive to examine the various strategies found to be valuable to students on the spectrum as they apply to the inclusive setting. Although, this study showed a relationship between attitudes and practices of general education teachers in the inclusive setting, there is minimal information found in the current literature regarding students with HNA in the inclusive setting. The literature focuses on attitudes and beliefs of school personnel regarding disabilities, ASD, and emotional/behavior disorders, best practices according to studies on ASD, and on-task/off-task behavior as it relates to the student, but the discussions pay minimal attention to the relationships between these areas of focus.

Researchers may consider further examination of the relationship between self-reported attitudes and the use of best practice in inclusive settings through a study with a larger sample set. Secondly, researchers may consider examining the impact best practices have on students with HNA academic achievement, social achievement, and behavioral achievement in the inclusive setting. Finally, researchers may consider exploring the decision making process for including a student with HNA. These three are described below.

Relationship between attitudes and best practice

Further research is necessary to gain efficacy data on the relationships between self-reported attitudes and the use of best practice in the inclusive setting with students with HNA. This study focused on those relationships but at a small scale. By extending this study to investigate the relationships between attitudes and practice with regard to students with HNA in a larger context, research could explore correlations related to attitudes and practice. As the current literature on self-reported attitudes indicates, teachers are found to have more positive attitudes when they have had prior experience and training (Lambe & Bones, 2006; Leatherman, 2007; Leyser & Kirk, 2004; Wu-Tien, 2007). As the current literature on best practice for inclusion indicates, the focus of best practice for inclusion is based on students with high-functioning ASD. Studies on students with HNA may provide new insights for the research fields of inclusive practice and self-reported attitudes.

Impact of best practice

Another implication is for researchers to explore the impact best practices have on students with HNA and their academic, social, and behavioral achievement in the inclusive setting. As this study demonstrates, individual teachers use best practices but varied in the overall percent of items observed. Currently, there is minimal research about the overall impact of best practices in the inclusive setting for students with HNA. More specifically, there is minimal research with the impact best practices have on academic learning, social learning, and behavioral learning. Leach and Duffy (2009) offer suggestions based on research for best practices inclusion; providing warnings for transitions, using pictures to aid in communication, using visual supports, and arranging the environment to clearly define work areas are ways to help facilitate engagement for students with ASD. Although

the physical environment for the twelve observations were well defined, the use of visual supports and pictures to aid in communication was not observed.

They also discuss that it is important to provide a variety of instructional formats (small group learning, peer teaching, cooperative learning, hands-on learning centers, one-to-one instruction, computers, whole group instruction), as students with ASD are often unable to participate in the "sit and get" method of instruction (Leach & Duffy, 2009). In this study, the students participated in whole group learning for the majority of the observations. There was one observation where the students were working in small learning groups because they were doing an experiment in science class. During that observation, there were higher rates of interaction and engagement for the student with HNA.

It was also suggested to alternate activities to help reduce desk fatigue or disengagement. Furthermore, providing opportunities for physical participation, role-playing, group responding, and incorporating the special interests of the student with ASD will also help to increase engagement (Leach & Duffy, 2009). Further research is needed in identifying the best practices that are the most successful in increasing academic, social, and/or behavioral achievement for students with HNA. Studies assessing the impact of teachers who effectively use the defined inclusion strategies with this population would assist educators and educational leaders in planning for effective and successful inclusive educational opportunities.

Decision making process for inclusion

This study identifies the amount of time the students with HNA spent in the inclusive classroom during the observational period, but does not investigate how that is

related to their IEPs or the reasons why the students are included during those times. It is important to understand the context of inclusion and the purpose for which a student is included. Is the student included to for social purposes, academic purposes, or a different reason? More research needs to be conducted on the decision making process for inclusion of students with HNA. Students that are included for social purposes should be in the inclusive environment when there are rich opportunities for peer interactions. Likewise, students that are included for academic purpose should be included when there are rich opportunities for core academic learning.

Further research is necessary to investigate why the students are included with their typical peers and if they are accessing the type of learning that is appropriate and optimal for the particular goals of inclusion for that student. Students that are included for social aspects should be accessing peers and show growth in conversational skills and other appropriate social skill behaviors. This growth should be documented by the student's goals and objectives in their IEP. Students that are included for social purposes should have IEP goals that focus on interactions with peers, initiated conversations, and/or joining in play/leisure activities. Research in this area will help bring clarity and guidance to the field of inclusive education for students with HNA.

One way to assist with determining the purpose for inclusion and the expected benefits for the student would be to use an inclusion plan (see Table 9). An inclusion plan is a way the IEP team can discuss the student's strengths and areas of need. Once the team determines the student's strengths and needs, the team can start to develop IEP goals that will help focus the purpose of inclusion. When discussing the IEP goals, the IEP team should conduct this discussion in context of the overall goals of the IEP. There should be

considerations focused to address inclusion both broadly (access to peers vs. access to curriculum vs. access to demands of whole group instruction) and at the logistical level (is physical education better than circle?, Are interactions with teachers more valuable than peers?). These discussions and outcomes should lead to more streamlined IEP goals, focusing on skills that students will accomplish in the inclusive setting and also pre-requisite skills that students might need to be successful in the inclusive setting (such as academic goals, social-behavioral goals, conversational-communication goals).

Inclusion Worksheet Student: _____ Date Plan Developed: _____	
Background Information Age Grade Current Placement Past/Current Inclusive Efforts	
Strengths Strengths, skills, and interests that will promote participation and independence in the target inclusive setting	
Needs Identify potential areas for intervention or skill development, potential barriers which may make inclusion difficult and health considerations	
Goals of Inclusion Long term academic, behavioral & social goals. Identify the parent, teacher and student's goals.	
Objectives Short term. Goals should be broken down into target steps using measurable, behavioral objectives	
Outcomes What will inclusion "look like"? Which classes? Will	

it be graduated inclusion?	
Strategies Adaptations/modifications? (Who will be responsible?) Communication home? Seat in classroom? Materials? Behavior Plan? Presentation to class?	
Data Collection What data will be collected? Who will collect it? How often?	
Student Interests/ Potential Reinforcers	
Persons Involved Emphasis on collaborative approach	
Evaluation Summary How will we determine if inclusion is successful? Will we meet frequently? If so, when?	
Adapted from Nelson & Dolan (7/2004)	

Table 9. Inclusion Plan Worksheet

In addition to developing goals for inclusion, this worksheet provides an opportunity for the IEP team to discuss modifications, adaptations, roles, data collection, and how progress will be measured and evaluated. Another important aspect of this worksheet is that it allows for the IEP team to discuss the student's interests and potential reinforcers. Interests and reinforcers provide motivation for students with ASD. It is crucial for all team members to understand what motivates a student with ASD, which in turn can increase compliance and success in any environment.

The inclusion plan worksheet will allow for clear plans and a definite focus for all team members. It will help guide the focus for general education teachers, instructional assistants, and special education teachers as the team navigates a path to successful

inclusion. However, filling out this worksheet does require time and collaboration between all team members. It is important to schedule time prior to the start of inclusion to begin to develop the plan. It is also important to make time for follow up discussions and/or meetings with the team to talk about the progress that has been made and adjust the inclusion plan as needed.

Recommendations

While the results of this study identify positive and negative attitudes toward inclusive practice, this study also suggests that observed best practices are not always consist across general education teachers. Based on participant's responses through observations and surveys, recommendations were developed for educators to incorporate positive features identified in this study within their teams.

The recommendations for educators include:

1. Provide professional development

    a. For instructional assistants: support on facilitating interactions, understanding the big picture, and understanding their own beliefs and how they impact their instruction

    b. For instructional assistants, general education teachers, specialist, special education teachers, and instructional assistants on adaptations and modifications for students with HNA

    c. On the application of best practices for inclusion for specialist teachers (art, music, library, physical education, computers)

2. Provide time for collaboration between general education teachers (including specialist) and special education teachers

3. Program inclusion in light of broader objectives in IEP

Professional Development Opportunities

Results of this study indicate that increased professional development could improve the effectiveness and meaningfulness of inclusive education. For educators, professional development is both an obligation and an opportunity (Patton, et al., 2015). While approaches to professional development formats have changed, we continue to see the one-size-fits-all. Professional development is the opportunity for educators to grow, learn, and collaborate with their colleagues on current practices in the field of education. Professional development should be based on teachers' own learning needs (Patton, et al., 2015). As most professional development requires teachers to change some aspect of their practice, effective professional development must be ongoing and sustained over time (Patton, et al., 2015). Finally, according to Patton et al. (2015), professional development should focus on aspects of improving learning outcomes for all students.

Professional development for instructional assistants. Providing instructional assistants with explicit professional development will help to increase their instructional abilities with students with HNA. Instructional assistants are the primary staff members that interact with students with disabilities in the inclusive classroom. This study showed that there were a significant number of interactions between the instructional assistant and the student with HNA, supporting that they are the primary adults that interact and support the student. This makes it important to provide ample training for instructional

assistants so they can be as educated and effective as possible. In addition, it is just as important to provide professional development opportunities to improve teacher and special education student interactions to the general education teachers. Teachers and instructional assistants need to attend to this goal so that the child is not only interacting with the paraprofessional but interacting with the general education teacher, as well.

First, instructional assistants could benefit from professional development geared toward supporting students in the inclusive environment and facilitating interactions with peers for those students. One of the primary characteristics of ASD is in the inability to socialize with peers and adults (Kluth, 2010). Since social skills are extremely important in todays society and that is an area of weakness for students with HNA, it is beneficial to have staff trained in how to facilitate appropriate interactions.

Second, instructional assistants need to understand the "big picture". Professional development focused on the potential reasons why students are included, the purpose for the student being in an inclusive setting, and what the expected outcomes should be would help instructional assistants provide more streamlined and effective support for students with HNA.

Finally, it is important for instructional assistants to understand their own beliefs and how they impact their instruction with students with HNA. Professional development opportunities on presuming competence will help instructional assistants learn how to find ways to support the person with HNA instead of limit their opportunity (Biklen & Burke, 2006). As observed in this study, instructional assistants would make decisions without consulting the classroom teacher. For example, in library, the instructional assistant removed the student for the lesson and had the student participate in a completely

different task then the rest of the group. This shows that perhaps the instructional assistant did not understand the big picture or understand how to support the student in that context. Continuous professional development for instructional assistants will help to improve their skills and, in turn, result in more successful inclusion opportunities and execution of meaningful inclusion for students with HNA.

Professional development on modifications and adaptations. Differentiated instruction typically requires modifications and adaptations from the original lesson. It is important for professional and support staff to understand modifications and adaptations and when they should be used in the classroom. It is also important for professional staff and support staff to have a clear picture on the roles they play with differentiated instruction. In some classrooms, the general education teachers might do the modifications themselves. In other rooms, the special education teacher might be responsible or maybe the instructional assistant is responsible. No matter who is responsible for creating the modifications and adaptations, it would be beneficial for all staff to be trained. Staff needs to understand how to make modifications and adaptations. They require instruction on what types of modifications or adaptations are appropriate. In addition, they also need to understand when they would use modifications and adaptations. Ongoing professional development in this area will help students with HNA continue to have success, make gains, and grow academically and socially in the inclusive setting.

Professional development for specialist teachers. Three out of the twelve observations were during the student with HNA specials time. On one occasion, the student was in physical education and on the other two occasions, the student was in library. During physical education, the students were working in groups on different volleyball skills. The

student with HNA was in a group and was occasionally participating in the activity. During library, on one occasion the student was participating in the same activity as the other students and it appeared that he did not need modifications or accommodations. On the second occasion, the student was not participating in the same activity as the other student. In this situation, the librarian did not react to the student leaving the group, change anything in her instruction, approach him when the class was sent to do independent work on the computers, or give the instructional assistant other options so the student with HNA could be participating in the same task. Specials teachers need professional development in understand what disabilities are, what characteristics might be observed, what interventions are appropriate, and what instructional strategies would help keep students engaged. Students with disabilities are frequently included in specials and specials teachers usually have the least amount of training in the area of special education. Opportunities for ongoing professional development to help specials teachers understand disabilities and how to instruct students with disabilities, but more specifically with HNA would significantly benefit the school district and improve the teachers' instructional skill sets.

Allowing for Collaboration

Collaboration is a process that requires communication, common planning time, establishing shared visions for instructional goals and strategies, and managing the classroom environment (Arthaud, et al., 2007). Arthaud et al. (2007) discuss that collaborative teaching increases self-esteem and reduces social stigma among students. Teachers typically agree that collaboration is extremely important, especially when there are students with significant needs, such as students with HNA. However, common planning time and opportunities for collaboration are difficult to find in the ever-growing

rigorous academic requirements that teachers are responsible for. Research tells us, that despite what pressures teachers might feel, collaboration is a major key in successful instruction. Planning for collaboration opportunities will give teachers the opportunity to discuss successes and struggles with inclusion. It will also give teachers the opportunity to plan ahead, discuss accommodations and modifications that might need to be made, and adjust any instructional strategies that might not be successful. Time for collaboration, although difficult, is extremely important in increase the fidelity and accountability of inclusive practice.

Programming Inclusion with IEP Objectives

A third and final recommendation from this study is that educational teams need to proactively work to align inclusion opportunities with the objectives for the student with HNA. It is important to understand the objectives for the student with HNA, as the objectives help to guide the focus of instruction and planning. Inclusion should not be programmed simply as "compliance" but rather should be considered an opportunity to offer meaningful engagement toward goals for the child with HNA. In addition, it is important to make sure that the IEP is being followed accurately and that the amount of inclusion is correctly reflected in the IEP and in everyday practice. Students with HNA are typically included for specific reasons, such as social skill development, appropriate peer models, and/or academic development. If a student has an objective for peer interaction and they are included during a math lesson, there is probably not a lot of time for peer interaction. It is vital to make sure that these are aligned and consistent for each student with HNA in the school district. It is recommended that educators create inclusion plans that make objectives clear for the individual student's inclusion. What we measure matters

so the team would benefit from a frequent inclusion checklist to keep focus on goals and progress.

Limitations of the Study

The primary limitation of this study is the limited generalizability of the findings because of the small sample of participants included. Participants were selected from elementary schools within one school district based on strict criteria. This study only included participants from two out of the ten elementary schools within the school district. Six of the nine students with HNA that were contacted participated in this study. The small sample size of students directly impacted the number of teachers that participated in the study. There were eight teachers that participated, six of the teachers were grade level teacher and two were specials teachers. From those eight, there were two third grade teachers, two fifth grade teachers that participated, one kindergarten teacher, one fourth grade teacher and no first or second grade teachers that participated. Additionally, there was a librarian and physical education teacher that participated but no music, computer, or art teachers participated. Therefore, this study does not reflect the attitudes and practice of all the educators that service the students with HNA in this district. The results only reflect the attitudes, perspectives, and practice of the participating teachers.

In addition, the results, from the twelve observations included classroom observation data from seven different classrooms. The two fifth grade teachers, the fourth grade teacher, and the physical education teacher were only observed once. The other classroom teachers were observed twice. Additional classroom observations may have identified different results. A larger sample of students and teachers in future research

would strengthen the validity of this study, as would conducting a minimum of two observations per teacher.

A second limitation to this study relates to the length of time the students spent in the inclusive setting. Inclusion opportunities for the six students were limited. The majority of the students were included for morning meeting and specials. Two students were included for an academic class (science/social studies). The students included for specials and a subject matter were included for the required forty-minute period. However, students that were included for morning meeting opportunities did not remain in the inclusive setting for the full duration of the forty minutes. The students averaged about twenty minutes of inclusion for morning meeting. Therefore, the data from the majority of the students included in morning meeting does not reflect the forty minutes targeted for the observation. Keeping the duration of time the student spends in the inclusive setting should be consist across all observations in future researcher would add to the reliability and validity of this study.

A third limitation of this study relates to the global- and ASD-specific inclusion attitudes survey. The surveys that were completed were given anonymously to the participants. There was no identifying information on the global- and ASD-survey, therefore the surveys could not be directly linked to the observational data and best practice checklist that were collected. A complete correlation for each participant could not be conducted. If specific attitudes were linked to the observed classrooms and teacher behavior, researchers could circle back to interview teachers about discrepancies and seek clarity on the barriers teachers perceive in the daily expression of their endorsed beliefs about best practices. This could lead to further training and support in specific gaps and

barriers. The correlation for each participant between the observed data and the self-reported attitudes would add to the research of general education teachers and inclusive practice.

Finally, another limitation of this study relates to the limited number of opportunities for reliability assessment. The researcher and co-researcher trained on the data collection methods prior to the formal observations. The two researchers had scheduled five out of the twelve observations to include a second observer for reliability. Although steps were taken to ensure that there was reliability data collected, there were only two occasions of multiple observers due to unforeseen circumstances. Including a co-researcher for at least half of the observations would significantly increase the reliability of this study.

Conclusion

In conclusion, the results of this study and their implications for self-reported attitudes and teacher observed behavior led to the following two final thoughts. The first is that the general education teacher needs to be the primary instructor when the student with HNA is included. The general education teacher needs to provide the instruction, modifications, and interact directly with the student with HNA. There is a need for clear dialogue between the general education teacher and the instructional assistants to develop clarity on what their roles include. All general educators should examine the students' IEPs and work with the special educator to familiarize themselves with their goals, objectives, specially designed instruction, and the amount of time they should spend in the inclusive classroom. These steps should occur prior to the student with HNA beginning in the inclusive environment. The current trend of increasing the amount of inclusion for students

with disabilities in general education settings demands that educators implement appropriate modifications and adaptations that will lead to meaningful and productive membership in the classroom community. Training on strategies to improve on task behavior and engagement will also create meaningful and effective inclusive practice.

Secondly, general education teachers need opportunities to collaborate and participate in meaningful professional development. As evident in this study, even though students with HNA were included in the general education classroom, the general education teachers seemed to rely heavily on the instructional assistants. It is unclear if the general education teachers were relying on the instructional assistants because they were unclear of their role. There was a limited amount of time to collaborate, or a lack of professional development to provide solid knowledge and instructional strategies. General educators' reported that they are generally willing to include students with disabilities and accommodate them with whatever supports they need to be successful. As observed with teacher behavior, the general educators' seemed to be focused on the whole class instruction and intent on communicating with the students in the classroom that did not come with an instructional assistant. Providing time for professional development and collaboration will allow consistent communication and a growing understanding of all their students.

This study showed that the attitudes general education teachers report align in many areas with their observed behaviors in the classroom. Positive attitudes in inclusive education are especially important to promote success and skill acquisition. When educators have a positive belief system, they are more willing to accommodate, include, and educate all students no matter what their ability. It is hoped that the data generated in

this study will help general and special education teachers and teacher preparation faculty to expand in their ability to improve classroom practice to align more with the ideals of inclusion which seem universally held.

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Appendix A
Participation and Consent Form for General Education Teachers

Investigator: ***Mrs. Joanna W. Davis***
Doctoral Student at Arcadia University
jhyde@arcadia.edu

Dissertation Chair: ***Dr. Kim Dean***
325 Taylor Hall at Arcadia University
deank@arcadia.edu
215-572-8629

Dear general education teacher:

My name is Joanna Davis and I am a doctoral student in Special Education at Arcadia University, in the School of Education and I am a special educator for the Bucks County Intermediate Unit. You are invited to participate in a study I am conducting for my doctoral dissertation on the topic of inclusive classrooms. I am interested in learning about the attitudes and perceptions that general education teachers have about inclusion and the types of classroom practices they use.

The title of my project is "Inclusion of Students with High Need Autism: General Education Teachers' Attitudes and Practices". There has been a recent increase in the inclusion of students with significant disabilities, especially in the field of Autism. Currently, research shows that inclusion occurs in many different forms from being included in general education classes for social needs to academic needs, from 10 minutes to a full-day. However, there is a lack of research in the area of high-need Autism and inclusion. Through this research study, I intend to gain a better perspective on the beliefs and current practices of general education teachers whom educate children with high-need autism. The purpose of this study is to look at the current inclusionary practices (through observation) demonstrated by general education teachers (homeroom and specialist) with students with high-need Autism in their classroom and also explores teachers' self-acknowledged attitudes (through survey).

You have been invited to participate in this study because you are a general education teacher (homeroom or specialist) of students with high-need autism that are included in at least 45 minutes of your class. If you choose to participate I will ask parents for consent to observe the students in your classroom as well. If corresponding consent for the student with autism in your classroom is not obtained you will not be included in this study. Although, I am a teacher, my role in this research is strictly to learn what inclusion for students with high-need Autism looks like in different environments and to investigate the perspectives of those teachers. All observations, surveys, and activities related to the study will not be used for evaluative purposes for any participant. I expect to have 5 or more general education teachers participate in this study, all in different inclusive classrooms.

This project will take approximately 2 weeks to 1 month. Participation is voluntary and your choice to participate or not participate in this study will not impact your relationship your school district, with me, or with Arcadia University. Research activities will include the following components:

a. Classroom Observations: I will observe your class twice, for approximately one class period or 45 minutes. During this observation, a research assistant and I will only observe and the primary target of the observation will be the student with autism. I will also ask you to identify a general education student as a typical peer comparison.
b. Survey: Immediately following the return of your consent form and following the second 45 minute observation, I will provide you with a brief Likert Scale electronic survey to complete. You may skip any question you do not feel comfortable answering

As a researcher, I will keep all information resulting from surveys, observations, and any follow up interviews confidential. Your name will be kept confidential and will only appear on the consent form signed by you. All other documents will be assigned a corresponding number that will remain confidential and will be protected at all times. When this study is written, your name and the school district name will be given pseudonyms and your identity will be kept confidential. Dr. Kim Dean, the faculty chair person, and myself, the primary researcher, will be the only persons with access to the research records of this study that will be stored in a locked cabinet at Arcadia University. Also, at your discretion, you can withdraw from this study at any time. If you chose to withdraw, I will destroy any information collected from you up to that point. You may withdraw from this study by contacting me through my Arcadia email (jhyde@arcadia.edu) or telling me. You may also contact the dissertation chair, Dr. Kim Dean at deank@arcadia.edu, 215-572-8629.

Participants will be indirectly involved for about 2 hours and have direct involvement for about 1 hour during this study. The following outlined details the requirements for involvement.

- 2 in Classroom Observations, approximately 45 minutes
- 1 Survey following the Classroom Observations, approximately 20-30 minutes

The days and times of the observations are flexible and can be scheduled at your convenience; however the student with high-need Autism must be in your class at the time of observation. The survey will be distributed immediately following the 2nd observation and will be picked up at the end of the following school day or returned in a stamped self-addressed envelope.

There is a minor risk of feeling discomfort during this study. For example, during the 2 classroom observations you may feel uncomfortable, nervous, or anxious. There are no other known risks to you during this study.

To help minimize discomfort, you will have an opportunity to meet with me, the primary observer, before or after the observations. During the survey or optional interview period, you will be talking with only me about your beliefs on inclusion of students with high-need Autism. At any time during the research (observations, survey), you may request changes that make you more comfortable or you may request that I leave.

This study has been approved by the Arcadia University Institutional Review Board (IRB) and with the Superintendent of your School District. To ensure that this research continues to protect your rights and minimizes your risk, the Arcadia University IRB, reserves the right to examine and evaluate the data and research protocols involved in this project. If you wish additional information regarding your rights in this study you may contact the Office for the Committee on Protection of Research Subjects at 267-620-4111.

One major benefit to participating in this research study is the opportunity to express your beliefs and attitudes toward inclusion of students with high-need Autism in a constructive, non-threatening manner. Another benefit to your participation is the contribution to current research in the field of Autism and inclusion. Providing current research in the field will continue to help, us, as educators grow and become better educators for all students. In addition, you will receive a $15.00 gift card for Target, Starbucks, or iTunes at the completion of the study.

Enclosed is a copy of this consent form that you may keep for your records. Please send a copy back, signed, in the stamped envelope provided if you agree to participate. Your signature below indicates you understand that your participation in this study is completely voluntary and that you may stop your participation at any time without a penalty and without jeopardizing your relationship with your School District or Arcadia University. Please sign each of the activities you agree to take part in. I appreciate your willingness to participate.

I am looking forward to learning from this project and hope it will contribute to the field of education, particularly in reference to inclusive classrooms.

This study has been explained to me; I have read the consent form and have been given a copy of this consent form. I agree to take part in:

2 General Classroom Observations ___ Yes ___ No

2 Written Surveys ___ Yes ___ No

_____ _____ _____

Teacher's Printed Name Teacher's Signature Date

_____ _____ _____

Researcher's Printed Name Researcher's Signature Date

Thank You!

Appendix B

Participation & Consent Form for Parents/Guardians of Student with Autism

Investigator: ***Mrs. Joanna W. Davis***
Doctorate Student at Arcadia University
jhyde@arcadia.edu

Dissertation Chair: ***Dr. Kim Dean***
325 Taylor Hall at Arcadia University
deank@arcadia.edu
215-572-8629

Dear Parent/Guardian:

My name is Joanna Davis and I am a doctoral student at Arcadia University and I am a special education teacher for the Bucks County Intermediate Unit. Your child is invited to participate in a study for my doctoral dissertation on the topic of inclusive practices. An inclusive classroom has students with and without disabilities. I am extremely interested in learning how relationships are developed between teachers and their students and what practices are used to facilitate an inclusive classroom.

The title of my project is "High-Need Autism and the Inclusive Classroom: General Education Teachers' Attitudes and Practices". This study will contribute to the field of education by exploring the relationship between attitudes/ perspectives of general education teachers in relation to students with autism. It will also help identify what best practice techniques are being used in schools today. This information may help identify areas where training is needed to continue to make inclusion successful for all students.

I am asking for your permission to include your child in this study because he/she attends an inclusive classroom and is a student with autism that requires additional support within the classroom. The classroom teacher has already agreed to participate in this study.

This project will take approximately 2 weeks to 1 month to complete. During this time, I will:

a. Observe the classroom 2 times for approximately 45 minutes each time. For these observations, I will sit somewhere near the back of the room and observe typical classroom activities while taking notes without participating in the class at all.

Although, I am a teacher, my role in this research is strictly to learn what inclusion for students with high-need Autism looks like in different environments and to identify the perspectives of the teachers. The observations will not be used to evaluate or grade any of the participants.

There are no significant risks with participation in this study, however there is a minor risk that your child might feel uncomfortable, nervous or anxious during the observation. To minimize this risk I will be seated in the rear of the classroom and I will work to conceal who I am observing. If my presence is disruptive in any way I will leave the classroom and reschedule the classroom visit for another time. There are no direct benefits to participation in this study, however, it is hoped that, in the future, this study will benefit the education of students with autism and their peers.

Your name will be kept confidential and will only appear on the consent form signed by you. All documents will be protected at all times. Your child, the teacher, the school, and the school district will be given pseudonyms in order to keep the identity of all participants confidential. Dr. Kim Dean, the faculty chair person, and myself, the primary researcher, will be the only persons with access to the research records of this study that will be stored in a locked cabinet at Arcadia University. Also, at your discretion, you can withdraw from this study at any time. If you chose to withdraw, I will not complete any further observation in your child's classroom. I will use data already collected up to that point unless you prefer that data be destroyed. You may withdraw from this study by contacting me through my Arcadia email (jhyde@arcadia.edu) or telling me. You may also contact the dissertation chair, Dr. Kim Dean at deank@arcadia.edu, 215-572-8629.

Participation in this study is strictly voluntary. Your decision to allow or not allow your child to be observed in the inclusive classroom will not affect his/her grades, your or his/her relationship with the school or school personnel, the School District, or Arcadia University. If you have any questions about the study you can e-mail me at: jhyde@arcadia.edu or you may call the supervisor of the project, Dr. Kim Dean, at 215-572-8629. The school district superintendent and Arcadia University Institutional Review Board (IRB) have approved this study. To ensure that this research continues to protect your rights and minimizes your risk, the IRB reserves the right to examine and evaluate the data and research protocols involved in this project. If you wish additional information regarding your rights in this study you may contact the Office for the Committee for the Protection of Research Subjects at (267) 620-4111.

Enclosed is a copy of this consent form that you may keep for your records. Please send one copy back, signed, in the stamped envelope provided if you agree to allow your child to participate.

Your signature below indicates that you have read the information provided above and have decided to allow your child to participate in the study. I appreciate your willingness to allow your child to be included in this study. I am looking forward to learning from this project and hope it will contribute to the field of education, particularly in reference to inclusive classrooms.

This study has been explained to me; I have read the consent form and have been given a copy of this consent form.

My child can take part in: 2 General classroom observations ___ Yes ___ No

_____ _____
Student Printed Name Date

_____ _____
Parent/Guardian Printed Name Parent/Guardian Signature

_____ _____
Researcher's Printed Name Researcher's Signature

Appendix C

Participation and Consent Form for Parents/Guardians of General Education Students

Investigator: ***Mrs. Joanna W. Davis***
Doctorate Student at Arcadia University
jhyde@arcadia.edu

Dissertation Chair: ***Dr. Kim Dean***
325 Taylor Hall at Arcadia University
deank@arcadia.edu
215-572-8629

Dear Parent/Guardian:

My name is Joanna Davis and I am a doctoral student at Arcadia University and I am a special education teacher for the Bucks County Intermediate Unit. Your child is invited to participate in a study for my doctoral dissertation on the topic of inclusive practices. An inclusive classroom has students with and without disabilities. I am extremely interested in learning how relationships are developed between teachers and their students and what practices are used to facilitate an inclusive classroom.

The title of my project is "High-Need Autism and the Inclusive Classroom: General Education Teachers' Attitudes and Practices". This study contributes to the field of education by exploring the relationship between attitudes/ perspectives of general education teachers in relation to students with autism. It will also help identify what best practice techniques are being used in schools today. This information may also help identify areas where training is needed to continue to make inclusion successful for all students.

I am asking for your permission to include your child in this study because he/she attends an inclusive classroom. The classroom teacher has already agreed to participate in this study.

This project will take approximately 2 weeks to 1 month to complete. During this time, I will:

b. Observe the classroom 2 times for approximately 45 minutes each time. For these observations, I will sit somewhere near the back of the room and observe typical classroom activities while taking notes without participating in the class at all.

Although, I am a teacher, my role in this research is strictly to learn what inclusion for students with high-need Autism looks like in different environments and to identify the perspectives of the teachers. The observations will not be used to evaluate or grade any of the participants.

There are no significant risks with participation in this study, however there is a minor risk that your child might feel uncomfortable, nervous or anxious during the observation. To minimize this risk I will be seated in the rear of the classroom and I will work to conceal who I am observing. If my presence is disruptive in any way I will leave the classroom and reschedule the classroom visit for another time. There are no direct benefits to participation in this study, however, it is hoped that, in the future, this study will benefit the education for students with autism and their peers.

Your name will be kept confidential and will only appear on the consent form signed by you. All documents will be protected at all times. Your child, the teacher, the school, and the school district will be given pseudonyms in order to keep the identity of all participants confidential. Dr. Kim Dean, the faculty chair person, and myself, the primary researcher,

will be the only persons with access to the research records of this study that will be stored in a locked cabinet at Arcadia University. Also, at your discretion, you can withdraw from this study at any time. If you chose to withdraw, I will not complete any further observation in your child's classroom. I will use data already collected up to that point unless you prefer that data be destroyed. You may withdraw from this study by contacting me through my Arcadia email (jhyde@arcadia.edu) or telling me. You may also contact the dissertation chair, Dr. Kim Dean at deank@arcadia.edu, 215-572-8629.

Participation in this study is strictly voluntary. Your decision to allow or not allow your child to be observed in the inclusive classroom will not affect his/her grades, your or his/her relationship with the school or school personnel, the School District, or Arcadia University. If you have any questions about the study you can e-mail me at: jhyde@arcadia.edu or you may call the supervisor of the project, Dr. Kim Dean, at 215-572-8629. The school district superintendent and Arcadia University Institutional Review Board (IRB) have approved this study. To ensure that this research continues to protect your rights and minimizes your risk, the IRB reserves the right to examine and evaluate the data and research protocols involved in this project. If you wish additional information regarding your rights in this study you may contact the Office for the Committee for the Protection of Research Subjects at (267) 620-4111.

Enclosed is a copy of this consent form that you may keep for your records. Please send one copy back, signed, in the stamped envelope provided if you agree to allow your child to participate.

Your signature below indicates that you have read the information provided above and have decided to allow your child to participate in the study. I appreciate your willingness to allow your child to be included in this study. I am looking forward to learning from this project and hope it will contribute to the field of education, particularly in reference to inclusive classrooms.

This study has been explained to me; I have read the consent form and have been given a copy of this consent form.

My child can take part in: 2 General classroom observations ___ Yes ___ No

_____ _____
Student Printed Name Date

_____ _____
Parent/Guardian Printed Name Parent/Guardian Signature

_____ _____
Researcher's Printed Name Researcher's Signature

Appendix D

Global - Inclusion Survey

This is a survey of special education and general education teacher attitudes towards the inclusion of students with disabilities into general education classrooms. The completed surveys will be collected and examined in confidentiality. The demographic questions are only asked in order to meet the research study objectives. Your time and participation in this study are greatly appreciated. **You may skip any question you do not feel comfortable answering**

Demographics

Please circle or fill in the answers that apply to you.

1. Please list all of your current roles within the school district:
   _____ Teacher
   _____ Teacher Assistant
   _____ Team Leader
   _____ Team Member
   _____ Committee Leader
   _____ Committee Member
   _____ Mentor
   _____ Mentee
   _____ Other (please specify): _____

2. What is your primary role within the school district?
   _____ Kindergarten Teacher
   _____ Music Teacher
   _____ First Grade Teacher
   _____ Physical Education Teacher
   _____ Second Grade Teacher
   _____ Librarian
   _____ Third Grade Teacher
   _____ Art Teacher
   _____ Fourth Grade Teacher
   _____ Computer Teacher
   _____ Fifth Grade Teacher
   _____ Other (please specify): _____

3. How many years have you been teaching?
   _____ 1-2 years
   _____ 11-15 years
   _____ 3-5 years
   _____ 16-20 years
   _____ 6-10 years
   _____ more than 20 years

4. Have you ever had students with disabilities in your class? YES NO

5. If yes, what type of disabilities?
   _____ Learning Disabilities
   _____ Mental Retardation
   _____ Down's syndrome
   _____ Autism
   _____ Other (Please specify): _____

6. If yes, approximately how much time did they spend in your class (days, hours, periods, etc.)?

Please think about inclusion on a global perspective and rate the following statements on a scale from 1 to 6. There is a comment section at the end of the survey to write additional comments you have about inclusion. **You may skip any question you do not feel comfortable answering.**

1	2	3	4	5	6
Strongly Agree	**Somewhat Agree**	**Agree**	**Disagree**	**Somewhat Disagree**	**Strongly Disagree**

1. Students with disabilities (emotional, behavioral, cognitive, learning, etc.) actively participate in classroom activities with their peers without disabilities in general education classrooms.

   1 2 3 4 5 6

2. General education teachers are concerned that having students with disabilities in their classrooms may disrupt/lower the education of students without disabilities.

   1 2 3 4 5 6

3. Having students with disabilities in a class makes it harder to keep order, compared to classrooms where there are no students with disabilities.

   1 2 3 4 5 6

4. The extra attention that students with disabilities need takes attention away from other students.

   1 2 3 4 5 6

5. Being in a classroom with other students like themselves helps students with disabilities develop socially and emotionally.

   1 2 3 4 5 6

6. I believe that an inclusive school is one that permits academic progression of all students regardless of their ability.

   1 2 3 4 5 6

7. I believe that students with a disability should be taught in special education schools.

   1 2 3 4 5 6

8. I believe that inclusion facilitates socially appropriate behavior amongst all students.

1 2 3 4 5 6

9. I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.

1 2 3 4 5 6

10. I believe that students with a disability should be segregated because it is too expensive to modify the physical environment of the school.

1 2 3 4 5 6

11. I believe that students with a disability should be in special education schools so that they do not experience rejection in the regular school.

1 2 3 4 5 6

12. I get frustrated when I have difficulty communicating with students with a disability.

1 2 3 4 5 6

13. I get upset when students with a disability cannot keep up with the day-to-day curriculum in the classroom.

1 2 3 4 5 6

14. I get irritated when I am unable to understand students with a disability.

1 2 3 4 5 6

15. I am uncomfortable including students with a disability in a regular classroom with other students without a disability.

1 2 3 4 5 6

16. I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability.

1 2 3 4 5 6

17. I get frustrated when I have to adapt the curriculum to meet the individual needs of all students.

1 2 3 4 5 6

18. I am willing to encourage students with a disability to participate in all social activities in the regular classroom.

1 2 3 4 5 6

19. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.

1 2 3 4 5 6

20. I am willing to physically include students with a severe disability in the regular classroom with the necessary support.

1 2 3 4 5 6

21. I am willing to modify the physical environment to include students with a disability in the regular classroom.

1 2 3 4 5 6

22. I am willing to adapt my communication techniques to ensure that all students with an emotional and behavioral disorder can be successfully included in the regular classroom.

1 2 3 4 5 6

23. I am willing to adapt the assessment of individual students in order for inclusive education to take place.

1 2 3 4 5 6

Please write any additional comments you have about inclusion.

_____

_____

_____

_____

_____

Appendix E
Post - Inclusion Survey

Please think about inclusion in relation to your classroom and rate the following statements on a scale from 1 to 6. There is a comment section at the end of the survey to write additional comments you have about inclusion. **You may skip any question you do not feel comfortable answering.**

1	2	3	4	5	6
Strongly Agree	**Somewhat Agree**	**Agree**	**Disagree**	**Somewhat Disagree**	**Strongly Disagree**

24. Students with high-need autism actively participate in classroom activities with their peers without disabilities in general education classrooms.

1 2 3 4 5 6

25. General education teachers are concerned that having students with high-need autism in their classrooms may disrupt/lower the education of students without disabilities.

1 2 3 4 5 6

26. Having students with high-need autism in a class makes it harder to keep order, compared to classrooms where there are no students with high-need autism.

1 2 3 4 5 6

27. The extra attention that students with high-need autism need takes attention away from other students.

1 2 3 4 5 6

28. Being in a classroom with other students like themselves helps students with high-need autism develop socially and emotionally.

1 2 3 4 5 6

29. I believe that an inclusive school is one that permits academic progression of all students regardless of their ability.

1 2 3 4 5 6

30. I believe that students with high-need autism should be taught in special education schools.

1 2 3 4 5 6

31. I believe that inclusion facilitates socially appropriate behavior amongst all students.

1 2 3 4 5 6

32. I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.

1 2 3 4 5 6

33. I believe that students with high-need autism should be segregated because it is too expensive to modify the physical environment of the school.

1 2 3 4 5 6

34. I believe that students with high-need autism should be in special education schools so that they do not experience rejection in the regular school.

1 2 3 4 5 6

35. I get frustrated when I have difficulty communicating with students with high-need autism.

1 2 3 4 5 6

36. I get upset when students with high-need autism cannot keep up with the day-to-day curriculum in the classroom.

1 2 3 4 5 6

37. I get irritated when I am unable to understand students with high-need autism.

1 2 3 4 5 6

38. I am uncomfortable including students with high-need autism in a regular classroom with other students without a disability.

1 2 3 4 5 6

39. I am disconcerted that students with high-need autism are included in the regular classroom, regardless of the severity of the disability.

1 2 3 4 5 6

40. I get frustrated when I have to adapt the curriculum to meet the individual needs of all students.

1 2 3 4 5 6

41. I am willing to encourage students with high-need autism to participate in all social activities in the regular classroom.

1 2 3 4 5 6

42. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.

1 2 3 4 5 6

43. I am willing to physically include students with a high-need autism in the regular classroom with the necessary support.

1 2 3 4 5 6

44. I am willing to modify the physical environment to include students with high need-autism in the regular classroom.

1 2 3 4 5 6

45. I am willing to adapt my communication techniques to ensure that all students with high-need autism can be successfully included in the regular classroom.

1 2 3 4 5 6

46. I am willing to adapt the assessment for individual students in order for inclusive education to take place.

1 2 3 4 5 6

Please write any additional comments you have about inclusion.

_____

_____

_____

_____

Appendix F

Adapted from the BOSS: Behavioral Observation of Students in Schools

Inclusion Data Sheet

Academic Subject: _____ Observer(s): _____

Date: _____ Time of Observation: _____

Setting: ISW: TPsnt SmGp: TPsnt ISW: TSmGp LgGp: TPsnt

# of students: ____ # of students with Autism: _____ # of teachers: _____ # of instruction aids: _____

Classroom layout:

Narrative Observations:

Interval Recoding/Observation (On Task/Off Task & # of Interactions)																			
Target 1				Target 2				Target 3				Target 4				Comparison 1			
AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP			
T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W
Target 5				Target 6				Target 7				Target 8				Comparison 2			
AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP			
T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W
Target 9				Target 10				Target 11				Target 12				Comparison 3			
AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP			
T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W
Target 13				Target 14				Target 15				Target 16				Comparison 4			
AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP			
T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W
Target 17				Target 18				Target 19				Target 20				Comparison 5			
AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP			
T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W
Target 21				Target 22				Target 23				Target 24				Comparison 6			
AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP				AET PET OFTM OFTV OFTP			
T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W	T	IA	PR	W

Targeted Student

Total # AET: _____ = _____%

Total # PET: _____= _____%

Total # OFTM: _____= _____%

Total # OFTV: _____= _____%

Total # OFTP: _____= _____%

Comparison Student

Total # AET: _____ = _____%

Total # PET: _____= _____%

Total # OFTM: _____= _____%

Total # OFTV: _____= _____%

Total # OFTP: _____= _____%

**Note: % = total # of targeted area (i.e. "on task") divided by total # of minutes (30 min)*

Coding for Observation:
ISW:Tpsnt: Target student engaged in individual seatwork, the teacher is present and circulating around the room.
ISW:TpSmGp: Target student engaged in individual seatwork, the teacher is working with a small group of which the student is not a part.
SmGp:Tpsnt: Target student is part of a small group with which the teacher is working. Small group is defined as a group involving less than half of the class.
LgGp:Tpsnt: Target student is part of a large group with which the teacher is working. Large group is defined as a group involving half or more of the class.
AET: Active Engaged Time, actively attending to the assigned task (example: reading aloud)
PET: Passive Engaged Time, passively attending to the assigned task (example: listening)
OFM: Off Task Motor, any instance of motor activity that are not directly associated with an assigned academic task

OFV: Off Task Verbal, any audible verbalizations that are not permitted and/or are not related to an assigned academic task

OFP: Off Task Passive, those times when a student is passively not attending to an assigned academic activity for a period of at least 3 consecutive seconds. Included are those times when a student is quietly waiting after the completion of an assigned task, but is not engaged in an activity authorized by the teacher

T: Teacher Interaction, teacher interacts with student
IA: Instructional Assistant Interaction, IA interacts with student
PR: Peer Interaction, peer interacts with student
W: Whole Class Interaction, whole class is given instruction

Appendix G
Inclusion Best Practice Checklist

Printed Materials:

1. Y N N/A Does the student have the same textbook, workbook, and/or worksheets as classmates?

Adaptations/Modifications

2. Y N N/A If the student is using alternative materials, is the student using a textbook, workbook, and/or worksheets that include the same subject matter as classmates?

Classroom Environment

3. Y N N/A Is the classroom arranged to provide visual boundaries?
4. Y N N/A Are there consistent places for students to get, put away, hand in materials?
5. Y N N/A Are there different seating options (ex. Rocking chairs, cushions, standing, etc.)?
6. Y N N/A Are there different lighting options (natural, floor lamps, colored covers for lights, etc.)?
7. Y N N/A Are there different options for potentially distracting/loud noises (carpets to reduce sound, tennis balls on chairs, headphones, etc.)?
8. Y N N/A Are all students included in cooperative learning groups?
9. Y N N/A Is the classroom accessible for all students?
10. Y N N/A Can all students see and hear the instructor?
11. Y N N/A Can the teacher see and hear all students?

Physical Presence of Student

12. Y N N/A Does student arrive on time?
13. Y N N/A Does student choose his/her seat?
14. Y N N/A Is student sitting with the other students (adult doesn't sit between student & classmates)?
15. Y N N/A Is student oriented toward teacher?
16. Y N N/A Does the student appear to be actively engaged, not just an observer?

17. Y N N/A Does the student leave the classroom at end of period, not before the end of the period?

Learning Objectives

18. Y N N/A If necessary, are modifications made to instruction, assignments, and/or demands?
19. Y N N/A If necessary, are adaptations made to instruction, assignments, and/or demands?
20. Y N N/A Is the student engaged in the same activity as the rest of the class?
21. Y N N/A Is the student's involvement monitored and facilitated throughout the lesson?
22. Y N N/A Is the teacher asking appropriate content questions to assess learning?
23. Y N N/A Does the teacher go over the objectives/schedule prior to the lesson starting?
24. Y N N/A Does the teacher use multiple modalities to present lesson?
25. Y N N/A Are the directions provided given by the teacher (not the instructional assistant)?
26. Y N N/A Are the directions clear and concise?
27. Y N N/A Does the teacher use a natural tone of voice?
28. Y N N/A Does the teacher display energy/enthusiasm when teaching (inflection, animation, etc.)?
29. Y N N/A Does the teacher incorporate breaks, movements, and/or sensory opportunities during instruction?
30. Y N N/A Are transition tools being used (advanced notice, timers, warnings prior to transitions, transition items used, routine transition cues such as songs, always push in chair, etc.)?
31. Y N N/A Are there connections made to student's fascinations/topics of high interest?
32. Y N N/A Are there opportunities for small group instruction, large group instruction, and individual work?

33. Y N N/A Is there a reinforcement system and/or classroom management system used?

Social and Communication

34. Y N N/A Does the student have opportunities to communicate with peers?
35. Y N N/A Does the teacher and/or peers talk directly to student (not to the support person)?
36. Y N N/A Is the student given opportunities actively participate (answering questions, having job responsibility, raising hand, volunteering, etc.)
37. Y N N/A Do all of the students help each other?
38. Y N N/A Is social skill instruction happening for all students (either planned or incidental)?
39. Y N N/A Is "person-first" language being used in the classroom?
40. Y N N/A Does the student attend the school he/she would attend if he/she did not have a disability?
41. Y N N/A Are related services provided within the general education setting (push in services)?
42. Y N N/A Is the student's name on all class lists, job lists, bulletin boards, etc.?
43. Y N N/A Does the student have a means to communicate at all times?

Visual Supports for Student

44. Y N N/A Are there textual and/or pictorial schedules posted?
45. Y N N/A Are there textual and/or pictorial rules posted?
46. Y N N/A Are there textual and/or pictorial labels posted (ex. Bathroom, pencil sharpener, door, math table, etc.)?
47. Y N N/A Are there textual and/or pictorial cues posted to tell student where things belong (eg. crayon bin, homework bin, completed work, etc.)?
48. Y N N/A Are the rules presented in a positive manner?
49. Y N N/A Are the rules limited to five or less?
50. Y N N/A Are charts, diagrams, models, and/or concept maps used during instruction?
51. Y N N/A Are mnemonics used during instruction?

52. Y N N/A Is there a calendar posted to highlight important dates, reminders, due dates, upcoming tests, holidays, etc.?
53. Y N N/A Is there an organizational system used for subjects (ex. color coding)?
54. Y N N/A Does the student have visual supports (checklist, self-behavior management sheets, etc.) at his/her own desk?

Technology

55. Y N N/A If needed, does the student have the proper equipment available to use technology (switches, alternative keyboards, alternative mouse, etc.)?
56. Y N N/A If needed, does the student have an alternative communication method available at all times (AAC device, PECs book, manual board, etc.)?
57. Y N N/A If needed, is computer available to use for academic support (ex. writing, etc.)?
58. Y N N/A If needed, is an adult supervising student while on computer?

If the student uses an AAC device…

59. Y N N/A Does it operate properly?
60. Y N N/A Is it programmed with content relevant to current learning activities?
61. Y N N/A Do the educators demonstrate an understanding of how the student uses device to communicate?
62. Y N N/A Do the student's peers demonstrate an understanding of how student communicates?

Appendix H
On-Task/Off-Task Behavior Data and Frequency of Interactions Data

				% of occurrence during total intervals				
Student	Subject	Total Time (minutes)		Active Engaged Time	Passive Engaged Time	Off-Task Motor	Off-Task Verbal	Off-Task Passive
Bob 1	Gym	30	Target	21%	0%	79%	0%	0%
			Compare	50%	33%	0%	17%	0%
Bob 2	Morning Meeting	16	Target	15%	0%	31%	8%	8%
			Compare	33%	0%	67%	33%	0%
Oscar 1	Morning Meeting	20	Target	6%	13%	69%	6%	0%
			Compare	50%	50%	0%	0%	0%
Oscar 2	Morning Meeting	20	Target	0%	31%	44%	13%	13%
			Compare	25%	75%	0%	0%	0%
Steve 1	Morning Meeting	22	Target	22%	28%	50%	0%	0%
			Compare	25%	75%	0%	0%	0%
Steve 2	Morning Meeting	20	Target	23%	15%	46%	8%	8%
			Compare	0%	100%	0%	0%	0%
Matt 1	Library	30	Target	17%	0%	25%	0%	4%
			Compare	17%	50%	33%	0%	0%
Matt 2	Science	30	Target	17%	21%	58%	4%	0%
			Compare	67%	33%	0%	0%	0%
Henry 1	Morning Meeting	30	Target	17%	13%	29%	50%	4%
			Compare	33%	50%	17%	0%	0%
Henry 2	Morning Meeting	30	Target	4%	13%	63%	29%	17%
			Compare	17%	33%	33%	17%	0%
Bill 1	Library	30	Target	38%	17%	29%	25%	0%
			Compare	17%	17%	50%	17%	0%
Bill 2	Social Studies	30	Target	13%	38%	25%	0%	25%
			Compare	0%	67%	33%	0%	0%

				average # of times per min per total intervals			
Student	Subject	Total Time (minutes)		Teacher	Instructional Assistant	Peer	Whole Class
Bob 1	Gym	30	Target	0.33	2.58	0.67	2.04
			Compare	0.33	0.00	2.50	2.00
Bob 2	Morning Meeting	16	Target	0.00	0.46	0.08	0.85
			Compare	0.33	0.00	1.33	1.00
Oscar 1	Morning Meeting	20	Target	0.25	2.13	0.00	1.13
			Compare	0.25	0.00	0.50	1.00
Oscar 2	Morning Meeting	20	Target	0.25	1.00	0.06	1.56
			Compare	0.00	0.00	0.00	1.50
Steve 1	Morning Meeting	22	Target	0.06	1.94	0.11	1.39
			Compare	0.25	0.00	0.00	1.75
Steve 2	Morning Meeting	20	Target	0.15	1.69	0.23	1.54
			Compare	0.00	0.00	0.00	1.75
Matt 1	Library	30	Target	0.04	0.29	0.04	1.34
			Compare	0.33	0.00	0.00	1.17
Matt 2	Science	30	Target	0.04	2.29	0.33	0.58
			Compare	0.33	0.00	1.33	0.33
Henry 1	Morning Meeting	30	Target	0.33	2.75	0.13	1.46
			Compare	0.17	0.00	0.17	1.83
Henry 2	Morning Meeting	30	Target	0.33	2.83	0.08	1.29
			Compare	0.83	0.00	0.83	1.67
Bill 1	Library	30	Target	0.04	2.17	0.00	0.75
			Compare	0.50	0.00	1.00	1.00
Bill 2	Social Studies	30	Target	0.13	0.50	0.04	1.33
			Compare	0.33	0.00	0.00	1.33

Appendix I
Inclusion Best Practice Checklist Data

	Questions	Yes	No	N/A
1	Does the student have the same textbook, workbook, and or worksheets as classmates?	6	3	3
2	If the student is using alternative materials, is the student using a textbook, workbook, and/or worksheets that include the same subject matter as classmates?	1	2	9
3	Is the classroom arranged to provide visual boundaries?	12		
4	Are there consistent places for students to get, put away, hand in materials?	11	1	
5	Are there different seating options?	4	8	
6	Are there different lighting options?	3	9	
7	Are there different options for potentially distracting/loud noises?	9	3	
8	Are all students included in cooperative learning groups?	5	3	4
9	Is the classroom accessible for all students?	12		
10	Can all students see and hear the instructor?	12		
11	Can the teacher see and hear all students?	12		
12	Does student arrive on time?	5	7	
13	Does student choose his/her seat?	5	7	
14	Is student sitting with other students?	11	1	
15	Is student oriented toward teacher?	9	3	
16	Does the student appear to be actively engaged, not just an observer?	1	11	
17	Does the student leave the classroom at the end of the period, not before the end of the period?	9	3	
18	If necessary, are modifications made to instruction, assignments, and/or demands?	7	1	4
19	If necessary, are adaptations made to instruction, assignments, and/or demands?	2	2	8
20	Is the student engaged in the same activity as the rest of the class?	10	2	
21	Is the student's involvement monitored and facilitated throughout the lesson?	11	1	
22	Is the teacher asking appropriate content questions to assess learning?	9		3
23	Does the teacher go over the objectives/schedule prior to the lesson starting?	10	2	
24	Does the teacher use multiple modalities to present lesson?	9	3	
25	Are the directions provided given by the teacher?	5	7	
26	Are the directions clear and concise?	12		
27	Does the teacher use a natural tone of voice?	12		
28	Does the teacher display energy/enthusiasm when teaching?	12		
29	Does the teacher incorporate breaks, movements, and/or sensory opportunities during instruction?	4	8	
30	Are transition tools being used?	2	10	
31	Are there connections made to student's fascinations/topics of high interest?		12	
32	Are there opportunities for small group instruction, large group instruction, and individual work?	9	2	1
33	Is there a reinforcement system and/or classroom management system?	7	5	
34	Does the student have opportunities to communicate with peers?	7	5	
35	Does the teacher and/or peers talk directly to student?	2	10	

36	Is the student given opportunities to actively participate?	7	5	
37	Do all students help each other?	3	8	1
38	Is social skill instruction happening for all students?		11	1
39	Is "person-first" language being used in the classroom?			12
40	Does the student attend the school he/she would attend if he/she did not have a disability?			12
41	Are related services provided within the general education setting?		1	11
42	Is the student's name on all class lists, job lists, bulletin boards, etc.?	2	7	3
43	Does the student have a means to communicate at all times?	12		
44	Are there textual and/or pictorial schedules posted?	4	8	
45	Are there textual and/or pictorial rules posted?	4	8	
46	Are there textual and/or pictorial labels posted?	4	8	
47	Are there textual and/or pictorial cues posted to tell student where things belong?	5	7	
48	Are the rules presented in a positive manner?	4	6	2
49	Are the rules limited to five or less?	4	5	3
50	Are charts, diagrams, models, and/or concept maps used during instruction?	5	5	2
51	Are mnemonics used during instruction?	1	9	2
52	Is there a calendar posted to highlight important dates, reminders, due dates, upcoming tests, holidays, etc.?	6	5	1
53	Is there an organizational system used for subjects?	1	2	9
54	Does the student have visual supports?	1	10	1
55	If needed, does the student have the proper equipment available to use technology?			12
56	If needed, does the student have an alternative communication method available at all times?	2		10
57	If needed, is computer available to use for academic support?	2		10
58	If needed, is an adult supervising student while on computer?	3		9
59	If needed, does AAC device operate properly?	2		10
60	If needed, is AAC device programmed with content relevant to current learning activities?	1	1	10
61	If needed, do the educators demonstrate an understanding of how the student uses AAC device to communicate?	2		10
62	If needed, do the peers demonstrate an understanding of how student uses AAC device to communicate?	1	1	10

Appendix J
Global-Survey Data

General Education Teachers and Inclusion of Students with Disabilities

Please respond to the following on a scale of strongly agree to strongly disagree.							
Answer Options	**Strongly Agree**	**Somewhat Agree**	**Agree**	**Disagree**	**Somewhat Disagree**	**Strongly Disagree**	**Response Count**
1. Students with disabilities (emotional, behavioral, cognitive, learning, etc.) actively participate in classroom activities with their peers without disabilities in general education classrooms.	2	3	2	0	0	0	7
2. General education teachers are concerned that having students with disabilities in their classrooms may disrupt/lower the education of students without disabilities.	1	4	1	1	0	0	7
3. Having students with disabilities in a class makes it harder to keep order, compared to classrooms where there are no students with disabilities.	0	3	1	3	0	0	7
4. The extra attention that students with disabilities need takes attention away from other students.	1	1	3	1	1	0	7
5. Being in a classroom with other students like themselves helps students with disabilities develop socially and emotionally.	1	1	2	3	0	0	7
6. I believe that an inclusive school is one that permits academic progression of all students regardless of their ability.	5	0	2	0	0	0	7
7. I believe that students with a disability should be taught in special education schools.	0	0	0	3	2	2	7
8. I believe that inclusion facilitates socially appropriate behavior amongst all students.	3	2	2	0	0	0	7
9. I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.	1	2	2	2	0	0	7
10. I believe that students with a disability should be segregated because it is too expensive to modify the physical environment of the school.	0	0	0	3	0	4	7

11. I believe that students with a disability should be in special education schools so that they do not experience rejection in the regular school.	0	0	0	3	0	4	7
12. I get frustrated when I have difficulty communicating with students with a disability.	0	0	0	6	0	1	7
13. I get upset when students with a disability cannot keep up with the day-to-day curriculum in the classroom.	0	0	0	5	0	2	7
14. I get irritated when I am unable to understand students with a disability.	0	0	1	3	0	3	7
15. I am uncomfortable including students with a disability in a regular classroom with other students without a disability.	0	0	0	3	1	3	7
16. I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability.	0	2	0	2	0	3	7
17. I get frustrated when I have to adapt the curriculum to meet the individual needs of all students.	0	0	2	2	2	1	7
18. I am willing to encourage students with a disability to participate in all social activities in the regular classroom.	5	0	2	0	0	0	7
19. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.	3	2	1	1	0	0	7
20. I am willing to physically include students with a severe disability in the regular classroom with the necessary support.	4	1	2	0	0	0	7
21. I am willing to modify the physical environment to include students with a disability in the regular classroom.	4	0	3	0	0	0	7
22. I am willing to adapt my communication techniques to ensure that all students with an emotional and behavioral disorder can be successfully included in the regular classroom.	3	2	2	0	0	0	7
23. I am willing to adapt the assessment of individual students in order for inclusive education to take place.	3	2	2	0	0	0	7

Appendix K
Autism-Survey Data

General Education Teachers and Inclusion of Students with High Need Autism

Please respond to the following on a scale of strongly agree to strongly disagree.

Answer Options	Strongly Agree	Somewhat Agree	Agree	Disagree	Somewhat Disagree	Strongly Disagree	Response Count
1. Students with autism actively participate in classroom activities with their peers without disabilities in general education classrooms.	0	2	4	0	2	0	8
2. General education teachers are concerned that having students with autism in their classrooms may disrupt/lower the education of students without disabilities.	0	1	4	2	0	1	8
3. Having students with autism in a class makes it harder to keep order, compared to classrooms where there are no students with disabilities.	0	1	2	3	1	1	8
4. The extra attention that students with autism need takes attention away from other students.	0	0	2	4	0	2	8
5. Being in a classroom with other students like themselves helps students with autism develop socially and emotionally.	1	1	3	3	0	0	8
6. I believe that an inclusive school is one that permits academic progression of all students regardless of their ability.	6	0	2	0	0	0	8
7. I believe that students with autism should be taught in special education schools.	0	0	0	4	2	2	8
8. I believe that inclusion facilitates socially appropriate behavior amongst all students.	3	1	4	0	0	0	8
9. I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.	3	1	4	0	0	0	8
10. I believe that students with autism should be segregated because it is too expensive to modify the physical environment of the school.	0	0	0	3	0	5	8

11. I believe that students with autism should be in special education schools so that they do not experience rejection in the regular school.	0	0	0	2	0	6	8
12. I get frustrated when I have difficulty communicating with students with autism.	0	0	1	2	0	5	8
13. I get upset when students with autism cannot keep up with the day-to-day curriculum in the classroom.	0	0	0	3	0	5	8
14. I get irritated when I am unable to understand students with autism.	0	0	0	2	0	6	8
15. I am uncomfortable including students with a disability in a regular classroom with other students without autism.	0	0	0	2	0	6	8
16. I am disconcerted that students with autism are included in the regular classroom, regardless of the severity of the disability.	0	0	0	2	0	6	8
17. I get frustrated when I have to adapt the curriculum to meet the individual needs of all students.	0	1	2	1	0	4	8
18. I am willing to encourage students with autism to participate in all social activities in the regular classroom.	5	0	2	0	0	1	8
19. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.	5	2	0	1	0	0	8
20. I am willing to physically include students with autism in the regular classroom with the necessary support.	6	0	2	0	0	0	8
21. I am willing to modify the physical environment to include students with autism in the regular classroom.	6	0	2	0	0	0	8
22. I am willing to adapt my communication techniques to ensure that all students with autism can be successfully included in the regular classroom.	5	1	2	0	0	0	8
23. I am willing to adapt the assessment of individual students in order for inclusive education to take place.	5	1	2	0	0	0	8