

Evaluating IEPs of Elementary School Students with Autism Spectrum
Disorder

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ABSTRACT

The prevalence of Autism Spectrum Disorder (ASD) has increased 54.7% from 2000 to 2016 nationally (CDC, 2016), and comparably, 52.38% in the district where this program evaluation was conducted. This increase, paired with legislative requirements through the *Individuals with Disabilities Education Act* and recommendations from the National Research Council on educating students with ASD, has challenged school districts to develop programming targeting specific impairments characteristic of students with ASD. The purpose of this study was to evaluate programming through the evaluation of individualized education plans (IEPs) of students with ASD in kindergarten through third grade for the presence of *Individuals with Disabilities Education Act* requirements and National Research Council recommendations. Additionally, 13 special education teachers providing services to one or more students in the category of ASD completed a 30 item self-report questionnaire on their confidence in developing IEPs and programming for students with ASD. Sixty-three IEPs were evaluated in the study for IDEA and NRC indicator proficiency levels and cross-referenced with teacher confidence levels on developing IEPs and programming for students with ASD. The study concluded data analysis of IEPs and special education teacher confidence levels resulted in the identification of programming strengths and weakness that can be used by the district in this study to develop a structured plan for improvements in the development of IEPs specific to the identified areas of impairments for students with ASD (behavior,

communication, socialization). Specific to the district in this study is a recommended focus on the development of IEP goals based on individual student needs and NRC recommendations for students with ASD, descriptions of student motivational systems when appropriate, specially designed instruction, educational placement and the relationship of teacher knowledge and confidence about ASD to IEP and program development.

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GENERAL AUDIENCE ABSTRACT

The prevalence of Autism Spectrum Disorder (ASD) has increased nationally by 54.7% from 2000 to 2016 (CDC, 2016), and 52.38% in the district where this program evaluation was conducted. The increase has challenged school districts to develop programming specific to the areas of impairment characteristic of students with ASD. The purpose of this study was to evaluate programming for students with ASD through the evaluation of individual education plans (IEPs). Additionally, special education teachers completed a self-report questionnaire on their level of confidence in developing programming and support systems for students with ASD. The areas of in need of improvement, indicated by the IEP evaluation, were cross-referenced with low confidence levels reported by teachers in the self-efficacy questionnaire. The study identified areas of weaknesses and strengths in programming that can be used by the district to develop a plan for improvement of the development of IEPs and programming specific to the areas of impairment (communication, socialization, behavior) characteristic of students with ASD.

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Chapter 1

Introduction

Background of the Study

Autism Spectrum Disorder (ASD) was added as one of the 13 categories of disabilities with the amendment of the *Individual with Disabilities Education Act* (IDEA) of 1990. Based on the IDEA definition, ASD is “a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child’s educational performance” (IDEA, 1990). The definition continues by including restrictive repetitive behaviors, difficulty with interruption of routines and over, or under, sensitivity to sensory input.

Individuals eligible for special education services in the category of ASD as defined by IDEA, must have the areas of impairment characteristic of the disability (communication, socialization and restrictive/repetitive behavior) addressed in their individual education plan (IEP). Deficits in these areas can range from mild to severe, making the development of appropriate IEPs essential to meet the varying needs of students with ASD. Regardless of the severity, individuals qualifying for special education services for ASD require IEP goals specific to their deficit areas.

The prevalence rate of ASD has more than doubled from 2000 to 2012. The Centers for Disease Control (CDC) reported that 1 in 150 individuals were identified with ASD in 2000 and 1 in 68 were identified with ASD in 2012 (*Community Autism Report*, 2016). North Carolina, the state of the district proposed for examination in this study, had a 75 percent increase of individuals served under the ASD category from 2010 to 2017. The school district proposed for examination in this study had an increase of 52.38 percent of

individuals eligible in the ASD category from 2012 to 2017.

(<https://ec.ncpublicschools.gov>). The rapidly increasing prevalence of ASD identification and the wide range of functioning levels demonstrated by students served in the ASD category has increased the need for individuals working with students with autism spectrum disorder to be highly skilled to provide appropriate programming as the cornerstone for student success.

Problem Statement

Students qualifying for special education services in the category of ASD have impairments in communication, socialization and restrictive/repetitive behaviors adversely impacting their educational performance. Reaching the goals of improved educational outcomes (student attainment of the learning objectives the IEP team or school want the student to achieve) for these students requires appropriate programming decisions meeting IDEA requirements. National Research Council (NRC, 2001) recommendations, although not required, are essential IEP components for students with ASD because of the areas of deficits needing to be addressed. The omission of goals in the deficit areas for a student with ASD jeopardizes the student's progress because of the adverse impact of these deficits on their educational performance.

The school district proposed for examination in this study follows the criteria set forth in IDEA and adheres to *North Carolina Policies Governing Services for Children with Disabilities* (NCDPI, 2014) when making eligibility decisions for special education services for all students including those qualifying under the ASD category. Documentation of special education services, including IEPs, are audited by the district for compliance during initial and reevaluation cycles for each student receiving services.

District auditing teams review IEPs for components required by federal and state regulations. Each student's unique needs are addressed with IEP teams assuming the responsibility for reviewing data and making decisions about student deficits and IEP programming, including goal development.

High functioning individuals with ASD may present verbal communication, interaction with peers and exhibit little or no aggressive behavior. Lower functioning individuals may present limited verbal ability, little or no peer interaction and self-injurious behavior and, or aggressive behavior. Regardless of functioning levels, evaluations with conclusive data about deficits in the areas of communication, socialization and restrictive/repetitive behaviors must have been present for receiving eligibility under the ASD category based on federal and state guidelines.

Additionally, the formative years (up to age 8) is a critical time period for individuals with ASD to receive appropriate, effective early intervention services that will positively impact their educational outcomes (Jacobson et al., 1998). A comprehensive evaluation of IEPs for IDEA requirements and NRC recommendations for educating students with ASD during the formative time period (kindergarten through third grade) is a measurement of program quality and crucial to collecting data to appropriately design programming to maximize educational benefits for students with ASD.

Purpose Statement

The purpose of this study is to evaluate IEPs and programming for students with ASD in kindergarten through third grade based on data collected using an *Individual Education Plan Evaluation Tool* (Ruble, McGrew, Dairymple & Jung, 2010) and the

Autism Self-Efficacy Scale for Teachers (Ruble, Toland, Birdwhistell, McGrew & Usher, 2013).

Research Questions

The following research questions are proposed:

1. What percentage of individual education plans evaluated using the *Individual Education Plan Evaluation Tool* meet the *Individuals with Disabilities Education Act* requirements and National Research Council recommendations for educating students with Autism Spectrum Disorder?
2. What *Individuals with Disabilities Education Act* requirements and National Research Council recommendations are identified as deficits and strengths when evaluating individual education plans for students with Autism Spectrum Disorder using the *Individual Education Plan Evaluation Tool*?
3. What perceptions concerning knowledge and confidence in developing individual education plans and programming for students with Autism Spectrum Disorder are reported by teachers completing the *Autism Self-Efficacy Scale for Teachers*? What relationships exist between data collected using the *Individual Education Plan Evaluation Tool* and teacher self-reporting on the *Autism Self-Efficacy Scale for Teachers*?

Chapter 2

Literature Review

Clinical Diagnosis and Special Education Eligibility Criteria for ASD

Leo Kanner was the first clinician to document observations of children exhibiting a myriad of unusual behavioral characteristics when he published "*Autistic Disturbances of Affective Contact*," in 1943. He described the eleven children he observed with what he termed "early infantile autism." The children studied exhibited a desire for aloneness, literal interpretation of words, echolalia, tantrums, destructive behavior, dysfunction in social settings characterized by either aggression or withdrawal, repetitious behavior and some children presented with verbal skills while others were completely nonverbal (Kanner, 1943).

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 2013) is used by health care clinicians to diagnose mental disorders in the United States. Seventy-three years later the criteria for autism listed in the DSM-5 continues to parallel the areas of deficits documented by Kanner in 1943. The correlation between Kanner's work and the DSM-5 is evident of the consistent patterns identified over time to include deficits in social skills, communication and repetitive/restrictive behavior in individuals with ASD.

The Center for Disease Control summarized the DSM-5 diagnostic criteria for ASD to include:

- A. Persistent deficits in social communication and social interaction across multiple contexts:
 1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth

conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.

2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.
3. Deficits in developing, maintaining, and understand relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive):

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypes, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).

3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).
4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g. apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

- C. Symptoms must be present in the early developmental period
- D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.
- E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level (CDC).

A diagnosis of ASD is provided by clinicians based on criteria in *The Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, 2013), while public educational agencies determine eligibility for services based on criteria established by federal laws and state criteria as related to ASD. Understanding the role of clinicians as it pertains to public school agencies is necessary because the ASD diagnosis clinicians provide is often presented to school personnel by guardians in pursuit of special education services.

Eligibility for Special Education Services for ASD

A clinical diagnosis is considered by IEP teams, however, school districts are mandated to follow federal law and state eligibility criteria to determine eligibility for special education. This differs from the DSM-5 in that school districts require symptoms to have an adverse impact on the individual's educational performance to find them eligible for services. State and federal definitions of ASD do not refer to the DSM-5 for eligibility requirements, but areas of deficits in the DSM-5 and the definition of ASD in IDEA include impairments in communication, social skills and repetitive/restrictive behavior with functional and academic skills as additional deficits manifesting in certain individuals.

North Carolina, the state where the district in this study is located, has established criteria for the eligibility of individuals under the ASD category set forth in the *North Carolina Policies Governing Services for Children with Disabilities*. The screenings and evaluations required to determine eligibility in the ASD category are as follows in the *NC Policies Governing Services for Children with Disabilities Policy Manual* (2014), p. 65, include: “1) hearing screening; 2) vision screening; 3) observation across settings, to assess academic and functional skills; 4) summary of conference(s) with parents or documentation of attempts to conference with parents; 5) social/developmental history; 6) educational evaluation; 7) adaptive behavior evaluation; 8) psychological evaluation; 9) speech-language evaluation which includes, but is not limited to, measures of language semantics and pragmatics; and, 10) an assessment using an appropriate behavior rating tool or an alternative assessment instrument that identifies characteristics associated with autism spectrum disorder”.

To be eligible for special education services in the category of ASD an individual must exhibit at least three of the four following characteristics: 1) impairment in communication; 2) impairment in social interaction; 3) unusual response to sensory experiences; and, 4) restricted, repetitive, or stereotypic patterns of behavior, interests, and/or activities. Under the North Carolina requirements the ASD disability must have an adverse effect on the individual's educational performance and require specially designed instruction.

The DSM-5 and federal and state agencies each define ASD using their own criteria, however, communication, socialization and restrictive/repetitive behavior are present as characteristics of ASD in both clinical criteria for diagnosis and criteria for special education service eligibility. Educational agencies also include sensory impairments and three of four areas must have impairments severe enough to impact educational performance.

IDEA and NCLB Legislation

The *Individuals with Disabilities Education Act (IDEA)* and *No Child Left Behind Act (NCLB)* are monumental pieces of legislation impacting the education of children. While NCLB aims at impacting the education of all children, IDEA is specifically directed at ensuring services for students with disabilities (Cortiella, 2006).

The IDEA focuses on the individual child and requires states that receive federal funds under IDEA to develop an individual education plan for students qualifying for special education services in one of the 13 areas defined as an area of eligibility. Autism Spectrum Disorder was not originally in IDEA as one of the areas of eligibility, but was added in the 1990 reauthorization and amendment. In the amendment autism was defined

as “a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child’s educational performance” (IDEA, 1990) and the amendment continues by listing repetitive behaviors, difficulty with interruption of routines and over, or under sensitivity to sensory input.

No Child Left Behind was passed in 2002 with the purpose of raising the achievement level of all children through the accountability for results, with an emphasis on evidence based practices, increased parent involvement and more control for states and local school districts. Individual schools, school districts and states accepting Title I funds under NCLB, are held accountable for student achievement and schools receive a report card score based on how well all students, including certain subgroups, perform. Students with disabilities are included as a subgroup for the purpose of reporting on student performance (Cortiella, 2006).

With the enactment of NCLB and school districts completing two years of implementation of the legislation, legislators reauthorized IDEA in 2004 and sought to align IDEA with NCLB. Congress stated “the education of students with disabilities had been impeded by low expectations and an insufficient focus on applying replicable research on proven methods of teaching and learning” (Cortiella, 2006, p.8). By amending IDEA the new provisions would increase expectations and allow access to the general education curriculum to the greatest extent possible and aligning it with the standards set forth in NCLB for all children (Cortiella, 2006).

The alignment of these two pieces of legislation required amendments to IEP components in the current version of IDEA. All IEPs must include, at a minimum, the following nine standard requirements:

- 1) A description of the child’s current “academic and functional performance” and “how the child’s disability affects the child’s involvement and progress in the general curriculum” (IDEA, 2004).
- 2) Measurable annual goals, how these goals will be measured and when parents will be informed of progress. Short-term objectives and benchmarks are no longer required because they were thought to be a hindrance to students with disabilities inclusion in general education.
- 3) Special education services, including related services must be “based on peer reviewed research to the greatest extent practicable” (IDEA, 2004) which aligns to the wording in NCLB requiring “evidence based practices”.
- 4) Placement. The least restrictive environment where the student will receive services.
- 5) Accommodations for district and state tests as necessary to meet the individual’s needs.
- 6) Transition component by the age of 16.
- 7) The frequency, duration and location of services.
- 8) Special factors for consideration: Does the child’s behavior impede their learning? Is the child limited English proficient? Is the child blind or partially sighted? Is the child deaf, or does the child have a hearing impairment (special communication needs)? Does the child have assistive technology needs?
- 9) The parent’s right to dispute the IEP through due process (Gartin & Murdick, 2005).

All components listed in IDEA are required to be included in IEPs and the IDEA provision of due process is an avenue for parents to voice their objections to the IEP. Parents of children with ASD have increasingly challenged the educational programs implemented by school districts (Baird, 1999).

In proportionality to litigation for other disability areas, litigation related to programming for children with ASD has become the fastest growing in the field of special education. The alignment of IDEA with NCLB enacted legislation that would address parent concerns by increasing accountability of schools, school districts and states leading to educational efforts focusing on high expectations and increased educational outcomes for all children, including children with disabilities.

The Evolution and Prevalence of ASD

The U.S Department of Education's *38th Annual Report to Congress* on the Implementation of IDEA stated that 8.6% of students ages six through 21 were served under the disability category of ASD. This reflected a 0.5% increase from 2005 to 2014 for the total population of all students age six through twenty-one identified with ASD (*Thirty-Eighth Annual Report to Congress on IDEA*, 2016). This same report showed an increase in the category of ASD for ages six through twenty-one from 2008 to 2014 in 48 of 49 states that reported data. Iowa remained constant at 1.1% and percentages could not be calculated for Vermont and Wyoming due to data not being available (*Thirty-Eighth Annual Report to Congress on IDEA*, 2016).

The Community Report on Autism in 2016, prepared by the Centers for Disease Control (CDC) with data from 2012, reported the prevalence rate for the number of children with ASD as 1 in 68. This increase more than doubled from the 2000 report of 1 in

150. The CDC analyzed the data of 346,978 eight year olds from Arizona, Arkansas, Colorado, Georgia, Maryland, Missouri, New Jersey, North Carolina, South Carolina, Utah and Wisconsin in 2012 to obtain this figure. The identification of children with ASD was a combination of eligibility through school special education programs, community health providers, or by the Autism and Developmental Disabilities Monitoring Network through documented ASD symptoms in their school and/or health records (*Community Autism Report*, 2016).

Information on 38,913 eight year olds residing in North Carolina in the counties of Alamance, Caswell, Chatham, Davison, Durham, Forsyth, Guilford, Orange, Randolph, Rockingham and Wake was analyzed yielding results of 1 in 59, or 1.7%, of children in North Carolina being identified with ASD in 2012. In 2008, 5.1% of students age six through twenty-one with disabilities in North Carolina were served under the category of ASD. By 2014 this percentage increased by 65.7% to 8.4% (*U.S. Department of Education Facts*, 2015). The most current data available from the U.S Department of Education for 2015-16 reports a total of 179,734 students receiving special education services in North Carolina with 15,970 (8.89%) under the category of ASD. This represents an increase from the 2013-14 to 2014-15 school year (*U.S. Department of Education Facts*, 2015).

In 2005 there were more than 182,000 students nationwide eligible for special education services with ASD as the category of eligibility (*Special Education Longitudinal Study*, 2008). The CDC reported in 2016 there were an estimated 500,000 to one million children ages six through seventeen in the United States with ASD (*Community Autism Report*, 2016).

Autism Spectrum Disorder and Educational Placement

The educational placement for individuals with disabilities has been a multi-decade struggle. In 1967, two hundred thousand children with significant disabilities were institutionalized with only their basic needs addressed. In 1970, only 1 in 5 children with disabilities were educated in a public school setting (*Thirty-Five Years of Progress*, 2010).

Students with disabilities are guaranteed access to a free and appropriate public education in the least restrictive environment by IDEA. This includes a continuum of service delivery in regular classrooms, resource settings, separate classes, separate schools, residential settings and home/hospitals based on individual student need (ideadata.org). Individual education plan teams are responsible for making decisions regarding educational placements based on IDEA requirements with school districts responsible for providing services at each level of the continuum regardless of funding or availability of qualified staff (ideadata.org).

Individuals with ASD have unique needs ranging from high functioning to severe. School districts are challenged to work with parents and other service providers to meet requirements in IDEA to provide a free and appropriate public education in the least restrictive environment (Kurth & Mastergeorge, 2010). Individual education plan team decisions are required to be data based and include students' progress on IEP goals, current intelligence and achievement evaluations and any other relevant information provided by team members. Schools are required by IDEA to progress monitor students and if students are not making adequate progress the IEP goals must be reviewed and data-based when discussing special education service delivery and educational placement.

The least restrictive environment is the setting where students spend the maximum amount of time appropriate with access to their non-disabled peers (Kurth, 2015). General and special educators are both responsible for educating students with disabilities since IDEA contains requirements for educating students in the least restrictive environment (Busby, Ingram, Bowron, Oliver & Lyons in 2012). For students with ASD, self-contained settings were once the most prevalent educational setting because teachers in these classrooms had special training and licensure. With the number of students with ASD increasing and emerging research on educational progress, students with ASD are being fully included in the general education classroom (Goodman & Williams, 2007).

Kurth and Mastergeorge (2012) reported individuals with ASD educated in general education settings were more engaged with curriculum and their peers than those with ASD in alternative settings. Research has indicated that the general education environment promoted higher social skills than more restrictive settings (Lyons, Cappadocia & Weiss, 2011), along with positive academic development (Kurth & Mastergeorge, 2010a) and higher IEP goal expectations (Kurth & Mastergeorge, 2010b). The reduction of problem behaviors, however, was not specific to educational placement.

Individual education plan teams must consider IQ scores, academic achievement, adaptive and social skills, behavior ratings and the impact of medical diagnoses on education when considering placement decisions for students with ASD (Kurth, Mastergeorge & Paschall, 2016). These decisions are complicated as teams evaluate data on present levels of student performance and IEP goals and general curriculum progress, while also following IDEA requirements mandating students with disabilities be educated with their nondisabled peers to the greatest extent possible. Debates continue among

researchers, parents and professionals about appropriate placements for students with ASD. Some advocate that more restrictive settings are most appropriate and others advocate for more inclusive environments.

The number of students with ASD being served in general education settings has increased. In 2003 an estimated 27% of students with ASD were in general education classrooms for 80% of the day (Kurth & Mastergeorge, 2010). Data on students with low incidence disabilities (including ASD) over a twenty year period suggested more students categorized with ASD are being included in general education classrooms. However, the rate of inclusion for these students is not comparable to students with high incidence disabilities (Kurth, Morningstar & Kizleski, 2014). Research supports inclusive environments as a main factor in the progress of students with low incidence disabilities and students with ASD have shown academic skill improvement when participating in inclusive programs (Kurth, Morningstar & Kizleski, 2014).

The U.S. Department of Education's *38th Report to Congress on IDEA* in 2016 included data on the educational placement of students by area of disability in 13 categories of eligibility. Approximately 40 percent of students with ASD were served in the general education setting, 18 percent in resource (40-70% of the day with non-disabled peers), 32.8 percent in separate classes (40% or less of the day with non-disabled peers) and 9.2 percent in other settings. Only three other categories of the 13 included were served in general education settings less than students with ASD. Deaf and blind were 23.2 percent in general education, intellectual disabilities 16.9 percent, and multiple disabilities were 13.4 percent (*Thirty-Eighth Annual Report to Congress on IDEA*), 2016).

Specifically focusing on North Carolina, the U.S. Department of Education Ed Facts reports 15,970 (8.9%) students with ASD were served in the 2015-16 school year. Placements for students with ASD were in the following educational settings: regular classroom 80% or more of day: 6,394 students or 40%; regular classroom 40-79% of day: 2,686 students, or 16.8%; regular classroom less than 40% of the day: 6,306 students or 39.4%; separate school: 433 students or 2.7%; residential facility: 20 students or 12%; homebound/Hospital: 94 students or .58%; correctional facility: 0; or parentally place in private school: 37 students or .23%.

Jennifer Kurth (2015) examined on how the state of residence impacted the educational placement of students with ASD. With data from 2008, Kurth concluded the needs of students in different states with similar profiles did not vary greatly. However, their educational placements varied dramatically. Western states were more inclusive than eastern, and out of the 50 states, North Carolina ranked 11 on the chart for the least to most mainstream schooling and ranked 43 of 50 for least to most self-contained.

The factors affecting educational placements vary by state and district policies, family preferences, the beliefs and practices of local administration and school personnel. In addition community groups/resources and parent advocates have monumental impacts on placement decisions (Kurth, 2015). The child's individual needs should be in the forefront as IEP teams make placement decisions, but these decisions are not made without consideration of many other factors. Some team members may believe behaviors or social skills need to be addressed more intensely and argue for a more restrictive placement from the belief more intensive instruction may be received in this setting and better address needs. Others may seek a less restrictive setting arguing academics outcomes are increased

by participation in general education classrooms coupled with higher expectations and modeling of appropriate behaviors (Kurth, 2015). Impacts of placement decisions are lifelong with data showing the initial setting a student is placed in (whether that be a regular setting, resource, self-contained, or more restrictive) is the setting the student usually stays in for the remainder of their education (White, Scahill, Klin, Koenig & Volkmar, 2007).

IEP Evaluation Research

Specific IEP Component Evaluations – Nonspecific to Autism

Studies by Smith (1990), Nickles, Cronis, Justin and Smith (1992), and Epstein, Patton, Polloway and Foley (1992), focused on IEP goals and objectives, however, these studies were not specific to ASD. Smith examined present levels of performance and annual goals to determine if a match existed between the two in 120 IEPs of 4th through 6th graders. His study indicated there were deficits in the IEPs with annual goals present for areas not identified as areas of need in the levels of performance (Smith et al., 1990).

Nickles et al. (1992) examined IEPs for students with mild mental retardation (MMR), now termed intellectual disability (ID), and behavior and learning disabilities to evaluate annual goals and objectives in IEPs. They found a lack of social skills goals for students with behavior disabilities and insufficient daily living skills goals for students with MMR. The study raised the concern of a goal meeting compliance, but not meeting the needs of the student and not being focused on instruction related to the goals in the IEP and progress towards those goals (Nickles et al., 1992).

The correlation between IEP goals and areas of need for students was questioned when Epstein et al., (1992) and his colleagues reviewed the goals of 107 middle school

students with behavior disorders. With an average of 2.4 behaviors included in IEPs and each student with four goals there was a low incidence of goals matching the behavior problems listed. The mitigating factor was believed to be a lack of behavior data for the present levels of performance resulting in inappropriate goals (Epstein et al., 1992).

Transition goals in IEPs were studied by Powers et al., (2005) in two states to determine if the requirements for transition in IDEA were met. The team discovered 24% of IEPs sampled did not have a transition component and the plans were lacking details. There was low participation from transition specialists and vocational rehabilitation and it was a rarity for the IEPs to include self-determination education in the plan (Powers et al., 2005).

Finn and Kohler (2009) added a different dimension to studying the IEP transition component by training teachers on the required components and procedures for transition planning in IDEA. Trained participants then reviewed the transition checklist provided and used it to develop and implement a plan to address the problems identified. The researchers returned two years later to review the IEPs again and the results concluded with some IEPs showing improvement while others did not. Follow up recommendations included the use of information from transition assessments, transition training for those responsible for transition components and creating a system of accountability for ensuring transition components are present and student progress towards goal attainment is measured.

Further study in relation to educational settings and participation levels investigated the quality of IEPs and the correlation between IEP quality and participation in the general education classroom (LaSalle et al., 2013). In the study, 130 teachers from across Indiana were asked to submit an IEP for one student participating in the state's alternate assessment

for researchers to review. The IEPs were reviewed for four criteria: 1) IEP goal alignment with state standards, 2) specific assessment data in the present levels of performance, 3) statement on how the student's disability effects their participation in general education, 4) documentation of the student's baseline performance data and, 5) outcomes stated in measurable terms.

Upon completion of the review the results indicated the IEP sampling had goals linked to the curriculum standards and progress monitoring strategies were listed, but there was less information about present levels of performance and how these goals related to student needs. Overall, there was no impact related to the quality of IEP goals and participation in the general education curriculum found. The study did yield concerns that even though the IEPs did not impact access they needed to be more developed so they could be used to facilitate participation in general education and improve student outcomes (LaSalle et al., 2013).

IEP Evaluations and ASD

The Ebsco Host database was used to search Education Research Complete for information related to evaluations of IEPs for students with ASD. Thirty-nine searches with the keyword "autism" as part of the search terminology was used with results related to the study topic limited to two articles. Due to the limited results specific to autism the search was expanded with the use of thirty-three keyword searches without the use of "autism" in an effort to locate more information on the evaluation of IEPs for all disabilities. The expanded search produced more results than searches specific to ASD IEP evaluations leading to the conclusion that, although ASD has been a category of disability for twenty-seven years, research is limited in comparison to other disability areas.

Wilczynski et al. (2007) examined the characteristics present in individuals with ASD for the purpose of identifying skills for IEP teams to consider when developing goals and objectives. The review identified communication, social skills and repetitive/restrictive behavior, or intense interests or activities as the three areas of importance in developing IEP goals and objectives (Wilczynski et al., 2007). The review concluded there was no relationship between the process used for developing IEP goals and objectives, but stated “a thorough knowledge of the characteristics associated with ASD, typical developmental trajectories and the unique strengths and needs of individual students” (Wilczynski et al., 2007, p.664) are important factors for IEP team considerations.

The programming review listed subsets of skills in communication, social skills and behavior to consider when making programming decisions. The authors developed a table with the domain (communication, social skills and behavior) and a subset of skills within each domain to consider when developing a comprehensive IEP with appropriate programming. The authors caution that all subskills should not be worked on at the same time and the goals developed should be attainable within the life of the current IEP (Wilczynski et al., 2007).

Thirty-five teachers of students between three and nine years old with ASD provided information for a study conducted to test an *IEP Evaluation Tool* created using IDEA requirements and recommendations from the NRC for individuals with ASD (Ruble et al., 2010). The study tested the tool for reliability and examined teacher and child characteristics in relation to IEP quality. Eight indicators from IDEA were included in the development of the tool and 10 from the NRC, 2001 best practices for IEP development for students with ASD (Ruble et al., 2010).

One of the eight areas included for quality review in the tool was IEP objectives based on the NRC recommendations of three primary areas of impairment specific to individuals with ASD: 1) communication, 2) social skills, and 3) work skills. Wilczynski et al., 2007 also listed communication and social skills as areas for goal needs, but repetitive/restrictive behavior was a third area in lieu of work skills. The evaluation tool established the guideline of a behavior or academic goal being scored if one of the primary areas of impairment in the NRC recommendations was not a goal in the IEP.

The evaluation tool included a review of related services provided to the individual and IDEA indicators for the analysis of the overall IEP with “yes” and “no” responses to indicate if the individual had a need in the areas of communication, academic performance, health/vision/hearing/motor abilities, social and emotional status, general intelligence and the overall quality of the description of the individuals performance relative to the general curriculum or developmental status is clear enough to establish well-written goals for the child. If there was no reference to grade, age, or developmental performance then a “no” response was recorded (Ruble et al., 2010). Appendix B shows the NRC indicators that were used in the overall analysis of goals/objectives and in the analysis of specific IEP objectives with a Likert scale ranging from zero to two (0 = not included, 1 = incomplete, and 2 = yes/explicitly stated).

Their study found the overall quality of IEPs was poor across all schools for students with ASD and IEPs did not meet the requirements/recommendations of IDEA and the NRC. Goal measurability was a strong area in need of improvement and lacked terms of measurements specific enough to measure progress towards goal attainment. Goals being linked to the general curriculum state standards were not individualized to the

specific needs of the child to address areas of need documented in the present levels of performance. Also, writing the state standard as the goal rather than linking goals and objectives to the standard did not meet the criteria of individualization to specific student needs leading to progress toward the standard (Ruble et al., 2010). Additionally, the majority of IEPs did not contain communication and social goals which are areas identified as impairments for ASD. These two areas are deficits for individuals with ASD and these goals being omitted was an area of concern as well as the lack of clarity in identifying accommodations leading to problems with program implementation (Ruble et al., 2010).

Specially designed instruction was an additional area in need of improvement identified with many IEPs containing a list of generalized teaching methods, but not specifically linked to the instructional needs and goals of the individual. This was especially noted for students being assessed on alternate assessments and also of concern due to the IEPs development in one school year with a designated teacher and then students transitioning to a different school year with new teachers. These transitions impact fidelity of the implementation of the IEP with potential impacts on educational outcomes for the student and issues with IDEA compliance (Ruble et al., 2010).

Extended school year is a component required by IDEA to be addressed in the IEP process. The NRC recommends the majority of students with ASD receive extended school year (ESY) services because the nature of ASD requires intensive instructional programming often necessitating year round services. Nine percent of IEPs examined had recommendations for ESY services and only 50% addressed ESY in any capacity (NRC, 2001). The authors attributed the possibility of inadequate training on ESY services,

insufficient funding and improper use of instruments to make decisions about ESY as reasons for the lack of ESY service offerings (Ruble et al., 2010).

Lastly, the study indicated approximately 50% of IEPs noted parent concerns and attributed this to the lack of parent participation in the development of the IEP (Ruble et al., 2010). Given the increase in the number of individuals with ASD, and this area of disability being among the fastest growing in terms of litigation, parent participation in the IEP process is paramount. Parental input enables IEP teams to address parent concerns and make decisions regarding programming and implementation with all team members contributing relevant information about the needs of the individual that may significantly impact educational outcomes.

Summary and Implications for Research

Prior to the reauthorization of IDEA in 1990, ASD was not identified as a category of eligibility for special education services. Legislation in IDEA mandated services and IEP components for students with disabilities, and with the applicability of NCLB to all children, including students with disabilities, the interconnectedness of these two pieces of legislation had strong implications for access to general education as well as increased levels of accountability for all stakeholders in the education of children.

The definition of ASD in the DSM-5, IDEA, and recommendations from the NRC, all have the commonality of social skills, communication, and restrictive repetitive behaviors as areas of impairment that need to be addressed in IEPs for individuals with ASD. The NRC recommends functional skills as an additional area of concern for consideration by IEP teams with individual functioning levels as a mitigating factor in determining needs in this area.

Within these areas of concern there is a wide variance with the degree of severity in each individual that is also influenced by individuals having to generalize skills across different environmental settings, and changes occurring as they go through different developmental stages. Because of the unpredictable variances and the unique needs of individuals even experienced professionals working with these students may encounter different challenges requiring multi-disciplinary team problem solving and implementation of multiple evidence based practices before finding practices to meet the needs of the student.

An IEP that meets legal compliance does not mean it meets the programming needs of the student, or that the student is making progress towards their goals. Individualized education plans should direct all aspects of the IEP program (Christie & Yell, 2010). With the unique challenges presented by each individual with ASD it is essential that IEPs meet procedural compliance requirements, as mandated in IDEA, and provide meaningful educational benefit to a student (Christie & Yell, 2010).

In examining programming needs teams should consider the educational benefit of the programming and ensure the goals and objectives are measurable as a procedural compliance requirement and for determining student progress towards goal attainment. The IEP team must have appropriate, meaningful and accurate data that shows the student's progress to appropriately plan for programming (Bateman & Linden, 2006). Individualized education plans should include progress monitoring data in the present levels of performance since teams are required to make decisions based on data when developing the IEP. Consideration should also be given to evidence based practices, specially designed instruction, accommodations/modifications and any other programming factors that may be

relevant to the student's progress so adjustments can be made to individual programming for optimal educational outcomes.

Studies evaluating IEPs, while being limited across all disability categories, are sparse for students served in the category of ASD. Research on IEPs since the reauthorization of IDEA in 1997 has been limited (Sopko, 2003). The majority of studies focused on disability categories other than ASD and examined procedural compliance, litigation, state policies and practices and interventions (Christie & Yell, 2010).

Examining the Quality of IEPs for Young Children with Autism (Ruble et al., 2010) was the only study located that analyzed overall IEP compliance and goals/objectives specific to ASD. The second study, and only additional study specific to IEPs for students with ASD, focused on the association of characteristics of students with ASD to specific skills for teams to consider when developing IEPs (Wilczynski et al., 2007). Wilczynski stated that there is a, "dearth of research that has been conducted on developing IEPs for this population" (Wilczynski et al., 2007, p.653). This was evident with the search results findings of only two studies specific to IEPs and ASD with more than one hundred key word searches using online databases.

There are a limited number of studies examining overall IEPs for students with ASD based on the availability of literature for the review. Existing research focuses on compliance and procedures with one study in particular focusing on evaluating the overall IEP, determining if recommended goals/objectives for students with ASD were present and completing an analysis of the goals using an *IEP Evaluation Tool* (Ruble et al., 2010). The results concluded the overall quality of IEPs was poor and IEPs did not meet the IDEA requirements and NRC (2001) recommendations for educating students with ASD.

Based on the IEP evaluation, improvements needed to be made in the area of the inclusion of goals addressing areas of deficits in communication and behavior and social skills. Attention also needs to focus, not only on whether these specific goals are present, but the quality of the goals in relation to the student's needs stated in the present levels of performance. Parental concerns, specially designed instruction, and clearly stated accommodations were additional areas of concern.

Autism Spectrum Disorder has only been recognized as a disability category since 1990 with the reauthorization of IDEA. In response to the ASD category addition state departments of public instruction and individual school districts have focused on how to educate individuals working with students served in the ASD category and to ensure that IEPs are compliant. Due to the rapid increase in the identification of students with ASD and their wide range of diverse needs, it has been a necessity for school districts to educate staff on the implementation of evidence based practices, programming recommendations for consideration, addressing parent concerns and correcting compliance issues. Although there have been significant gains in educating students with ASD “evidence is lacking regarding the relationship between the quality of IEPs and students’ educational progress and outcomes” (Christie & Yell, 2010, p.121).

Currently there is a need for additional studies to analyze the goals and objectives in IEPs for students with ASD. Individuals are assessed for impairments in communication, social skills and restrictive/repetitive behaviors when a diagnosis or eligibility in ASD is being considered. These areas of impairment are characteristic of individuals with ASD and deficits in these areas must be present when clinicians make a diagnosis of autism, or when educational agencies determine eligibility for special education services. This

necessitates IEP teams to carefully review present levels of individual functioning in each of these areas and make appropriate recommendations for programming.

When reviewing IEPs for compliance and quality a key factor for analysis and a requirement of IDEA is student progress. Researchers in the literature reviewed discussed information on compliance and quality, but no information was presented on student progress toward goal attainment and overall educational outcomes.

Implications for further research should continue to focus on IEP compliance, but also quality of the IEP specifically in relation to the impairments identified as criteria in the diagnosis and eligibility of individuals with ASD and the inclusion of goals in IEPs to develop appropriate programming. Evaluating the compliance and quality components are contingent on assessing student progress that is an additional area with a lack of existing research.

In addition to these implications the University of Kansas' *Guide for Educating Students with Autism Spectrum Disorder* (2013) stresses the importance of early intervention services for students with ASD and reports educational outcomes are better for students receiving services early. Plans developed early by school systems upon diagnosis of ASD are essential to prevent, or intervene, with abnormal behavior, to teach communication skills and promote generalization of skills by developing effective teaching strategies. The implications of early intervention is indicative of the importance of establishing appropriate, effective programming for students with ASD in their formative years (up to age 8). Evaluating IEPs of students in the formative age group grade levels is warranted, and with quality program implementation during this time it may reduce the

need for special education services throughout students' educational careers (Jacobson et al., 1998).

Chapter 3

Methodology

The purpose of this study was to evaluate the IEPs of students with ASD in kindergarten through third grade. To complete the evaluation, a quantitative study was conducted with a population of students from a school district in North Carolina. This chapter discusses the research method, context of the district to be studied, participants in the study and data collection and analysis. A summary is provided for each of the research questions examined in the study.

Research Method

This evaluation reported quantifiable data in frequencies and percentages to the stakeholders in the district where the study was completed. Individual education plans (IEP) for students with ASD were analyzed with an *IEP Evaluation Tool* (Ruble et al., 2010) (Appendix C). Cross-sectional, archival IEP data were analyzed with descriptive statistics and reported in percentages for the overall analysis of IEPs. The *IEP Evaluation Tool* was used to examine IDEA requirements and NRC indicators using Likert scale numerical ratings for IEP components and for individual items in the IDEA and NRC sections of the *IEP Evaluation Tool*.

The *Autism Self-Efficacy Scale for Teachers* (ASSET: Ruble et al., 2013) was used to collect data from special education teachers who provide services to one or more students in the category of ASD. The ASSET was used to collect data from teachers on areas where they experienced difficulties in serving students with ASD. A one hundred point scale (zero representing cannot do, 50 moderately can do, and 100 highly certain can do) was used by teachers to rate their degree of confidence on the thirty survey items. The

data will be analyzed by calculating a mean score for each cluster area.

District Information-Context

School districts in North Carolina are divided into eight regions. The school district in this study is one of sixteen school districts in the region. The district has a population of 91,393 (US Census estimate, 2016) with 12,277 students in kindergarten through twelfth grade, and 1,817 of these students receiving special education services. One hundred and seventy of these students receive services in the category of ASD.

The district is divided into four attendance zones with 15 elementary, 4 middle and 4 high schools. Each attendance zone represents a geographical region of the district. A full continuum of placements (regular classrooms, resource settings, separate classes, separate schools, residential settings and home/hospitals) is offered in the district as mandated by IDEA. When interpreting data for individual schools in the study it is important to note that classrooms for elementary school students in separate settings for significant cognitive disabilities are located in eight of the 15 elementary schools. Two classrooms serving students with serious emotional disabilities are located in one of the eight schools that also houses a classroom for significant cognitive disabilities. The location of self-contained classrooms does not affect trends for the district data analysis.

Participant Selection

The data source in this study was sixty-three IEPs of students in kindergarten through third grade eligible for special education services in the category of ASD. The participants met the criteria for eligibility for ASD as defined in the *North Carolina Policies Governing Services for Children with Disabilities*, 2014. Archived IEP data was analyzed with no direct student contact for data collection. A consideration was given to a

random selection of participants, but in the interest of data analysis for all schools, evaluating the IEPs of each student will be completed for a thorough analysis of all IEPs for students with ASD in kindergarten through third grade.

The Director of Exceptional Children's Programs for the school district was contacted to obtain permission to access IEPs for students included in the evaluation study. Additionally, permission was obtained to administer a questionnaire to special education teachers with one or more students on their caseload receiving services in the category of ASD at each elementary school site. Access to student IEP data and teacher contact information for survey administration was approved by the school district's Director of Exceptional Children's Programs and the Director of Testing and Accountability and was contingent upon permission granted by the Institutional Review Board to conduct the study. Permission of the Institutional Review Board for the Protection of Human Subjects (IRB) was obtained from questionnaire participants by implied consent (teachers completing the survey if they choose and no identifying information on the survey is required).

Teacher participants completing the *Autism Self-Efficacy Scale for Teachers* (ASSET; Ruble et al., 2013) were those who provided special education services to one or more students with ASD on their caseload. Participants were contacted via a cover letter with the survey. The letter stated that survey responses would be kept confidential and no identifying information would be required when completing the survey.

Data Collection Instruments

This study evaluated the IEPs of students with ASD in kindergarten through third grade for NRC and IDEA indicators. Individual education plans were provided by the

school district and an *IEP Evaluation Tool* was used to analyze IEPs. A self-efficacy questionnaire was completed by special education teachers with one or more students with ASD on their caseload to assess areas of difficulty when educating students with ASD.

The *IEP Evaluation Tool* to be used in this study was developed by Ruble, McGrew, Dairymple, and Jung, in 2010 to evaluate IEPs of students between the ages of 3 and 9 years with ASD. The tool was constructed using eight IDEA requirements for IEPs and nine NRC recommendations for children with ASD (Ruble et al., 2010). Dr. Lisa Ruble, of the University of Kansas, was contacted by email and permission was given to use the tool in this study.

The *IEP Evaluation Tool* is divided into three parts: IDEA Indicators-Analysis of Overall IEP and Analysis of Specific IEP Objectives and NRC Indicators-Analysis of Overall IEP. The IDEA Indicators included two parts: 1) measurement of the overall quality of the description of the student's present levels of performance (scored with yes/no responses, a yes = 2 and no = 0) and, 2) evaluation of the quality of IEP objectives (scored using a 3 point Likert scale; 0 = not at all; 1 = unclear/not explicitly stated/somewhat; 2 = yes/explicitly stated). A mean score will be calculated for the IDEA indicators for the overall IEP and areas of strengths and needs identified.

A mean score for the IDEA indicators for IEP objectives was derived by the analysis of IEP objectives in the areas of social, communication and learning or work skills. If goals were not present in each of these areas a behavioral, academic or other objective were substituted for scoring. The score for the IDEA section was derived by scoring items from IDEA Part A and IDEA Part B (IEP objectives) and deriving a mean score from the two sub-scores. Part A, indicator 8, (the child's present level of

performance) was particularly important because it analyzed whether the goals/objectives were developed based on the present level of performance (Ruble et al., 2010).

The National Research Council indicators of the analysis of the overall IEP uses a 3 point Likert scale for measurement (0 = no/not at all; 1 = somewhat; 2 = yes/clearly evident). For an item to be considered to have adequately met the NRC recommendations the item needs a score of 2. Extended school year (ESY) was a measurement with a score of zero if ESY was not addressed, one if it was addressed and a two if ESY was a recommended service. An overall mean score was calculated across all 10 indicators.

Inter-rater reliability of the *IEP Evaluation Tool* was established by Ruble et al., (2010) with two evaluators separately coding sample IEPs and revising the tool until an inter-rater agreement rate of .80 or more was established for the overall *IEP Evaluation Tool*. Three, two hour required trainings were held to develop the final revisions for the coding scheme. Twenty percent of the IEPs were randomly selected for coding by two raters to verify the coding revisions (Ruble et al., 2010).

The *IEP Evaluation Tool* reliability was calculated using the sum of the IDEA and NRC items and had an intra class correlation of .70. The validity of the *IEP Evaluation Tool* was established by using items from IDEA legislation and NRC (2001) recommendations (Ruble et al., 2010). Their evidence suggested the *IEP Evaluation Tool* was reliable for measuring IEP quality.

The *Autism Self-Efficacy Scale for Teachers* (ASSET) was the second data collection component to the program evaluation study. The ASSET is a thirty item questionnaire participants complete by self-reporting their ability to teach students with ASD based on their knowledge of best practices and recommendations by the NRC (2001).

A rating scale of zero to 100 (0 representing cannot do, 50 moderately can do, and 100 highly certain can do) was used for teacher scoring of each item. A mean score is calculated for individual items on the survey and survey item clusters with the higher the score the higher the self-efficacy belief.

The reliability of the ASSET was established using the results from a study conducted by Ruble et al. (2013) with 44 special education teachers from two states in the mid-southern United States completing the questionnaire on their beliefs about their ability to educate students with ASD. The participant pool was small, but the preliminary results supported the reliability of scores generated by the ASSET.

Data Analysis

The descriptive data analysis was reported on the district's proficiency in meeting the IDEA requirements and NRC recommendations in the *IEP Evaluation Tool*. Data were reported in percentages for district data analysis for: 1) each item on the evaluation tool across all IEPs evaluated (example: 62% of IEPs met the IDEA requirement for item 3, 32% of IEPs met the IDEA requirement for item 4 etc.), 2) overall IEP proficiency, and 3) overall IEP proficiency for the district.

The items in the IDEA and NRC sections of the *IEP Evaluation Tool* were assigned a score of 0 = no/not at all; 1 = somewhat; 2 = yes/clearly evident. After all IEPs were scored, a mean score was calculated for the IDEA indicators and for the NRC recommendations. The sum of the two means was used to calculate a mean score for the overall IEP with a score of 2 indicating the IEP adequately met the IDEA requirements and NRC recommendations.

Descriptive statistical analysis were used to present data summaries and calculate

percentages for the ASSET questionnaire items completed by special education teachers of students with ASD in kindergarten through third grade. The self-report questionnaire was used to assess the beliefs of special education teachers about their ability to educate students with ASD and areas in which they may experience difficulty.

Research Questions

The following research questions were proposed:

1. What percentage of individual education plans evaluated using the *Individual Education Plan Evaluation Tool* meet the *Individuals with Disabilities Education Act* requirements and National Research Council recommendations for educating students with Autism Spectrum Disorder?
2. What *Individuals with Disabilities Education Act* requirements and National Research Council recommendations are identified as deficits and strengths when evaluating individual education plans for students with Autism Spectrum Disorder using the *Individual Education Plan Evaluation Tool*?
3. What perceptions concerning knowledge and confidence in developing individual education plans and programming for students with Autism Spectrum Disorder are reported by teachers completing the *Autism Self-Efficacy Scale for Teachers*?
What relationships exist between data collected using the *Individual Education Plan Evaluation Tool* and teacher self-reporting on the *Autism Self-Efficacy Scale for Teachers*?

Research Question #1

What percentage of individual education plans evaluated using the *Individual Education Plan Evaluation Tool* meet the *Individuals with Disabilities Education Act*

requirements and National Research Council recommendations for educating students with Autism Spectrum Disorder?

The *IEP Evaluation Tool* will be used to evaluate eight IDEA requirements with a Likert scale. A score of zero meaning not at all, 1 unclear; incomplete; not at all and 2 yes; explicitly stated. The IDEA mean scores for all IEPs analyzed in the study will be computed for each IDEA component and will be reported as a score for the district by individual component (Part A and IEP objectives). The analysis of this data will enable stakeholders to identify areas of strengths and needs for the district.

Nine NRC (2001) recommendations for educating students with ASD will be evaluated using the *IEP Evaluation Tool*. A Likert scale will be used to evaluate each item with zero representing not included; incomplete, 1 meaning incomplete; somewhat and 2 yes; explicitly stated. A mean score for each of the nine recommendations will be calculated based on the evaluation of all IEPs in the study and the score will be reported for each component as an overall score on the item for the district. The data for IDEA and NRC indicators individual items will be used to identify strengths and weaknesses for IEP development and programming for students with ASD in district in this study.

The sum of the mean scores from the IDEA requirements and NRC recommendations were used to calculate a mean score for each IEP. The sum of all IEP scores were used to calculate a mean score for the district.

Research Question #2

What *Individuals with Disabilities Education Act* requirements and National Research Council recommendations are identified as deficits and strengths when evaluating

individual education plans for students with Autism Spectrum Disorder using the *Individual Education Plan Evaluation Tool*?

The IEP Evaluation Tool was used to evaluate IDEA requirements and NRC recommendations using a Likert scale rating for elementary students with ASD in kindergarten through third grade. Proficiency scores for each indicator were analyzed to identify strengths and weaknesses in IEP development and programming for students with ASD.

Research Question #3

What perceptions concerning knowledge and confidence in developing individual education plans and programming for students with Autism Spectrum Disorder are reported by teachers completing the *Autism Self-Efficacy Scale for Teachers*? What relationships exist between data collected using the *Individual Education Plan Evaluation Tool* and teacher self-reporting on the *Autism Self-Efficacy Scale for Teachers*?

The *Autism Self-Efficacy Scale for Teachers* was used to evaluate 30 items to be scored by each special education teacher with at least one student with ASD on their caseload. The survey questions were clustered by category based on the area of confidence being rated. A mean score for each cluster was derived by calculating the sum of participant responses for each cluster and then calculating a mean score. An overall score was derived by calculating the score for each survey completed and combining these scores to calculate an overall mean.

Scores were reported by listing each cluster and the overall mean score for the cluster. Each survey was scored individually by totaling the score for each survey item and the sum of the items used for a cluster score. The overall scores from all participants were

used to calculate the mean and reported as overall district scores. An analysis of data collected on IDEA and NRC indicator proficiency from the evaluation of IEPs using the *IEP Evaluation Tool* and the *Autism Self-Efficacy Scale for Teachers* self-report confidence levels on IEP development and programming were cross-referenced to identify relationships between teacher confidence and IEP indicator proficiency.

The data collected for this study was used to report descriptive statistics on IEP requirements and NRC recommendations to stakeholders in the district where this study was conducted. The data will give stakeholders a comprehensive report of the quality of IEP development and programming for students with ASD in the district. The *Autism Self-Efficacy Scale*, based on teacher self-reports, will be reported to stakeholders in the district with implications for developing a plan for IEP programming for students with ASD.

Chapter 4

Results

The purpose of this research study was to evaluate the individualized education plans (IEPs) of students with Autism Spectrum Disorder (ASD) in kindergarten through third grade for the presence of *Individuals with Disabilities Education Act* (IDEA) requirements and the National Research Council (NRC) recommendations for IEPs generated for students with ASD. A quantitative study employing frequency counts and percentages was conducted to identify relationships between the development of IEPs and programming for students with ASD and teacher perceptions about their knowledge and confidence in IEP development.

An *Individual Education Plan Evaluation Tool* (Ruble, 2010) was used to evaluate IEPs, and teachers of students with ASD completed the *Autism Self-Efficacy Scale for Teachers* (Ruble, 2010) to rate their knowledge and confidence. Permission for use of both instruments in this study was obtained via email from Lisa Ruble at the University of Kansas. The IEP evaluation included 63 IEPs of students with ASD in kindergarten through third grade attending a rural public school system in North Carolina. Twenty-six teachers serving as case managers of students with ASD whose IEPs were evaluated in the study were asked to complete the *Autism Self-Efficacy Scale for Teachers*. The analyses and results related to IDEA requirements, NRC recommendations, and teacher perceptions and knowledge about developing IEPs and programming for students with ASD are presented in this chapter.

Participants

An electronic request was submitted to the rural North Carolina school district and permission was granted to evaluate IEPs of students with ASD in kindergarten through third grade spanning 15 elementary schools in the district. The school district provided paper copies of 63 IEPs for students with ASD. Personally identifying information was removed by the school district prior to the IEP analysis.

Twenty-six teachers of students with ASD in kindergarten through third grade received a packet with a cover letter, consent form, and questionnaire requesting their participation in the study. The packet was sent on January 29, 2018 with a response rate of 42% (11 surveys) and a reminder packet was sent on February 5, 2018 that resulted in 2 additional survey submissions. A cover letter, consent form and questionnaire were included in the original and reminder packets. The survey was closed on February 12, 2018. Thirteen of the possible 26 teacher participants completed questionnaires, which yielded a 50% response rate.

IDEA Requirements for IEPs of Students with ASD

Sixty-three IEPs of students in kindergarten through third grade with ASD were evaluated using the *Individual Education Plan Evaluation Tool*. Of the 63 IEPs evaluated, 17 were kindergarten, 19 first grade, 13 second, and 14 third. Each of the 15 elementary schools in the district had students with ASD in one or more of the grade levels included in this study.

The *IEP Evaluation Tool* exploration of IDEA requirements included an analysis of the overall IEP to determine if communication, academic performance, health, vision, hearing, motor abilities, social emotional status and general intelligence were described as

areas of need. The overall description of the child's general academic and/or developmental level was analyzed to determine if the descriptions were clear enough to write goals in the areas of need. Three goal areas were chosen from each IEP, if possible in the areas of social, communication and work skills or learning due to NRC recommendations that these areas are high needs areas for IEP teams to review for students with ASD. Goals not present in these areas were substituted with behavioral, academic or other goals for scoring in an effort to attain the three goal minimum for each IEP evaluation. This goal was met with the exception of 14 IEPs having less than three goal areas.

Inter-rater reliability for the *IEP Evaluation Tool* was established with two individuals independently rating 10% (6) of the IEPs evaluated in this study. The two evaluators reviewed the *IEP Evaluation Tool* indicators and criteria for scoring prior to evaluating the IEPs. The review included a discussion of existing criteria in the instrument for scoring each indicator. Discrepancies in scoring were noted in IDEA indicators 22 (description of how the child's performance is linked to the general curriculum) and 28 (specially designed instruction). Indicator 22 discrepancies were resolved by deciding the impact statement, that is in the present level of performance and describes how the child's disability impacts their access to the general education curriculum, would be designated for evaluation of linkage of the child's performance to the general curriculum. Criteria for evaluating indicator 28, specially designed instruction, was established by including three criteria for scoring: 1) receiving a score of 2 required service time in the IEP for the goal area and accommodations, or a statement describing instruction in the least restrictive environment (LRE). A score of 1 was assigned if IEP service time was present for the goal

and there were no accommodations or LRE statement. A 0 was assigned if there was no IEP service time for the goal area. Service time for the goal is a requirement and if no service time was present a score of 0 was assigned to this indicator.

The Kappa test was chosen to establish inter-rater reliability due to the test accounting for the possibility that raters guess on some variables because of uncertainty. The test was performed using the Statistical Package for Social Sciences (SPSS) to calculate a measure of agreement for the *IEP Evaluation Tool*. A Kappa test was performed for ratings on items 9-28 and all objectives evaluated for the sampling resulted in a satisfactory Kappa agreement of .873. A separate calculation was performed for yes/no items 3-8 because these items had two response choices, versus four on items 9-28, with a satisfactory Kappa agreement of .933. A Kappa agreement greater than .70 is considered satisfactory.

The *IEP Evaluation Tool* in this study used a Likert scale for scoring each IDEA and NRC indicator. The *Individuals with Disabilities Education Act Part A* used “yes and no” responses with a “yes” rated as 2 on the scale and “no” rated as a 1. The National Research Council Part A and IDEA Part B indicators (objectives) included a not applicable (NA) rating and a Likert scale of 0-2. Refer to Appendix E for examples of IEP components scoring a 0, 1 and 2.

The IEPs evaluated in kindergarten through third grade yielded educational placement results in which 60.3 percent were receiving special education service delivery in the regular setting (80% or more of the day with non-disabled peers), 6.4 percent at the resource level of service support (40 to 79% of the day with non-disabled peers) and 33.3 percent in a separate setting (39% or less of the day with non-disabled peers). The overall

IEP analysis of IDEA indicators in Part A of *the IEP Evaluation Tool* rated the individual components with a “yes” or “no” response indicative of whether the IEP described each area listed as an area of need for the student. Ninety-five percent of the IEPs evaluated identified communication as an area of need, 89% included academic needs, 52% motor, and 68% socialization needs. Ninety-six percent included data on general intelligence and 92% of IEPs had descriptions of the student’s present levels of performance to the general education curriculum, or developmental status, that were clear enough to develop well written goals for the student. The two IEPs without clear information for goal writing contained minimal descriptions of the child’s strengths and needs and minimal progress monitoring data. The results are presented in table 1 below.

Table 1
Part A: IDEA Indicators – Analysis of Overall IEP

Indicator	% of IEPs with Indicators Addressed
Communication status	95%
Academic performance	89%
Health, vision, hearing, motor abilities	52%
Social and emotional status	68%
General Intelligence	96%
Present level of performance is clear enough to write well-written goals.	92%

IDEA Part B was the analysis of IEP objectives in each of the 63 IEPs evaluated. One hundred sixty nine objectives were evaluated for eight criteria using a 3 point Likert scale. A rating of 0 for “not included/not at all”, 1 for “unclear, incomplete/not explicitly stated/somewhat and 2 for “yes/explicitly stated. Due to IEPs being written based on individual student needs, all areas not applicable to each student because of individual IEP team decisions, “NA” was a response column for the evaluation of objectives to indicate this was not an area of need addressed in the IEP.

The objectives chosen for evaluation in each IEP were based on criteria established by Lisa Ruble et al. (2010), developer of the *IEP Evaluation Tool*. Goals for social, communication and work skills, or learning, were evaluated if present in the IEP. If goals were not present in these three areas then goals for behavior, academics and other areas were substituted resulting in the evaluation of three goal areas for each IEP. A mitigating factor presented previously was that 14 IEPs evaluated in this study had less than three goal areas.

One hundred percent of the 169 objectives evaluated for the description of the child's present level of performance and the criterion for goal acquisition (criteria #21 and #26) received a Likert score of 2 "yes/explicitly stated" which is the highest score on the scale and equates to meeting the IDEA requirement. Four indicators had less than 90% of objectives with a rating of 2 and 86% percent of IEPs received a 2 rating on the indicators for the conditions under which a behavior is to occur for a goal (whom, when, where). Ninety-six percent of the 169 objectives evaluated included a present level of performance with a statement linking it to the general curriculum and received a Likert scale rating of 1 or 2 dependent upon whether the statement described how the student's disability specifically impacted access to the general education curriculum. Fifty-four percent of the 169 objectives had a statement specifically linking the goal to the general curriculum and stating the impact of the disability on the student's education including why special education services are needed to access the general education curriculum.

For criteria #27, the method of goal measurement, the criterion stated a Likert score of 1 must be coded if a preset checklist was used for goal measurement rather than a statement individualizing the method. Two percent of IEP objectives specifically stated in

the goal a behavior monitoring method used in measuring the goal and received a scale score of 2. All other objectives evaluated used a preset list for choosing the method for goal measurement resulting in a score of 1. The district in this study uses a web based program to develop IEPs and a preset list of 20 methods for goal measurement were provided via a drop down list.

Lisa Ruble, developer of the *IEP Evaluation Tool*, was contacted at the University of Kansas for clarification on criteria for NRC indicator #28, specially designed instruction (SDI). Ruble referenced the difference in IEP components in different states and the IEP tool was developed focusing on IEPs in Kentucky. Researching sample IEPs in Kentucky revealed a section specifically for adding customized SDI statements. IEPs evaluated in this study did not have a specific section for stating SDI, so criteria were established for scoring indicator 28.

The criteria established for evaluating SDI included evaluating the presence of special education service time for the goal area, accommodations and modifications individualized to the student and a description for the least restrictive environment stating if the student is removed from the general education classroom and why this is necessary. Service time for the goal areas was a requirement for a score of 1. If one of the other two criteria (accommodations/modifications or LRE description) were present then a score of 2 was awarded. A zero was recorded if none of the three criteria were in the IEP for SDI.

Ninety-nine of the 169 objectives evaluated (58.6 %), had at least two of the three criteria for evaluating SDI in the IEP. Each of the 99 objectives met the required criteria of special education service time present in the IEP for the goal area and one additional area, either accommodations/modifications or the LRE statement. Sixty-seven objectives (39.6

%), had the required service time and received a 1 Likert scale rating. Three IEPs (1.8 %), did not meet the minimum requirement (service time for the goal area) resulting in a score of zero.

One hundred sixty-nine objectives were evaluated for this study because the criteria for the *IEP Evaluation Tool* established the use of three goals to be evaluated for each IEP. Additional data was collected in this study on the number and type of goals present in each IEP. A total of 210 goals were present in the 63 IEPs evaluated. The results are presented in table 2 below.

Table 2
Part B: IDEA Indicators – Analysis of Specific IEP Objectives

Indicator	% Scoring 0	% Scoring 1	% Scoring 2
Present level of performance described	0	0	100
Performance linked to general curriculum	4	42	54
Performance linked to developmental curriculum	.59	1.7	97.6
Objective measured in behavioral terms	0	.6	99.4
Conditions under which the behavior will occur are provided	0	0	100
Method of goal measurement other than preset list	0	98	2
Specially Designed Instruction	1.8	39.6	58.6

NRC Recommendations for IEPS of Students with ASD

Twelve NRC recommendations for developing IEPs for students with ASD were evaluated in Part A of the NRC indicators for the overall analysis of the IEP using a 3 point Likert scale. A zero on the scale denoted that a recommendation was “not included/not at all”, a rating of 1 for “incomplete/somewhat” and a 2 if the recommendation was explicitly stated in the IEP. A score of not applicable (NA) was included in the scale for recommendations not applicable to the IEP being evaluated.

The rating NA was prevalent in the NRC recommendation ratings when analyzing the overall IEP. The IEPs being developed by individual teams addressing needs specific to the each student's unique needs makes the use of the NA rating necessary for inclusion in the rating scale. The NRC recommendations are not requirements, but areas the NRC has identified as areas that need to be considered by IEP teams when developing IEPs for students with ASD. The NRC recommends 12 areas be considered by IEP teams to develop effective IEPs and programming for students with ASD. Individual teams may decide a recommendation area is not a need for the student resulting in a rating of NA on the *IEP Evaluation Tool* for a particular recommendation.

Sixty-three IEPs evaluated for the 12 NRC recommendations yielded a total of 951 indicators evaluated. One hundred and ninety-five items were NA and did not receive a number rating on the Likert scale. Recommendations rated as NA were not included when calculating percentages of IEPs receiving a 0, 1 or 2 for the analysis of the 12 recommendations.

One hundred percent of the 63 IEPs (excluding those coded as NA) received a rating of 2 on the Likert scale for NRC recommendations evaluating the description of parent concerns, use of a functional communication system, inclusion of two or more goals for motor skills, adapting goals from state academic content standards and extended school year being addressed in the IEP. Two IEPs received an NA rating for the description of parent concerns because the parent did not attend the meeting. It was noted in the parent concern section of the IEP the parent was not in attendance. Fifty-five IEPs were rated NA for functional communication systems because the students showed evidence of

conversational speech. Motor skills goals were NA in forty IEPs due to not being an area of need identified for the student.

Two NRC recommendations received low percentage ratings with a score of two. The recommendation for including goals for engagement tasks for attending, sitting in a circle and taking turns (anything other than academics) and extended school year (ESY) recommended as a service. Fifty-two of the 63 IEPs received ratings for goals for engagement tasks. Nineteen percent of the IEPs were rated a 2 and 42 IEPs (81%), were rated a 1. Evaluating the IEPs for engagement activities required a thorough analysis of goals in multiple areas because of the integration of this goal/objective with other goal areas. Speech language goals, social emotional, behavior, daily living and work skills goals were areas with multiple goal integration. IEPs with goal integration often incorrectly addressed student needs in the goal areas.

One hundred percent of the 52 IEPs evaluated for engagement/play activities addressed the need of engagement activities. However, the low percentage of IEPs receiving a score of two was an important finding as 81% received a rating of one. A further investigation affirmed that a score of 1 resulted from the omission of a motivational system description. A preset list of goal measurements included behavior charts for measuring goals in the engagement area, but only two IEPs explicitly stated a measurement not on the preset list.

Extended school year as a recommended service was the only NRC recommendation evaluated with 100% of the IEPs receiving a rating of 1. The two extended school year (ESY) recommendation questions included if ESY was addressed and if it was recommended as a service. The response for these questions were “yes” and “no”

with an answer coded “yes” receiving a score of 2 and an answer of “no” receiving a 1. All IEPs evaluated addressed ESY, but ESY was not a recommended service. In reporting the results a significant finding was the number of IEPs scoring “not applicable” (NA) meaning the IEP team did not identify the indicator as an area of need. The analysis results for the overall IEP ratings are presented in table 3 and 4 below.

Table 3

Part A: NRC Indicators – IEPs not identifying the indicator as an area of need.

Indicator	% of IEPs rated as Not Applicable (NA)
Parental concerns described	3
Includes social skills goals	22
Expressive/receptive goals included	8
Goals for symbolic communication system	87
Goals for engagement in tasks or play	17
Fine and gross motor skills goals	63
Academic goals	16
Goals for replacement of problem behaviors	70
Organizational goals	19
Academic goals adapted from state standards	3
Extended school year addressed	0
Extended school year recommended	0

Table 4

Part A: NRC Indicators – Analysis of Overall IEP

Indicator	% of IEPs rated 0	% of IEPs rated 1	% of IEPs rated 2
Parental concerns described	0	0	100
Includes social skills goals	2	14	84
Includes expressive/receptive goals	0	3	97
Goals for symbolic communication system	0	0	100
Goals included for engagement in tasks or play	0	81	19
Fine and gross motor skills goals	0	0	100
Academic goals	2	2	94
Goals for replacement problem behaviors	5.5	5.5	89
Organizational			

goals	2	4	94
Academic goals adapted from state standards	0	0	100
Extended school year addressed	0	0	100
Extended school year recommended	0	100	0

IDEA and NRC Overall IEP Analysis

The IDEA requirements evaluated in Part A of the *IEP Evaluation Tool* were averaged for each IEP. Three objectives for each IEP were evaluated, except for the 14 IEPs having less than three objectives. The developers of the *IEP Evaluation Tool* recommended goals in the areas of social, communication and learning or work skills be evaluated for each IEP. If goals were not present in each of these areas a behavioral, academic or other objective were substituted for scoring.

The score for the IDEA sections of the *IEP Evaluation Tool* were determined by calculating a score for IDEA Part A, calculating an average for the IEP objectives being evaluated (IDEA Part B) and then the scores for Part A and Part B were averaged to get the overall score for the IDEA part of evaluation tool. The developer emphasized if student performance was not clear enough then well-written IEP goals could not be written. The ratings for the 12 items in the NRC overall IEP analysis, Part A, were used to derive a mean score for the section. Then IDEA and NRC scores were combined to determine a mean score for the overall IEP.

Each IEP received an overall rating on the three point Likert scale used for evaluating the IDEA requirements and NRC recommendations in the *IEP Evaluation Tool*. An IEP scoring a 2 on IDEA Part A and a 1.75 on Part B (objective evaluations) would have an average Likert scale score of 1.875. A score of 1.81 on the NRC Part A analysis of

the overall IEP was added to the 1.875 average for IDEA Part A and B and a mean calculated giving the overall IEP a Likert score of 1.84. The developer of the *IEP Evaluation Tool*, Lisa Ruble, established a rating of 2 on the Likert scale as having met IDEA requirements and NRC recommendations evaluated with the instrument.

The analysis of overall IEP Likert scores for the 63 IEPs evaluated did not yield an IEP with an overall score of 2. Individual indicators evaluated with the instrument did result in scores of 2 on specific items. National Research Council indicators included a rating of not applicable (NA) meaning the IEP team did not identify the indicator as an area of need. IDEA Part B (objectives) indicators included a not applicable (NA) rating, but no IEP objectives were scored as NA. Table 5 reports the IEPs rated as not applicable and table 6 reports the Likert scores by the number of IEPs receiving 0, 1, 2. A significant finding was the number of IEPs scored as not applicable.

Table 5
Part A: NRC Indicators – Number of IEPs not identified as an area of need.

Indicator	# of IEPs Score Not Applicable out of 63
Parental concerns described	2
Includes social skills goals	14
Expressive/receptive goals included	5
Goals for symbolic communication system	55
Goals included for engagement in tasks or play.	11
Fine and gross motor skills goals included	40
Academic goals	10
Goals for replacement of problem behaviors	44
Organizational goals	12
Academic goals adapted from state standards	2

Table 6
*Individual Education Plan Evaluation Form Results
Part A: IDEA Indicators – Analysis of Overall IEP*

Indicator	# of IEPs out of 63 Scoring	
	1	2
Communication status	3	60
Academic performance	7	56
Health/vision/hearing/motor	30	33
Social and emotional status	20	43
General intelligence	5	58

Present level of performance is clear enough to write clear goals for the student.	2	61
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Part A: NRC Indicators – Analysis of Overall IEP

Indicator	Out of 63 IEPs # Scoring 0	Out of 63 IEPs # Scoring 1	Out of 63 IEPs # Scoring 2
Parent concerns described	0	0	61
Includes social skills	1	7	41
Includes expressive/receptive goals	0	2	56
Goals for symbolic communication system	0	0	2
Goals for engagement in tasks or play	0	42	10
Goals for motor skills	0	0	23
Academic goals	1	1	51
Replacement behavior goals	1	1	17
Organizational goals	1	2	48
Academic goals adapted from state standards	0	0	61

Indicator	# of IEPs Scored 1	# of IEPs Score 2
Extended school year addressed	0	63
Extended school year recommended	63	0

Part B: IDEA Indicators – Analysis of Specific IEP Objectives

Indicator	Out of 169 Objectives # Scoring 0	Out of 169 Objectives # Scoring 1	Out of 169 Objectives # Scoring 2
Present levels of performance described	0	0	169
Student performance linked to general curriculum	6	71	92
Student performance is linked to developmental curriculum	1	3	165
Objective is measured in behavioral terms	0	1	168
Conditions under which the behavior is to occur is provided	0	23	146
Criterion for goal acquisition is described	0	0	169
Method of goal measurement is			

described	0	166	3
Specially Designed Instruction is individualized	3	67	99

Autism Self-Efficacy Scale for Teachers

Twenty-six teachers in kindergarten through third grade with at least one student with ASD on their caseload were asked to complete the *Autism Self-Efficacy Scale for Teachers*. Thirteen special education teachers completed the thirty item self-report efficacy scale. This resulted in a 50 percent response rate.

Participants completed the questionnaire by recording a number between 0 and 100 corresponding with their degree of confidence in developing IEPs and programming for students with ASD. The scale used 0 to represent an activity/service the teacher could not do, a rating of 50 if the teacher was moderately confident they could complete the activity/service and 100 if they were highly certain about their ability to perform the task/activity. The thirty questionnaire items were divided into nine clusters based on the interrelatedness of the questions. Each of the thirty questions were reviewed and clustered into categories based on the identification of related subject matter for each question. The clusters were identified based on the following: 1-3 questions related to characteristics of ASD, 4-7 goals and objectives, 8-9 class structure, 10-12 expressive and receptive language (communication), 13-15 behavior support, 16-17 were questions about progress monitoring data, 18-22 were connected to social skills, 23-25 parent relationships and 26-30 addressed student engagement and motivation. The identification of key words in each question was useful in identifying related subject matter for clustering. The respondent's scores for each question were recorded and an average calculated for the cluster and presented in table 7 below.

Table 7
Autism Self-Efficacy Scale for Teachers – Clusters

Cluster #1 Autism Characteristics
1. Conduct an assessment of the student’s developmental skills/learning skills
2. Describe this student’s characteristics that relate to autism
3. Describe the implications for intervention based on this student’s characteristics
Cluster # 2 Instructional Programming
4. Translate assessment information into teaching goals and objectives for this student
5. Write a measurable objective for this student
6. Write a teaching plan for this student based on goals and objectives
7. Generate teaching activities for this student
Cluster # 3 Classroom Structure
8. Organize the classroom to increase opportunities for learning for this student
9. Use visual structure to increase this student’s independence
Cluster # 4 Communication
10. Help this student understand others
11. Help this student be understood by others
12. Provide opportunities for communication in the classroom throughout the day
Cluster # 5 Behavior Supports
13. Assess the causes of problematic behaviors of this student
14. Design positive behavioral supports for this student
15. Implement positive behavioral supports for this student
Cluster # 6 Progress Monitoring
16. Collect data to monitor this student’s progress toward objectives
17. Make use of data to re-evaluate this student’s goals or objectives
Cluster # 7 Social Skills
18. Assess this student’s social interaction skills
19. Assess this student’s play skills
20. Teach this student social skills interaction
21. Teach this student play skills
22. Train peer models to improve the social skills of this student
Cluster # 8 Parental Relations
23. Describe parental concerns regarding the student
24. Communicate and work effectively with this student’s parent (s) or caregiver
25. Describe parental priorities for learning with regard to this student
Cluster # 9 Student Motivation and Engagement
26. Help this student remain engaged
27. Sustain this student’s attention
28. Motivate this student
29. Help this student feel successful
30. Teach this student academic skills

The survey responses of the 13 participants completing the *Autism Self-Efficacy Scale for Teachers* were analyzed by calculating the average of responses for each of the nine clusters to identify the overall teacher confidence levels from lowest to highest. The overall confidence levels were cross-referenced with the *IEP Evaluation Tool* scores. The

averages were calculated by combining all participant responses in each cluster. The resulting scores fell between the moderately can do range to the certainly can do range (50-100). The results are presented in tables 8 and 9 below.

Table 8
Autism Self-Efficacy Scale for Teachers – Cluster Averages (lowest to highest)

Cluster Area	Average
Social Skills	68
Communication	70.5
Progress Monitoring	71
Autism Characteristics	72
Behavior Supports	73
Classroom Structure	74
Student Motivation	74
Parent Relationships	75
Instructional Programming	76

Table 9
Autism Self-Efficacy Scale for Teachers and IEP Evaluation Tool Proficiency Ratings

Note: The scale for the survey clusters: 0 cannot do, 50 moderately can do, 100 certainly can do.

Survey Cluster	Teacher Confidence Rating	Evaluation Tool Corresponding Indicator	% Proficient on IEP Tool Indicator	Comments
Social Skills	68	NRC # 10, #13	52	none
Communication	71	NRC #12, #13	99	8 of 63 IEPs had goals for #12
Progress Monitoring	71	IDEA Part A #8	97	none
ASD Characteristics	72	Overall IEP	90	
Behavioral Supports	73	NRC #16, #17	92	19 of 63 IEPs had behavior goals
Class Structure	74	IDEA Part B #28	59	169 goals evaluated
Student Motivation	74	NRC #13	19	52 of 63 IEPs evaluated
Parent Relations	75	NRC #9	100	61 of 63 IEPs evaluated
Instruction	76	IDEA Part B #28	59	169 goals evaluated

Teacher confidence level ratings were paired with the *IEP Evaluation Tool* IDEA and NRC items corresponding to the 9 cluster areas on the *Autism Self-Efficacy Scale for Teachers*. The autism efficacy survey used a scale of 0-100 with respondents self-reporting ratings for their confidence levels with 0 cannot do, 50 moderately can do, and 100

certainly can do. The IDEA requirements and NRC recommendation data was reported in percentages of item proficiency. Items rated as not applicable on the *IEP Evaluation Tool* were subtracted from the number of IEPs evaluated and removed from the calculations. Only items receiving a numerical rating on the Likert scale were used for data comparisons.

Positive relationships were found between the special education teachers' confidence levels when compared with results from the *IEP Evaluation Tool*. Teacher confidence ratings in the nine cluster areas ranged from 12 to 25 points above the 50 point scale rating indicating teachers were moderately confident of their ability to perform the task. This data indicates that teachers perceived they could perform the tasks in each of the 9 clusters slightly higher than moderate.

The IDEA and NRC indicator proficiencies resulted in areas of high proficiency (90% or above) for communication, progress monitoring, ASD characteristics, behavior goals and parent relations. The teacher confidence ratings for the five clusters ranged from 71 to 75, meaning the teachers could perform the tasks but not with high confidence. Teachers completing the *Autism Self-Efficacy Scale for Teachers* completed the tasks in these five clusters with higher proficiency levels, as indicated from the *IEP Evaluation Tool* data.

Forty-nine of 63 IEPs included social skills goals that were evaluated in indicator 10 of the NRC section of the *IEP Evaluation Tool*. The indicator targeted the improvement of student involvement in school and family activities with 84% percent of IEPs meeting the proficiency goal of 2. Eleven (19%) IEPs scored for indicator 13 in the NRC section, received a proficient rating and 81% percent received a score of 1. A score of 1 for

indicator 13 was due to a motivational system not being described for use with the student. The teacher self-reported confidence rating for social skills of 68 was higher than the mean score of 52% proficiency on NRC social skills indicators 10 and 13. Teachers were confident they could moderately perform the task, but only 52% of IEPs had a proficient rating for the social skills cluster. The evaluation of IEPs for social skills resulted in the identification of social skills goals integrated with other goal areas (behavior, work skills, etc.). It is unclear if the teachers developing the IEPs had an understanding of the type of goals to include as behavior and social skills.

Teacher ratings for confidence in communication were between the moderately can do and certainly can do range (71) and were ranked as the second lowest level of teacher confidence. Ninety-five percent of IEPs evaluated were developed with goals for expressive, receptive and non-verbal communication skills and were 99% proficient for IDEA and NRC indicators (score of 2 on Likert scale). Eight IEPs included goals for a symbolic functional communication system (assistive technology). The large percentage of IEPs with goals for communication and the high level of proficiency was indicative of high teacher confidence for these services, but this was not reflected as an area with extremely high confidence levels. Speech language therapists did not participate in the *Autism Self-Efficacy Scale for Teacher* survey, but speech therapists developed the communication goals for the IEPs evaluated in this study. Special education teacher confidence levels in this area may have been impacted by speech therapists' developing the communication goals and the high level of speech therapist expertise in this area. The low number of IEPs developed with communication systems, 2%, (assistive technology) may have negatively

impacted teacher confidence levels if non-verbal students did not have a functional means of communication in their classrooms.

The progress monitoring and autism characteristics clusters of teacher confidence were rated 21-22 points above the moderately can perform the task range for teacher confidence. A proficiency rating of 97 for progress monitoring on IDEA indicator 8, and 90 for autism characteristics as the overall IEP rating showed a strong relationship between teacher confidence in completing the tasks and proficiency ratings on the *IEP Evaluation Tool* indicators. Teachers' perceptions of their abilities were that they could complete the task as shown in the proficiency ratings, but teachers did not rate themselves as high in confidence as their performance showed they could achieve with evaluation of the corresponding indicators proficiency achievements at 90% and above.

The behavior cluster was rated for proficiency on NRC indicator 16, goals for replacement behaviors, and indicator 17 goals for success in the classroom such as following directions and completing tasks. A mean for both indicators was calculated for the proficiency rating on behavior goals for IEPs resulting in a 92% proficiency rating. It should be noted that of 63 IEPs in this evaluation 44 (70%) did not have behavior goals for the replacement of problem behaviors. The 92% proficiency rating is based on 19 IEPs out of 63 being evaluated for indicator 16. Fifty-one IEPs were evaluated for indicator 17, another behavior goal indicator, with a 94% proficiency rating but the low number of IEPs with behavior goals was important data for consideration when interpreting the 92% proficiency rating in comparison to the small percentage of IEPs with behavior goals. Teachers rated themselves moderately confident in developing behavior goals and other classroom skills for success.

The clusters for class structure and instructional programming were both evaluated for proficiency using IDEA B indicator 28 for specially designed instruction (SDI) therefore, the two cluster scores were combined for reporting teacher confidence levels and proficiency. Teacher confidence was rated at 75 (74 for class structure and 76 for instructional programming) and indicated teachers were above the moderate level of confidence for classroom structure and instructional activities for students with ASD. The proficiency level on indicator 28 (SDI) was 58.6% for a 2 score, 39.6% for a score of 1 and 1.8% as 0 with 169 goals/objectives evaluated. Teacher ratings of their confidence levels in the classroom structure and instructional clusters were above the proficiency levels calculated for SDI. Criteria used for evaluating SDI was the presence and individualization of accommodations/modifications, service time specific to goal areas evaluated and the least restrictive environment statement describing instruction delivered in a setting without non-disabled peers.

Teachers rated their confidence level for the student motivation cluster of the *Autism Self-Efficacy Scale for Teachers* in the moderately able range with a score of 74. This was lower than the proficiency rating of 19% when evaluating the cluster using NRC indicator 13; goals for engagement and play with a motivational system. Fifty-two IEPs were evaluated for indicator 13 and 42 were rated as a 1 and 10 received a 2. Teachers were moderately confident in developing goals for engagement and play including taking turns, sitting in a circle, attending, etc., but the 19% proficiency rating was well below the teacher confidence level. Further data analysis on indicator 13 determined that the low proficiency rating for indicator 13 was due to the specification of a 1 rating required if no evidence of a motivation system was present in the goal.

Parent relationship teacher confidence was moderate and NRC 9, parent concerns description in the IEP, had a 100% proficiency rating with 61 of 63 IEPs evaluated for the indicator. Two IEPs were coded as NA because the parent did not participate in the meeting. Parent concerns were addressed in the parent concerns section of the IEP, and teacher ratings on parent relationships were based on all parent interactions and not parent concerns in the IEP.

Summary

This chapter presented the results of data collected and analyzed in the current study using the *IEP Evaluation Tool* to evaluate IEPs of elementary school students with ASD, and teacher confidence in the development of IEPs and programming for students with ASD using a 30 item self-report questionnaire, the *Autism Self-Efficacy Scale for Teachers*. The results from the two data collection instruments were analyzed to determine the existence of relationships between the proficiency of IEP indicators evaluated and teacher confidence levels.

The findings in this study were noted in data collected from the *IEP Evaluation Tool* with a minimal number of IEPs with behavior goals (19), low proficiency ratings on motivational systems included in IEPs for play/engagement activities and difficulty distinguishing goals for specific targeted areas because of the integration of present levels of performance and multiple goals. An additional area of significance was the prevalence of regular and separate educational settings as the least restrictive environment for students with ASD in comparison to minimal numbers of students in the resource setting of the special education continuum.

Findings in the cross-referencing of mean scores from the *Autism Self-Efficacy*

Scale for Teachers clusters with IDEA and NRC indicator proficiencies on *the IEP Evaluation Tool* found discrepancies between special teacher confidence levels and proficiency scores. The mean scores for social goals, class structure, student motivation and instruction denoted higher teacher rated confidence levels than proficiency scores. The highest discrepancy between teacher confidence and IEP proficiency was in the area of student motivation.

In the remaining cluster teachers rated their confidence levels in the moderate range, but teachers exceeded their levels of confidence with proficiency levels higher than their self-report ratings. The analysis of IEP indicator proficiencies and the cross-referencing of IEP indicator performance with teacher confidence levels provided information about the development of IEPs, programming and instruction for elementary school students with ASD. Chapter 5 will connect the findings presented in chapter 4 to implications and recommendations for the district in this study

Chapter 5

Discussion and Recommendations

Chapter five summarizes and integrates the results from chapter four and makes recommendations for educating students with Autism Spectrum Disorder (ASD). The organizational structure of the chapter begins with the purpose of the study restated, the research questions addressed, followed by a discussion concerning the findings of the study. Recommendations for district stakeholders in developing IEPs and programming for students with ASD are also presented.

Purpose

The purpose of this study is to evaluate individual education plans and programming for students with Autism Spectrum Disorder in kindergarten through third grade based on data collected using an *Individual Education Plan Evaluation Tool* (Ruble, McGrew, Dairymple & Jung, 2010) and the *Autism Self-Efficacy Scale for Teachers* (Ruble, Toland, Birdwhistell, McGrew & Usher, 2013).

The following research questions are proposed:

4. What percentage of individual education plans evaluated using the *Individual Education Plan Evaluation Tool* meet the *Individuals with Disabilities Education Act* requirements and National Research Council recommendations for educating students with Autism Spectrum Disorder?
5. What *Individuals with Disabilities Education Act* requirements and National Research Council recommendations are identified as deficits and strengths when evaluating individual education plans for students with Autism Spectrum Disorder using the *Individual Education Plan Evaluation Tool*?

6. What perceptions concerning knowledge and confidence in developing individual education plans and programming for students with Autism Spectrum Disorder are reported by teachers completing the *Autism Self-Efficacy Scale for Teachers*? What relationships exist between data collected using the *Individual Education Plan Evaluation Tool* and teacher self-reporting on the *Autism Self-Efficacy Scale for Teachers*?

Evaluation of IDEA and NRC Indicators

The indicators included in the *IEP Evaluation Tool* for IDEA and NRC evaluated requirements and recommendations for educating students with ASD. The inclusion of these recommendations in the *IEP Evaluation Tool* established the IDEA and/NRC indicator as an area of need for students with ASD. The expectations set by IDEA requirements and recommendations from the NRC included in this study are indicative of areas requiring consideration by IEP teams for determining student need in the area.

The indicators evaluated were proficient when rated as a 2 on the Likert scale out of possible ratings of 0, 1 or 2. To obtain a rating of proficient for the overall IEP, a score of 2 was also required and derived by a mean score calculated from the ratings in each section of the *IEP Evaluation Tool*. Overall mean scores for the IEPs ranged from 1.56 to 1.87. With conversion to a descriptive percentage this resulted in 78% to 94% proficiency ratings. Converting the Likert scale scores to proficiency percentages facilitated data interpretation for indicators and IEP proficiency to stakeholders in the district.

Data collected from the evaluation of IDEA and NRC indicators in this study resulted in important findings for the number of indicators coded as not applicable (NA). The NA rating resulted in a decrease in the number of IEPs evaluated for these indicators

with NA representative of an indicator the IEP team determined not to be an area of need for the student. Indicators coded NA did not receive a numerical score, but were an important data component reported in this study to identify areas not addressed in IEPs that were recommended by the NRC when developing IEPs and programming for students with ASD. The percentage of IEP indicators coded NA is a noteworthy finding for the study considering all indicators were requirements for IDEA compliance and research based recommendations by the NRC.

IDEA indicators in Part A of the *IEP Evaluation Tool* were foundational in identifying areas of need addressed in the IEP and for determining if the description of the child's performance was clear enough to develop well-written goals. This indicator was an overall strength for IEPs evaluated with 97% proficiency and are present in 99% of IEPs evaluated. Two IEPs were excluded from ratings on this indicator because academics were not an area of need identified in the IEP. The high number of IEPs with proficient ratings in this area indicated that descriptions of the students' present levels of performance included information necessary to develop well-written goals.

Data evaluated from 169 goals/objectives resulted in three indicators with ratings below 60%. This percentage was substantial with these areas rated the lowest of the IEP objective indicators evaluated with the remaining 5 indicators rated above 86%. Examining the data more closely, indicator 22 described the impact of the disability on the student's access to the general education curriculum, indicator 27 explained the method of goal measurement and indicator 28, SDI, required further explanation of the factors contributing to lower ratings for this indicator.

The impact of the student's disability on access to the general curriculum was rated at 54% proficiency for the evaluation. IEPs without an impact statement received a rating of 0, those with a statement that the disability impacted access to the curriculum were rated a 1 and IEPs with a specific statement explaining how the disability impacted the student's access received a proficient rating of 2. Indicator 27, evaluating goal measurement, was proficient in 2% of IEPs because a preset list of methods for goal measurement was used in the online program the district uses for special education data management. The preset list of goal measurement methods (behavior chart analysis, anecdotal notes, informal observations, etc.) was the prevalent method used in IEPs with the exception of 2 IEPs with descriptions of behavior systems in the students' present levels of performance.

IDEA indicator 28, SDI, (developed by Lisa Ruble at the University of Kansas) was based on IEPs to be evaluated in the state of Kansas. IEPs in Kansas have a section designated for IEP teams to describe SDI. IEPs in the state where this study was conducted (NC), do not have a section labeled specifically for SDI in the IEP, so criteria was developed for determining SDI in this study. IEPs with no special education service delivery time for the goal area(s) received a 0. IEPs with service time received a 1, and if the IEP met one other criteria (individualized accommodations/modifications, or the least restrictive environment statement describing service delivery) the indicator received a score of 2. SDI had a proficiency rating of 58.6% making it one of the three lowest IDEA proficiency ratings in the study.

The NRC indicators evaluated goals targeting behaviors for success in the general education setting and resulted in 30% of IEPs evaluated identifying behavior as an area of need. This finding is important because of IDEA requirements for eligibility in the category

of ASD including impairments in communication, socialization and restrictive/repetitive behavior. The evaluation process of behavior and social goals yielded similarities in the goals targeted for both areas prompting more in-depth analysis of the present levels of performance in relation to the goals.

Behavior and social goals, being similar, were integrated in IEPs evaluated and, based on present levels of performance information, some IEP goals labeled as behavior may have been more appropriately addressed in the category of social goals. Similarly, goals targeting replacement behaviors were often designated as social goals when categorization in the behavior category may have been more indicative of the type of goals described. Differentiating between social and behavior goal characteristics was essential to the evaluation of IEPs because each area targeted different skill sets. Additionally, programming targeting these goals differs greatly in implementation and student academic and functional skills to be taught.

In relation to goals for behavior and social skills, motivational systems for NRC indicator 13 evaluated goals for student engagement in tasks or play (taking turns, attending, etc.) and required the description of a motivational system to receive a proficient rating. Eighty-one percent of IEPs did not include a description of a motivational system and received a rating of 1. Two IEPs evaluated described motivational systems in the present levels of student performance with goal benchmarks connected to the progress measured by data collected with the motivational system.

Based on the impairments for students with ASD, communication was an area of strength with a 97% proficiency rating and 92% of IEPs including communication as an area of need. The development of communication goals was completed by speech

therapists as a related service with detailed descriptions of the students' communication strengths and needs. Additionally, more than one goal for communication was included for the indicator to be proficient.

Multiple goal integrations noted in this study impacted the quality of goal development in social, behavior, daily living, pragmatics, academics and other areas where multiple goals were combined. The evaluation of IEPs identified multiple goal integration in 11 IEPs that resulted in difficulty connecting the descriptions in the present levels of performance to the goals targeting the specific needs described.

The integration of multiple goals impacted the study results for proficiency on IDEA and NRC indicators for social skills, communication systems, fine and gross motor skills, academics and behaviors with the requirement of more than one goal/objective to be present for the item to be coded proficient not being met. IEPs with goal integration not closely connected did not consistently have more than one goal for each of the multiple areas of need listed in the present level of performance. Additionally, the multiple integrated goals did not have special education service time for each of the goal areas identified as areas of student need as required in North Carolina. The integration of goals, while not a compliance error, was a contributing factor in deficits for IDEA and NRC indicator proficiencies evaluated.

Educational Placement

Special education service delivery options in the IEPs evaluated specified the amount of service time and the location of service delivery, LRE, for IEPs evaluated in this study. Research supports inclusive environments as a main factor in the progress of students with low incidence disabilities and students with ASD have shown academic skill

improvement when participating in inclusive programs (Kurth, Morningstar & Kizleski, 2014). The services for students with ASD in kindergarten through third grade in the district where this study was conducted provided services for 60.3% of students with ASD in the general education setting, 6.4% at the resource level and 33.3% in a separate setting. These statistics are comparable to percentages reported in *The 38th Report to Congress on IDEA, 2016* with 20.3% of students in the district in the study exceeding the national percentage of students served in the general education setting.

The data for educational placements in this study shows a lower percentage of students receiving resource level services (6.4%), in comparison to 18% nationally. Research shows that the initial educational placement is the setting where the student remains for their academic career and impacting a student for life (White, Scahill, Klin, Koenig & Volkmar, 2007). The considerably lower percentage of students receiving services at the resource level in comparison to the general education setting and separate setting is an area for the district to evaluate more in depth to promote data based decisions for service delivery options.

Autism Self-Efficacy Scale for Teachers

Important connections were identified between *The Autism Self-Efficacy Scale for Teachers* self-report questionnaire and the *IEP Evaluation Tool* indicator proficiency ratings. The 30 items in the self-efficacy questionnaire were divided into 9 clusters based on the interconnectedness of the relationship of the subject matter of each question. Five areas (communication, progress monitoring, overall IEP, behavior, parent relations) were self-reported by teachers as areas they were at least 21 points above the moderately able to perform mean of 50 (refer to table 8 in Chapter 4). Proficiency levels in the five areas

exceeded teacher confidence levels and ranged from 90-100%. Teacher confidence of task performance in these areas aligned with IDEA and NRC proficient ratings on indicators evaluated that matched descriptors of each cluster.

The behavior cluster was included because the indicators evaluated for this cluster had a 92% proficiency rating, but only a small percentage (30%) of IEPs included goals for behavior. The concerning factor is that 70% of IEPs evaluated did not include goals for behavior yet this area was a recommended area of need by the NRC.

The remaining four self-efficacy clusters (social skills, class structure, motivational systems, instruction) reflected confidence at least 18 points above the moderately can do mean of 50, but the IEP indicator proficiency levels were below the teacher confidence levels. This finding indicated that teachers' perceptions where they could perform the task showed that they were not performing at levels equal to their self-perceptions based on the proficiency scores.

The participation of 13 teachers out of 26 was a low response rate for the *Autism Self-Efficacy Scale for Teachers* and may have impacted the results in relation to overall teacher confidence levels for developing IEPs and programming for students with ASD. It is now known if this impact had a positive or negative impact on the results.

Implications

Due to the increasing number of individuals with ASD understanding the development of IEPs and programming to meet the unique needs of individual students is crucial for teaching academic and functional skills. Decisions about goals, accommodations/modifications, service delivery and a multitude of other areas of need for students are decisions made by IEP teams based on the analysis of data specific to the

student. IEP team members with knowledge about the characteristics of ASD, research based interventions and recommendations for programming and deficit areas identified by research presented by the NRC (2001) is important information for IEP teams to develop instructional programming to address impairments prevalent to individuals with ASD.

IEP teams are not required to include recommendations from resources such as the NRC, but IDEA and NC state eligibility requires individuals to have impairments in socialization, communication, restrictive/repetitive behaviors and, or unusual responses to sensory input for an ASD diagnosis. The NRC recommends these areas be included when developing IEPs for students with ASD and warrant consideration by IEP teams when analyzing data to make decisions regarding specific student needs.

Areas of known impairments for students with ASD manifest differently in each individual and may not appear to be a significant concern, but when closely examined are discovered to be adversely impacting the student. Socialization, behavior and functional communication (assistive technology) are areas that may not be included in IEPs because they appear to be unnecessary. Discussions by IEP teams about these identified areas of impairment may lead to the identification of one or more of the areas being recognized by the team as an impairment area although previously not identified.

Knowledge is a key factor in developing programming to meet the needs of individuals with ASD, and school personnel (teachers, administrators, related service providers) in positions to lead discussions with IEP teams about developing and implementing programming to meet the needs of this increasing population of students must possess the knowledge necessary to educate other team members, including parents, about ASD. The data from the study identified strengths and weaknesses for IEPs in the

district for students in the formative years of kindergarten through third grade with ASD. IDEA and NRC indicator proficiency results and data on programming and service delivery, paired with teacher confidence and knowledge about ASD as self-reported on the *Autism Self-Efficacy Scale for Teachers*, provides the district with concrete data to establish a systematic approach to educating school professionals about ASD and research based recommendations for IEP development and programming.

Recommendations for Future Research

Based on the literature presented, and research conducted for the current study, the following are recommendations for further research related to educating students with ASD.

- Expand on the current research by tracking students in this study to monitor educational placement and goals in the IEPs for the students in middle and high school. The *IEP Evaluation Tool* used in this study, or a newly developed tool, could be used to conduct the IEP evaluation.
- Expand on the current study by gathering data on training for ASD completed by teachers that participated in the *Autism Self-Efficacy Scale for Teachers* survey and had IEPs evaluated with the *IEP Evaluation Tool*. Correlations between teacher confidence on working with students with ASD and the proficiency of IEPs developed for this population could be examined in comparison to training completed by teachers on the topic of ASD.
- A study examining the transition of students with ASD from preschool to kindergarten specific to the transition process, determination of the least restrictive

environment and IEP development for preschoolers with ASD transitioning to kindergarten.

- A study using an *IEP Evaluation Tool* developed specifically for the state/district where the study was conducted to evaluate a random sampling of IEPs for students with ASD in kindergarten through twelfth grade.

Research on ASD has been sparse (Sopko, 2003) and focused on other disability categories for procedural compliance, litigation, state policies and practices and interventions (Christie & Yell, 2010). *Examining the Quality of IEPs for Young Children with Autism* (Ruble et al., 2010) was the only study that analyzed overall IEP compliance and goals/objectives specific to ASD. An expansion on the current study to evaluate IEPs in middle and high school of students that had IEPs evaluated in the current study could provide data on service delivery and IEP development in each educational setting. Data analysis could identify trends in programming and IEP development for students transitioning from elementary, to middle and high school.

Data collection on IEP development, educational placement, diploma track and overall educational programming would be useful to stakeholders in school districts in reviewing services, programming and teacher training specific to educating students with ASD across all school settings. The identification of programming and IEP deficits and strengths would assist in targeting training and resources to teachers and students to improve programming and expand educational opportunities for students with ASD.

Teacher knowledge and confidence evaluated by the *Autism Self-Efficacy Scale for Teachers* compared with proficiency ratings on IEPs developed by this group of teachers warrants additional studies to examine ASD training provided and correlations to results

from the current study. A description of trainings attended, if any, and the self-reporting from the efficacy scale would provide district stakeholders with data to make decisions about training needs, determinations on staff required to participate and course content. Positive effects would be direct student benefits from teacher knowledge to implement programming to meet student needs and well developed IEPs essential to specially designed instruction and service delivery.

In contrast to the current study focus on school age students with ASD, a study examining the transition of students with ASD from preschool to kindergarten would be useful in establishing guidelines for the transitioning process to minimize difficulties for the students and IEP development compliance. The current study examined IEPs from kindergarten students and deficits were identified with goals and special education service times for IEPs developed in preschool prior to the transition to kindergarten.

Preschool transitioning is a crucial decision making time period with data showing the initial setting a student is placed in (whether that be a regular setting, resource, self-contained, or more restrictive) is the setting the students usually stays in for the remainder of their education (White, Scahill, Klin, Koenig & Volkmar, 2007). Preschoolers are in their formative years and students with ASD may not develop at the same rate as their peers which puts them at risk for consideration for more restrictive educational settings that may be detrimental to their long term progress and graduation status. Transitions are difficult for most individuals, but especially for students with ASD. A time period of adjustment is necessary in new environments, including when moving from preschool to kindergarten. Studying the transition process would help develop procedures for decreasing

student difficulties in the transition, lower kindergarten teacher anxiety and increase inclusion of students with ASD in less restrictive settings.

The *IEP Evaluation Tool* used in the current study was developed by Lisa Ruble at the University of Kansas and targeted IEPs specifically to Kansas. *Individuals with Disabilities Education Act* requirements and NRC recommendations are the same in all states and are the minimum for IEP compliance. States can decide to exceed the minimum requirements making an IEP tool that is used in a different state possibly less stringent than expectations of another state, or even a local school district. This was the case in the current study with the evaluation tool requiring one sentence for a proficient rating for the indicator rating the student's present level of performance the district requiring progress monitoring, strengths and needs and an explanation of how the student's disability impacts participation in the general curriculum for minimal compliance.

Kansas, where the *IEP Evaluation Tool* was developed, had a designated area in the IEP to list specially designed instruction. Individual Education Plans in the district in the current study base SDI on the components of the entire IEP (service delivery, LRE, accommodations/modifications, etc.). Future studies evaluating IEPs for ASD should consider using the *IEP Evaluation Tool* in this study because of the indicators evaluating IEP requirements and NRC recommendations for students with ASD, but developing criteria for indicator evaluation based on their own state/district policies.

Recommendations for the District

The program evaluation of IEP development and programming for students with ASD analyzed data on IEPS for students with ASD using an *IEP Evaluation Tool* and teacher confidence ratings on IEP development and programming through the *Autism Self-*

Efficacy Scale for Teachers. The study resulted in the following recommendations for the district's consideration when designing programming and developing IEPs meeting compliance requirements and recommendations for educating students with ASD. The following are recommendations for immediate consideration for the district with suggested actions steps.

- Training for special education teachers in the areas identified as impairments for students with ASD (socialization, behavior, communication, sensory). The IEPs evaluated resulted in a low proficiency rating for social goals and only 30% of IEPs included behavior goals/plans. Understanding the impairments characteristic of ASD would facilitate an increased awareness of student needs related to ASD and increase teacher knowledge on recommended areas for consideration when identifying student needs.

Action Steps 1) Develop a train the trainer model for professional development for teachers to identify characteristics and the areas of impairments for students with ASD. 2) Create a curriculum for the training. 3) Identify one special education teacher and one general education teacher at each school in the district to attend the training (1/2 day of training). 4) Teachers attending the training present the training to all special and general education teachers in their school within six weeks of being trained. 5) Conduct a survey of all staff trained at the school level training for feedback. 6) Conduct a yearly follow up training for school level trainers.

- District-wide training for special education teachers on IDEA and NRC requirements and recommendations for educating students with ASD. Use the *IEP*

Evaluation Tool from this study and present the study findings to the teachers and principals.

- Action Steps 1) Develop a training for presentation at a district professional development for all special education teachers to review IEP requirements and educate them about the NRC recommendations for IEP development and programming for students with ASD. Include in the training the areas of impairments necessary for eligibility in the category of ASD. 2) Develop an online module training for teachers to complete within two months of the face-to-face training as a follow up. Include examples of well written IEPs for students with ASD. 3) Randomly select IEPs of students with ASD for audit targeting the areas of impairment for students with ASD noting if these areas are included. 4) A follow up training should be offered for teachers with deficits in the IEPs randomly audited.
 - Further analysis by the district of the least restrictive educational settings for students with ASD and consideration of a monitoring system for students with ASD and their educational placements (60.3% regular, 6.4% resource, 33.3% separate).
 - Development of a procedure for transitioning students with ASD from preschool to kindergarten.

Action Steps 1) Kindergarten teachers attend the IEP meeting for students with ASD transitioning from preschool to kindergarten. 2) Kindergarten teachers complete two one hour observations of the classroom with students with ASD transitioning. 3) In addition to the IEP, a “get to know me” inventory is completed by the parent about their child and the preschool teacher facilitates the submission of the survey to the receiving teacher. 4) The district develops a checklist for items

to be included in a packet for students with ASD that the kindergarten teacher receives prior to the end of the current school year before the child transitions. 5)

The development of a training with the target audience all kindergarten teachers in the district at the end of the current school year that focuses on characteristics of ASD and classroom strategies to implement for students with ASD.

- Development of a procedure for transitioning students with ASD from preschool to kindergarten. Examples: IEP meeting, current teacher communication with teacher for kindergarten year to share routines/procedures that work for the current classroom and the teacher the student is transitioning to visits the child's current classroom to observe the student.

Action Steps 1) District level special education staff review placement data on students with ASD at each school to determine service levels (regular, resource, separate). 2) Provide staff development targeting school based administration, general education and special education teachers that focuses on the continuum of special education services required to be offered, criteria for students to be placed on the alternate assessment for state testing and the requirement to educate students in the least restrictive environment. 3) The development of a document for parents explaining the alternate assessment for state testing and the implication for graduation (certificate and not a diploma) and post graduation opportunities. This document should be a requirement for parents to have prior to their child being placed on an alternate assessment and a signed copy kept in the special education folder. 4) Require schools to invite a district level special education team member

to all IEP meetings where a change in placement to a separate setting with an alternate assessment is a consideration.

The following are recommendations for long range planning and implementation by the district.

- Development of an IEP evaluation instrument specific to the district's standards of IEP compliance. The format of the *IEP Evaluation Tool* used in this study, IDEA requirements and NRC recommendations could be used as a template. The district should incorporate criteria from local and state policies for compliance as required by the district/state.
- Utilize the district developed IEP evaluation instrument to randomly audit IEPs of students with ASD.
- Utilize the *Autism Self-Efficacy Scale for Teachers* on an on-going basis to evaluate teachers' confidence levels with IEP development and programming for students with ASD. The survey results are indicators of potential training needs for staff.

Summary

In summary, IDEA requirements and NRC recommendations for educating students with ASD were evaluated with the *IEP Evaluation Tool* for 63 students with ASD in kindergarten through third grade. Twenty-six teachers in the district assigned as case managers to these students were asked to participate in a self-report questionnaire, the *Autism Self-Efficacy Scale for Teachers*, and 13 of the 26 teachers participated. The efficacy scale examined teacher knowledge and confidence on programming and IEP development for students with ASD. Teacher responses were paired with data collected

with the *IEP Evaluation Tool* to identify correlations between the efficacy scale responses and IEP evaluation results. This study revealed areas of strengths and needs for IDEA requirements, NRC recommendations and teacher knowledge and confidence about ASD.

The indicators evaluated with the *IEP Evaluation Tool* focused on requirements for IDEA compliance and recommendations by the NRC specific to educating students with ASD. Although the NRC recommendations are not requirements, they are research based and include areas of impairment identified by IDEA and *The North Carolina Policies Governing Services for Students with Disabilities* for eligibility in the category of ASD. Paired with teacher self-reports of knowledge and confidence about ASD, data provided in the study is crucial information for consideration by district stakeholders for program planning and implementation of service delivery and IEP development.

Conclusion

The prevalence of Autism Spectrum Disorder has increased 54.7% from 2000 to 2016 (CDC, 2016). IDEA federal legislation outlines requirements for school districts receiving federal funding in the development of IEPs for students with ASD and, through research conducted by the NRC (2001), recommendations for consideration in program planning were included in the evaluation of IEPs in this study.

The NRC, IDEA and North Carolina criteria for eligibility in the category of ASD require impairments in communication, socialization, restrictive/repetitive behavior and, or unusual responses to sensory stimuli that adversely impact educational performance. Characteristics and areas of need are unique for each individual with ASD in level of severity and areas of impairment that require IEP teams to carefully examine data to make appropriate programming recommendations for the student.

The increase in the prevalence of ASD, legislative requirements and the establishment of best practice recommendations is why the current research to evaluate IEPs and teacher knowledge and confidence on the implementation of practices during the critical time period of the students' formative years is the focus of this study. Teacher self-perceptions of their abilities to develop programming and IEPs is related to proficiencies for IDEA and NRC indicators that directly impact services for students with ASD on a daily basis. School and district level personnel and parents and community organizations are all stakeholders in school districts for students with ASD. Ultimately, these individuals make decisions that have life long impacts for students with ASD further increasing the importance of studies to evaluate programming and IEP development to collect data to positively impact program improvements and service delivery for this increasing population of unique individuals.

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Appendix A. Abbreviations and Definitions of Terms

Abbreviations

ASD – Autism Spectrum Disorder

CDC – Centers for Disease Control

DSM-5 – *Diagnostic and Statistical Manual of Mental Disorders fifth edition*

ESY – Extended School Year

ID – Intellectual Disability

IDEA – Individuals with Disabilities Education Act

IEP – Individual Education Plan

MMR – Mild Mental Retardation

NCDPI – North Carolina Department of Public Instruction

NCLB – No Child Left Behind

NRC – National Research Council

Definition of Terms

Alternate Assessment – Alternate assessments provide a mechanism for students with the most complex disabilities to be included in assessment systems. Like regular assessments, the purpose of alternate assessments is to provide valid and reliable assessment data that accurately reflect the state’s learning standards, and that indicate how a school, district, or state is doing in terms of overall student performance (ESEA; NCLB)

Autism Spectrum Disorder – A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child’s educational performance.” The definition continues by

including restrictive repetitive behaviors, difficulty with interruption of routines and over, or under, sensitivity to sensory input (IDEA, 1990).

Short Term Objective – Short-term objectives are required for students taking alternate assessments and must be written in measurable terms. These goals are the steps needed to meet the annual goals and make it easier to monitor student progress.

Clinical Diagnosis – A licensed doctor or clinician diagnoses a medical condition or learning disorder (ADHD or dyslexia) in the DSM-5. An adverse effect on educational performance does not have to be present for the doctor or clinician to make a diagnosis. School systems identify a disability or health impairment by completing an evaluation. To be eligible for special education services the disability, or impairment, must have an adverse impact on the student’s educational performance.

Diagnostic and Statistical Manual of Mental Disorders fifth edition – The manual is a classification of mental disorders by the American Psychiatric Association and is used by mental health professionals in the United States to diagnose mental disorders. Each disorder listed has specific criteria in the manual required for a diagnosis.

Echolalia – The repetition or echoing of words, or noises. Individuals with ASD often exhibit echolalia as immediate or delayed. Immediate echolalia is the repetition of what someone else has said, while delayed echolalia refers to repeating something after time has passed since the individual heard it. Repeating movie lines or parental reprimands are examples of delayed echolalia.

Empirical Evidence – The use of observation or experimentation to gather information. Empirical evidence is science based and collected using direct or indirect observation or experimentation.

Extended School Year – Services required in excess of the regular school year for students receiving special education services. Individualized education plan teams are required to determine if a student needs extended school year services at the annual review of the IEP. If a student is eligible for extended school year a plan is developed by the IEP team reflecting the amount of service time needed. A review of data is necessary to make decisions regarding extended school year and is based on whether the individual is able to regain skills in a reasonable amount of time after school breaks (holidays, summer vacation).

Functional Performance – Functional skills are practical skills used by individuals in everyday life and transferred to many different environments. Finances, hygiene and social skills are examples of functional performance.

Idiosyncratic Phrases – Idiosyncratic phrases is language that only has meaning or makes sense to individuals aware of the situation the phrase was originated. Individuals with ASD may use words inappropriately that do not have relevance to the situation. Idiosyncratic phrases include communication issues with pragmatics.

Individuals with Disabilities Education Act – The federal legislation ensuring students with disabilities are provided with a Free and Appropriate Public Education meeting their individual needs.

Individual Education Plan – An IEP is a plan developed to meet the needs of an individual child with a disability in one of the 13 categories of disabilities in IDEA.

Intellectual Disability – A disability with significant delays in both intellectual and adaptive behavior skills qualifies an individual for services in the intellectually disabled category.

Least Restrictive Environment – According to IDEA policy regarding LRE, school districts are required to educate students with disabilities to the maximum extent possible with their nondisabled peers.

National Research Council – The NRC operates under three academies to provide reports that influence policy, inform the public, and advance studies in science, engineering and medicine. In relation to this study the National Research Council conducted a study on ASD. The committee members chosen to complete the report on *Educating Children with Autism* were chosen based on their expertise related to ASD.

No Child Left Behind – *No Child Left Behind* is the 2001 federal legislation that attempted to reform standards based education. The legislation reauthorized programs created to hold primary and secondary schools accountable for student outcomes.

Nonverbal Communication – The process of communicating messages without using words. Examples include gestures, signs or symbols, body language. Nonverbal communication is one of the most important types of communication given the impairments in communication characteristic of individuals with ASD. Nonverbal cues are important to recognize with ASD because the cues are a form of communication and may be a precursor to negative behaviors.

Present Level of Performance – The Individuals with Disabilities Education Act requires a statement of the student’s present level of performance in the IEP detailing how a student is currently doing academically and functionally. The present level of performance is based on data collected from student work samples, tests, quizzes, observations and formal and informal data collection. The student’s strengths and weakness

are included and a statement of how the disability impacts the student's participation and progress in the general education curriculum.

Progress Monitoring – Progress monitoring is a scientifically based assessment of a student's academic and functional progress and an evaluation of the effectiveness of instruction. Data can be graphed to aid in discussions using the data and given to parents to illustrate progress. According to IDEA progress monitoring procedures must be developed for each goal in the IEP.

Sensory Impairment – The Individual's with Disabilities Education Act defines ASD includes the over, or under sensitivity to stimuli in the environment (lights, textures, tastes, smell) as part of the definition of ASD. Multiple senses can be affected and may be the reason for rocking, hand flapping and spinning in these individuals.

Specially Designed Instruction – The adaption of the content, methodology, or delivery of instruction to the unique needs resulting from the student's disability; and ensuring access to the general curriculum in order for the student to meet the education standards applying to all students (adapted from IDEA).

Title I – Title I is part of the Elementary and Secondary Education Act that provides funding to schools with high percentages of students from low income families. The funding is used to assist students in meeting the state academic standards by targeting children failing, or at high risk of failing.

Verbal Communication – Referring to the ability to use speech to share information, verbal communication for individuals with ASD presents with difficulty understanding the meaning of words and sentences and the inability to understand body language or vocal tones.

Appendix B. IDEA Requirements and NRC Recommendations for IEPs

Table 1. IDEA Requirements and NRC Recommendations for IEPs
IDEA Requirements for IEPs
<ul style="list-style-type: none"> • Overall description of present levels of performance. • IEP objectives and the association with the general/developmental curriculum. • Goals/objectives are measurable and have behavioral descriptions. • Goals/objectives state the conditions under which a behavior is to occur. • Each goal/objective has specific criteria and a timeline for goal attainment. • Inclusion of the method(s) that will be used for goal measurement. • A description of specially designed instruction individualized to each goal/objective.
NRC Recommendations for IEPs for Individuals with ASD
<ul style="list-style-type: none"> • Description of parental concerns. • Social skills goals/objectives to improve involvement in daily activities. • Goals/objectives for expressive, receptive and nonverbal communication skills. • A symbolic functional communication system. • Goals/objectives to address fine and gross motor skills. • Goals/objectives for basic cognitive and academic skills. • Replacement of problem behaviors with appropriate behaviors. • Organizational and other behaviors needed in the general education classroom for success are addressed. • A full calendar year of programming.

6. Social and emotional status		
7. General intelligence (cognitive)		
8. Overall quality of description of child's performance relative to the general curriculum or developmental status is clear enough to establish well-written goals for the child. Code <i>No</i> if there is no reference to grade, age, or developmental equivalents/performance.		

Part A: NRC Indicators – Analysis of Overall IEP

Instructions: Review the overall IEP and determine to what degree each indicator is provided.

Use the Likert scale that ranges from 0 “Not included/Not at all” to 2 “Yes/Explicitly. Not applicable is NA.

0	1	2
Not Included/Not at all	Incomplete/Somewhat	Yes/Explicitly Stated

Indicator	NA	0	1	2
9. Parental concerns are described (<u>Code “2” if any concerns are described</u>).	NA	0	1	2
10. Includes goals/objectives for social skills to improve involvement in school and family activities (i.e. , social objective is targeted for improved functioning in school/or family life). <u>Must have more than 1 objective to Code “2”</u> .	NA	0	1	2
11. Includes goals/objectives for expressive, receptive, and non-verbal communication skills (Code “NA” if communication is not listed as an area of need in present levels of performance. Code “0” if communication is listed as area of need but there are no communication goals/objectives. Code “1” if there is only one goal to receptive and expressive language. Code “2” if there are goals for both receptive and expressive language).	NA	0	1	2
12. Includes goals/objectives for symbolic functional communication system (PECS, assistive technology, etc). <u>Code as “NA” if child shows evidence of conversational speech in the present levels of performance</u> . When AAC is not an objective, but listed as a support for objectives, code as “1”.	NA	0	1	2
13. Includes goals/objectives for engagement in tasks or play which are developmentally appropriately (must emphasize a focus on developmental skills such as attending, sitting in circle, taking turns, etc., rather than academic), including an <u>appropriate motivational system</u> (Code “1” if developmentally appropriate but not motivation system is described).	NA	0	1	2
14. Includes goals/objectives for fine and gross motor skills to be utilized when engaging in age appropriate activities. <u>Must have more than 1 objective to Code “2”</u> .	NA	0	1	2
15. Includes goals/objectives for basic cognitive and academic thinking skills (sorting, letters, numbers, reading, etc). <u>Must have more than 1 objective to Code “2”</u> .	NA	0	1	2
16. Includes goals/objectives for replacement of problem behaviors with appropriate				

behaviors (evidence is provided that the skill is designed to replace a problem behavior). Must have more than 1 objective to Code "2". NA 0 1 2

17. Includes goals/objectives for organizational skills and other behaviors that underlie success in a general education classroom (independently completing a task, following instructions, asking for help, etc). Must have more than 1 objective to Code 2. NA 0 1 2

18. Objectives are individualized and adapted from the state academic content standards (i.e., goals are assumed to be the academic content standard). Code "2" if most are individualized but some are not; code 1 if some are individualized, but most are not. NA 0 1 2

19. Is the need for ESY addressed? Yes No
 20. Is ESY recommended as a service? Yes No Not Addressed

Part B: IDEA Indicators – Analysis of Specific IEP Objectives
Objectives:

IEP goal # and page # on the IEP: _____ # of objectives under goal: _____

Objective Code: _____
 1=academic 2=Social 3=Communication 4=Learning/Work Skills 5=Motor/Sensory 6=Self-help
 7=Behavior

Directions: Code each objective (not goal). Use the Likert scale that ranges from 0 "not included/not at all" to 2 "yes/explicitly stated." Not applicable is NA.

0	1	2
Not Included/Not at all	Unclear, Incomplete/ Not explicitly stated/ Somewhat	Yes/Explicitly Stated

Indicator	NA	0	1	2
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21. The child's present level of performance is described for this objective (don't rate quality here). If a simple description like 1 sentence is given Code "2". NA 0 1 2

22. The child's performance of this objective (in summary of present levels of performance) is described in a manner that links it specifically to the general curriculum. NA 0 1 2

23. The child's performance of this objective (in summary of present level of performance) is described in a manner that links it specifically to developmental curriculum. NA 0 1 2

24. This objective is able to be measured in behavioral terms. Code "1" if it can be observed. Code "2" if the description of target behavior is clear for proper measurement of goal achievement through observation. **NA 0 1 2**
25. The conditions under which the behavior is to occur is provided i.e. when, where, with whom. **NA 0 1 2**
26. The criterion for goal acquisition is described i.e. rate, frequency, percentage, latency, duration as well as a timeline for goal attainment is described specifically for objective (other than length or IEP). **NA 0 1 2**
27. A method of goal measurement is described. Code "1" if method of measurement is just checked according to a preset list and not individualized specific to objective **NA 0 1 2**
28. Is Specially Designed Instruction individualized to the objective? (Code "0" if there is no SDI's specified. Code "1" if SDI is checked off but not specifically designed for that objective. Code "2" for individualized SDI). **NA 0 1 2**

Appendix D.

Autism Self-Efficacy Scale for Teachers developed by Lisa Ruble, University of Kansas
ASSET (2013)

Name: _____ Date: _____

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers of students with autism. Please rate how certain you are that you can do the things discussed with regard to the student with autism. Write the appropriate number in the space provided.

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0	10	20	30	40	50	60	70	80	90	100
cannot do at all					moderately can do					highly certain can do

Remember to respond with your student in mind.

1. Conduct an assessment of this student's developmental skills/learning skills	
2. Describe this student's characteristics that relate to autism	
3. Describe the implications for intervention based on this student's characteristics of ASD	
4. Translate assessment information into teaching goals and objectives for this student	
5. Write a measurable objective for this student	
6. Write a teaching plan for this student based on goals and objectives	
7. Generate teaching activities for this student	
8. Organize the classroom to increase opportunities for learning for this student	
9. Use visual structure to increase this students' independence	
10. Help this student understand others	
11. Help this student be understood by others	
12. Provide opportunities for communication in the classroom throughout the day for this student.	
13. Assess the causes of problematic behaviors of this student	
14. Design positive behavioral supports for this student	
15. Implement positive behavioral supports for this student	
16. Collect data to monitor this student's progress toward objectives	
17. Make use of data to re-evaluate this student's goals or objectives	
18. Assess this student's social interaction skills	
19. Assess this student's play skills	
20. Teach this student social interaction	
21. Teach this student play skills	
22. Train peer models to improve the social skills of this student	
23. Describe parental concerns regarding this student	
24. Communicate and work effectively with this student's parent(s) or caregiver	
25. Describe parental priorities for learning with regard to this student	
26. Help this student remain engaged	

27. Sustain this student's attention	
28. Motivate this student	
29. Help this student feel successful	
30. Teach this student academic skills	

Appendix E.

Examples of IDEA and NRC Indicators Scoring Likert Scale 0, 1, 2

Part A: IDEA Indictors (yes/no)

#3 Communication Status
Score 1 (no) No goals are present for receptive/expressive communication, or systematic communication systems.
Score 2 (yes) Goals are present for receptive/expressive communication, or systematic communication systems.
6 Social and Emotional Status
Score 1 (no) No description of social and/or emotional status are present in the IEP.
Score 2 (yes) A description of social and/or emotional descriptions are present with goals.
8 Overall Description of Child's Present Level of Performance
Score 1 (no) The overall description of the child's present level of performance does not include information clear enough to write goals for the student.
Score 2 (yes) The child's present level of performance is clear enough to write goals for the student. Progress monitoring data is present and the child's academic, social, behavior, etc. is described.

Part A: NRC Indicator Examples of Scoring

10 Goals for social skills to improve school involvement.
Score 0 The student will increase social communication skills as measured by stating why a person may be feeling the a particular emotion and come into the classroom and unpack his book bag.
Score 1 Only 1 goal is present for social skills.
Score 2 The student will engage in positive interaction verbally, with peers during play, class, other activities and express feelings in 3 of 4 opportunities.
#13 Goals for engagement in tasks or play that are developmentally appropriate (attending, taking turns, sitting in a circle). Must include a motivational system to be scored a 2.
Score 0 Given a writing task the student will complete the task in a specified amount of time. (goal is academic and does not have a motivation system present).
Score 1 In small group activities when the student is presented with a alphabet card game with peers the student will wait for their turn on 3 of 5 occasions. No motivation system is present.
Score 2 The student will engage in non-preferred activities for the duration of the large group lesson or small group activity for 3 of 5 days. A behavior chart with colored dots earned for each activity the student is engaged in with daily preferred activity rewards will be used.
#16 Includes goals for replacement behaviors.
Score 0 No goals for replacement behaviors are present in the IEP.
Score 1 One goal is present for replacement behaviors. Example:
Score 2 The student will refrain from putting his hands on other in a hurtful way (hitting, pulling, pushing) when becoming over stimulated or while playing, with no more than 2 verbal reminders daily. The student will use a level 1 voice in the classroom and hallways, with no more than 1 verbal and 1 nonverbal reminder earning at least 1 point or more on class Dojo per school day (this is the motivation system).

Part B: IDEA Indicator Examples of Scoring Objectives

22 The child's performance is linked to the general curriculum.
Score 0 The student will understand place values, identify numbers up to 20, addition and subtraction. Delays in this area make it difficult for him to participate in age appropriate curriculum. (Note: No references are made to how the student's difficulties impact access to the general education curriculum. No student strengths and weakness are in the present level of performance so a score of 0 was coded.)
Score 1 These difficulties impede the student's progress in the general curriculum. (Note: Non reference is made to the student's specific difficulties and how they impact the student's access to the general curriculum. The present level does discuss student strengths and weaknesses prior to this statement so a score of 1 was coded.)
Score 2 The student's difficulties with pronunciation of vowel sounds and digraphs makes it difficult for her to communicate wants and needs clearly to staff and peers in the school setting. (Note: This statement describes the student's difficulties and how they impact communication and participation in school.)
26 Criterion for goal acquisition is described (rate, frequency, duration).
Score 0 The student will solve addition problems with regrouping. (No rate, frequency or duration is stated.)
Score 1 Given a word problem the student will use manipulatives to solve the one step problems by 5/15/2018. (The duration was given, but no rate or frequency.)
Score 2 Given an analog clock, the student will count by 5's/use visuals to tell time to the hour with 85% accuracy on 3 of 5 trials by 5/20/18.
28 Specially Designed Instruction is individualized.
Score 0 No service time is in the IEP for the goal area.
Score 1 Service time is present in the IEP (reading, inclusion, 5 times a week for 45 minutes).
Score 2 Service time is present in the IEP (reading, inclusion, 5 times a week for 45 minutes). Accommodations are in the IEP (modified grading, alternate spelling list with decodable words, breaks every 10 minutes) and, or a statement about instruction in the least restrictive environment (The student will be removed from the classroom to target goals in a quiet, less distracting environment. The student requires frequent, intensive and closely supervised instruction that allows time for self-correction, repeated drill, and practice to master concepts at each level before introducing a new skill level.)