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Including Students with Moderate and Severe Complexity of Disability in Kindergarten and First Grade: Investigating the Relationship Between Inclusive Classroom Quality Indicators, Level of Inclusive Education, and Social Competence

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INCLUDING STUDENTS WITH MODERATE AND SEVERE COMPLEXITY OF
DISABILITY IN KINDERGARTEN AND FIRST GRADE: INVESTIGATING THE
RELATIONSHIP BETWEEN INCLUSIVE CLASSROOM QUALITY INDICATORS, LEVEL
OF INCLUSIVE EDUCATION, AND SOCIAL COMPETENCE

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

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Title: Including Students with Moderate and Severe Complexity of Disability in Kindergarten and First Grade: Investigating the Relationship Between Inclusive Classroom Quality Indicators, Level of Inclusive Education, and Social Competence

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The development of social competence for children is critical to their ability to navigate social decision making processes; however, children with complex disabilities have many difficulties in developing social competence. In an educational environment, the optimal setting for a child to develop social competence is within the inclusive classroom. Despite this, children with complex disabilities are often excluded from regular education settings. In addition, there has been limited research to determine what teacher behaviors and practices are needed to support the development of social competence for children with complex disabilities. This study investigates the relationships among social competence, indicators of inclusive classroom quality, and level of inclusive education for children with moderate and high complexity of disability, following the implementation of inclusion strategies by teachers within regular education kindergarten and first grade classrooms across the state of Pennsylvania through the Include Me From the Start (IMFS) initiative.

Findings of the study show that prior to the implementation of the IMFS initiative, children in classes with greater adult involvement in peer interactions, membership, and support for social communication, did not demonstrate greater social competence. Following implementation positive correlations existed between social competence and the classroom quality indicators of membership and support for social communication. Support for social communication was the

best predictor of social competence for the entire sample. Also at post-test, for students with a moderate complexity of disability, positive correlations existed between social competence and the inclusive classroom quality indicators of membership and support for social communication. For students with a high complexity of disability, a positive correlation existed between social competence and adult involvement in peer interactions. At the completion of the IMFS program, support for social communication was the best predictor of social competence for children with a moderate complexity of disability; however, adult involvement in peer interactions was the best predictor of social competence for those with a high complexity of disability. Finally, it was determined that the level of disability did not affect social competence for children with moderate disabilities. Implications related to the field of school psychology and recommendations for further research is discussed.

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CHAPTER I

THE PROBLEM

Introduction

School psychologists have long promulgated the message of inclusive education and promoted the discipline's involvement in supporting the inclusion of children with disabilities in general education classrooms. Previously, NASP maintained a position statement specifically dealing with inclusive programming for children with disabilities. This statement, adopted in 2000, highlighted the possible benefits of inclusive programming. Also, it suggested that when advocating for inclusion these programs should offer services that will do the following: support social and emotional, as well as academic gains; promote collaboration and decision making based on individual need; include ongoing data collection; have shared planning and implementation by all stakeholders; and provide pre-service and in-service training (National Association of School Psychologists, 2002). In addition, NASP highlighted the challenge of including students with complex (low incidence and severe) disabilities and recommended that additional support and training be provided on how to provide appropriate accommodations for these students (National Association of School Psychologists, 2002).

Since that time, laws such as NCLB and the most recent IDEIA reauthorization have furthered inclusive programming in public schools by systemically raising the standards of education and academic expectations for students with disabilities. Simultaneously, the fields of school psychology and special education have undergone a paradigm shift, moving from a traditional test and place model of service eligibility to a more comprehensive, problem solving role that provides academic and social/emotional support through multi-tiered systems including Response to Intervention (RTI) and Positive Behavioral Interventions and Supports (PBIS).

According to Reschly (2008), the nature of this shift comes from a variety of sources including continued problems with providing an effective system of support in general, remedial, and special education, current research producing better outcomes, changes in nationally recognized organizational policies, and the aforementioned federal laws coupled with supporting state laws. NASP currently continues to support the practice of inclusion and has incorporated their previous position statement focusing specifically on inclusion of children with disabilities into their position statements on appropriate academic supports and appropriate behavioral, social and emotional supports. According to the position statement on academic supports,

NASP maintains that all students learn best in inclusive environments that implement high quality, science-based instruction. Inclusive programs are those in which students with and without disabilities receive appropriate specialized instruction and related services in age-appropriate general education classrooms that are located in the schools that the students would attend if they did not have a disability. (National Association of School Psychologists, 2009, p. 1)

Not only is inclusion supported by NASP, but it is also promoted by educational and school psychology organizations around the world (Farrell, 2004). Overall, commitment to fostering inclusive environments is deeply embedded in the practice of school psychology and has a substantial history within the discipline.

Social Competence, Inclusive Education, and Children with Complex Disabilities

Social competence for children encompasses a wide range of skills that weave together to create the fabric of interaction with the world. Children emerging from the toddler years into school age years, engage in reciprocal play activities, conflict resolution, social exchanges of information, and the development of friendships and peer group membership, all resulting in the

growth of their social competence. A child's social competence dictates the level of success that they will have in navigating the social decision-making process. For children with disabilities high levels of success in managing social situations may be challenging to obtain. Research indicates that children with cognitive delays and learning disabilities are at greater risk for difficulties in social skills and social competence (Guarlnick, 2010; Kavale & Forness, 1996). Kavale and Forness conducted a metanalysis that found approximately 75% of children with learning disabilities were also showing evidence of social skills deficiencies. For children with complex disabilities, these deficits may be even greater. As a result of these challenges, children with disabilities will require enhanced prospects for developing their social skills and thereby their social competence.

Children develop socially through a variety of contexts, beginning with the family and diverging in later life into other groups, such as peers (Schudlich & Schudlich, 2008). While the home environment is the most critical setting for children's early social competence, as they grow older the early childhood education environment and later primary schooling become the backdrop for rich opportunities for changing social interaction and gaining social skills. It is these opportunities that promote the development of children's overall social competence. Gresham (2005) reports "it is estimated that by the end of fifth grade, students will have spent approximately 5,400 hours in school" (p. 1537). Thus it is clear that the school environment offers a superb occasion for fostering social growth through interacting with peers and other adults.

Legal protections provided through the Individuals with Disabilities Education Improvement Act (IDEIA), a variety of case law, and No Child Left Behind (NCLB), have lead to an immense push for children with disabilities to be educated in the general education classroom to the

greatest extent possible; however, segregation for some subsets of children is still the norm. According to Bently (2008), the 1% of children in the United States with labels that constitute severe disabilities, including intellectual disability “have been historically excluded from ‘inclusive’ education, and from important epistemological, political, pedagogical, and pragmatic currents in systemic education reform” (p. 543). She points out that while educational reform took hold early in the 1980s, the focus for children with severe disabilities was a functional curriculum and it was not until the passage of NCLB nearly 20 years later that the education system was held accountable for the academic progress of students with severe disabilities (Bently, 2008).

The current education system maintains a greater focus on inclusion and academic based outcomes for children with disabilities, yet most students with what are considered the most complex (moderate to severe) disabilities, are continuing to receive their education in segregated settings where they fail to obtain access to the general education curriculum. Indeed, the U.S. Department of Education (2012) reports that approximately 48% of children with intellectual disabilities and 46% of children with multiple disabilities are receiving 60% or more of their education in a segregated classroom on a daily basis. Only 17% of children with multiple disabilities and 13% of children with intellectual disabilities are considered to have full-time placements (outside the regular classroom less than 21% of the time) in a regular education classroom (U.S. Department of Education, 2012). Thus, while many educators claim to be proponents of inclusion as it relates to including children with moderate to severe disabilities in regular education classrooms, many are not actually putting these beliefs into actions.

When considering inclusive education and children with moderate and severe disabilities there is a growing body of literature suggesting positive outcomes. A longitudinal study of

outcomes conducted by Cole and Meyer (1991) over a two-year time frame found that there was no significant difference in educational skill acquisition of children with severe developmental disabilities educated in inclusive versus segregated settings. In other words, children in segregated settings did not gain more skill than those in inclusive settings. Furthermore, they discovered that in the domain of social competence, children in an inclusive setting “improved their ability to manage their own behavior in social situations, provide negative feedback to others, accept assistance from others, indicate personal preferences to others, cope with negative social circumstances, and terminate social contact”; whereas, their counterparts in segregated settings declined in these skills (Cole & Meyer, 1991, p. 348). Thus, while it is often an argument of opponents of inclusive education that the specialized services obtained in segregated settings lead to better outcomes, Cole and Meyer’s review of studies concluded that this is not necessarily the case, particularly in relation to social competence.

In another review, Hunt and Goetz (1997) looked at nineteen different studies that measured outcomes of inclusive practices for students with severe disabilities. Among the findings synthesized by Hunt and Goetz, they reported that students with severe disabilities obtained “positive academic and learning outcomes”, “realized acceptance, interactions, and friendships in inclusive settings”, had greater numbers of and greater opportunities for social interactions with peers, “more reciprocal interactions”, and “larger friendship networks” (pp. 25-26). In addition to these reviews, multiple recent studies support more positive peer interactions (Bang & Lamb, 1996), more frequent peer interaction (Hunt, Soto, Maier, & Doering, 2003; Katz & Mirenda, 2002), higher social skills (Mills, Cole, Jenkins, & Dale, 1998; Rafferty, Piscitelli, & Boettcher, 2003), and higher social competence (Fisher & Meyer, 2002) in the inclusive classroom for students with moderate and severe disabilities. Despite these positive outcomes outlined in the

literature, students considered to have moderate and severe disabilities clearly continue to be segregated from regular education settings and fully inclusive programming.

Overall, children with disabilities are recognized as having greater difficulties with the development of social competence. Children having moderate and severe disabilities likely experience the greatest challenges. The school environment is a crucial setting for exposing children to the opportunity to interact with their peers and develop social competence; however, children with the most complex disabilities are still often excluded from the general education environment and access to their typical peers. This flies in the face of research that supports positive outcomes for these children when they are included, particularly in the area of social competence.

Inclusion of Children with Complex Disabilities and the Role of the School Psychologist

In the last decade, the role of the school psychologist has undergone substantial redefinition. In the most recent version of “School Psychology: A Blueprint for Training and Practice III”, it emphasized that greater numbers of school psychologists are employed in school districts that allow them to provide comprehensive services and use a problem-solving model, thus resulting in a shift in how their time is spent (National Association of School Psychologists, 2006). While the domains of functioning (e.g., interpersonal and collaborative skills, diversity awareness and sensitive service delivery, technological applications, professional, legal, ethical, and social responsibility, data-based decision making, and systems-based service delivery) have not been altered substantially, the newest model delineates two specific outcomes that practicing school psychologists should strive to obtain (National Association of School Psychologists, 2006). Expressly, school psychologists should function to “improve competencies for all students and build and maintain the capacities of systems to meet the needs of all students as they traverse the

path to successful adulthood” (National Association of School Psychologists, 2006, p. 12).

Considering this charge, undoubtedly, it is crucial for school psychologists to have an in-depth understanding of inclusive practices and their impact on children with disabilities in order to obtain these outcomes.

The role of the school psychologist in promoting inclusive education encompasses a variety of the foundational and functional domains of practice. According to NASP’s previous position statement dealing with inclusive education, the school psychologist maintains a distinctive position in furthering inclusive education due to our expertise in all of the aforementioned areas.

The statement suggests that school psychologists may support inclusive schooling by:

gathering and providing information regarding the strengths and needs of individual students; providing meaningful support and consultation to teachers and other educators implementing inclusive programs; distributing articles and research to fellow educators and district committees responsible for educational restructuring; leading or serving as members of groups that are evaluating or restructuring education programs; planning and conducting staff development programs that support inclusion; offering training and support to teachers, students, and families; developing new resources through grant writing and collaboration with other community agencies, and other activities; providing information on needed changes to legislators and state and federal policy makers; and collecting and analyzing program evaluation and outcome based research. (National Association of School Psychologists, 2002, “The Role of the School Psychologist”, para.

2)

Embedded within these suggested areas of support are three functions where school psychologists may have the greatest impact: collaboration and consultation with teachers,

families, and other educational professionals; placement decisions; and policy and organizational change. First, collaboration and consultation with teachers, families, and other educational professionals on supporting the academic, social, and behavioral growth of students with disabilities, is at the core of the work of school psychologists on a daily basis. Given this position, school psychologists have the opportunity to advise teachers and other professionals concerning the most effective ways to adapt curriculum, promote socialization, and meet the varied needs of children with diverse disabilities. They also have the chance to interact with families and help them to understand the literature that supports inclusion and the skills their children stand to gain by participating in a more inclusive environment (Farrell, 2004).

Next, the school psychologist is a critical member of the educational team for a child with a disability and is often charged with making placement and programming decisions when a child qualifies for special education services. While the individual needs of each child must be taken into consideration in placement decisions, the law also charges special education professionals with considering the regular education environment with supplementary aids and services, prior to moving on to more segregated placement options. Given the school psychologist's expertise in academic, social, emotional, and behavioral intervention for children with special needs, they are in a critical position to make recommendations that may allow a child to access a more inclusive environment. As Farrell (2004) states, "the school psychologist can "help to maintain segregated provision for pupils with special needs or they can recommend more inclusive arrangements" (p. 6). Farrell (2004) further illustrates this point by examining the placement recommendations of one local education authority (LEA) in England and finding that 251 children or 91.5% attending the areas specialized schools were referred for these services by half of the school psychologists working in the LEA, while the remaining school psychologists only

referred 24 children. It is pointed out that the area demographics, training programs, and the nature of the population of children the school psychologists were serving were not related to these data, although there seemed to be a trend with more recently trained school psychologists referring children for specialized placement with less frequency (Farrell, 2004). This example portrays the impact that school psychologists may have in assuring children with disabilities are educated in more inclusive programs.

Finally, the school psychologist may work at a systems level to impact organizational and policy change within districts, at a state level, and nationally. Farrell (2004) states that in this capacity the school psychologist may help the system “reflect on their practices, plan and implement change, and hence bring about whole school competence for the benefit of all children” (p. 13). Indeed, it is this type of outcome that the most recent *Blueprint* describes as the duty of the school psychologist. Considering the school psychologist’s substantial skill set, knowledge of effective practices, and orientation toward advocacy, they are the perfect champions for systems level change regarding inclusion.

When considering the education of children with complex disabilities, the mission of the school psychologist does not differ. Indeed, it may be argued that the focus on consulting and collaborating with educational professionals, advocating for inclusive placement, and working at a systems level is of even greater importance. Powell-Smith, Stoner, Bilter, and Sansosti (2008) identify a best practice model of working with individuals with severe and low incidence disabilities that holds the concept of Least Restrictive Environment (LRE) as one of its core foundations. This ideal is at the forefront of all other educational decisions, practices and plans that are carried out for the student with complex disabilities. Also included in the model are ten strategies to guide the implementation of best practice, including several that relate directly or

indirectly to LRE. One strategy calls for the school psychologist to “strive for instruction in neighborhood schools” (Powell-Smith et al., 2008, p. 1238). Additional strategies, such as using the “criterion of ultimate functioning” and acting under the “criterion of the least dangerous assumption” assume that the school psychologist will make decisions that will help the student to function independently in inclusive environments and have the least negative impact on the student’s long term functioning if conclusive data are not available (Powell-Smith et al., 2008, p. 1237). The latter of these two strategies, especially, have serious implications for including students with complex disabilities in general education. Given the skills that the school psychologist possesses and the functions that they undertake, the capacity for these educators to influence the scope of inclusive education for children with moderate and severe disabilities is substantial.

Statement of the Problem

There are several reasons that researching the relationship of inclusive classroom quality indicators, social competence, and level of inclusive education in relation to complexity of disability for children in the primary grades within the context of a model of inclusive programming is valuable. First, research supports that placement in inclusive settings tends to experience a drop as children move into first and second grade (Guarlnick, Neville, Hammond, & Connor, 2008; Hanson et al., 2001). In order to support students with disabilities in maintaining access to and participating in an inclusive environment, it is important to increase the likelihood that they will continue to be included as they progress through school. The present research aims to investigate factors related to the inclusion of children with disabilities in general education environments as they progress beyond early childhood to school age programming. Next, limited research exists that supports the current effectiveness and positive

long-term outcomes related to special education for children with disabilities. According to Kavale and Forness (1999), the results of metanalytic research that encompassed hundreds of studies of special education interventions uncovered that the majority of these interventions had very modest efficacy at best, suffered from variability and unpredictability, and failed to yield any positive conclusions. While they caution that “the *what* is...of greater importance than the *where*”, Kavale and Forness (1999) do indicate that their findings support that none of the special education interventions reviewed provide “either *the* solution or *the* answer” to meeting the educational needs of students with disabilities (pp. 63-64). It is even more concerning that the long-term outcomes for individuals with disabilities, with many still continuing to be educated in segregated settings, are less than positive.

Historically, individuals with disabilities have been reported to have lower graduation rates, lower levels of employment after graduation, less likelihood of living independently, less likelihood of attending a post-secondary institution, and minimized integration into the community (National Center on Educational Restructuring, 1994). Current statistics indicate that many of these gaps still occur, with individuals with disabilities continuing to be less likely than their same age peers to engage in employment, post-secondary education, or job training or to live independently (Sanford et al., 2011). For individuals with disabilities, who participated in community activities and interacted with friends on a weekly basis, those with what are typically considered the most complex disabilities (i.e., Autism, intellectual disability, and multiple disabilities) experienced the lowest levels of interaction (Sanford et al., 2011). Although researchers such as Kavale and Forness (1999) warn about the dangers of focusing on context rather than content, it is undeniable that the greatest range of access to diverse learning opportunities is in the inclusive general education classroom. To improve outcomes for

individuals with disabilities, especially moderate and severe disabilities, it is crucial that researchers and educators consider the *where* in educational programming, in addition to the *what*, weighing inclusive versus more segregated settings.

Finally, although exploration of the educational programming that children with disabilities receive is of great importance to obtaining positive long-term outcomes, researchers still do not fully understand what factors in inclusive education lead to the best possible outcomes.

Kilanowski-Press, Foote, and Rinaldo, (2010) reported that

relatively little has been done to explore the current state of inclusive practice in terms of service models most often employed and other relevant classroom characteristics including number of students with disabilities, training experiences of educators, and other available educational support persons. (p. 44)

This has led to a lack of information supporting the tenets of what makes an effective inclusive education program.

There is support embedded in the research literature for several inclusive classroom quality indicators and their impact on children's social competence. Theories of child development, such as Vygotsky's sociocultural theory of child development and learning, have long pointed to the importance of adult involvement in peer interaction on social development (Tudge & Winterhoff, 1993). Several researchers have found greater levels of peer interactions and more positive peer interactions for children with disabilities when teachers facilitated their social interactions with peers (Kwon, Elicker, & Kontos, 2011; Sontag, 1997). The importance of classroom membership has also garnered attention within the research literature. Erwin and Guintini (2000) described that for children with complex disabilities, the path to membership within a classroom provides the foundation for later socialization. Other researchers have

highlighted the importance of teachers in orchestrating opportunities for membership and social inclusion of children with disabilities within the regular education environment (David & Kuyini, 2012; Narian, 2011; Odom & Diamond, 1998; Ohtake, 2003). Also, support for social communication through the use of both Augmentative and Alternative Communication (AAC) devices and teacher-supported strategies has been indicated as critical for the improvement of peer interaction (Cosbey & Johnston, 2006; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Hunt, Soto, Maier, Müller, & Goetz, 2002). Despite the existence of literature connecting these indicators of inclusive classroom quality to social development, no studies have directly measured the relationship of these indicators and social competence development, particularly for children with the most complex needs. Given the current educational climate for inclusive practices, engaging in research that adds to the literature base is of grave importance. As Downing and Peckham-Hardin (2007) stated,

if students are to learn both academic as well as social skills, just gaining access to typical learning environments cannot be the goal. Educational teams will need to identify what types of supports are needed to provide an education as well as have a clear idea of exactly what curriculum content will be important for all students to learn. (p. 17)

Research, such as this study, intends to further the knowledge base and the connection between inclusion and the discipline of school psychology by investigating the relationships among indicators of inclusive classroom quality and level of inclusive education and the social competence of students with moderate and high complexity of disability in kindergarten and first grade.

Nature of the Study

This research will investigate the relationships of data collected following the implementation of inclusion strategies within regular education kindergarten and first grade classrooms across the state of Pennsylvania through the Include Me From the Start (IMFS) initiative. This initiative, undertaken by The Arc of Pennsylvania as part of the Gaskin Settlement, was designed to provide intensive training and support to Pennsylvania school districts that were identified through the Pennsylvania Department of Education as needing assistance in improving their inclusive practices for children with disabilities (Bagnato, McKeating, & Salaway, 2010). Gaskin vs. the Pennsylvania Department of Education (PDE) was a law suit filed in 1994 by a host disability advocacy organizations and parents of children with disabilities on behalf of all of the students with disabilities in Pennsylvania that were being denied a free appropriate education in the least restrictive environment (Pennsylvania Department of Education, n.d.). The suit, which was settled in 2005, set forth a series of provisions designed to assure PDE was building capacity for students with disabilities in Pennsylvania schools to receive a continuum of supports, such as supplementary aids and services, within the regular education classroom (Pennsylvania Department of Education, n.d.). The goal of the Include Me from the Start initiative was to ensure that children with disabilities, particularly severe disabilities, entering kindergarten or first grade received education in their general education classrooms.

The Include Me from the Start initiative incorporates the following elements into its programming: ongoing, weekly consultation and mentoring conducted by the IMFS consultants with the classroom teachers, an emphasis on the use of inclusion and accommodation strategies aligned with the Pennsylvania Department of Education's Supplementary Aids and Services

Toolkit (SaS Toolkit), monitoring of these strategies using the Consultation Monitor to track engagement across areas covered by the toolkit, and the collection of data to determine the progress of children enrolled in the program and the quality of inclusive strategies in the regular education classroom. Treatment fidelity is monitored through the use of an excel spreadsheet named the Consultation Monitor.

Purpose of the Study

The purpose of this study will be to examine the relationship among inclusive classroom quality indicators, social competence, and level of inclusive education for children with the most complex disabilities that received consultant services through the Include Me From the Start program during the 2011-2012 school year, using archival data. Specifically, the research will focus on the group of children that were rated as having moderate or high complexity of disability.

Research Questions and Hypotheses

The study will be guided by the following research questions and subsequent hypotheses:

1. What is the relationship between social competence and each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication?

H⁰: It is hypothesized based on theory (Denzine, 2008; Vygotsky, 2011; Bandura, Ross, & Ross, 1963) and previous research (Bagnato, McKeating, & Salaway, 2012; Cosbey & Johnson, 2006; David & Kuyini, 2012; Erwin & Guintini, 2000; Favazza & Odom, 1997; Forman, Arthur-Kelly, Pascoe, & King, 2004; Gelzheiser, McLane, Meyers, & Pruzek, 1997; Hunt, Soto, Maier, Müller, & Goetz, 2002; Kwon, Elicker, & Kontos, 2011; Mashburn et al., 2008; Narian, 2011; Odom & Diamond, 1998; Ohtake, 2003; Sontag,

1997) that children in classrooms with higher ratings of adult involvement in peer interactions, membership, and support for social communication will demonstrate greater social competence.

H¹: It is hypothesized based on theory (Bandura, Ross, & Ross, 1963; Denzine, 2008; Vygotsky, 2011) and previous research (Erwin & Guintini, 2000; Gelzheiser, McLane, Meyers, & Pruzek, 1997; Kwon, Elicker, & Kontos, 2011; Sontag, 1997) that adult involvement in peer interactions will be the best predictor of social competence.

2. Are there differences in the relationships between social competence and each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication, for children with a high level of complexity of disability versus children with a moderate level of complexity of disability?

H²: It is hypothesized based on logic, theory (Bandura, Ross, & Ross, 1963; Denzine, 2008; Vygotsky, 2011) and previous research (Bailey & Simeonsson, 1985; Guralnick, 2010; Howes, 1987; Kavale & Forness, 1996; McConnell & Odom, 1999) that the relationships among social competence and the inclusive classroom quality indicators of adult involvement in interactions, membership and support for social communication will be greater for children with a moderate complexity of disability.

3. What effect does the level of inclusive education (low, moderate, or high level of inclusion) have on the change in social competence when controlling for the child's total complexity of disability?

H³: It is hypothesized based on theory (Bandura, Ross, & Ross, 1963; Denzine, 2008; Vygotsky, 2011) and previous research (Bagnato, McKeating, & Salaway, 2012; Bang &

Lamb, 1996; Cole & Meyer, 1991; Fisher & Meyer, 2002; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Hundert, Mahoney, Mundy, & Vernon, 1998; Hunt & Goetz, 1997; Hunt, Soto, Maier, & Doering, 2003; Jenkins, Odom, & Speltz, 1989; Kennedy, Shukla, & Fryxell, 1997; Rafferty, Piscitelli, & Boettcher, 2003; Ryandak, Ward, Alper, Storch, & Wilson, 2010) that children who have higher levels of inclusive education, regardless of total complexity of disability will experience a greater change in social competence.

Definition of Terms

In order to establish a consistent frame of reference, the following definitions are offered for several terms used frequently throughout this study.

Social Competence: For the purposes of this study, social competence is an “evaluative term that is based on judgments by significant others that a student has performed “competently” on a social task” (Gresham, 2005, p. 1536). This description of social competence refers to a social validity definition, where social competence equates to “specific behaviors that lead to or otherwise predict important social outcomes for student” (Gresham, p. 1536).

Complexity of Disability: For this investigation, the term complexity of disability refers to a child’s functional status in relation to the severity of their disability. According to Bagnato and Neisworth (1990), functional status is a “classification scheme that relies on behavioral descriptions of the child’s level of ability or disability” and avoids using a “generic diagnostic category” (p. 67). Similarly, complexity of disability refers to a method of classifying a child’s functioning for research purposes, as opposed to simply using their diagnosis. While the term *severity of disability* assumes that a child’s functioning is based on their specific disability label and corresponding symptomologies or characteristics, the term *complexity of disability* refers to

an ecological approach to defining a child's functioning capacity, on an individual and programmatic level. In this research, the term complexity of disability is a classification that describes a child's health, behavior, family system, and development in terms of both individual and systemic needs. The definition of complexity of disability extends the term severity of disability, while eliminating the need to use specific disability categories (S. J. Bagnato, personal communication, August 27, 2012).

Level of Inclusive Education: The term "level of inclusive education" is used in this study to indicate the educational placement of the child or the amount of time the child spends in a regular classroom setting with his or her typical peers. The following terms represented in Pennsylvania's Chapter 14. Special Education Services and Programs, 22 P.A.C. § 14.105 (2008) correspond to the child's level of inclusive education:

Itinerant Placement in Special Education or High Level of Inclusive Education—

Supports and services provided by special education personnel for 20% or less of the school day.

Supplemental Placement in Special Education or Moderate Level of Inclusive

*Education—*Supports and services provided by special education personnel for more than 20% of the day but less than 80% of the school day.

Full Time Placement in Special Education or Low Level of Inclusive Education—

Supports and services provided by special education personnel for 80% or more of the school day.

Adult Involvement in Peer Interactions: The term adult involvement in peer interactions is taken from the Inclusive Classroom Profile (ICP) and represents "adult engagement in supporting reciprocal, sustained, peer interactions" (Soukakou, 2012, p. 482).

Membership: The term membership is taken from the ICP and represents children's access to "equal opportunities to assume social roles and responsibilities in the classroom" (Soukakou, p. 482).

Support for Social Communication: The term support for social communication is taken from the ICP and represents adult promotion and facilitation of "social communication skills among children with and without disabilities" (Soukakou, p. 482).

Assumptions

The data collected in this study fall under two assumptions. First, it is assumed that the elements of the Include Me From the Start (IMFS) programming were conducted with fidelity and on a routine basis by each consultant. In addition, it is assumed that the instruments employed to collect the data were utilized according to standardized directions and as described in the procedures portion of this document.

Limitations

Several limitations are inherent in the research presented here. First, the sample represents 22 of the approximately 500 school districts in Pennsylvania and includes schools in both urban and rural settings; thus, it may be rationalized that the sample would be generalizable to other districts only if a similar demographic make-up exists. Also, concerning the sample, due to the nature of the implementation of the Include Me from the Start (IMFS) Initiative, the research design did not allow for random assignment and used a convenience sample. As a result, confounding variables may have impacted any significant outcomes and causality cannot be demonstrated (Braver, Moser, & Thoemmes, 2010).

Next, several of the measures used in the study may be subject to bias. The Inclusive Classroom Profile (ICP) is an observation-based measure that was used in the regular education

classroom by the IMFS consultant to measure various inclusive classroom quality indicators. The data collected via this measure may have been subject to the bias of the consultant who conducted the observations. In addition, the very act of observing in the classroom may have altered the behavior of individuals (children and adults) within the classroom. The measures of social competence are rating scales that were completed by the teachers and consultants in a team format and may have been subject to bias. Finally, while the rating scales were collected in a team format, the lack of having multiple, individual raters may have limited the scope of input on the children's development of social competence.

Summary

According to research children with disabilities typically have delays in the development of their social competence (Guralnick, 2010; Kavale & Forness, 1996), and the school or classroom environment is a crucial setting for the development of those skills (Gresham, 2005). Children with labels constituting complex disabilities have historically been, and continue to be, excluded from typical classroom settings (Bently, 2008). Research indicates that inclusive placements begin to decline starting in the early primary grades (Guralnick, Neville, Hammond, & Connor, 2008; Hanson et al., 2001). These practices occur, despite the fact that there is a lack of support for robust outcomes in special education settings (Kavale & Forness, 1999). This continued segregation is contrary to research that supports positive social outcomes for children with complex disabilities that are educated in inclusive settings, such as the general education classroom (Bang & Lamb, 1996; Cole & Meyer, 1991; Fisher & Meyer, 2002; Hunt & Goetz, 1997; Hunt, Soto, Maier, & Doering, 2003; Katz & Mirenda, 2002; Mills, Cole, Jenkins, & Dale, 1998; Rafferty, Piscitelli, & Boettcher, 2003). It is well within the duties and realm of practice of school psychologists to advocate for inclusive settings for children with complex disabilities

(National Association of School Psychologists, 2002, 2006, 2009); however, they need to obtain a deeper understanding of what practices within a classroom make inclusive programs beneficial to this population of children (Downing & Peckham-Hardin, 2007; Kilanowski-Press, Foote, & Rinaldo, 2010).

This study will examine the relationship of inclusive classroom quality indicators and social competence for children with the most complex disabilities and investigate the relationships between the children's level of inclusive education, their social competence, and their complexity of disability level, within the context of an inclusive program model. Specifically, the research will focus on the group of children that had moderate to high complexity of disability.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The current study focuses on exploring relationships between social competence, inclusive classroom quality, and the level of inclusive education for children with complex disabilities. A discussion of the legislative background of inclusive education and the process of defining inclusion set the stage historically for this research. Next, literature on the foundations of social and cognitive development, definitions of social competence, the distinctions between social competence and social skills, and social competence frameworks provide a theoretical foundation for the research. Then the discussion turns towards children with disabilities, including an examination of the literature on the development of social competence and inclusion of children with complex disabilities. Finally the discourse focuses on research related to social competence and indicators of classroom quality and the social competence outcomes. It is notable that much of the literature included in this review, particularly the literature on inclusion and inclusion and social competence outcomes, is dated from the mid nineteen nineties into the mid-two thousands. It was during this period of time and the decade prior, that the issue of inclusion was a hot button topic, spurring substantial research around its effectiveness and potential outcomes. Since this time there has been less focus on demonstrating these outcomes.

Legislative Background of Inclusive Education

Beginning with the passage of Public Law 94-142 or the Education for All Handicapped Children Act in 1975, the legal right of children with disabilities to receive an education in the public arena became solidified in the United States. Prior to this time children with disabilities were often denied the opportunity to be educated, especially those with severe disabilities.

According to the Office of Special Education Programs (n.d.) “in 1970, U.S. schools educated only one in five children with disabilities, and many states had laws excluding certain students, including children who were deaf, blind, emotionally disturbed, or mentally retarded” (Introduction section, para. 5). This initial legislation and further amendment of what is now known as the Individuals with Disabilities Education Improvement Act (IDEIA) 2004, opened the door for children with disabilities to gain greater access to educational opportunities and assured that the term Least Restrictive Environment (LRE) would be on the lips of educational professionals for decades to come. This educational philosophy has had a monumental impact on children with disabilities and their access to inclusive classroom environments and has perpetuated the momentum that inclusion has gained in the last two decades.

Another piece of federal legislation that had an enormous impact on the education of children with disabilities was the reauthorization of the Elementary and Secondary Education Act (ESEA), known as the No Child Left Behind Act (NCLB) of 2001, which enacted a new set of educational standards focusing on the ability of all children, including those with disabilities, to make educational progress. The requirements of districts to use scientifically based instruction, demonstrate adequate yearly progress via state assessments, and provide education by highly qualified teachers were all established through NCLB. While NCLB was designed to close the achievement gap for all children, it focused the education system on demonstrating accountability for historically underachieving populations, such as children with disabilities. Indeed, the last reauthorization of IDEIA in 2004 aligns closely with NCLB, including definitions of “core academic subjects”, “limited English proficient”, “highly qualified”, and “scientifically based research”; allocation of funds to support programming; addition of qualifications for special education teachers; establishment of goals for and indicators of

performance; adoption of alternate assessments; creation of rules for reporting; tracking migratory children with disabilities; and requirements that special education eligibility factor in the amount of appropriate instruction received by the child (U.S. Department of Education, 2007, pp. 1-2). These legal protections only served to strengthen the opportunities for children with disabilities to be included in the regular education environment.

According to the most recent authorization of IDEIA (2004), the term least restrictive environment requires that

to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.

Several instances of case law have supplemented the current federal definition, including *Daniel R.R. v. Texas State Board of Education, El Paso Independent School District*, (1989); *Greer v. Rome City School District*, (1991); and the *Sacramento City Unified School District, Board of Education v. Rachel H.*, (1994) (Jacob & Hartshorne, 2007). The *Greer* case had a hand in legally indicating that the preferred location for the education of children with disabilities is with their non-disabled peers, thus in an inclusive environment (Jacob & Hartshorne, 2007).

Furthermore, the result of the *Holland* case (1992) (on appeal *Sacramento City Unified School District, Board of Education v. Rachel H.*, (1994) posited that districts “must begin with the assumption that the child can be educated in the regular classroom” as a jumping off point for considering the continuum of services (Jacob & Hartshorne, 2007, p. 153). These decisions

solidified that educational professionals need to consider an inclusive environment as the place where a child with a disability receives his/her education, first and foremost, which despite prior protections from IDEA amounted to the beginnings of a major shift in ideology. The rulings in the *Holland* case also established four considerations when making placement decisions for children with disabilities:

(a) the educational benefits available in a regular classroom, supplemented with appropriate aids and services, as compared with educational benefits of a special education classroom; (b) the nonacademic benefits of interaction with children who are not disabled; (c) the effect of the child's presence on the teacher and other children in the classroom; and (d) the cost of educating the child in a regular classroom. (Jacob & Hartshorne, 2007, p. 154)

While the inclusive environment should be the go-to option for placement, additional case law reminds that a child must be able to obtain educational benefit in the inclusive environment. In the case of *Daniel R.R.*, the decision focused on the point that children with a disability must be able to learn and develop with modifications to the class curriculum and that making those modifications should not require an overwhelming amount of time (*Daniel R.R. v. State Board of Education, El Paso Independent School District*, (1989); Jacob & Hartshorne, 2007). Thus, educational teams are charged with walking the line between making appropriate curricular modifications and adaptations and determining when the specially designed instruction needed is above and beyond what can be achieved in a regular education classroom.

One important legal decision that greatly impacted the state of Pennsylvania was *Gaskin v. Pennsylvania Department of Education*. This landmark class action lawsuit filed in 1994 on behalf of a group of 12 severely disabled children by their parents, and various advocate

organizations against the Pennsylvania Department of Education (PDE), served as a catalyst for the improvement of inclusion for students with severe disabilities in general education classrooms (Pennsylvania State Education Association, n.d.). Not settled until 2005, the lawsuit claimed that the plaintiffs were being denied their rights under IDEA, including their entitlement to a free and appropriate public education in the least restrictive environment (LRE).

Specifically, it was felt that “PDE had systematically failed to enforce the provisions in federal law requiring local schools and school districts to offer a full continuum of support services allowing disabled children to be educated in regular classrooms” (Pennsylvania State Education Association, n.d., Background Information section, para. 2). This lawsuit, which in the end found in favor of the plaintiffs, resulted in several conditions that would improve access to inclusive environments for children with disabilities, especially significant disabilities.

According to the Pennsylvania State Education Association, some of those provisions included: (a) establishing an advisory panel specifically dealing with LRE; (b) alterations to the format of individualized education plans; (c) creating a tiered monitoring system designed to track school systems’ LRE practices and recommend and enforce improvement plans if necessary; (d) investigating parents’ complaints surrounding LRE; and (e) provision of supports and training to school districts from PDE. These extensive provisions have helped further the philosophy of inclusion and protect the rights of children with disabilities; however, despite these improvements challenges still remain related to the inclusion of children with disabilities as they progress through primary school.

Defining Inclusion and Inclusive Practices

A review of the plethora of journal articles, books, and scholarly works on inclusion finds that many initiate their discussion of the matter by reviewing the multitude of definitions of

‘inclusion’ that are inherent in the literature. It is widely discussed that this failure to find consensus regarding the definition of inclusion has led to challenges for the research community and contributed to confusion for all of society. Intermixed in the inclusion literature are terms such as *mainstreaming* and *integration*, which have ties to the historical development of the inclusion movement, but add to the misconceptions. It has been documented that mainstreaming came to the forefront of special education following the passage of the Education for All Handicapped Children Act in 1975; however, the movement toward this model of education for students with disabilities had been the center of scholarly debate for at least a decade prior and was very much part of the zeitgeist of the 60s and 70s (Alquraini & Gut, 2012; Kavale & Forness, 2000). Central to the concept of mainstreaming was the idea that students would be educated in the Least Restrictive Environment (LRE) and there would be a continuum of services available. Mainstreaming was focused more on giving students with disabilities access to the regular education environment for part of the day to participate in non-academic activities, yet the bulk of their instruction continued to be conducted in segregated settings (Alquraini & Gut, 2012). This practice was also referred to as locational mainstreaming or social mainstreaming, where children would be almost entirely segregated from their typically developing peers, except for social activities (Alquraini & Gut, 2012). This frame on education in the LRE is very different from current inclusive practices that identify the general education classroom with supplementary aides and services as the starting point for placement decisions. Mainstreaming was also considered by educational professionals to be geared toward students with mild disabilities, and tended to exclude those with more complex and severe disabilities (Alquraini & Gut, 2012; Kavale & Forness, 2000). This is in contrast to the current tone of

inclusion that advocates for supporting the education of all learners, even those with diverse and complex needs, in the general education environment.

In addition there exists substantial discussion about types of inclusion, such as *full inclusion*, *social inclusion*, and *reverse inclusion*. Fuchs and Fuchs (1998) describe differences between what are termed *full inclusionists* and *inclusionists*, stating that inclusionists feel that considering large general education class sizes, the variability in academic skills of all children, and the failure of best practices to work for some children with disabilities—not all children with disabilities will be able to be educated within a general education environment. This is in contrast to the views of full inclusionists, who believe that children must be with their typical, same-age peers in order to gain valuable social skills and only full inclusion will extinguish stigmatization of children with disabilities and serve as a catalyst to change the general and special education systems (Fuchs & Fuchs, 1998). Thus, a distinction can be made in terms of how much inclusion a child is receiving, with full inclusion representing the most amount of time possible in the regular education environment. Fiorello, Boyer, and Thompson (2008) further define full inclusion, stating “inclusion calls for the development of a universally designed system with the capacity to support all learners and with the infrastructure for the delivery of special education supports and services in the general education classroom” (p. 509).

Social inclusion is a term that has a broad spectrum of uses and refers to the inclusion of individuals with disabilities in a variety of social environments and in some contexts, refers to the inclusion of children with disabilities within a general education classroom for social purposes. However, researchers such as Wolf and Hall (2003) make the point that social inclusion fails to offer the student a chance to receive instruction in the content areas. Reverse inclusion, sometimes termed reverse mainstreaming, is the practice of bringing typical peers into

the special education classroom in order to provide opportunities for socialization for children with disabilities. Considering all of the verbiage that clutters the literature it is not surprising that defining inclusion is one of the first issues often addressed by scholars.

Creating a Unified Definition of Inclusion

The challenge of defining inclusion and problems created by the lack of a unified definition has been recognized by a multitude of national organizations that work with children. In 2009, the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC) published a joint position statement to offer a definition of early childhood inclusion. In this statement designed to encompass the needs of children from birth to age eight, they assert:

early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities, and society. The desired result of inclusive experiences for children with and without disabilities and their families include a sense of belonging and membership, positive social relationships and friendships, and development and learning to reach their full potential. The defining features of inclusion that can be used to identify high quality early childhood programs and services are access, participation, and supports. (p. 2)

The DEC/NAEYC definition identifies that providing access to varied opportunities and settings, while a component of inclusion, is not satisfactory for the best outcomes for children. Participation that is supported by adults and a structure that provides various levels and types of supports, interventions, and quality inclusive practices are crucial for children to develop and maximize their potential (DEC/NAEYC, 2009).

Defining Inclusive Practices

In the literature, quality inclusive practices may refer to a variety of strategies and/or models designed to provide support and improve the experience of children in an inclusive environment. Stainback and Stainback (1990) supported a definition of inclusive practices that was broad based, including any practices that contributed to an educational climate of support and that were designed to provide services meeting the unique needs of all students, specifically services that were not available outside a segregated setting before. Soukakou (2012) defines inclusive practices within the context of a measure of inclusive classrooms, as “practices which deliberately adapt the classroom’s environment, activities, and instruction in a way that encourage access and active participation in the group, though supports that might differ from child to child” (p. 481). While the debate over placement in inclusive classrooms has been ongoing for decades, without quality supports in inclusive environments, discussing placement decisions is a moot point. It is only with the use of high quality practices that children in regular education environments will flourish.

Components of Inclusion for Children with Moderate to Severe Disabilities

As previously mentioned, under the guise of mainstreaming, children with moderate to severe disabilities historically continued to be segregated from their same age peers (Alquraini & Gut, 2012; Kavale & Forness, 2000). Since the movement toward inclusion, which emphasizes that all children be educated in the general education environment regardless of their complexity of disability, improvements have been made in the inclusion of all children. Despite this fact many children, especially those with the most severe disabilities, are continuing to be isolated in mostly segregated settings (Bently, 2008). Recognizing this problem over a decade ago,

Ryndak, Jackson, and Billingsley (2000) explored the opinions of authorities regarding the inclusion of children with moderate and severe disabilities. They examined definitions of inclusion for this population and discovered seven themes, both individual and systemic, to be at the forefront (Ryndak, Jackson, & Billingsley, 2000). Individual themes included placement in natural, typical settings; receipt of instruction with all students and learning together; provision of supports and modifications in general education to meet the outcomes of the learner; presence of belongingness, equal membership, acceptance, and being valued; and integrated services through collaboration by educational teams (Ryndak, Jackson, & Billingsley, 2000). Systemic themes involved having an overarching philosophy or belief system and combining general and special education into one system of service delivery (Ryndak, Jackson, & Billingsley, 2000). A consideration of these themes finds many similarities between what was purposed for children with moderate and severe disabilities at that time and the definition created by the DEC/NAEYC (2009) 18 years later. It seems that regardless of disability status, categories, or complexity the message of what constitutes inclusion and inclusive practices for all children has begun to obtain consistency and clarity.

The Foundations of Social/Cognitive Development for Children with Disabilities

Several theorists in developmental psychology have highlighted the importance of social interaction in supporting the social and cognitive development of children. Additionally, their theories have focused on how others in the environment mediate this development. Two of the most influential theorists, Lev Vygotsky and Albert Bandura, have contributed immensely to the understanding of children's learning and development, particularly as they apply to children with disabilities.

Bandura's Social Learning Theory and the Importance of Modeling

Albert Bandura developed and refined a theory of social learning in the late 1950s/early 1960s that challenged existing psychological theories of development forwarded by psychoanalysts and behaviorists (Denzine, 2008). His theory hinged on several conceptualizations of learning, including that complex patterns of behavior can be learned through imitating others and functioning is determined by the expectation that behavior will achieve a desired outcome (Bandura, Ross, & Ross, 1963; Denzine, 2008). A series of experiments involving young children who observed aggressive models who were either rewarded or punished for their behavior and then tested for delayed imitation created the foundation of Bandura's supposition (Bandura, Ross, & Ross, 1963). Bandura's theory asserted that "children primarily learn through imitation of models in their social environment and that the primary mechanism driving development is observational learning" (Tudge & Winterhoff, 1993, p. 62). Denzine (2008) identifies that modeling is guided by observational learning (observing others in their environment), response facilitation (modeled behaviors indicating what is socially appropriate in a situation), and inhibition or disinhibition (reinforcement or lack of negative reinforcement of model impacting the observer's willingness to restrain or allow a behavior to occur). While Bandura's theories were not specifically related to the development of children with disabilities, educators may infer that for children with special needs, the ability to access their typical peers as models of behavior is of incredible relevance to their learning potential.

Vygotsky's Socio-cultural Perspective on Child Development and Inclusion

Lev Vygotsky fostered a theory that viewed development as "a social process from birth onwards...assisted by others (adults and peers) more competent in the skills and technologies

available to the culture, and...fostered by collaboration within the child's zone of proximal development" (Tudge & Winterhoff, 1993, p. 62). A simple definition of the zone of proximal development (ZPD), which was one of Vygotsky's key concepts in children's learning and development, is

the distance between the level of [a child's] actual development, determined with the help of independently solved tasks, and the level of possible development, defined with the help of tasks solved by the child under the guidance of adults or in cooperation with more intelligent peers. (Vygotsky, 2011, p. 204)

Central to this concept were the ideas that instruction is a forerunner to development and as such, teaching of skills should begin at the point of emergent ability and learning as a social process must occur in an environment that allows collaboration, imitation, and the ability to interact in a social context (Ketterer, 2008). For Vygotsky, the environment functioned as both the setting and the source of development for children (Gredler & Claytor, 2007). In addition, his theory highlights the importance of not only the curriculum being taught, but also the classroom teacher in scaffolding or mediating the learning process for a child (Gredler & Claytor, 2007). Vygotsky recognizes that the process of development, which is dictated by the social learning that occurs through the process of internalizing social relationships and culture, is spearheaded by the education a child receives (Gindis, 1999). Considering this focus on the educational environment and teacher practices as the vehicle for crafting the social processes thorough which learning occurs, one might speculate that Vygotsky's theory holds special applicability to the inclusive classroom environment.

Interestingly, Vygotsky's work had its roots in special education, and he was considered an innovator in terms of how he viewed the development of disability, categorized disabilities, and

educated children with disabilities. Gindis (1999) states that the framework of special education is where Vygotsky was able to gather data in order to develop his overall theories. Vygotsky indicated “that from the psychoeducational perspectives the primary problem of a disability is not the organic impairment itself, but its social implications: An organic deficit is recognized by society as a social abnormality in behavior”(Gindis, 1999, p. 335). Resultantly, children with disabilities were subject to different attitudes and expectations, as well as limited access to the “sociocultural knowledge, experiences, and opportunity to acquire psychological tools”(Gindis, 1999, p. 335). Due to such limited access, the nature of their development may be wrought with deficits that are not simply the result of their disability. He saw the division of development between children with disabilities and those without as resulting from two differences, the development of compensatory strategies and the rise of social complications (Gindis, 1999). While in Vygotsky’s view the latter may be lessened only through education, the former may be maximized. In addition, he believed that the expediency and aptness of strategies used to build compensatory skills were of much greater importance than diagnostic categories or severity of disability (Gindis, 1999). Furthermore, Vygotsky’s theory indicated that “the focus of the compensation should be intensification of cultural enlightenment, strengthening of the higher psychological functions, the quantity and quality of the communication with adults, and social relationship with a collective (i.e., an organized group of peers)” (Gindis, 1999, p. 338). Where else might a child with a disability obtain such education than in the inclusive classroom environment?

Considering this it might logically be concluded that the very nature of Vygotsky’s theory supports that children with disabilities have access to inclusive environments in order to develop compensatory skills and to reach their fullest potential. Indeed, while Gindis (1999) cautions

against the view of Vygotsky as a full inclusionist, he does paint a picture that endorses his position as supportive of inclusion with the caveat that the environment in which it occurs be structured to meet the child's needs. Vygotsky (as cited in Gindis, 1999, p. 338) himself termed his model of educating children with disabilities, "inclusion based on positive differentiation", which refers to a positive and strengths based outlook by society on the abilities of a child with special needs. While it is difficult to determine what Vygotsky's stance would be in light of the current culture of inclusion, it is undeniable that he views the educational environment as more than merely a setting and supports that children with disabilities must be given to achieve greater access to social experience and opportunity to maximize their skills.

Considering theories such as these, it might be posited that children who are placed with their typically developing peers in an inclusive setting, are going to have the greatest opportunity for not only cognitive, but also social development, to be supported through peer and adult mediation and peer modeling, thus potentially realizing greater levels of social competence.

Social Competence: Definitions, Distinctions, and Frameworks

The construct of social competence has been developed through academic discussions on its definition, delineating it from other related social development concepts, and building frameworks to help in understanding how it is developed and observed.

Defining Social Competence

Psychologists and researchers have copiously discussed the construct of social competence since its conceptualization with the determination of factors that play a role being important on a national level. In 1973 the US Department of Health, Education, and Welfare Office of Child Development, gathered a group of experts to hash out a definition for social competency (Anderson & Messick, 1974). This forum rejected the idea that intelligence should

continue to be considered the hallmark of development and competence for children, as well as the basis for measuring educational programs, when it has such little value in predicting outcomes long term (Anderson & Messick, 1974). As a result, they developed a series of 29 statements that they felt equated to features in the definition of social competence. These statements included an individual's understanding of a variety of social emotional themes, such as self-concept, personal care, self-worth, feelings, relationships, and behavior regulation, in addition to adaptive and cognitive capacities, such as perceptual skills, fine and gross motor abilities, attention, categorization, memory, critical thinking, problem solving, and language skills (Anderson & Messick, 1974). Since that time, contemporary definitions have narrowed their focus somewhat from the multitude of domains originally identified by these authorities; however, a substantial amount of variation in definitions still exists.

Definitions of social competence within the literature are abundant and heterogeneous. Waters and Sroufe (1983) define a socially competent person as “one who is able to make use of environmental and personal resources to achieve a good developmental outcome” (p. 81). In contrast, O'Malley (1977) defines it as interactions between peers and adults that are productive and mutually satisfying. These are just two examples of the multitude of definitions in the literature. Due to such vast meanings, scholars have made the attempt to group these definitions by common themes. Rose-Krasnor (1997) differentiated between four types of definitions of social competence in the literature by breaking them into those that are based on specific social skills (e.g., Anderson & Messick, 1974), sociometric status (likeability and popularity), relationship development (e.g., O'Malley, 1975), and functional outcomes (e.g., Waters & Sroufe, 1983). Gresham (2005) more recently took a different approach, sorting the definitions of social competence into those that are driven by peer relationships, social behaviors, and social

validation or social outcomes. It should be noted that distinct overlap exists between many of the definitions and the factors they aim to include. While the myriad of definitions represent divergent notions of social competence, Rose-Krasnor (1997) makes an excellent point in stating “these methods may be simultaneously valid, tapping different aspects of competence at different levels of analyses” (p. 119). A lack of consensus as to an ultimate definition of social competence leaves the responsibility to the researcher to explain the definition of social competence used within the study and the factors within the description of social competence that are the study’s focus.

Social Skills vs. Social Competence

Distinction between the terms social competence and social skills has also been emphasized in the literature. Gresham (2005) indicated that “social skills represent specific behaviors exhibited by a student that make it possible for that student to perform competently on a social task”; whereas, “social competence is an evaluative term that is based on judgments by significant others that a student has performed ‘competently’ on a social task” (p. 1536). Gresham (2005) further describes that it is a child’s social skill that helps in predicting social outcomes (i.e., social competence). It is observed that social competence appears to be the global construct under which various social skills fall, and as such, it should be a component of an investigation of social competence. In order to delineate between social skills and the overarching theme of social competence, researchers often rely upon theoretical frameworks to guide their exploration of these themes.

Frameworks for Social Competence

There are many frameworks that have been constructed in order to shed light on the process by which social competence is established and demonstrated. Smith and Travis (2001)

highlight the importance of using a framework for the investigation of social competence in order for researchers to conform to a more standardized version of the concept and to improve the practice and more thoroughly answer questions in educational research. One of the most widely discussed models used to explain social competence is Dodge's Social Information Processing Model, which was later revised by Crick and Dodge. The model describes how a child reacts to social cues from the environment, with their already pre-determined capacity and experience, using a process of six steps (Dodge & Crick, 1994). The steps comprising the reformulated model "include (1) encoding of external and internal cues, (2) interpretation and mental representation of those cues, (3) clarification or selection of a goal, (4) response access or construction, (5) response decision, and (6) behavioral enactment" (Dodge & Crick, 1994, p. 76). This version of the model added the consideration of non-cognitive processes that may impact social adjustment including emotion, interpersonal relationships, and previous social experiences, as well as emphasizing the parallel, nonlinear processing and the impact of reciprocal effects on social behavior (Dodge & Crick, 1994).

Another framework, the Social Competence Prism, was proposed by Rose-Krasnor (1997) and delineated three, hierarchical levels for analyzing social competence. The top is considered the "Theoretical Level", where Rose-Krasnor (1997) defined social competence as "effectiveness in interaction"(p. 119). Inherent in the definition at this level are the ideas that social competence is an organizing concept that is created by transactions; is dependent on the context in which it occurs; and is concerned with performance in everyday interactions (Rose-Krasnor, 1997). The next level, the "Index Level", is reflective of and has its basis in the qualities of social interactions (Rose-Krasnor, 1997). It is divided into two domains, *Self* and *Others*, with *Self* representing the needs of the individual, while *Others* indicates the

interconnected nature of social interactions with credence given to the needs of others (Rose-Krasnor, 1997). These domains are further divided based on the diverse contexts in which social interaction may occur (Rose-Krasnor, 1997). Finally, the bottom level or “Skills Level” represents the social, emotional, and cognitive capacities, as well as internal motivation that an individual brings to any given situation (Rose-Krasnor, 1997). These skills serve as the foundation for the “interactions, relationships, and group status” that comprises the Index level of the prism (Rose-Krasnor, 1997, pp. 119-120). Through this developmentally friendly model, social competence becomes “an organizing construct, with transactional, context-dependent, performance oriented, and goal specific characteristics” (Rose-Krasnor, 1997, p. 123).

One final model of social competence was proposed by Bailey and Simeonsson (1985) and was termed a behavioral, functional model of social competence. It was suggested that this model offered a framework for describing the impact of disability on social competence (Bailey, Simeonsson 1985). In this model, social competence represented the child’s ability to engage with others in social interactions that allow them to receive the desired response or obtain a goal, are mutually satisfying, and meet the expectations of the adult or peer for behavior that is socially competent (Bailey & Simeonsson, 1985). This model was not one that described a child’s social competence, but rather functioned to describe if a particular behavior in a situation was socially competent (Bailey & Simeonsson, 1985). The model included three phases, the stimulus phase, behavior phase, and outcome phase. In the stimulus phase, Bailey & Simeonsson (1985) indicated that the child was provoked by a social initiation or the desire to fulfill a functional need. In the behavior phase, the child would give a behavioral response that was the result of four factors, their functional capacity, their temperament, their social awareness, and their learning history (Bailey & Simeonsson, 1985). It was highlighted that when

a child has a disability each of these areas may be impacted and thus alter the behavioral response. Bailey & Simeonsson (1985) highlighted the importance of determining how a child's functional capacity limits their social competence. Outcomes can be judged as either competent or incompetent and must cause behavior change within another person to be social (Bailey & Simeonsson, 1985). Three types of outcomes were described, including communicative outcomes, instrumental outcomes, and affective outcomes (Bailey & Simeonsson, 1985).

The Development of Social Competence in Children with Disabilities

The development of social competence begins early in infancy with parent and child interactions, and continues throughout childhood. Howes (1987) describes the developmental sequencing of peer social competence for young children within the context of two areas of attainment: social interactions and friendship formations. Her model includes four stages of social competence with peers, beginning in infancy and leading into school age, with "peers in middle childhood...considered the endpoint" (Howes, 1987, p. 255). She approaches this model with the caveat that these stages relate to normative development in children and identifies cognitive and linguistic correlates to each of the stages, stating that these capacities will define the limitations children may experience at each stage (Howes, 1987). Concerning the preschool stage of social competence, Howes (1987) identifies that the goal of social interaction is "social knowledge of the peer group, which entails an awareness of group membership, knowledge of behavioral characteristics of individuals within the group, and the ability to make stable personal judgments about peers" and the goal of friendship is "the differentiation of friends from playmates" (pp. 263-264).

Children with disabilities are likely to have difficulty with attaining these goals and may lag behind their peers. As Bailey and Simeonsson (1985) indicated, social competence is an area

of “fundamental deficit across almost every disability” (p. 20). For children with complex disabilities, the expression of socially competent behavior may be challenged by difficulties with developmental limits on cognition, language functioning, sensory-motor performance, and social awareness (Bailey & Simeonsson, 1985; Howes, 1987). All of these limit the range of possible social behavior responses available to a child with a disability (Bailey & Simeonsson, 1985) and subsequently leaves the child with few or possibly no socially competent responses.

As suggested by social competency theories and frameworks, research indicates challenges in this area for children with disabilities. Guralnick (2010) describes a host of peer social competence issues for young children with developmental delays, such as maintaining play and developing friendships. McConnell and Odom (1999) conducted research on preschool children between the ages of three and five, using teacher social competence ratings, peer sociometric ratings, direct observation of social behavior, and observational impressions of social interaction, as measures of social competence. They found that those students with disabilities scored almost one entire standard deviation below their peers without disabilities on this series of performance based measures of social competence (McConnell & Odom, 1999). For children with disabilities, these types of social competence challenges persist into school age.

Kavale and Forness (1996) conducted a meta-analysis of studies investigating social skills deficiencies in school age children with learning disabilities. This analysis examined studies that used a wide array of both formal and informal measures and multiple raters to explore social skills including social acceptance and rejection, social status, social problem solving, perceived competence, interaction, self-concept, self-esteem, friendship, cooperation, play, attribution, aggression, inadequacy, on-task behavior, and non-verbal communication

(Kavale & Forness, 1996). They determined that roughly 75% of children with learning disabilities could be distinguished from their non-disabled peers through measures of social competence (Kavale & Forness, 1996). It was noted that these differences were consistent across all of the major social skills domains assessed and across all raters (Kavale & Forness, 1996). Given these disparities in social competence between disabled and non-disabled children, it is logical to hypothesize that children with more complex disabilities may have the greatest difficulties in developing social competence, given the intricacy and multiplicity of their needs.

Including Children with Complex Disabilities

Given the paucity of social competence for children that have complex needs, it is clear that educating these children in an inclusive environment will be vital to social development. Stainback and Stainback (1985) indicate that it is a common and unnecessary premise that children with severe disabilities will have their best interests protected if they are educated in a segregated environment. Researchers such as Cross, Traub, Hutter-Pishgahi, and Shelton (2004) highlight that “children with significant disabilities need the opportunity to interact with typical peers to acquire typical patterns of social interactions” (p. 170). In spite of this logic, it is children with the most complex needs who continue to be segregated (Alquraini & Gut, 2012; Bently, 2008; Odom, 2000; Odom & Diamond, 1998). Advancing opportunities to access positive models and increasing a child’s set of social responses are just two of the benefits that the inclusive classroom might provide for a child with significant needs.

Arthur-Kelly, Forman, Bennett, and Pascoe’s (2008) discussion of individuals with profound and multiple disabilities (PMD) stresses the advantages of inclusive education environments for these students, including diverse learning arrangements and the possibility for a wide variety of peer assisted instructional activities to be introduced. They also encourage that

daily access to learning with non-disabled peers offers a strong social medium for learning skills (Arthur-Kelly, Forman, Bennett, & Pascoe, 2008). Education in an inclusive environment offers students with severe disabilities the chance to be both exposed to, as well as reciprocate, a much broader range of social interaction behaviors (Stainback & Stainback, 1985). In addition, these students experience the benefits of reactions to their behavior by typical peers (Stainback & Stainback, 1985). Downing and Peckham-Hardin (2007) held interviews of parents, teachers, and paraeducators of children with moderate to severe disabilities that were being educated in inclusive education classrooms. In their interviews the majority of respondents felt strongly that one of the keys to a high quality, inclusive education for these children was being able to be educated with their typical peers, who could serve as “role models, natural supports, conversational partners, and peers as motivators” (Downing & Peckham-Hardin, 2007, p. 22).

Although children with disabilities clearly need access to their typically developing peers in order to make social gains, Odom (2000) does caution that social engagement with peers in the inclusive classroom is still less than that of typically developing children. A multitude of researchers have made the point that inclusion alone is not enough; it is a necessary, but not sufficient, criterion for successful inclusion (Bently, 2008; Downing & Peckham-Hardin, 2007; Stainback & Stainback, 1985). The true hallmark of creating an efficacious inclusive classroom lies in strategies enacted by the classroom teacher.

Social Competence and Indicators of Inclusive Classroom Quality

For a classroom to promote social competence, be it segregated or inclusive, it is critical that the environment provide more than mere access to students with complex needs. As Wolf and Hall (2003) comment, it is time we “end the debate about *whether* to include students with severe disabilities in the general education classroom” and “focus on *how* and *when* and *where*”

instead (p. 56). Similarly, Kilanowski-Press, Foote, and Rinaldo (2011) suggest that given the thoroughly researched opinions from teachers concerning their value judgments about and assessments of inclusion's effectiveness, it is time to switch gears and begin asking what practices are commonly used, which of these are effective, and how we can help teachers implement these efficacious strategies independently and programmatically. Part of determining the efficacy of practices is to look at the various indicators of classroom quality that support children with disabilities in the development of their social competence in the general education setting and their relationship to outcomes.

Vygotsky's and Bandura's theories discussed previously as being crucial to social development and social competence both suggest the process of development relies heavily on the interactions between children and others in the environment, including peers and adults (Tudge & Winterhoff, 1993). Thus, these theories, along with current research, predict that teachers and other adults' classroom practices (i.e., supporting children's social interactions, facilitating communication, building an environment accepting of diversity, etc.) or the construction of a *quality classroom* serves as a mediator of the social development of children.

Mashburn et al., (2008) conducted a study of the academic, language, and social development of four-year-old children in almost 700 pre-Kindergarten programs in 11 states. They found that the teacher-child instructional interactions predicted children's academic and language outcomes, while their emotional interactions predicted social outcomes (Mashburn et al., 2008). Teacher-child interaction (including class climate, sensitivity of teachers, level of control, behavior management, strategies used to promote skill development, and quality of verbal evaluation and feedback) was the measure of Pre-K quality "most consistently and strongly" associated with child development (Mashburn et al., 2008, p. 743). In the area of

social competence, higher quality emotional interactions were related to higher ratings (Mashburn et al., 2008). McKay and Keyes (2002) point out “teachers who consistently set a good example through conscious modeling and express genuine affection for all students, while at the same time verbally explaining or commenting on what is happening in the environment are positively influencing social behavior in any classroom” (p. 77). This demonstrates that children with disabilities may just need more than these comments and modeling strategies to succeed (McKay & Keyes, 2002). These adult quality classroom strategies may be an even greater mediating factor for children with disabilities in an inclusive setting. When considering the social competence of children, there are several classroom practices or indicators of classroom quality to be considered. This research focused on three that the literature indicates have an impact on social competence in children: adult involvement in peer interactions, membership, and support for social communication.

Adult Involvement in Peer Interactions

Adult involvement in peer interactions is a theme that is central to Vygotsky’s sociocultural theory of child development and learning; thus, it is not surprising that it has ample support in the research literature as promoting the social competence of children with disabilities. Even several decades ago researchers such as Stainback and Stainback (1985) recognized that elevating the interaction between students with and without severe disabilities was a critical role for the regular education teacher in an inclusive setting. Erwin and Guintini’s (2000) research concerning the experience of a child with multiple disabilities in an inclusive classroom supported that “children’s interaction within the environment and with peers is often strongly influenced by how well an adult mediates the immediate context” (p. 254). They described that adults served multiple roles in assisting with interactions between the child with a disability and

his typically developing peers, including interpreting, translating, facilitating, and providing support (Erwin & Guintini, 2000).

Kwon, Elicker, and Kontos (2011) reported that the amount and quality of interactions that occur between peers has an enormous impact on social competence development in early childhood and holds significance for later social trajectories. They conducted a study that looked at the impact of teacher talk, or the verbal interactions that occur between child and teacher with the ability to facilitate peer interaction, on social interaction of preschool age children with disabilities (Kwon, Elicker, & Kontos, 2011). They sorted teacher talk into five categories: praising, modeling, describing, prompting, and directing (Kwon, Elicker, & Kontos, 2011). Findings in this study indicated “children with disabilities...appeared to be responsive to teacher talk, interacting more with their peers when teachers were actively supporting their interactions” with the specific strategies of prompting, modeling, and directing identified as “positively correlated with, and thus possibly promoting child/peer interactions” (Kwon, Elicker, & Kontos, 2011, pp. 273-274). Similarly, in a study conducted by Sontag (1997), results found a significant relationship between verbal prompts used by teachers in inclusive and segregated early childhood education settings and child sociability, including the participation in group play activities, verbal behavior, and the absence of antisocial or competing behaviors. Positive influences on sociability were found in both inclusive and segregated classrooms and were considered an important vehicle for socialization (Sontag, 1997).

In contrast, Gelzheiser, McLane, Meyers, and Pruzek (1997) conducted a study on school age children that identified general education settings to be somewhat more likely to engage in teaching academic and social strategies that supported peer interactions, as opposed to only social strategies. Some research, such as that conducted by Hundert, Mahoney, and Hopkins

(1993), cautions that the use of teacher direction toward *individual* children with disabilities may interrupt some social activities in early childhood, versus focusing on *groups* including children with disabilities, which yielded higher levels of peer interaction. However, this research and that conducted by other researchers did not support that the strategies investigated and found to be beneficial were used frequently by teachers (Gelzheiser et al.; Hundert, Mahoney, & Hopkins, 1993; Kwon, Elicker, & Kontos, 2011; & Sontag, 1997). Such findings may have a great impact on how we train and prepare teachers for work in inclusive classrooms. As File (1994) states, “if integrated placements are to be most beneficial to children with disabilities...we must focus on the means for facilitating social competence in pre-service and in-service education as well as ongoing consultation/technical assistance for integrated service delivery”(p. 236).

Many specific interventions and strategies have been designed to assist children in interacting with their peers, thus promoting social competence. Hollingsworth and Buysse (2009) discussed three interventions used by both parents and teachers to increase friendships for their young children with disabilities: (a) setting the tone of the social environment, (b) providing opportunities for dyadic interactions, and (c) facilitating these interactions and play. Batchelor and Taylor (2005) also identified several types of social interventions to assist with peer interaction for children with disabilities, including child-specific social interventions, affective interventions, friendship activity interventions, incidental teaching interventions, social integration activity interventions, and peer mediated interventions. With the exception of peer-mediated interventions, all of these interventions rely on the teacher or other adults to use practices that facilitate the social interaction between children. Batchelor and Taylor (2005) suggest in their review of the literature that the efficacy of each of these interventions varies, but

typically a combination of several types of interventions leads to the greatest increase in social interaction.

Further, Kemple, Duncan, and Stangis (2002) discuss different strategies for supporting the social interactions of young students with disabilities, such as imposing arrangements onto the social environment of the class, embedding naturalistic teaching interventions like incidental teaching and group affection activities into the daily routine, and providing more high-intensity coaching interventions with children, such as social skills training groups and prompts and reinforcement. They also state that while teachers will benefit from having a repository of strategies, that does not make them one size fits all or mean that the most intense strategy should be used with the child with the most complex disabilities (Kemple, Duncan, & Stangis, 2002). Making decisions about what strategies to use and when should always be based on the context of the situation and the needs of the individual child (Kemple, Duncan, & Stangis, 2002). While the research in this area does not directly measure social competence, it does exemplify the increase in social interaction that is commonly the result of adult involvement in peer interactions, which leads to greater outcomes, such as social competence.

Membership

According to Wilson (2012) “a sense of belonging isn’t something that children can develop on their own, as belonging happens only within a social context” (p. 51). She advocates that helping children recognize and understand ‘belonging’ as a basic right is crucial to developing inclusive environments. The quality of belonging or membership within the inclusive classroom is considered to be an essential factor for children with disabilities in increasing their social competence, as practices related to this quality can impact how a child is viewed and accepted within the classroom. Stainback and Stainback (1985) advocate for regular

education teachers to use methods to teach students without disabilities respect and understanding for individual differences in order to improve membership for children with severe disabilities.

According to Erwin and Guintini (2000), the journey to gaining membership within a classroom can lay the groundwork for social experiences later in life and the development of qualities, such as self-esteem, as well as other significant benefits that accompany this sense of belonging for children. Their qualitative study focused on the primary elements of the inclusive classroom experience as they related to membership for a preschool age child with multiple disabilities (Erwin and Guintini, 2000). They found that membership was impacted by the child with a disability being able to share in rituals and activities in the classroom, take on valued roles, and experience the celebration and respect for diversity that was fostered by the adults in the classroom (Erwin & Guintini, 2000). Similarly, Narian (2011) conducted qualitative research surrounding the inclusion of one child with severe disabilities in a 1st grade classroom and the friendships that were developed. This research illustrated the significance of teacher discourse in educating students and encouraging membership. Narian (2011) indicated, “the role of the teacher in actively mediating student perceptions of each other is necessary for promoting more equitable relations within the classroom” (p. 113). Odom and Diamond (1998) further support this finding by expounding that the manner in which adults respond to the questions of children in teachable moments, in conjunction with intentional activities, help to form children's ideas about, and interactions with, children with complex disabilities. For the children with complex disabilities, greater opportunity for social interaction and ultimately greater social competence comes with equity and membership.

Membership in some studies is conceptualized by how socially included children are in the regular education setting. In a study conducted by David and Kuyini (2012), it was found that a “teacher’s classroom practices predicted the social inclusion of students with disabilities in regular classrooms,” (p. 164). Furthermore, their research indicated that these practices were greater predictors of the social status of children with disabilities than teacher attitudes or teacher self-efficacy (David & Kuyini, 2012). This research emphasizes that the actions of the teacher or the adults in the classroom is one of the strongest predictors of social inclusion. Ohtake (2003) identified that for students with severe disabilities, those who are able to contribute to their classmates’ learning will be perceived more strongly as members of the class. Four types of connections to classmates’ learning were identified, but the “distinctive connection”, which provides a unique role to the student with a disability, was shown to provide the best opportunity for student contributions (Ohtake, 2003, p. 230). If teachers are able to identify opportunities and assign these types of roles to the student, they may be more likely to obtain stronger membership within the class.

Another strategy, the use of sensitivity training of non-disabled children to help them understand the communication and behaviors of the included child/children with a disability, can also be incredibly helpful (Favazza & Odom, 1997; Odom & Diamond, 1998; Terpstra & Tamura, 2008). Favazza and Odom (1997) conducted research into the impact of a program designed to alter the attitudes of Kindergarten students towards students with disabilities. Three contact groups were identified: high contact (those who received the intervention and social opportunities with children with disabilities), low contact (those who had no intervention and only social opportunities with children with disabilities) and no contact (neither intervention nor opportunity provided); the intervention included nine weeks of storytime/discussion, structured

play (reverse inclusion), and a home component (Favazza & Odom, 1997). The results from pre-tests and post-tests collected from all three groups found that significant gains in all measures of acceptance were only found in the high contact group (Favazza & Odom, 1997). While this program was not undertaken in an inclusive classroom, it clearly supports the use of a programmatic structure for improving the understanding, acceptance, and belonging for children with disabilities. Improvement in these attitudes would very likely result in greater membership for students with disabilities in the general education setting.

While the findings of these studies do not directly measure the social competence of children with disabilities in the inclusive classroom, it is logical to conclude that a child's membership within the classroom environment will directly impact their social interactions, which are linked to social competence. In addition, these data strongly suggest that a child's membership within a classroom is contingent upon the support and practices undertaken by the teacher and other adults in the classroom.

Support for Social Communication

Communication serves as the basic foundation of social development in children. As such, the final factor of importance within an inclusive classroom is support for social communication. This is an imperative component for children with complex disabilities being able to improve their skills in interacting with their peers and others, so they may develop socially. Many children with complex disabilities require substantial support in order to participate in social communication with adults and their peers. The use of Augmentative and Alternative Communication (AAC) is common for these children whether it is unaided, such as manual signs and gestures, or aided through the use of electronic or non-electronic systems.

However, despite the fact that these types of systems are helpful, their use does not constitute the support necessary to facilitate purposeful social interactions (King & Fahsl, 2012).

In 2004, research conducted by Foreman, Arthur-Kelly, Pascoe, and King investigated the communication of eight pairs of students with profound multiple disabilities in inclusive classrooms matched to their peers in segregated classrooms. They found that the children in the inclusive classrooms had significantly more communication interactions than their segregated counterparts, as well as having substantially more interactions with peers and more diverse communication partners (Foreman et al., 2004). Clearly having access to the general education classroom increased communication opportunities for students with disabilities. Therefore, it may be hypothesized that having access to a greater number of typically developing peers as models and partners, as well as adults to support communication, would result in greater gains in social development for these children.

There is also a host of literature concerning the use of intervention strategies using AAC devices or other communication strategies, to promote social interaction for children with disabilities in the inclusive classroom. One study conducted by Cosbey and Johnston (2006) found support for the use of a voice output communication aid (VOCA) in increasing social interaction and communication with peers for students with severe multiple disabilities. The study suggested the need for adult support for the communication of both the children with disabilities and their peers (Cosbey & Johnston, 2006). Another study conducted by Hunt, Soto, Maier, Müller, and Goetz in 2002 used a specific collaborative teaming model and process called a Unified Plan of Support (UPS) that focused on adaptations to academics, communication, and social supports. Using observational data, their results found “increased levels of student initiated interactions, decreased levels of assistance provided by instructional assistants, and

increased engagement in classroom activities, all to levels that were commensurate with the behavior of focus, students' peers,"(Hunt et al., 2002, p. 33). Findings suggested the importance of teacher classroom practices and the construction of the classroom in supporting and impacting the opportunities for participating socially (Hunt et al., 2002).

Similar to membership, the research in this area did not directly measure children's social competence; however, it did demonstrate that accessing an inclusive environment and receiving targeted intervention and support for communication from adults in the environment increases the amount of social interaction with peers. It is possible that the increase in this would result in greater social competence. Now that quality inclusive classroom strategies for improving social competence for children with disabilities have been described, it is fitting to turn this discussion toward outcomes for children with complex disabilities receiving education in an inclusive setting.

Social Outcomes and Inclusion of Children with Disabilities

Considering the overall outcomes of inclusion for children with disabilities, Fiorello, Boyer, and Thompson (2008) report "for students with moderate to severe disabilities in inclusion programs [outcomes] are almost universally strong in both academic and social arenas" (p. 510). A multitude of studies have been conducted to determine outcomes for students that are placed in inclusive settings. These studies explore inclusive or segregated settings (or compare the two), have varying definitions of what constitutes inclusion, use subjects from early childhood through transition into adulthood, categorize subjects with disabilities in various ways, include methods that are both qualitative and quantitative, and investigate outcomes related to academic, language, social, and adaptive functioning. In addition, while some studies look at students within the context of a particular inclusive program or intervention, others evaluate

outcomes gleaned in their naturally occurring inclusive environment. As a result of the homogenous nature of the research on inclusion outcomes, determining the relevance of the literature is challenging. For the purposes of this literature review, the focus will be on studies that include individuals categorized as having a moderate or severe disability or a disability that is typically categorized as such (i.e., intellectual disability, multiple disability), have subjects that range from early childhood through adulthood, and obtained data from an inclusive setting or compared an inclusive to a segregated setting. The one exception to these criteria is the program evaluation research conducted on the Include Me from the Start initiative. Social outcomes studied in the literature for students with complex disabilities supports advances in obtaining social skills, social competence, and building valuable relationships with their non-disabled peers. These outcomes are evident from early childhood and are found to continue into adulthood.

This review will focus on social outcomes, including ratings of friendship, acceptance, social interaction, communication, and social competence, for individuals with disabilities of moderate to high complexity (otherwise termed severity), spanning from early childhood into post school age. For further review of outcomes of inclusive education not covered in this review, readers are referred to Anita, Jones, Luckner, Kreimeyer, & Reed, 2011; Avramidis & Wilde, 2009; Bruder & Staff, 1998; Buysse & Bailey, 1993; Downing, Spencer, & Cavallaro, 2004; Groom & Guralnick, 1988; Hardiman, Guerin, & Fitzsimmons, 2009; Johnson & Johnson, 1981; Katz & Mirenda, 2002; Kemp & Carter, 2006; La Paro, Sexton, & Snyder, 1998; Mills, Cole, Jenkins, & Dale, 1998; and Weiner & Tardiff, 2004.

Early Childhood Outcomes

Research from Hundert, Mahoney, Mundy, and Vernon (1998), investigated a substantial group of preschool children with disabilities, from 2.5 years to 6 years of age, that were assigned a designation of either typical, at-risk, mild, moderate, or severe, using the *Developmental Rating Scale of the System to Plan Early Childhood Services* (Bagnato, Neisworth, Gordon, & McCloskey, 1989 as cited in Hundert et al., 1998). The study focused on the children who were designated as having “severe” disabilities, randomly selecting an experimental group from those attending a segregated preschool setting and then matching them with children with severe disabilities in inclusive preschools by age, sex, and areas of disability (Hundert et al., 1998). The study also considered the outcomes of children rated as having mild/moderate disabilities and those who were typically developing (Hundert et al., 1998). Three measures were used to assess development, including a performance assessment and adaptive skills ratings from teachers and parents (Hundert et al., 1998).

Outcomes indicated that children with severe disabilities, who were educated in segregated preschools, demonstrated less developmental gains than those in the inclusive settings or the other two experimental groups (Hundert et al., 1998). For those children with severe disabilities educated in an inclusive classroom, moderate gains were noted, and they were equivalent to children, who were designated as having mild/moderate disabilities (Hundert et al., 1998). Despite developmental gains, it was found that none of the groups demonstrated significant increases in peer interactions, with typically developing peers demonstrating a moderate increase in the percentage of interaction (Hundert et al., 1998).

In contrast, other findings from the early intervention literature support improved social competence and social skills. Jenkins, Odom, and Speltz (1989) investigated social competence

outcomes for preschool children ages three to six year olds who met criteria for a mild or moderate disability and were placed in either integrated or segregated classrooms. The treatment was participation in either a social interaction group (integrated social play group with social skills instruction) or a child-directed play group (Jenkins et al., 1998). The study matched participants according to I.Q., chronological age, and disability category, then randomly assigned them to one of “four experimental conditions: integrated/social interaction, integrated/child-directed, segregated/social interaction, and segregated/child-directed” (Jenkins et al., 1998, p. 420). Results found that children in the integrated classes and receiving the social interaction treatment condition had the highest ratings of social competence (Jenkins et al., 1998). Also, children who participated in this condition, whether in integrated or segregated classes, improved significantly on a measure of language development (Jenkins et al., 1998). Overall, results were supportive of the use of interventions to improve social skills and of the notion that such an intervention has the potential for the greatest impact on social competence for children in inclusive settings (Jenkins et al., 1998).

Rafferty, Piscitelli, and Boettcher (2003) conducted a study of children from 2.7 to 4.8 years of age attending a community based preschool program and placed in segregated or inclusive classrooms. The program is noted to have a very well organized curriculum that was received by all students and developmentally organized to meet diverse needs (Rafferty et al., 2003). The children were assessed at the beginning of the study and categorized as severely disabled, if they obtained a score on the Wechsler Preschool and Primary Scale of Intelligence-Revised (WPPSI-R) verbal or performance composites that was two standard deviations below the mean (Rafferty et al., 2003). Pre and post assessments in social competence and language development were used and findings determined that children with severe disabilities in inclusive

classes had higher post-test language development and social skills than their counterparts in segregated classes, but higher problem behaviors were also reported for these children (Rafferty et al., 2003). In addition, performance at pretest was most likely to predict higher posttest outcomes (Rafferty et al., 2003).

School-Age Outcomes

A literature review conducted by Hunt and Goetz (1997) investigated the findings of 19 studies of inclusion programs for students with severe disabilities. These studies all used a full inclusion model with students with severe disabilities and had inclusive placement as an independent or dependent variable (Hunt & Goetz, 1997). The review encompassed several areas including parent perceptions, inclusive classroom practices, inclusion costs, educational outcomes, and social outcomes. Hunt and Goetz (1997) found evidence in the literature supporting that “students with severe disabilities realize acceptance, interactions, and friendship” when they are educated in an inclusive environment (p. 26).

Cole and Meyer (1991) conducted a longitudinal study of school age students (ages six to 21) with severe or profound intellectual disabilities from five school districts in a metropolitan area, educated in both integrated and segregated settings. Of the participating schools, some only serviced children with special needs, while others were fully integrated (Cole & Meyer, 1991). It was noted that most of the inclusive schools were using some form of peer interaction intervention to support relationship development for their students with disabilities (Cole & Meyer, 1991). Measures included assessments of intellectual and social abilities, as well as observational measures of the students’ interactions in the environment (Cole & Meyer, 1991). Findings indicated that over a two-year period there was no significant difference found in the educational skills (typical adaptive behaviors) of segregated versus included students (Cole &

Meyer, 1991). In contrast, improvements in social competence for children educated in inclusive settings were noted, with greater opportunities to “manage their own behavior in social situations, provide negative feedback to others, accept assistance from others, indicate personal preferences to others, cope with negative social circumstances, and terminate social contact” (Cole & Meyer, 1991, p. 348). For these students’ counterparts educated in segregated settings, their skills actually declined over the course of two years (Cole & Meyer, 1991).

Fisher and Meyer (2002) conducted a two-year study comparing the developmental functioning and social competence of students with severe disabilities in both inclusive and segregated settings. Subjects were from two east coast and two west coast states met the definition for a severe disability within their Local Education Agency (LEA), and encompassed a range of disability categories (Fisher & Meyer, 2002). Ages ranged from five years, 10 months to 19 years, five months (Fisher & Meyer, 2002). These students were then enrolled in either an *inclusive group*, where they were receiving services in a general education for the majority of the day, or a *self-contained comparison group*, where they were educated in classrooms for moderate to profound cognitive disabilities, either separated within the building or off-campus (Fisher & Meyer, 2002). Measures of adaptive behavior and social competence were used as pre and post assessments (Fisher & Meyer, 2002). Each student was paired with a comparison peer in the opposite setting using their chronological age at the time of the first study assessment and their broad scores on the adaptive behavior measure (Fisher & Meyer, 2002). The results of this study indicated that participating in an inclusive setting lead to greater gains in the areas of developmental and social competence, with significant social competence gains in the areas of initiating contacts and coping with negative situations (Fisher & Meyer, 2002). In addition, students in inclusive settings made gains on adaptive skills and developmental measures that

were comparable to their peers in segregated settings, and in most cases gains were greater (Fisher & Meyer, 2002).

According to a study conducted by Foreman, Arthur-Kelly, Pascoe, and King (2004), participating in an inclusive setting can lead to greater communication opportunities for children with profound and multiple disabilities (PMD). These students were required to meet four of the five criteria for PMD to be included in the study (Foreman et al., 2004). Their work paired students with PMD being educated in either an inclusive or segregated classroom and data was collected through systematic observations of behavior states and other social and communicative indicators (Foreman et al., 2004). It was found that a statistically significant difference in communication existed, with students in inclusive settings demonstrating communicative interactions in 49% of the observations, as compared to 27% in the segregated classes (Foreman et al., 2004). Students placed in segregated classes were more likely to have time without a communication partner and to spend very little time engaged in communication interactions with peers (only 4% compared to 17% for students in inclusion) (Foreman et al., 2004). Results overall found communication engagement to be higher in inclusive classrooms and more diverse communication partners to be available to students (Foreman et al., 2004).

Hunt, Soto, Maier, and Doering (2003) conducted a study to look at the impact of using collaborative teaming when including students with disabilities. Three of the six participants were categorized as having severe disabilities, while the other three were considered at-risk academically (Hunt et al., 2003). Elements of the collaborative teaming model, Unified Plans of Support (UPS), included, “(a) regularly scheduled team meetings, (b) development of support to increase the focal student academic and social participation in the general education instructional activities, (c) built-in accountability system, and (d) flexibility to change ineffectual supports”

(Hunt et al., 2003, p. 317). Data collection used systematic observations of engagement and interaction for students with disabilities and team interviews to gain a view of academic and social growth (Hunt et al., 2003). Results in the area of social outcomes were increased interactions with peers and increased student initiations from baseline (Hunt et al., 2003). Interviews also indicated gains in assertiveness, self-confidence, and social interactions, as well as increases in academic skills and engagement in class activities (Hunt et al., 2003). These increases were contributed to the implementation of the UPS model and resulting “increased participation in interactive, collaborative activities with adaptations and support from peers, use of assistive technology with peer partners, and support from special education instructional assistants for the students at risk” (Hunt et al., 2003, p. 328).

A study from Kennedy, Shukla, and Fryxell (1997) followed adolescent students with severe disabilities, ages 12 to 14, through one year of education in either an inclusive or segregated/special education intermediate school. The students were matched to their peers on measures of social competence, age, level of disability, sex and communication behaviors (Kennedy et al., 1997). Through the use of interviews and observations of their social relationships (including aspects of social interaction and social contacts) social support behavior, and friendship networks and relationships were measured (Kennedy et al., 1997). Findings from Kennedy et al., (1997) included that students in general education settings

(a) interact more frequently with peers without disabilities, (b) have more social contacts with peers without disabilities across a greater range of activities and settings, (c) receive and provide higher levels of social support behaviors, (d) have larger friendship networks composed primarily of peers without disabilities, and (e) have more durable relationships with peers without disabilities. (p. 43)

In a study conducted by Bang and Lamb (1996) outcomes of three years of full inclusion for seven high school-age students with severe disabilities was investigated. These students were educated approximately 65% of the time in the general education classroom, which at the time equated to a full time placement (Bang & Lamb, 1996). Parents and teachers completed surveys and observations were conducted to use as the source of data (Bang & Lamb, 1996). Results of the study indicated positive changes in family life, including increases in interactions with family friends and neighbors, fewer behavioral problems, and more trips into the community, while one negative change was increased parenting stress (Bang & Lamb, 1996). Concerning in-school and out-of-school opportunities for interactions with peers, it was reported that in-school interactions improved, but out-of-school interactions did not (Bang & Lamb, 1996). In addition, observational interactions of the students with a disability and their non-disabled peers indicated overwhelmingly accepting responses, regardless of the person who initiated contact (Bang & Lamb, 1996). It was cautioned, however, that the assistance of paraprofessionals was at times limiting to the social interactions of the student with a disability and his or her peers and teacher (Bang & Lamb, 1996).

Outcomes from the include me from the start initiative. As previously discussed in Chapter I, the Include Me from the Start (IMFS) initiative was implemented throughout the state of Pennsylvania in school districts identified as needing support with their inclusive practices. The program, which was implemented during the 2010-2011 and 2011-2012 school years, focused on ensuring that children with the most complex disabilities in kindergarten and first grade received education in their general education classrooms. The initiative used a consultation-based model, where consultants would provide weekly support and mentoring to regular education classroom teachers, focused on using modifications and accommodation

strategies aligned with the Pennsylvania Department of Education's Supplementary Aids and Services Toolkit (SaS Toolkit) to include children with disabilities within their classroom. Early Childhood Partnerships within the Office of Child Development at the University of Pittsburgh conducted an independent program evaluation of IMFS over the last two years, using pre and post measures of child progress, classroom inclusiveness, and parent and teacher perception scales to determine the impact of the program.

Findings from Bagnato, McKeating, and Salaway (2012), indicated that parents and teachers attitudes about inclusion improved from pre-test to post-test; improvements occurred for children on a measure of school learning and progress (particularly in the areas of sociability and sensory/cognitive awareness) from pre-test to post-test; and improvements occurred in the quality of classroom inclusiveness, with significant results in the areas of Adult Involvement in Peer Interactions, Support for Social Communication, and Membership (Bagnato et al., 2012). On the Vineland Social Emotional Early Childhood Scale (SEEC) children made significant gains from pre-test to post-test. It was reported that children in full time special education classrooms showed the most improvement; however their pre-test scores were lower than those children receiving greater levels of inclusive education (Bagnato et al., 2012). Also, children who received services in classrooms considered to be "high quality" according to ratings on the Inclusive Classroom Profile (rating between 4.80 and 7.00) obtained better post-test scores on the measure of school learning and progress than those in "low quality" (rating between 1.00 and 4.60) classrooms (Bagnato et al., 2012). Finally, it was noted that seven children who participated in both years of the program demonstrated substantial gains across the two years on a measure of school learning and progress.

Long-term Outcomes

The literature not only indicates immediate positive social outcomes for children with severe disabilities, but also demonstrates positive long-term outcomes as well. Ryndak, Ward, Alper, Storch, and Wilson-Montgomery (2010) conducted a qualitative study looking at the long-term outcomes for two brothers diagnosed with moderate to severe disabilities that were educated ten years apart. The younger brother with multiple disabilities and moderate intellectual disability was primarily educated in an inclusive setting once he reached school age, while the older brother with mild to moderate intellectual disability was primarily educated in a segregated setting from early childhood until age 16 and had part-time contact with peers from age 17 to 21 (Ryndak et al., 2010). The results of this study gathered from interviews, extensive record reviews, and field notes from observations, indicated better outcomes for the sibling who was educated in an inclusive setting (Ryndak et al., 2010). Specifically it was reported that he “demonstrated more skills that were critical both to interacting with peers and adults who did not have disabilities, and to functioning independently across contexts, including at school, at home, and in the community”(Ryndak et al., 2010, p. 50). It was noted that his life after formal education had more parallels with that of his same age, non-disabled peers, despite the fact that standardized measures of intelligence and achievement indicated lower functioning levels than his brother (Ryndak et al., 2010). It is clear that emerging research speaks to the social successes that children with severe disabilities may have when included with their same age peers with appropriate supports and programming in place.

Summary of Outcomes

The results from the early intervention studies demonstrated some inconsistencies. It is notable that the subjects in the Hundert, Mahoney, Mundy, and Vernon (1998) study where no

formal intervention or treatment existed, failed to have greater peer interaction; whereas, in the Jenkins, Odom, and Speltz (1989) study social outcomes were greater in the instances where structured social interaction was used as a treatment. These findings lend themselves to the idea that merely including a child with severe disabilities is not sufficient for progress, a finding that has been common in the literature. In the Rafferty, Piscitelli, and Boettcher (2003) study, social competence was found to be improved in inclusive settings for children with severe disabilities and no treatment was used; however, it was noted that the preschool program had a strong developmental curriculum, sensitive to individual needs which all children received.

The school age literature is overwhelmingly positive for the inclusive education of children with complex disabilities. In comparison studies between inclusive and segregated environments, children and adolescents obtaining inclusive education were noted to have improved social competence, greater communication and engagement with peers, acceptance, greater interactions with non-disabled peers, and larger friendship networks (Cole & Meyer, 1991; Hunt & Goetz, 1997; Fisher & Meyer, 2002; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Kennedy, Shukla, & Fryxell, 1997). Several studies indicated that educational and adaptive outcomes were not significantly stronger; however, they were equivalent to peers educated in segregated settings (Cole & Meyer, 1991; Fisher & Meyer, 2002). These findings point out that despite the additional educational staff, low student to teacher ratios, and specialized interventions common in segregated classrooms outcomes related to adaptive skills and achievement are not any stronger than those in inclusive settings. Furthermore, in at least one study, students in the segregated environment regressed in their social competence (Cole & Meyer, 1991). Two-year results from the program evaluation of the Include Me From the Start initiative endorse that a consultant based model of mentoring and support for regular education

teachers yielded positive outcomes in social-emotional learning for children involved in the program and improvements in the quality of inclusive classrooms (Bagnato, McKeating, & Salaway, 2012). Overall, in terms of social outcomes the literature leaves very little room for dispute that for students with complex disabilities when provided the appropriate supports, an inclusive environment has an immense impact and should be considered the optimal educational setting.

CHAPTER III

METHODS

Introduction

The current study was designed to use archival data obtained from Early Childhood Partnerships (ECP), a program of the Office of Child Development at the University of Pittsburgh. These data were originally gathered by ECP for the Include Me From the Start (IMFS) initiative program evaluation (see Appendix A and Appendix B). This study utilized these data to examine the relationship of inclusive classroom quality indicators and students' social competence, as well as the differences that existed between level of inclusive education, social competence, and total complexity of disability for elementary children in kindergarten and first grade. The children included in this study were rated as having moderate or high total complexity of disability on a measure of developmental complexity and received consultant services through the IMFS initiative during the 2011-2012 school year.

Population and Sample

The selected population for this study was children with disabilities in kindergarten and first grade from 22 school districts across the state of Pennsylvania. These children were included in the archival database of children enrolled in the Include Me From the Start (IMFS) initiative and their teachers received consultant services during the 2011-2012 school year. The research focused on children in kindergarten and first grade due to research indicating inclusive educational pathways tend to be altered as children enter primary school, particularly as they transition from these primary grades (Guarlnick, Neville, Hammond, & Connor, 2008; Hanson et al., 2001).

The sample was obtained through convenience and included children from the aforementioned group who were rated as having moderate or high complexity of disability on the Developmental Healthcare Complexity Scale (DCHS; Bagnato & Hawthorne, 2012). Each child in the sample had a corresponding classroom teacher who received consultant services and for which demographic data was collected (see Appendix C).

Description of the Include Me From the Start Program Initiative

All children included in the study sample were involved in the Include Me from the Start (IMFS) initiative in the state of Pennsylvania during the 2011-2012 school year. The IMFS initiative incorporated the following elements into its programming: ongoing, weekly consultation and mentoring conducted by the IMFS consultants with the classroom teachers of their assigned children, an emphasis on the use of inclusion and accommodation strategies aligned with the Pennsylvania Department of Education's Supplementary Aids and Services Toolkit (SaS Toolkit), and the collection of data to determine the progress of children enrolled in the program and the quality of inclusive strategies in the regular education classroom. The IMFS consultants were trained on all assessments through a full day workshop provided by Dr. Stephen Baganato and Dr. Eileen McKeating of Early Childhood Partnerships, prior to the beginning of IMFS initiative implementation for the school year (R. M. Cheskiewicz, personal communication, May 27, 2013). Recommended activities and timeframes for engaging at the district, school, and individual team levels were outlined in the Include Me from the Start Participation Guide (R. M. Cheskiewicz, personal communication, May 27, 2013). The Consultation Monitor (an Excel spreadsheet tracking system) and Social Solutions (an online data tracking system) were used to monitor engagement across areas covered by the toolkit and

all other activities conducted with each child's teacher. The Consultation Monitor was used as a means of tracking the fidelity of implementation for each child.

Design

This study utilized a causal comparative design, seeking to explore and determine the relationship between the level of inclusive education, indicators of inclusive classroom quality (independent variables), and social competence (dependent variable) for two groups (students with moderate and high complexity of disability) following the implementation of the Include Me from the Start (IMFS) initiative (Brewer & Kubn, 2010). The research design is retrospective in that it uses data from an event that has already occurred (Brewer & Kubn, 2010, p. 124). Pre and post-test data on inclusive classroom quality and social competence was collected in September/October 2011 as the IMFS program was being implemented, and in May/June 2012 near the end of the school year when the IMFS program had been implemented for approximately 9-10 months. In addition, data on the students' level of inclusive education (high, moderate, or low) was also collected in September/October 2011.

Measurement

Independent, dependent, and moderator variables were used as measurements to answer the research questions.

Independent Variables

Two independent variables were used to answer the research questions: indicators of inclusive classroom quality and level of inclusion. The variable of inclusive classroom quality was used to answer research questions one and two. The variable of level of inclusion was used to answer research question three. The following is a description of these variables:

Inclusive classroom quality. Inclusive classroom quality was selected as a variable to represent the strength of teacher practices focused on including children with disabilities occurring in the regular education classroom. It was in the context of the children's corresponding teacher's classrooms that inclusive classroom quality data was collected. According to Soukakou (2012) inclusive classroom practices are defined as "practices which deliberately adapt the classroom's environment, activities, and instruction in ways that encourage access and active participation in the group, through supports that might differ from child to child" (p. 481). Observational measures of inclusive classroom quality were obtained by the IMFS consultants for each student using the Inclusive Classroom Profile, SPECS for IMFS Abbreviated Version (Soukakou, 2010; see Appendices E and F) in September/October 2011 and May/June. While the abbreviated ICP consists of six areas of inclusive classroom quality, only three areas were chosen for use in this research: adult involvement in peer interactions, membership, and support for social communication. Research supports that each of these areas are important in the development of social competence in children with disabilities.

Level of inclusion. The level of inclusion was selected for analysis to examine how greater or lesser amounts of time spent in the regular education classroom for students interacts with the dependent variable. Level of inclusion is represented by the amount of special education services (i.e., itinerant/high, supplemental/moderate, and full-time/low) each participant received during the 2011-2012 school year. This information was collected in September 2011, using the SPECS for IMFS Child Demographic Survey (see Appendix F). Updated records concerning any changes in the level of inclusion or the amount of special education services were maintained by the IMFS consultants via Social Solutions.

Moderator Variable

Complexity of disability was selected as a moderator variable in this research in order to extrapolate from the population, children who were rated as having moderate or high total complexity of disability. Total complexity of disability was determined using The Developmental Healthcare Complexity Scale (Bagnato & Hawthorne, 2012), which is a rating scale that was completed by the IMFS consultants in Spring 2012 (see Appendix G). The subjects were divided into those with none/low, moderate, or high total complexity of disability. Only the subjects with moderate or high total complexity of disability were included in this research.

Dependent Variable

The dependent variable utilized in this research was social competence. The development of social competence in children with disabilities was chosen for analysis due to its importance as a desired outcome of inclusive education, particularly for children with the most complex needs. The Vineland Social-Emotional Early Childhood Scales, Interpersonal Subscale (Vineland SEEC) (Sparrow, Balla, & Cicchetti, 1998) was collected through a consensus meeting between the teacher, parent, and IMFS consultant for each subject in September/October 2011 and in May/June 2012.

Instruments

Several instruments were utilized to collect the data necessary for this research. They included the following:

Inclusive Classroom Profile, SPECS for IMFS Abbreviated Version (ICP)

This instrument is an abbreviated version of the field validated Inclusive Classroom Profile (ICP) (Soukakou, 2010), including six of the profile's 11 original scales. The instrument

required the administrator to observe the classroom environment and rate the interactions that take place on a variety of indicators, falling under the following titles: adaptations of space and materials/equipment, adult involvement in peer interactions, membership, support for social communication, adaptations of group activities, and feedback. For the purposes of this research only the adult involvement in peer interactions, membership, and the support for social communication indicators will be used. The degree of quality of each indicator is rated on a 7 point, Likert-type scale with designations for the degree of quality as follows: 1-2 = Inadequate, 3-4 = Minimal, 5-6 = Good, 7 = Excellent (Soukakou, 2012). A validity study was conducted on a sample of 45 classrooms that cover three counties in the United Kingdom (Soukakou, 2012). According to Soukakou (2012), the items on the scale demonstrate internal consistency with a Cronbach's Alpha of 0.79, good factor structure, highly consistent inter-rater agreement, and initial support for construct validity when comparing the ICP to the Early Childhood Environment Rating Scale-Revised Edition, the Early Childhood Environment Rating Scale-Extension, and the Caregiver Interaction Scale.

Vineland Social-Emotional Early Childhood Scales (Vineland SEEC); Interpersonal Subscale

This scale is designed for children ages birth to five years, 11 months as a way to examine the child's world of feelings and relationships and how children interact both at home and in external environments (Sparrow, Balla, & Cicchetti, 1998). Specifically, the Interpersonal Subscale includes 44 items that consider the following skills: responding to others, expressing and recognizing emotions, imitating, communicating in social contexts, and developing friendships. Reliability information for children ages six to 36 months on the Interpersonal Subscale indicate internal consistency between .82 and .92, as well as test-retest reliability at .73

(Sparrow, Balla, & Cicchetti). According to Sparrow, Balla, and Cicchetti, “ results of studies of convergent and discriminant validity, test criterion relationships, factor analysis, and developmental progression support the construct of validity for the measure” (p. 96).

Developmental Healthcare Complexity Scale: Research Classification of Functional and Support Needs (DHCS)

This measure is a field-validated scale that allows for a rating of children’s functional complexity and level of programmatic support needs in the areas of health, behavior, family, and development (Bagnato & Hawthorne, 2012). The scale allows respondents to rate these areas according to “none”, “low”, “moderate”, and “severe/high”. It yields a Functional Complexity rating, Programmatic Support rating, and Total Complexity rating. Ratings for Functional Complexity and Programmatic Support range from 0-4 (None to Low), Moderate (5-8), and High (9-12). Total Complexity ratings range from 0-8 (None to Low), 9-16 (Moderate), and 17-24 (High). This scale was validated in the field via its use in a grant funded research investigation of the HealthyCHILD model (Bagnato, 1998); however, specific reliability and validity information is unavailable.

Procedures

Data used in this research was archival and made available to this examiner in September 2012 through Early Childhood Partnerships (ECP) (see Appendix B). These data were collected as part of the Include Me From the Start initiative program evaluation conducted by ECP and were previously de-identified by an honest broker. These data were provided to the researcher in Microsoft Excel spreadsheets. They were collected during the 2011-2012 school year by consultants from the Include Me From the Start initiative, with the exception of the Developmental Healthcare Severity Scale, which was collected directly by ECP in the Spring of

2012. Table 1 represents the data collection schedule and methods of data collection utilized by the IMFS consultants in collecting the data.

Table 1

Include Me From the Start Data Collection Schedule and Methodology

Measure	Time/Date	Frequency	Method
Child Demographics	Sept. 2011	1 time	Completed by parent
Teacher Demographics	Sept. 2011	1 time	Completed by teacher
Inclusive Classroom Profile, SPECS for IMFS Abbreviated Version	Sept./Oct. 2011	2 times	Completed by consultant
	May/June 2012		
Vineland Social-Emotional Early Childhood Scales; Interpersonal Subscale	Sept./Oct. 2011	2 times	Completed by consultant via consensus meeting with Parent and Teacher
	May/June 2012		
^a Developmental Healthcare Complexity Scale	Spring 2012	1 time	Completed by consultant via phone interview with ECP

^a Measure not collected by Include Me From the Start consultant.

Once data was obtained, the sample was chosen based on students who were rated as having a moderate or high total complexity of disability using the Developmental Healthcare Complexity Scale (DHSC). These students were selected for inclusion in the analysis. Next, the social competence pre and post-test data and the pre and post-test ratings of classroom quality

indicators of support for social communication, membership, and adult involvement in peer interactions (gathered using the Vineland SEEC, Interpersonal Subscale and the Inclusive Classroom Profile, respectively) were analyzed to determine the relationships among these variables for the group of subjects with moderate and high total complexity of disability, as well as for the total sample. Finally, the differences in social competence measured using the Vineland SEEC post-test and level of inclusive education (gathered via demographic data) were analyzed, controlling for complexity of disability (moderate and high total complexity ratings on the DHCS).

Statistical Analyses

The first question utilized two statistics: Pearson product moment correlations and stepwise multiple linear regressions. Two different correlations were calculated to look at the relationship of social competence with each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication. One correlation used the pre-test Vineland SEEC and ICP data, while the other correlation used the post-test Vineland SEEC and ICP data. Statistical assumptions for correlations include normal distribution of variables, homoscedasticity, and independent residuals (Chen & Popovich, 2002). Following this, stepwise multiple linear regressions were conducted on the pre and post-test Vineland SEEC and ICP data. Statistical assumptions for multiple linear regression include collection through independent random sampling, linearity, normality, and homoscedasticity (Segrin, 2010). The second question utilized Pearson product moment correlations on the pre and post-test Vineland SEEC and ICP data and stepwise multiple linear regressions on the pre and post-test Vineland SEEC and ICP data; however, the data file was split by moderate and high total complexity of disability (DHCS). The third questions utilized an analysis of

covariance (ANCOVA) to investigate the interactions between and among the variables of level of inclusive education and the pre and post-test social competence (Vineland SEEC) when controlling for total complexity of disability (DHCS). Statistical assumptions for ANCOVA include the use of random assignment, measurement of the covariate prior to treatment, homogeneity, linearity, and satisfaction of typical assumptions related to parametric statistical analyses (Huitema, n.d.). The use of ANCOVA allowed for the post-test Vineland SEEC scores to be adjusted according to the pre-test scores. See Table 20/Appendix H for a list each of the variables, the instruments, and the statistical tests utilized for each research question

Summary

The focus of this study was to examine the relationship of inclusive classroom quality indicators and social competence and the differences that exist between level of inclusive education, social competence, and total complexity of disability for elementary students in kindergarten and first grade. The students included in the sample took part in the Include Me From the Start (IMFS) initiative, along with their classroom teachers, during the 2011-2012 school year and were rated as having moderate or high total complexity of disability on a measure of developmental complexity. The IMFS program was a teacher-consultant mentoring program focused on providing regular education classroom teachers with strategies to improve inclusion of children with the most complex needs in their classrooms. Data from the study was archival and originally collected by Early Childhood Partnerships (ECP) for a program evaluation of the IMFS program. The research employed a causal comparative design to answer three research questions. The Inclusive Classroom Profile (ICP) was used to gather pre and post-test data on inclusive classroom practices, the Vineland Social-Emotional Early Childhood Scales (Vineland SEEC), Interpersonal Subscale was used to gather pre and post-test data on

social competence, the Developmental Healthcare Complexity Scale (DHCS) was used to gather data on the complexity of students' disability (moderate or high complexity), and level of inclusive education was provided on a demographic survey. Statistical analyses employed to answer the research questions included Pearson product moment correlations, stepwise multiple linear regression, Fisher r-to-z transformation, and analysis of covariance.

CHAPTER IV

RESULTS

Introduction

The purpose of this research study was to investigate the relationship among inclusive classroom quality indicators, social competence, and level of inclusive education for children with the most complex disabilities in classrooms with teachers who received consultant services through the Include Me From the Start program during the 2011-2012 school year. The focus was on children who were rated to have either moderate complexity of disability or high complexity of disability on a measure of developmental complexity. Treatment of the archival data provided by Early Childhood Partnerships (ECP), descriptive statistics for the demographics information of the research sample, and corresponding classroom teacher, and results of statistical analyses utilized to answer the proposed research questions are described below.

Treatment of the Data

First, Excel spreadsheets of all the data collected by ECP during the 2011-2012 school year for the program evaluation of the Include Me from the Start Initiative were sent to the researcher via electronic mail. Next, using the Total Complexity of Disability score from the Developmental Healthcare Complexity Scale (DHCS) students were chosen from the sample based on the following ratings: “Moderate” (raw score of 9-16) and “High” (raw score of 17-24). It was then determined, using the IMFS program evaluation databases, if critical pieces of data (pre/post ICP scores, pre/post SEEC scores, and level of inclusion demographics) were available for each of the students.

Following this, the Excel master spreadsheet was created, including the Total Complexity score from the Developmental Healthcare Complexity Scale (DHCS); pre-test and post-test

likert-type rating scores on the indicators of Adult Involvement in Peer Interactions, Membership, and Support for Social Communication from the Inclusive Classroom Profile (ICP); and the demographics of sex, age, race, primary disability, and presence of an aide or TSS in the classroom. In the IMFS Excel spreadsheet, the Vineland Social Emotional Early Childhood Scales (SEEC) pre and post-test scores were recorded for each individual item on the Interpersonal subscale. Using instructions on the SEEC protocol, the raw scores for the pre and post-test were calculated for each student in Excel, and these data were entered into the master spreadsheet (Sparrow, Balla, & Cicchetti, 1998). In addition, the level of inclusion was determined using the demographic survey. On this survey the amount of special education each child received was indicated, with categories as follows: Itinerant (20% or less of school day), Supplemental (20-80% of school day), and Full Time (80-100% of school day). These data transferred into level of inclusion (Itinerant = High; Supplemental = Moderate; and Full Time = Low). Finally, using the student identification numbers, the corresponding student's classroom teacher was identified. Teacher demographic data including the teacher's age range, race/ethnicity, number of years teaching in current school district, total years teaching, level of education, training in working with children with disabilities, the presence of a co-teacher in the classroom, and the presence of inclusion specific professional development provided by the school district were included in the master Excel spreadsheet.

Once the master Excel spreadsheet was created the data were imported into the Statistical Package for the Social Sciences (SPSS) software package for analysis. First, descriptive statistical analyses were generated to describe the demographics of the students and the corresponding teacher participants. Then, for the first research question and hypotheses, two sets of Pearson product moment correlations and stepwise multiple linear regressions were conducted

on both the pre and post-test social competence and inclusive classroom quality data. Analyses of both pre and post test data were conducted to explore if relationships existed between these variables at the implementation of the IMFS program and at the completion of the program. Next, for the second research question and hypothesis, the data file was split by total complexity of disability into a moderate complexity group and a high complexity group. Pearson product moment correlations were again calculated for the pre and post-test variable for the moderate complexity group and the high complexity group. Using the resulting coefficients, the significance of difference between them (pre-test coefficients and post-test coefficients) for the two complexity groups was calculated using the Fisher r-to-z transformation. Lastly, stepwise multiple linear regressions were conducted for each group. For the third research question and hypothesis, a crosstabulation of the level of inclusion and complexity of disability was conducted to determine the number of students falling into each category. Following this, an ANCOVA was computed using the level of inclusion, social competence post-test, and social competence pre-test for the moderate complexity group.

Description of the Sample

Data were collected and analyzed on the students in the research sample and their corresponding classroom teachers. The overall sample of students based on the Early Childhood Partnership demographic database was 112 students. There were a total of 72 students that received ratings of moderate or high complexity of disability; however, only students with at least one piece of critical data available (N=69) were included in the sample. There were two students with all pieces of critical data missing; thus, they were removed from the sample. Critical data included the pre/post ICP scores, pre/post SEEC scores, and level of inclusion demographics. For the 69 students in the sample, their corresponding classroom teachers (N=33)

were identified out of 59 possible teachers included in the ECP demographic database. The following describes the analyses of demographic data collected on students and teachers.

Student Demographic Description

Student demographic data were gathered using a demographic survey that was completed by the student's parent or guardian at the beginning of the 2011-2012 school year. These data were split by total complexity of disability level and analyzed using SPSS Statistics.

As shown in Table 2, data on student age were reported for 55 students. The mean age for the total sample of students was 6.45 (SD = 1.015); the mean age for the moderate complexity of disability group was 6.37 (SD = 1.024), and the mean age for the high complexity of disability group was 6.75 (SD = 0.965). Ages ranged from five years to 11 years.

Table 2

Student Ages Organized by Complexity of Disability—Descriptive Statistics

Age by complexity level	N	M	SD	Range	
				Min	Max
Moderate complexity	43	6.37	1.024	5	11
High complexity	12	6.75	0.965	5	8
Total sample	55	6.45	1.015	5	11

According to analysis of sex (see Table 3), the total sample was comprised of 49 males and 19 females (71.0%, 27.5% respectively). One student was missing sex data (1.4%). In the moderate complexity group and high complexity group the percentages of males (71.4%, 69.2% respectively) and females (26.8%, 30.4% respectively) were similar.

The ethnic make-up of the total sample, as shown in Table 3, was comprised primarily of White students (N = 33, 47.8%). There were an equal number of African American students (N = 6, 8.7%) and Hispanic or Latino students (N = 6, 8.7%). Notably, there was a large number of missing data for this demographic descriptor (N = 20, 29%).

Table 3

Student Sex and Ethnicity Organized by Complexity of Disability—Frequency Distributions

Sex and ethnicity	Moderate complexity		High complexity		Total sample	
	n	%	n	%	N	%
Sex						
Male	40	71.4	9	69.2	49	71.0
Female	15	26.8	4	30.4	19	27.5
Missing data	1	1.8			1	1.4
Total	56	100.0	13	100.0	69	100.0
Ethnicity						
African American	4	7.1	2	15.4	6	8.7
White	26	46.4	7	53.8	33	47.8
Asian	2	3.6	0	0.0	2	2.9
Non-Hispanic	1	1.8	0	0.0	1	1.4
Hispanic or Latino	5	8.9	1	7.7	6	8.7
Other	0	0.0	1	7.7	1	1.4
Missing data	18	32.1	2	15.4	20	29.0
Total	56	100.0	13	100.0	69	100.0

As seen in Table 4, students in the total sample were enrolled in half-day kindergarten classrooms (N = 8, 11.6%), full-day kindergarten classrooms (N = 28, 40.6%), or first grade classrooms (N = 31, 44.9%) during the 2011-2012 school year. The majority of the students in both the moderate and high complexity of disability groups were enrolled in first grade classrooms (n = 24, 42.9%, n = 7, 53.8%, respectively).

Table 4

Student Grade Organized by Complexity of Disability—Frequency Distributions

Grade	Moderate complexity		High complexity		Total sample	
	n	%	n	%	N	%
Kindergarten half-day	7	12.5	1	7.7	8	11.6
Kindergarten full-day	23	41.1	5	38.5	28	40.6
First grade	24	42.9	7	53.8	31	44.9
Missing data	2	3.6			2	2.9
Total	56	100.0	13	100.0	69	100.0

The student's primary disability category was analyzed as shown in Table 5. While secondary and tertiary disability categories were included on the demographic survey for some of the sample, only the student's primary disability category was used in the analysis. For the total sample, the majority of students had a primary disability category of Autism (N = 35, 50.7%), followed by Intellectual Disability (N = 13, 18.8%), Other Health Impairment (N = 7, 10.1%), Multiple Disabilities (N = 4, 5.8%), and Deafness (N = 3, 4.3%). Similarly, students with a primary disability category of Autism made up the majority of both the moderate complexity of disability group (n = 28, 50%) and the high complexity of disability group (n = 7, 53.8%). For the group of students with a moderate complexity of disability, the second most

common primary disability category was Intellectual Disability (n = 10, 17.9%), but for the students with high complexity of disability the second most common primary disability category was Other Health Impairment (n = 3, 23.1%). All of the students with a primary disability category of Multiple Disabilities (N = 5, 7.2%) were rated as having a moderate complexity of disability (n = 5, 8.9%).

Table 5

Student Primary Disability Category Organized by Complexity of Disability—Frequency Distributions

Primary disability category	Moderate complexity		High complexity		Total sample	
	n	%	n	%	N	%
Autism	28	50.0	7	53.8	35	50.7
Deafness	3	5.4	0	0.0	3	4.3
Emotional disturbance	1	1.8	0	0.0	1	1.4
Intellectual disability	10	17.9	2	15.4	12	17.4
Multiple disabilities	5	8.9	0	0.0	5	7.2
Other health impairment	4	7.1	3	23.1	7	10.1
Traumatic brain injury	0	0.0	1	7.7	1	1.4
Visual impairment Including blindness	1	1.8	0	0.0	1	1.4
Hearing impairment	1	1.8	0	0.0	1	1.4
Speech and Language Impairment	1	1.8	0	0.0	1	1.4
Missing data	2	3.6	0	0.0	2	2.9
Total	56	100.0	13	100.0	69	100.0

Whether students had an aide or TSS who accompanied them in the classroom was analyzed as shown in Table 6. For the total sample, the group without an aide or TSS (N = 39, 56.6%) was larger than the group with an aide or TSS (N = 28, 40.6%). Slightly more students in the high complexity of disability group (n = 5, 38.5%) had an aide or TSS in the classroom than students in the moderate complexity of disability group (n = 20, 35.7%).

Table 6

Presence of an Aide or TSS in the Classroom Organized by Complexity of Disability—Frequency Distributions

Aide or TSS	Moderate Complexity		High Complexity		Total Sample	
	n	%	n	%	N	%
Yes	20	35.7	5	38.5	28	40.6
No	34	60.7	8	61.5	39	56.6
Missing data	2	3.6	0	0.0	2	2.9
Total	54	100.0	13	100.0	69	100.0

Teacher Demographic Description

Each student in the sample had a classroom teacher who completed a demographic survey at the beginning of the 2011-2012 school year. Some teachers had more than one student who was enrolled in the IMFS program in their class. A total of 33 classroom teachers' demographic data were analyzed.

Sex, age, and ethnicity were analyzed, with results reported in Table 7. All of the teachers indicated that they were female. Ages were reported in ranges, with seven subjects between the ages of 22 and 31 (21.2%), eight teachers between the ages of 32 and 41 (24.2%), nine teachers between the ages of 42 and 51 (27.3%), eight teachers between the ages of 52 and 61 (24.2%), and one teacher between the ages of 62 and 71 (3%). The majority of teachers reported being white (N = 31, 93.3%), one teacher reported being American Indian/Alaska Native (N = 1, 3%), and one teacher missing data (N = 1, 3%).

Table 7

Teacher Sex, Age, and Ethnicity—Frequency Distributions

Sex, age, and ethnicity	N	%
Sex		
Male	0	0.0
Female	33	100.0
Total	33	100.0
Age		
22-31	7	21.2
32-41	8	24.2
42-51	9	27.3
52-61	8	24.2
62-71	1	3.0
72 and older	0	0.0
Total	33	100.0
Ethnicity		
American Indian/Alaska Native	1	3.0
Asian	0	0.0
African American	0	0.0
Native Hawaiian/Pacific Islander	0	0.0
White	31	93.9
Missing data	1	3.0
Total	33	100.0

As shown in Table 8, data on teachers' number of years teaching in their respective district and total years teaching were reported. The mean years teaching in their respective districts was 11.30 years (SD = 9.326). Years teaching in their districts ranged from one to 42 years. The mean total years teaching was 16.15 years (SD = 9.454). Total years teaching ranged from three to 42 years.

Table 8

Teacher Years Teaching in District and Years Teaching Total—Descriptive Statistics

	N	M	SD	Range	
				Min	Max
Years teaching in district	33	11.30	9.326	1	42
Years teaching total	33	16.15	9.454	3	42

Level of education was analyzed and the majority of the teachers indicated they had obtained a Master's degree (N = 17, 51.5%) as shown in Table 9. Seven teachers indicated that they had taken some graduate classes (21.2%), four teachers reported obtaining a Bachelor's degree (12.1%), and five teachers reported having a Master's degree with continuing education credits (15.2%).

Concerning the description of their level of training in working with children with disabilities presented in Table 9, six teachers reported receiving professional development (18.2%). Five teachers reported training received during undergraduate (N = 1, 3%) and graduate courses (N = 4, 12.1%). One teacher reported both graduate course training and

professional development (3%), while four teachers indicated no training in working with children with disabilities (12.1%). Notably, 17 teachers (over half of the sample) did not respond to this demographic descriptor (51.5%).

Table 9

Teacher Level of Education and Level of Training in Disabilities—Frequency Distributions

Level of education and level of training	N	%
Level of education		
Associates degree	0	0.0
Bachelors degree	4	12.1
Some graduate classes	7	21.2
Masters degree	17	51.5
Masters degree plus CE credits	5	15.2
Doctoral degree	0	0.0
Other	0	0.0
Total	33	100.0
Level of training in disabilities		
Undergraduate	1	3.0
Graduate	4	12.1
Professional development	6	18.2
Graduate and professional dev.	1	3.0
None	4	12.1
Missing data	17	51.5
Total	33	100.0

Note. CE = continuing education.

Data were gathered and analyzed on the presence of a co-teacher within each teacher's classroom and if the district provided professional development (including trainings, courses, workshops, or conferences) focusing on the inclusion of children with disabilities in the regular education classroom (see Table 10). Only four teachers (12.1%) reported having a co-teacher in their classroom and 23 (69.7%) indicated they did not. In terms of professional development, the majority of teachers (N = 20, 60.6%) indicated that the district provided some type of professional development specific to the inclusion of children with disabilities in the regular education classroom.

Table 10

Presence of Co-Teacher and District Provided Professional Development—Frequency Distributions

Co-teacher and professional development	N	%
Presence of co-teacher		
Yes	4	12.1
No	23	69.7
Missing data	6	18.2
Total	33	100.0
District provided professional development		
Yes	20	60.6
No	12	36.4
Missing data	1	3.0
Total	33	100.0

Results

This investigation focused on three research questions related to inclusive classroom quality, social competence, and level of inclusive education for children with moderate and high complexity of disability. Inferential statistical analyses were used to analyze archival data originally collected by Early Childhood Partnerships (ECP) from implementation through completion of the Include Me from the Start (IMFS) program during the 2011-2012 school year to answer these questions.

Question One: Social Competence and Inclusive Classroom Quality Indicators

The first question asked in this research was as follows: *What is the relationship between social competence and each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication?* It was hypothesized that children in classrooms with higher ratings of adult involvement in peer interactions, membership, and support for social communication would demonstrate greater social competence and that adult involvement in peer interactions would be the best predictor of social competence.

First, Pearson product moment correlations were used to analyze the pre-test measure of social competence (Vineland SEEC Interpersonal Subscale, $n = 65$) and the pre-test measure of inclusive classroom quality (ICP), specifically the indicators of adult involvement in peer interactions ($n = 48$), membership ($n = 48$), and support for social communication ($n = 48$). The results indicated that there were no statistically significant relationships found among students' social competence and the inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication, at the implementation of the IMFS program. The results of these correlations appear in Table 11.

Table 11

Pearson Product Moment Correlations of Pre-Test Social Competence and Pre-Test Inclusive Classroom Quality Indicators

Social competence	Inclusive classroom quality indicators					
	Adult involvement in peer interactions pre-test		Membership pre-test		Support for social communication pre-test	
	Pearson Correlation (r)	Sig (2-tailed)	Pearson Correlation (r)	Sig (2-tailed)	Pearson Correlation (r)	Sig (2-tailed)
Vineland SEEC: Pre-test	1.44	.330	.215	.142	.218	.136

Note. SEEC = Social-Emotional Early Childhood Scale.

Next, Pearson product moment correlations were used to analyze the post-test measure of social competence (Vineland SEEC Interpersonal Subscale, $n = 67$) and the post-test measure of inclusive classroom quality (ICP), specifically the indicators of adult involvement in peer interactions ($n = 61$), membership ($n = 61$), and support for social communication ($n = 61$). In contrast to the pre-test data, two statistically significant relationships were found in the analysis of the post-test data. Using Cohen's criteria (Onwuegbuzie, Daniel, & Leech, n.d.) a small, positive correlation existed between social competence at post-test and membership at post-test ($r [59] = .266, p < .05$) and a moderate, positive correlation existed between social competence at post-test and support for social communication at post-test ($r [59] = .398, p < .01$). Social competence was not significantly correlated with adult involvement in peer interactions at post-test. Thus, at the completion of the IMFS program, a small relationship existed between student's social competence scores and the inclusive classroom quality indicator of membership and a

moderate relationship existed between students' social competence scores and support for social communication, but not for the indicator of adult involvement in peer interactions. The results of these correlations appear in Table 12.

Table 12

Pearson Product Moment Correlations of Post-Test Social Competence and Post-Test Inclusive Classroom Quality Indicators

	Inclusive classroom quality indicators					
	Adult involvement in peer interactions post-test		Membership post- test		Support for social communication post-test	
	Pearson correlation (r)	Sig. (2- tailed)	Pearson correlation (r)	Sig. (2- tailed)	Pearson correlation (r)	Sig. (2- tailed)
Social competence						
Vineland SEEC: Post- test	.169	.194	.266*	.038	.398**	.001

Note. SEEC = Social-Emotional Early Childhood Scale.

*p < 0.05, 2-tailed. **p < 0.01, 2-tailed.

Finally, two separate stepwise multiple linear regressions were used to analyze the pre-test and post-test data on the measure of social competence (Vineland SEEC, Interpersonal Subscale; dependent variable) and inclusive classroom quality (ICP), again using the indicators of adult involvement in peer interactions, membership, and support for social communication (independent variables). For the pre-test data (n = 48), none of the independent variables entered into the stepwise multiple linear regression equation model, suggesting that they were not significant predictors of pre-test social competence. For the post-test data (n = 61), the inclusive classroom profile indicator of support for social communication entered the model. The model, as displayed in Table 13, suggests that support for social communication accounted for 15.9% of

the variance in social competence test scores ($R^2 = .159$) and is statistically significant at the .001 level.

Table 13

Multiple Linear Regression Analysis of Post-Test Social Competence and Post-Test Inclusive Classroom Quality Indicators

Predictor variable	Regression coefficient	Standard error	t-Statistic	p > t
Support for social communication— Post-test	2.435	.730	3.336	.001

Note. $R^2 = .159$, $F = 11.127$, $p = .001$.

Question Two: Social Competence and Inclusive Classroom Quality Indicators for Students with Moderate V. High Complexity of Disability

The second question in this research was as follows: *Are there differences in the relationships between social competence and each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication, for children with a high level of complexity of disability versus children with a moderate level of complexity of disability?* It was hypothesized that the relationship among social competence and the inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication would be greater for children with a moderate complexity of disability.

Similar to question one, Pearson product moment correlations and stepwise multiple linear regressions were utilized to answer the question; however, the data file was split and all

cases were sorted by moderate complexity of disability and high complexity of disability (DHCS) using the coded total complexity of disability score. First, Pearson product moment correlations were used to analyze the moderate and high complexity groups' (n = 39, n = 9, respectively) pre-test social competence measure (Vineland SEEC Interpersonal Subscale) and the pre-test measure of inclusive classroom quality (ICP), specifically the indicators of adult involvement in peer interactions, membership, and support for social communication. As in question one, the results indicated that there were no statistically significant relationships found among students' social competence and the inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication, at the implementation of the IMFS program for both students with moderate complexity of disability and high complexity of disability. The results of these correlations appear in Table 14.

Table 14

Pearson Product Moment Correlations of Pre-Test Social Competence and Pre-Test Inclusive Classroom Quality Indicators Moderated by Total Complexity of Disability

Complexity of disability	Social competence	Inclusive classroom quality indicators					
		Adult involvement in peer interactions		Membership		Support for social communication	
		Pearson correlation (r)	Sig. (2-tailed)	Pearson correlation (r)	Sig. (2-tailed)	Pearson correlation (r)	Sig. (2-tailed)
Moderate complexity	Vineland SEEC pre-test	.260	.109	.263	.105	.189	.249
High complexity	Vineland SEEC pre-test	-.219	.571	.131	.738	.317	.405

Note. SEEC = Social-Emotional Early Childhood Scale.

Next, Pearson product moment correlations were used to analyze the moderate and high complexity groups' ($n = 50$, $n = 11$, respectively) post-test social competence measure (Vineland SEEC Interpersonal Subscale) and the post-test measure of inclusive classroom quality (ICP), specifically the indicators of adult involvement in peer interactions, membership, and support for social communication. For both the moderate and high complexity of disability groups, statistically significant relationships were found in the analysis of post-test data.

For the students with moderate complexity of disability, a small, positive correlation existed between social competence at post-test and membership at post-test ($r [48] = .294$, $p < .05$) and a moderate, positive correlation existed between social competence at post-test and support for social communication at post-test ($r [48] = .442$, $p < .01$). Social competence was not significantly correlated with adult involvement in peer interactions at post-test for students with moderate complexity of disability. For students with high complexity of disability level, a strong, positive correlation existed between social competence at post-test and adult involvement in peer interactions at post-test ($r [9] = .708$, $p < .05$). Social competence was not significantly correlated with membership at post-test or support for social communication at post-test for students with high complexity of disability. Thus, at the completion of the IMFS program, for students with moderate complexity of disability, a small, positive relationship existed between students' social competence scores and the inclusive classroom quality indicator of membership. A moderate, positive relationship existed between student's social competence scores and the inclusive classroom quality indicator of support for social communication. In contrast, for students with high complexity of disability, a strong positive correlation existed between

students' social competence scores and the inclusive classroom quality indicator of adult involvement in peer interactions. These results are observed in Table 15.

Table 15

Pearson Product Moment Correlations of Post-Test Social Competence and Post-Test Inclusive Classroom Quality Indicators Moderated by Total Complexity of Disability

Complexity of disability	Social competence	Inclusive classroom quality indicators					
		Adult involvement in peer interactions		Membership		Support for social communication	
		Pearson correlation (r)	Sig. (2-tailed)	Pearson correlation (r)	Sig. (2-tailed)	Pearson correlation (r)	Sig. (2-tailed)
Moderate complexity	Vineland SEEC post-test	.127	.381	.294*	.039	.442**	.001
High complexity	Vineland SEEC post-test	.708*	.015	.123	.719	.109	.749

Note. SEEC = Social-Emotional Early Childhood Scale.

* $p < 0.05$, 2-tailed. ** $p < 0.01$, 2-tailed.

Following the determination of the correlation coefficients for the pre-test and post-test inclusive classroom quality indicators and social competence measures for students with moderate complexity of disability and students with high complexity of disability, calculations were conducted to determine the significance of difference between the coefficients for each group. These calculations were conducted using the Fisher r-to-z transformation calculator available at VassarStats: Statistical Computation Website. According to this transformation calculation, if the coefficient of Sample A (r_a) is greater than the coefficient of Sample B (r_b) then the z value will have a positive sign. If the coefficient of Sample A (r_a) is smaller than Sample B (r_b) then the z value will have a negative sign. For the calculation, the moderate complexity group (pre-test $n = 39$, post-test $n = 50$) was used as Sample A and the high complexity group

(pre-test $n = 9$, post-test $n = 11$) was used as Sample B. The calculation was performed by inputting the correlation coefficients (r) and the sample (n) for each of the groups and then clicking on the 'calculate'. This action was performed for the correlation coefficients for the three inclusive classroom quality indicators (adult involvement in peer interactions, membership, and support for social communication) and social competence at both pre-test and post-test. Concerning pre-test correlation coefficients, it was determined that the moderate complexity of disability group had greater correlations than the high complexity of disability group on the indicators of adult involvement in peer interactions and membership, but not on the support for social communication indicator. Concerning post-test correlation coefficients, it was determined that the moderate complexity of disability group had greater correlations than the high complexity of disability group on the indicators of membership and support for social communication, but not on the indicator of adult involvement in peer interactions. These results are observed in Table 16.

Table 16

Significance of Difference Between Moderate and High Complexity of Disability Correlation Coefficients at Pre-Test and Post-Test for the Inclusive Classroom Quality Indicators and Social Competence

Inclusive classroom quality indicator	Moderate vs. high complexity of disability pre-test coefficient calculations		Moderate vs. high complexity of disability post-test coefficient calculations	
	z	Sig. (2-tailed)	z	Sig. (2-tailed)
Adult involvement in peer interactions	1.11	0.267	-1.98	0.047
Membership	0.31	0.756	0.47	0.638
Support for social communication	-0.31	0.756	0.96	0.337

Note. All calculations were derived using the Fisher r-to-z transformation calculator at <http://www.vassarstats.net/rdiff.html>. If r_a is greater than r_b , the z value will have a positive sign. If r_a is smaller than r_b , the z value will have a negative sign.

For the final step of the analysis, four stepwise multiple linear regressions were used to analyze the pre-test and post-test data on the measure of social competence (Vineland SEEC, Interpersonal Subscale; dependent variable) and inclusive classroom quality (ICP), using the indicators of adult involvement in peer interactions, membership, and support for social communication (independent variables). A pre-test data regression and a post-test data regression were conducted for students with a moderate complexity of disability and a pre-test data regression and a post-test data regression was conducted for students with high complexity of disability. For the pre-test data on both students with moderate complexity of disability and students with high complexity of disability, none of the independent variables entered into the

stepwise multiple linear regression equation models, suggesting that they were not significant predictors of pre-test social competence. Concerning the post-test data for children with moderate complexity of disability, the inclusive classroom profile indicator of support for social communication entered the model. The model, as displayed in Table 17, suggested that support for social communication accounted for 19.5% of the variance of the social competence post-test scores ($R^2 = .195$) and is statistically significant at the .001 level. Concerning the post-test data for children with high complexity of disability, the inclusive classroom profile indicator of adult involvement in peer interactions entered the model. As shown in Table 18, the model suggested that adult involvement in peer interactions accounted for 50.1% of the variance of the social competence post-test scores ($R^2 = .501$) and is statistically significant at the .015 level.

Table 17

Multiple Linear Regression Analysis of Post-Test Social Competence and Post-Test Inclusive Classroom Quality Indicators for Subjects with Moderate Total Complexity of Disability

Predictor variable	Regression coefficient (R^2)	Standard error	t-Statistic	p > t
Support for social communication—post-test	2.707	.793	3.413	.001

Note. R^2 squared = .195, $F = 11.647$, $p = .001$.

Table 18

Multiple Linear Regression Analysis of Post-Test Social Competence and Post-Test Inclusive Classroom Quality Indicators for Subjects with High Total Complexity of Disability

Predictor variable	Regression coefficient (R ²)	Standard error	t-Statistic	p> t
Adult involvement in peer interactions—post-test	10.125	3.365	3.009	.015

Note. R² = .501, F = 9.052, p = .015.

Question Three: Effect of the Level of Inclusive Education on Social Competence

The third question in this research was as follows: *What effect does the level of inclusive education (low, moderate, or high level of inclusion) have on the change in social competence when controlling for the child's total complexity of disability?* It was hypothesized that children who have higher levels of inclusive education, regardless of total complexity of disability, will experience a greater change in social competence. Inclusive education was defined as follows:

Itinerant Placement in Special Education or High Level of Inclusive Education—

Supports and services provided by special education personnel for 20% or less of the school day.

Supplemental Placement in Special Education or Moderate Level of Inclusive

*Education—*Supports and services provided by special education personnel for more than 20% of the day but less than 80% of the school day.

Full Time Placement in Special Education or Low Level of Inclusive Education—

Supports and services provided by special education personnel for 80% or more of the school day.

First, due to a change in educational placement during the 2011-2012 school year, two student data sets were removed from the analysis. A crosstabulation was conducted to determine the number of students falling into each category of inclusive education (low, moderate, or high) for both the moderate and high complexity of disability groups. This analysis indicated that there were only two students falling into the high complexity of disability, low level of inclusion group and no students falling into the high complexity of disability, high level of inclusion group. As a result, these categories were eliminated, and analyses were conducted only on the moderate complexity of disability group.

An Analysis of Covariance (ANCOVA) was used to compute the effect that the level of inclusive education had on social competence for the moderate complexity of disability group. In this analysis, an adjusted mean was calculated for the Vineland SEEC post-test data (dependent variable), using the Vineland SEEC pre-test data as a covariate. According to the results (see Table 19) the level of inclusion did not affect social competence for students with a moderate complexity of disability, $F(2, 44) = .777, p. < .466$. When adjusting for their social competence scores at implementation of the IMFS program, students with a moderate complexity of disability in low ($M = 64.283$), moderate ($M = 61.165$), and high ($M = 58.706$) levels of inclusion had statistically equivalent and non-significant social competence scores at the completion of the program.

Table 19

Analysis of Covariance for Social Competence by Level of Inclusive Education (N = 48)

Source	SS	df	MS	F	p
SEEC pre-test	6,593.366	1	6,593.366	80,96	.000
Level of inclusion	126.597	2	63.299	.777	.466
Error	3,583.349	44	81.440		
Total	189,504.000	48			

Note. SEEC = Social-Emotional Early Childhood Scale.

Summary

In order to examine the relationship of inclusive classroom quality indicators and social competence and the differences that exist between level of inclusive education, social competence, and total complexity of disability for elementary students in kindergarten and first grade, statistical analyses were conducted on data from the Include Me From the Start (IMFS) initiative. The treatment of the archival data provided by Early Childhood Partnerships (ECP) was described. Demographic data was analyzed for 69 students and 33 of their corresponding classroom teachers in order to describe the sample. Three research questions and their subsequent hypotheses had been proposed and statistical analyses were conducted to answer these questions, including Pearson product moment correlations, stepwise multiple linear regression, Fisher r-to-z transformation, and analysis of covariance (ANCOVA). Results indicated that statistically significant relationships existed between the total sample of student's post-test social competence scores and the post-test inclusive classroom quality indicators of membership and support for social communication; support for social communication accounted

for 15.9% of the variance in social competence at post-test; for students with moderate complexity of disability, a relationship existed between students' social competence scores and the inclusive classroom quality indicators of membership and support for social communication at post-test; for students with high complexity of disability, a relationship existed between students' social competence scores and the inclusive classroom quality indicator of adult involvement in peer interactions at post-test; at pre-test the moderate complexity of disability group had greater correlations than the high complexity of disability group on the indicators of adult involvement in peer interactions and membership, but not on the support for social communication indicator; at post-test the moderate complexity of disability group had greater correlations than the high complexity of disability group on the indicators of membership and support for social communication, but not on the indicator of adult involvement in peer interactions; for children with moderate complexity of disability the inclusive classroom profile indicator of support for social communication accounted for 19.5% of the variance of the social competence post-test; for children with high complexity of disability, the inclusive classroom profile indicator of adult involvement in peer interactions accounted for 50.1% of the variance of the social competence post-test scores; and the level of inclusion did not affect social competence for students with a moderate complexity of disability.

CHAPTER V

DISCUSSION

Introduction

The current research study investigated the relationship among inclusive classroom quality indicators, social competence, and level of inclusive education for children with moderate and high complexity of disability in kindergarten and first grade classrooms during the 2011-2012 school year. Students included in the study and their classroom teachers received consultant services through the Include Me From the Start program. An overview of the research, findings from the data analyses, a discussion of the results, implications, and limitations, and suggestions for further will be presented.

Overview

The discourse on inclusive education has been a critical component of the landscape in education theory, philosophy, and law, impacting all fields of educational professionals. Legislation dating back to 1975 has evolved over the last several decades, furthering inclusive education and requiring that the regular education classroom serve as the primary placement option for children with even the most complex disabilities. For school psychologists, supporting inclusive education for children with disabilities is a focus for the profession and has been supported in position statements, outlined in training and practice documents, and informed best practices (National Association of School Psychologists, 2002, 2006, 2009). According to Powell-Smith, Stoner, Bilter, and Sansosti (2008), the promotion of inclusive environments through the notion of the Least Restrictive Environment (LRE) in educational decision making for children with severe and low incidence disabilities is a crucial consideration in best practice by school psychologists. Considering several areas of functioning that constitute the core of

school psychology practice, such as collaboration and consultation with teachers, families, and other educational professionals, placement decision-making, and policy and organizational change, an understanding of inclusive practices and how they relate to the functioning of children with complex disabilities is imperative.

Investigating the relationship of social competence and indicators of high quality inclusive classrooms, particularly for young children with complex disabilities contributes great value to the existing literature. While some of the literature (Kavale & Forness, 1999), indicates that special education placements have been found to yield inconsistently positive results for children; inclusive placements experience a decline as children move from kindergarten and first grade into upper elementary grades (Guarlnick, Neville, Hammond, & Conner, 2008; Hanson et al., 2001). Research on social competence and indicators of inclusive classroom quality have supported the importance of adult facilitation of peer interactions (Erwin & Guintini, 2000; Gelzheiser, McLane, Meyers, & Pruzek, 1997; Kwon, Elicker, & Kontos, 2011; Sontag, 1997), classroom memberships (David & Kuyini, 2012; Erwin & Guintini, 2000; Favazza & Odom, 1997; Narian, 2011; Odom & Diamond, 1998; Ohtake, 2003), and support for social communication (Cosbey & Johnson, 2006; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Hunt, Soto, Maier, Müller, & Goetz, 2002). In addition a multitude of studies have supported positive social outcome findings for young children with the most complex disabilities (Bagnato, McKeating, & Salaway, 2012; Cole & Meyer, 1991; Fisher & Meyer, 2002; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Hundert, Mahoney, Mundy, & Vernon, 1998; Hunt & Goetz, 1997; Hunt, Soto, Maier, & Doering, 2003; Jenkins, Odom, & Speltz, 1989; Rafferty, Piscitelli, & Boettcher, 2003). Although many studies have demonstrated positive social outcomes of

inclusion and factors that create quality inclusive environments, there is a dearth of research on how these factors interrelate to create positive outcomes for children with complex disabilities.

The research undertaken in this study investigated the relationship of social competence, inclusive classroom quality, and level of inclusive education for children with moderate and high complexity of disability in kindergarten and first grade, within the context of the Include Me from the Start (IMFS) initiative. This initiative, which was implemented in school districts throughout the state of Pennsylvania, focused on providing support and mentoring on the use of inclusion practices to regular education teachers via a consultation model. The study utilized archival data from the 2011-2012 school year collected by Early Childhood Partnerships (ECP).

Findings

A total of 69 students were included in the sample from the original population identified through ECP databases. These students had received a moderate or high rating on the Developmental Healthcare Complexity Scale and had at least one piece of critical data (pre/post ICP scores, pre/post SEEC scores, and level of inclusion demographics) available. In addition, 33 corresponding classroom teachers were identified for demographic data analysis.

Demographic Descriptions

Students in the total sample of the study had a mean age of 6.45 ($SD = 1.015$), with very little variation between the moderate complexity of disability group ($M = 6.37$, $SD = 1.024$) and high complexity of disability group ($M = 6.75$, $SD = 0.965$). Student ages ranged from five years to 11 years. The total sample was primarily male (71.0%) with females only representing 27.5% of the total sample. These numbers were again mirrored in the moderate and high complexity of disability groups, with roughly 71.4% and 69.2% males in the moderate group and 26.8% and 30.4% females in the high group. The total sample was primarily composed of White

students (47.8%), with an equal number of African American students (8.7%) and Hispanic or Latino students (8.7%). There did not appear to be overrepresentation of any particular ethnic group in either the moderate or high complexity of disability groups; however, 29% of the data for this demographic descriptor was missing. The majority of the total sample was in either full-day kindergarten (40.6%) or first grade (44.9%) classrooms, with a small number in half-day kindergarten classrooms (11.6%). For the moderate complexity of disability group, similar numbers of students were in full-day kindergarten (41.1%) and first grade (42.9%); however, for the high complexity of disability group more students were enrolled in first grade (53.8%) than full-day (38.5%) or half-day (7.7%) kindergarten.

Concerning student disability categories, the primary disability category reported was the only one used in the demographic analysis. Autism was the most common primary disability category, reflecting 50.7% of the total sample, 50% of the moderate complexity of disability group, and 53.8% of the high complexity of disability group. For the total sample and the moderate complexity of disability group, Intellectual Disability was the next most common disability category (18.8% and 17.9% respectively); however, for the high complexity of disability group it was Other Health Impairment (23.1%). Interestingly, all of the students with a primary disability category of Multiple Disabilities (N = 5, 7.2%) were rated as having a moderate complexity of disability. Data collected on the presence of an aide or TSS in the classroom demonstrated that 56.6% of the total sample did not have an aide or TSS and 40.6% did have an aide or TSS in the classroom. Slightly more students in the high complexity of disability group (38.5%) had an aide or TSS in the classroom than students in the moderate complexity of disability group (35.7%).

Corresponding classroom teachers all reported being female and the largest portion of the sample was between the ages of 42 and 51 (27.3%). There were 21.2% of the teachers falling between the ages of 21 and 31, 24.2% were between the ages of 32 and 41, 24.2% were between the ages of 52 and 61, and 3% were between the ages of 62 and 71. The majority of teachers reported being white (N = 31, 93.3%), one teacher reported being American Indian/Alaska Native (N = 1, 3%), and one teacher was missing data (N = 1, 3%). Teachers from the sample had a mean of 11.30 years teaching in their respective districts and 16.15 years teaching total. The range of total years teaching was from three to 42. All of the teachers reported having obtained at least a Bachelor's degree (12.1%), with the majority holding a Master's degree (51.5%).

Considering their training in working with children with disabilities, most teachers reported having received professional development (18.2%). An equal number of teachers reported receiving training during graduate courses (12.1%) as those that reported not receiving any training (12.1%). The rest received training during undergraduate (3%) or had a combination of graduate and professional training (3%). Notably, 17 teachers (over half of the sample) did not respond to this demographic descriptor (51.5%). In terms of professional development provided by the district, the majority of teachers (60.6%) reported that the district provided some type of professional development specific to the inclusion of children with disabilities in the regular education classroom. Less than half (36.4%) of the teachers reported there was no professional development provided by the district specific to the inclusion of children with disabilities in the regular education classroom. Only four teachers (12.1%) reported having a co-teacher in their class, and 23 (69.7%) indicated no co-teacher was present.

Research Questions and Hypotheses

This research focused on three questions relating to social competence, inclusive classroom quality, and level of inclusive education. Relevant data for these questions was analyzed using SPSS Statistics. Inferential statistical analyses were used on archival data, originally collected by Early Childhood Partnerships from implementation through completion of the Include Me from the Start (IMFS) program during the 2011-2012 school year. The findings are as follows for each of the questions and their hypotheses:

1. What is the relationship between social competence and each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication?

H⁰: Children in classrooms with higher ratings of adult involvement in peer interactions, membership, and support for social communication would demonstrate greater social competence.

Pearson product moment correlations were conducted on the pre-test and post-test variables to determine the relationship between social competence and the classroom quality indicators. The pre-test and post-test scores on the ICP indicators of adult involvement in peer interactions, membership, and support for social communication and the Vineland SEEC were correlated. At pre-test, no significant relationships were found; thus, prior to the implementation of the IMFS program children in classrooms with higher ratings of adult involvement in peer interactions, membership, and support for social communication did not demonstrate greater social competence. In contrast, at post-test a small, positive correlation existed between social competence and membership ($r [59] = .266, p < .05$) and a moderate, positive correlation existed between social competence and support for social communication ($r [59] = .398, p < .01$). Social

competence was not significantly correlated with adult involvement in peer interactions at post-test. Consequently, H^0 for question one was partially confirmed; at the completion of the IMFS program children in classrooms with higher ratings of membership and support for social communication experienced greater social competence. These relationships did not previously exist according to the analysis of the pre-test data.

H^1 : Adult involvement in peer interactions would be the best predictor of social competence.

A multiple linear regression was conducted on the pre-test and post-test variables of social competence and inclusive classroom quality indicators to determine the best predictor of social competence. The pre-test and post-test measure of social competence (Vineland SEEC, Interpersonal Subscale; dependent variable) and inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication (ICP; independent variables) were used in the analysis. For the pre-test data none of the independent variables entered into the stepwise multiple linear regression equation model, suggesting that they were not significant predictors of pre-test social competence. According to the multiple linear regression of the post-test data; however, support for social communication was the best predictor of social competence ($R^2 = .159$) at the completion of the IMFS program. As a result, H^1 for question one, which indicated that adult involvement in peer interactions would be the best predictor of social competence was rejected.

2. Are there differences in the relationships between social competence and each of the inclusive classroom quality indicators: adult involvement in peer interactions, membership, and support for social communication, for children with a high level of complexity of disability versus children with a moderate level of complexity of disability?

H²: The relationship among social competence and the inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication would be greater for children with a moderate complexity of disability.

Pearson product moment correlations and stepwise multiple linear regressions were conducted on the pre and post-test variables of social competence and inclusive classroom quality for the data file, which was split by moderate complexity of disability and high complexity of disability using the coded total complexity of disability score (DHCS). Analysis of the pre-test social competence measure (Vineland SEEC Interpersonal Subscale) and the pre-test measures of inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication (ICP) indicated there were no statistically significant relationships found among the variables at the implementation of the IMFS program. This was the case for both students with moderate complexity of disability and high complexity of disability.

In contrast, at post-test for both the moderate and high complexity of disability groups, statistically significant relationships were found in the analysis. For the students with moderate complexity of disability, a small, positive correlation existed between social competence at post-test and membership at post-test ($r [48] = .294, p < .05$) and a moderate, positive correlation existed between social competence at post-test and support for social communication at post-test ($r [48] = .442, p < .01$). Social competence was not significantly correlated with adult involvement in peer interactions at post-test for students with moderate complexity of disability. For students with high complexity of disability level, a strong, positive correlation existed between social competence at post-test and adult involvement in peer interactions at post-test (r

[9] = .708, $p < .05$). Social competence was not significantly correlated with membership or support for social communication at post-test for students with high complexity of disability.

After the determination of the correlation coefficients students with moderate and high complexity of disability for the pre-test and post-test inclusive classroom quality indicators and social competence, the Fisher r-to-z transformation was used to calculate the difference between correlation coefficients. According to this calculation, for students in the moderate complexity group when compared to the high complexity group, greater relationships existed among social competence and adult involvement in peer interactions and membership, but not support for social communication at the implementation of the IMFS program. At the completion of the program, greater relationships existed among social competence and membership and support for social communication, but not adult involvement in peer interactions. Thus, H^2 for question two was partially confirmed, with greater relationships existing between social competence and different inclusive classroom quality indicators at the implementation (adult involvement in peer interactions and membership) and completion (membership and support for social communication) of the IMFS program for the moderate complexity of disability group.

Further investigation using stepwise multiple linear regression was conducted to analyze the best predictors of social competence for the moderate and high complexity groups, using the pre and post-test data on the measure of social competence (Vineland SEEC, Interpersonal Subscale; dependent variable) and inclusive classroom quality indicators of adult involvement in peer interactions, membership, and support for social communication (ICP; independent variables). At implementation of the IMFS program none of the independent variables entered into the stepwise multiple linear regression equation models for either group, suggesting that they were not significant predictors of pre-test social competence. At completion of the IMFS

program the inclusive classroom profile indicator of support for social communication entered the model for children with moderate complexity of disability and adult involvement in peer interactions entered the model for children with high complexity of disability. The model suggested that for children with moderate complexity of disability, support for social communication was the best predictor of social competence ($R^2 = .195$) at the completion of the IMFS program. In contrast, for children with high complexity of disability, adult involvement in peer interactions was the best predictor of social competence ($R^2 = .501$) at program completion.

3. What effect does the level of inclusive education (low, moderate, or high level of inclusion) have on the change in social competence when controlling for the child's total complexity of disability?

H³: Children who have higher levels of inclusive education, regardless of total complexity of disability, will experience a greater change in social competence.

Using a crosstabulation of the level of inclusion and complexity of disability data, it was determined that there were only two students falling into the high complexity of disability, low level of inclusion group and no students falling into the high complexity of disability, high level of inclusion group; thus, only the moderate complexity of disability group was able to be analyzed to answer the third question. The effect that the level of inclusive education had on social competence for students in the moderate complexity of disability group was analyzed using Analysis of Covariance (ANCOVA). Using an adjusted mean based on the Vineland SEEC pre-test data, it was determined that the level of inclusion did not affect social competence for students with a moderate complexity of disability $F(2, 44) = .777, p < .466$. In other words, social competence scores at the completion of the IMFS program were statistically comparable

and non-significant when their post-test social competence scores were adjusted. Due to this similarity and lack of significance, H^3 is rejected.

Discussion

The research conducted in this study which investigated the relationships that existed between social competence, indicators of inclusive classroom quality, and level of inclusive education for children with complex disabilities within the context of a teacher-mentoring program model, yielded several findings relevant to inclusive classroom practices and children with complex needs. For the total sample, statistically significant relationships were discovered between social competence, membership, and support for social communication at the completion of the Include Me from the Start (IMFS) program. While cause and effect may not be inferred due to the lack of an experimental design, it is notable that according to correlations conducted on the pre-test data, these relationships did not exist at the time of implementation of the IMFS program. For students with a moderate complexity of disability, relationships existed between social competence and membership, as well as support for social communication. For students with a high complexity of disability, a relationship existed between social competence and adult involvement in peer interactions. Again, these relationships did not exist at the time of implementation of the IMFS program.

As discussed by Tudge and Winterhoff (1993) both Vygotsky's and Bandura's theories of child development gave substantial importance to the interactions between children and their learning environment. For instance, Vygotsky's theory of child development focused on scaffolding and mediation of the learning process by the classroom teacher (Gredler & Claytor, 2007), while Bandura's theory centered on learning through modeling and imitating individuals in ones environment (Tudge & Winterhoff, 1993). The findings noted here give credence to

such theoretical underpinnings by illustrating statistically significant, positive relationships between teacher behaviors occurring in the inclusive classroom and students' social competence. They also reinforce research conducted by Mashburn et al. (2008) on preschool students which found that teacher-child interactions (including class climate, sensitivity of teachers, level of control, behavior management, strategies used to promote skill development, and quality of verbal evaluation and feedback) was the measure "most consistently and strongly" associated with child development and specifically that higher quality emotional interactions were related to higher social competence ratings (Mashburn et al., 2008, p. 743).

Relating to the specific indicators analyzed (adult involvement in peer interactions, support for social communication, and membership), no studies were discovered during the literature review that directly measured these items and their ties to social competence; however, a multitude of studies were noted that investigated these indicators and their impact on other aspects of development and social involvement for children with disabilities (Cosbey & Johnston, 2006; David & Kuyini, 2012; Erwin & Guintini, 2000; Favazza & Odom, 1997; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Gelzheiser, McLane, Meyers, & Pruzek, 1997; Hunt, Soto, Maier, Müller, & Goetz, 2002; Kwon, Elicker, & Kontos, 2011; Narian, 2011; Odom & Diamond, 1998; Ohtake, 2003; Sontag, 1997). Thus, the current research extends the literature in this area by discussing the indicators' relationship with social competence and confirms previous research on the importance of adult involvement in peer interactions, support for social communication, and membership in the inclusive classroom for children with complex disabilities. It also offers suggestions as to which teacher behaviors are relevant to effective inclusive practice. In addition, these findings support the point made by several researchers

(Bently, 2008; Downing & Peckham-Hardin, 2007; Stainback & Stainback, 1985) that access and placement alone are not enough for successful inclusion.

Another noteworthy finding of the current research study was that the best predictor of social competence at the completion of the IMFS program for both the total sample and the group of students with a moderate complexity of disability was support for social communication; however, for the group of students with a high complexity of disability it was adult involvement in peer interactions. While these two indicators or teacher behaviors have been supported in the literature as leading to improved outcomes for children with complex disabilities (see Cosbey & Johnston, 2006; David & Kuyini, 2012; Erwin & Guintini, 2000; Favazza & Odom, 1997; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Gelzheiser, McLane, Meyers, & Pruzek, 1997; Hunt, Soto, Maier, Müller, & Goetz, 2002; Kwon, Elicker, & Kontos, 2011; Narian, 2011; Odom & Diamond, 1998; Ohtake, 2003; Sontag, 1997), there has not been research to delineate which teacher behaviors may be more or less effective for different populations of students. Thus, this finding expands the current knowledge base concerning what types of teacher behaviors would be beneficial in an inclusive classroom for children with moderate and high complexity of disability, when the goal is improving their social competence.

Finally, it was determined that for students' with a moderate complexity of disability, the level of inclusive education they received (low, moderate, or high) did not affect their social competence at the completion of the IMFS program. The term "level of inclusive education" was used in this study to indicate the educational placement of the child or the amount of time the child spent in a regular classroom setting with his or her typical peers. The definition included Itinerant Placement in Special Education or High Level of Inclusive Education, Supplemental Placement in Special Education or Moderate Level of Inclusive Education, and Full Time

Placement in Special Education or Low Level of Inclusive Education. This finding related to educational placement, differed slightly from the results gleaned from the IMFS program evaluation conducted by Bagnato, McKeating, and Salaway (2012) following the 2011-2012 school year. Their results indicated that children in full time special education classes (low level of inclusion) demonstrated the greatest improvement in social competence (using the Vineland SEEC); however, the analysis conducted did not use an adjusted post-test mean. Also, it was noted that the scores for students in full time special education classes at pre-test were lower than students in itinerant (high level of inclusion) or supplemental (moderate level of inclusion) special education placements (Bagnato, McKeating, & Salaway, 2012). The use of an adjusted mean, a smaller sample size, and only a subset of the population may account for differences in findings. Despite the lack of effect found in the current research, many studies discussed in the social outcomes literature for students with disabilities stress the advantages of inclusive over segregated settings (see Bang & Lamb, 1996; Cole & Meyer; Fisher & Meyer, 2002; Foreman, Arthur-Kelly, Pascoe, & King, 2004; Hundert, Mahoney, Mundy, & Vernon, 1998; Hunt & Goetz, 1997; Hunt, Soto, Maier, & Doering, 2003; Jenkins, Odom, & Speltz, 1989; Kennedy, Shukla, & Fryxell, 1997; Rafferty, Piscitelli, & Boettcher, 2003; Ryndak, Ward, Alper, Storch, & Wilson-Montgomery, 2010). Adjustments to the design of the study and a larger sample may have allowed for a more robust investigation of the effect of level of inclusion on social competence.

Implications of Study

Findings of the current study continue to bolster the concept of inclusive education and the regular education environment as the go-to placement for all children, regardless of their particular disability by highlighting the relationship between growth in social competence and

the inclusive classroom. However, the study points to the need for strong inclusive practices to be enacted by the classroom teacher in order for this type of growth to occur, specifically adult involvement in peer interactions, support for social communication, and the cultivation of membership. Further, it may be implied that for students with the most complex needs, the support that adults provide in sustaining their peer interactions will be of the utmost importance for the growth of social competence, while the promotion of social communication skills will be highly influential for students with more moderate needs. While the study failed to indicate that more inclusive environments had a significant effect on social competence outcomes, it supported that growth can occur when specific inclusive teaching practices are in place. It also offered more information as to what those practices are and how they may differ for diverse populations of students.

Relating back to the field of school psychology, this knowledge is vital for best practices and service delivery in the schools. School psychologists have long been committed to fostering inclusive environments with this line of thinking encompassed in the mission of the field for several decades. Previously, the National Association of School Psychologists (2002) maintained a position statement relating directly to inclusive education. In the areas of support identified through this statement, three major functions stand out and have remained as critical for practice that propels inclusive education forward: collaboration and consultation with teachers, families, and other educational professionals; placement decisions; and policy and organizational change. This research study may greatly inform school psychologists relative to these areas of practice.

Concerning collaborative work and consultation with teachers, educational professionals, and families, the findings here will provide information to school psychologists to inform the

types of suggestions, supports, and accommodations they may offer, particularly for children with more complex disabilities (low incidence and severe). School psychologists may focus their suggestions for intervention in the particular areas noted to be the greatest predictors of social competence (adult involvement in peer interactions and support for social communication) when social development goals are warranted. Caution is needed to not over interpret the results, as it is likely that a combination of strategies and supports will yield the most powerful outcomes; yet providing education on strategies related to adult involvement in peer interactions, support for social communication, and membership via inservice training, professional development workshops, and the sharing of relevant articles and research to regular education teachers is certainly suggested by the research.

In the area of placement decisions, this research fell short of concluding that more inclusive placements affected the change in social competence for children with moderate disabilities. Although this was the case, federal laws such as Individuals with Disabilities Education Improvement Act (IDEIA) 2004 and the Elementary and Secondary Education Act (ESEA), also known as the No Child Left Behind Act (NCLB) of 2001, reinforce inclusion in regular education environments, with the least restrictive environment (LRE) continuing to be a cornerstone of this legislation. For school psychologists, Powell-Smith, Stoner, Bilter, and Sansosti (2008) advocate for a model of best practice for students with severe and low incidence disabilities geared at keeping these students in their neighborhood schools and in the most inclusive environments possible. Having the ability to properly inform regular education teachers and other educational personnel about key inclusive practices when making educational placement decisions will be useful for the school psychologist in continuing to champion for appropriate inclusive placements, making best practice decisions that move away from what

Farrell (2004) considered a maintenance of segregated arrangements for students with complex needs.

Finally, when considering policy and organizational change, the research findings here add to the growing body of literature that will inform school psychologists and give them the ability to champion for programs, such as the Include Me from the Start (IMFS) initiative and serve as catalysts for change at the district, state, or federal level in relation to building the capacity for inclusion for all students to be a reality. School psychologists may advocate systemically for inclusive practices by highlighting the impact that inclusion may have on the functional skills of students with disabilities, specifically social-emotional skills. Generally, as researchers such as Wolf and Hall (2003) and Kilanowski-Press, Foote, and Rinaldo (2011) suggested, these findings help to change the focus from the ongoing debate about ‘*if*’ inclusion is the right choice for students, to looking at what practices are effective, with what populations and under what circumstances; and how we can assist our fellow educators in implementing these practices to achieve successful results, thus creating inclusive environments where students with even the most complex needs will flourish.

Limitations of the Study

Prior to conducting this research, several limitations were identified and discussed. First, it was noted that the sample only encompassed 22 of almost 500 Pennsylvania school districts. These districts were in both urban and rural settings. It was determined due to this that the sample would only be generalizable to school districts with similar demographic make-up. In addition, since the data obtained was archival and the Include Me from the Start (IMFS) initiative did not randomly assign students to particular classrooms or teachers, the research design for this study was not able to use random assignment and the resulting sample was a

convenience sample. According to Braver, Moser, & Thoemmes (2010) causality may not be assumed as other variables may have impacted any significant outcomes. If students were able to be randomly assigned to either a segregated or inclusive setting this may have allowed for an experimental design so that cause and effect may have been inferred; however, this was contrary to the nature and scope of the IMFS initiative, which aimed to mentor regular education classroom teachers to improve their inclusion practices for students with more complex needs so that they may spend greater amounts of time in the regular education setting. Indeed, McCall and Green (2004) advocate for the use of other research evaluation methods and highlight several limitations to experimental design as it relates to use in educational and social research. An additional option would have been to collect the same data on students with complex disabilities attending schools that did not participate in the IMFS program to use as a comparison group, but since this research was retrospective and this was not a component of the original program evaluation, it was not a possibility.

Another limitation identified was related to the bias that may be inherent in several of the measures utilized in data collection. The Inclusive Classroom Profile (ICP), which was used to gather data on inclusive practices utilized by the teacher in the students' classrooms, is an observation-based measure that was completed by the IMFS consultant. This measure may have been subject to the bias of the observer and the act of observing in the classroom may have impacted the behavior of individuals (children and adults) in the classroom. The Vineland Social-Emotional Early Childhood Scales (Vineland SEEC), Interpersonal subscale, which was used to gather data on social competence, was completed in a team format, which may have impacted the responses given by the teacher. In addition, this did not allow for multiple,

individual raters, which limited the scope of input on the development of student's social competence.

During the process of gathering and analyzing the data, some other limitations were identified. Incomplete data sets were an issue limiting the scope of the analyses conducted and reducing the sample size. The original sample was composed of 71 students, but two students were removed from the sample ($N = 69$) due to missing all critical data (pre/post ICP scores, pre/post SEEC scores, and level of inclusion demographics). For those included in the sample, many had incomplete data sets and were missing several pieces of the critical data that may have been used in the analyses. Another limitation was related to the sample size and the impact this had on answering the third question posed in the study. Prior to analyzing the students' level of inclusive education and social competence using complexity of disability as a moderator, a crosstabulation was conducted which revealed that there were not enough students falling into the high complexity of disability, low level of inclusion group or the high complexity of disability, high level of inclusion group (two and none, respectively). As a result, the analysis of covariance (ANCOVA) could only be calculated for the moderate complexity of disability group, thus limiting the breadth of the research. If a larger sample had been available the analysis may have been conducted as originally intended, allowing for more informed results.

Recommendations for Further Research

Several suggestions for additional exploration and research into the relationships of social competence, classroom quality indicators, and level of inclusive education may be considered based on the results, discussion, and implications of the current study. Replicating this study with a larger sample would be an ideal way to obtain an analysis of these variables that would have much greater breadth and lead to greater generalizability. Also, the group of students who

were rated as having a low complexity of disability may be brought into the analysis to determine how this category of students are similar or differ from those with more complex needs. Gathering data on the perceptions of and impact that inclusion had on students' typical peers in the context of the IMFS initiative would be another way to enrich the investigation of this model of inclusive education.

Concerning the inclusive classroom quality indicators, only three of the six possible indicators that were included on the Inclusive Classroom Profile, SPECS for IMFS Abbreviated Version (ICP) were explored through this study. It is suggested that additional research may look at the relationship between social competence and the other indicators of inclusive classroom quality: adaptations of space and materials/equipment, adaptations of group activities, and feedback (Soukakou, 2010). Also, analyzing the individual items on the Vineland SEEC, Interpersonal Subscale separately may help researchers determine what specific social skills have relationships with the different inclusive classroom indicators on the ICP. Finally and possibility the most powerful suggestion for further research would be to conduct the study using an experimental design, such as collecting the same data on students with complex disabilities attending schools that did not participate in the IMFS program. Although McCall and Green (2004) discuss limitations to utilizing an experimental design in behavioral research in practical settings, the use of such a design would allow for cause and effect conclusions to be drawn, expanding both the depth and breadth of the research.

Summary

An overview of the research investigating the relationship of social competence, inclusive classroom quality, and level of inclusive education for children with moderate and high complexity of disability in kindergarten and first grade, within the context of the Include Me

from the Start (IMFS) initiative was presented. Findings were reviewed relating to the demographic descriptors and the three research questions that had been proposed, including that positive, statistically significant relationships were discovered between indicators of inclusive classroom quality and social competence, differences existed in the best predictors of social competence for students with moderate versus high complexity of disability, and a lack of effect was noted between level of inclusive education and social competence outcomes. A discussion commenced on these findings within the context of the literature and their contribution to the research base. Implications for the practice of school psychology in relation to the results was examined with a particular focus on the areas of collaboration and consultation, placement decision making, and policy/organizational change. Finally limitations to the study and suggestions for further research were presented.

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Appendix A

Institutional Review Board Research Topic Approval Form Letter



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www.iup.edu/research

January 17, 2013

Amy Matz
152 Race Street
Pittsburgh, PA 15218

Dear Ms. Matz:

Now that your research project has been approved by the Institutional Review Board for the Protection of Human Subjects, I have reviewed your Research Topic Approval Form and approved it.

Your RTAF indicates your anticipated graduation date as August 2013. You must apply for graduation by August 1, 2013. This means that your thesis or dissertation must be submitted to the School of Graduate Studies and Research by July 15, 2013 if you desire to graduate by your anticipated date. For deadlines for subsequent graduation dates, please access <http://www.iup.edu/page.aspx?id=16683>.

The Thesis/Dissertation Manual, additional resources, and information to help you start writing can be found at <http://www.iup.edu/graduatestudies/thesis/default.aspx>.

Also, The Applied Research Lab provides free assistance with statistical analysis and research design--both quantitative and qualitative--to all IUP students. The ARL can also provide assistance in the use of the features in Word and Acrobat you'll need to correctly format your dissertation. For more information, please visit their website: <http://www.iup.edu/arl/default.aspx>.

You are now eligible to receive a FREE copy of Adobe Professional! This software will help you to create an electronic thesis or dissertation. It can be picked up at the IT Support Center, G35 Delaney Hall. If you live off campus, you can send an email from your IUP email account to it-support-center@iup.edu. Please indicate you are a graduate student requesting Adobe Professional and include your Banner ID, mailing address, and which version - Windows or Mac.

Finally, if you change your topic, the scope or methodology of your project, or your committee, a new Research Topic Approval Form must be completed.

I wish you well and hope you find this experience to be rewarding.

Sincerely,

Hilliary E. Creely, J.D., Ph.D.
Assistant Dean for Research

xc: Dr. Edward Nardi, Interim Dean
Dr. Lynanne Black, Dissertation Committee Chair
Dr. Joseph Kovalesski, Graduate Coordinator
Ms. Julie Bassaro, Secretary

HEC/bb

Appendix B

Early Childhood Partnerships Permission to Use Archival Data Letter



University of Pittsburgh

School of Education

Department of Psychology-in-Education
Applied Developmental Psychology
Office of Child Development
Early Childhood Partnerships

5947 Posvar Hall
230 South Bouquet Street
Pittsburgh, PA 15260
412-648-1994

September 21, 2012

Indiana University of Pennsylvania
School of Graduate and Studies and Research
Stright Hall, Room 101
Indiana, PA 15705-1048

Dear Institutional Review Board Members,

I write to provide full support of the research efforts of Amy Matz, Doctoral Student in Educational and School Psychology at Indiana University of Pennsylvania, by Early Childhood Partnerships (ECP), a division of the Office of Child Development at the University of Pittsburgh. I serve also the external member of Ms. Matz's doctoral committee. Pending approval from IUP's Institutional Review Board, Ms. Matz will have access to archival data that was collected by ECP during the 2011-2012 school year in order to conduct a program evaluation of Include Me From the Start (IMFS), an initiative of the Pennsylvania Department of Education and the Arc of Pennsylvania. De-identified data collected from the following instruments during the state-wide program evaluation will be available to Ms. Matz through ECP:

- SPECS for IMFS, Teacher Demographic Information
- SPECS for IMFS, Student Demographic Information
- Developmental Healthcare Complexity Scale (DHCS)
- Vineland Social-Emotional Early Childhood Scales (Vineland SEEC)
- Inclusive Classroom Profile, SPECS for IMFS Abbreviated Version (ICP)
- SPECS for IMFS School Learning & Progress Scale (CLPS)

These archival data were collected by Early Childhood Partnerships and were stripped of any identifying information via an honest broker prior to being obtained. *No data with subject identifiers is available.* These data exist in a computerized database which Ms. Matz will be given access to in order to conduct her research analyses.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Bagnato".

Dr. Stephen Bagnato, Ed.D, NCSP
Professor of Psychology & Pediatrics
Director, Early Childhood Partnerships

Appendix C

SPECS for IMFS Teacher Demographic Survey

SPECS for IMFS Teacher Demographics Information (for the Regular Education Classroom Teacher)

Please read each question and fill in the blank or fill in the appropriate circle to indicate your answers.

Teacher ID: _____ Age: _____ years OR Which of the following best describes your age?

Gender: ☐ Male ☐ Female

_____ 22-31	_____ 52-61
_____ 32-41	_____ 62-71
_____ 42-51	_____ 72 and older

Race/Ethnicity

- | | |
|--|---|
| ☐ American Indian or Alaska Native | ☐ Native Hawaiian or Pacific Islander |
| ☐ Asian | ☐ White |
| ☐ African American | ☐ Other |

Years teaching in current school district: _____

Total years teaching: _____

Which of the following best describes your education?

- | | |
|---|---|
| ☐ Associates | ☐ Masters |
| ☐ Bachelors | ☐ Master's Degree plus CE credits |
| ☐ Some graduate level classes | ☐ Educational Specialist |
| ☐ Doctoral Degree | |

What was your major when you achieved your highest degree? (Please check all that apply.)

- | | | |
|---|--|-----------------------|
| ☐ Special Education | ☐ Elementary Education | ☐ |
| ☐ Early Intervention | ☐ English as a Second Language | ☐ |
| ☐ Early Childhood Education | ☐ Child Development | ☐ |
| ☐ Other _____ | | ☐ |

Which of the following best describes your training in working with children with disabilities?

☐ Undergraduate	☐ Graduate	☐ Professional Development	☐ None
-------------------------------------	--------------------------------	--	----------------------------

Which of the following best describes your training in working with children with autism?

☐ Undergraduate	☐ Graduate	☐ Professional Development	☐ None
-------------------------------------	--------------------------------	--	----------------------------

Is there presently a co-teacher in your classroom? ☐ Yes ☐ No

Does your school offer support for specific professional development focusing on inclusion of children with disabilities in regular classrooms (trainings, coursework, workshops, conferences)? ☐ Yes ☐ No

Appendix D

Permission to Use the Inclusive Classroom Profile, SPECS for Include Me From the Start, Abbreviated Version

From: "Soukakou, Eleni" <elena.soukakou@unc.edu>
Subject: RE: Use of Abbreviated ICP in Appendices
Date: Wed, September 18, 2013 5:59 pm
To: "AMM332@pitt.edu" <AMM332@pitt.edu>

Dear Amy,

Thank you for contacting me about the ICP. The Inclusive Classroom Profile is currently being revised. I am not sure which version you are referring to. I am aware Stephen and Eileen used the ICP with some minor adaptation. Is that the version you are referring to?

I am happy for you to use the measure in your appendix and my request would simply to cite it appropriately. Here is the reference for the ICP measure:

Soukakou E. P. (2012). Measuring quality in inclusive preschool classrooms: Development and validation of the Inclusive Classroom Profile (ICP). *Early Childhood Research Quarterly*, 27(3), 478-488.

Let mw know if you have any more questions. All the best for your work,

Elena

From: AMM332@pitt.edu
[AMM332@pitt.edu]
Sent: Tuesday, September 03, 2013 9:51 AM
To: Soukakou, Eleni
Subject: Use of Abbreviated ICP in Appendices

Dear Dr. Soukakou,

Hello! I am a doctoral student in school psychology who has been working with Dr. Stephen Bagnato and Eileen McKeating on the Include Me From the Start program evaluation for the last two years. I am in the final stages of completing my dissertation using archival data from the evaluation.

I am emailing to ask your permission to use the Inclusive Classroom Profile, SPECS for Include Me From the Start, Abbreviated Version as an appendix in my dissertation. I used the data from this measure for my research. Would I be able to do this?

Please feel free to email me or call me at xxx-xxx-xxxx if you have any questions!

Best,
Amy Matz

Amy Matz, M.Ed., NCSP
Manager, Center on Mentoring for Effective Teaching (COMET)
Early Childhood Partnerships
Office of Child Development

Appendix E

Inclusive Classroom Profile, SPECS for Include Me From the Start, Abbreviated Version

INCLUSIVE CLASSROOM PROFILE

© 2010 by Elena P. Soukakou

SPECS for “*Include Me From the Start*” Abbreviated Version

Date of completion: _____

Observer: _____

Teacher ID: _____

Please circle the letter in the box with a yes (Y) if the indicator describes what you observe; a no (N) if the indicator does not describe the activities or behaviors displayed during your observation or a NA if the indicator is not applicable, according to the criteria on the page following the indicator page for each item. (Note: NA is an option only on some indicators.)

1. Adaptations of space and materials/equipment (0)			
1.1 Most physical space precludes children from accessing many classroom areas and activities and adults don't help children access classroom's areas (e.g. stairs, various ground levels preclude children from accessing classroom areas). (0)	☐ Y ☐ N	3.1 Some physical space is accessible by children and adults usually help children, when needed to access classroom areas (e.g., a ramp is available for child with physical disability; special chair or walker provided etc). (0)	☐ Y ☐ N
1.2 Materials/equipment are not accessible by children either because they are not adapted appropriately or because adults do not offer the necessary help. (0)	☐ Y ☐ N	3.2 In most classroom areas there are at least a few materials/equipment that children can access independently. (0)	☐ Y ☐ N ☐ NA
		3.3 Adults generally help children access materials/equipment in the classroom, when needed (e.g., adult helps child reach a toy from shelf; adult places adaptive scissors on table close to where child is working). (0)	☐ Y ☐ N
		5.1 Children can access many classroom areas independently (space is accessible for wheelchairs; there is enough space and clear ways between activity centers; classroom areas are well defined so that children know where to go; rooms and activity centers are labeled with pictures, words or signs depending on children's individual needs). (0)	☐ Y ☐ N ☐ NA
		5.2 In most classroom areas, there are many materials/equipment that children can access and use independently. (0)	☐ Y ☐ N ☐ NA
		5.3 Adults monitor how children use materials/equipment and provide the necessary support for individual children who have difficulty using materials purposefully (e.g., adult helps child use scissors to cut on paper; adult gives hand over hand assistance to child doing a puzzle; adult models for child how to hold pencil or use sand). (0)	☐ Y ☐ N
		7.1 Adults deliberately organize the physical space (including materials/equipment) during the day to encourage peer interaction (e.g., teacher adds a chair to computer area for child who is standing and watching a peer playing; adult sets-up circle area to encourage children to read together; adult takes out more puppets to encourage other children to join the puppet area; adult repositions child on wheelchair so that she can face her peers). (0)	☐ Y ☐ N
		7.2 Classroom has a great variety of professionally recommended toys, materials and equipment carefully selected to accommodate individual needs (e.g., sensory toys for child with sensory disorder, specialized equipment for visually impaired; adaptive toys for children w/ physical disabilities). (0)	☐ Y ☐ N

Criteria for rating indicators

1.2 Accessible= available at an area where a child can get it independently (e.g., on shelves where children can reach; located within view of children; labeled so that children know what they are etc.)

3.2 Score NA if: children's physical or mental ability is so impaired that they cannot access any materials.

In all other cases, score YES if: materials are placed, organized or labeled in ways that the children you see in the room can get them independently. To make this decision, you need to observe a couple of instances in which children access materials independently. If you don't see children accessing any materials and you don't see any materials that are adapted, or placed in accessible spots, DO NOT give credit.

5.1 This indicator does not apply to children whose motor ability is so limited that they cannot move around independently. In this case, score NA. In all other cases, score YES if: space is organized or adapted in such way which enables children to move around independently. The examples provided may only apply to certain cases, therefore, you don't need to observe those in order to give credit. You can score YES, if most children access many areas of the classroom independently. However, if you see a child that doesn't access the classroom independently and the space is not adapted as described in the examples, then DO NOT give credit.

5.2 Score NA if: children's physical or mental ability is so impaired that they cannot access and use any materials.

In all other cases, score YES if: materials are placed, organized or labeled in ways that the children you see in the room can get them AND use them independently. To make this decision, you need to observe a couple of instances in which the majority of the children use various materials independently. Important note!: If you don't see children using any materials and you don't see any materials that are adapted or placed in accessible spots, DO NOT give credit. It is possible that children can use many materials independently but may choose not to on the day of your visit. However, many times this may be due to a lack of appropriate adaptations or accessibility of materials. Therefore, in cases where the majority of children you observe do not use most materials/equipment independently, ONLY give credit if in most classroom areas there are many materials which are adapted, suitable for their needs and easily accessible.

5.3 Purposefully=in ways suitable for the activity

2. Adult involvement in peer interactions (0)			
1.1 Children are excluded from participating in activities and routines with their peers. (0) Y N	3.1 Children are allowed to participate in many classroom activities and routines with their peers (e.g., children can all play together in many activity areas). (0) Y N	5.1 Adults actively support peer interactions either by helping children initiate social interactions with peers or by helping children respond to peers' initiations appropriately (e.g., adult prompts child to respond to his peer during snack time; adult models for child how to request toy from peer; adult helps child roll a ball back to his peer). (0) Y N	7.1 Adults support children in sustaining social interactions with their peers (e.g., adult uses verbal prompts to help child sustain conversation with peer; adult sets up a group table game and helps children take turns; adult comments on children's group project with enthusiasm to encourage peer interaction and helps children sustain their cooperative play by elaborating on their behaviors and suggesting new ways to continue their play). (0) Y N
1.2 Very few or no attempts to acknowledge or respond to children's peer interactions in encouraging ways (e.g., adults constantly ignore children's efforts to interact with peers). (0) Y N	3.2 Adults occasionally acknowledge and/or respond to children's peer interactions in encouraging ways (e.g., adult praises two children reading a book together, smiles at children's social engagements; adult comments on how well children are cleaning up their toys together). (0) Y N	5.2 Adults strike a balance between getting involved in peer interactions and allowing the development of natural, spontaneous interactions among children (e.g., adults avoid interrupting children's conversations; adults let children play off on their own; adults usually build on what children are interacting about). (0) Y N	7.2 Adults actively encourage collaborative problem-solving between children and their peers. (e.g., Adult joins children's block building and helps children work together to generate hypotheses, solve problems and make decisions). (0) <i>NA Permitted</i> Y N NA
1.3 Adults consistently control and restrict the initiation and development of spontaneous social interactions among peers (e.g., adults interrupt children's conversations; discourage spontaneous social exchanges between peers). (0) Y N		5.3 Adults actively encourage more socially competent children to model for or interact with children who find it difficult to form social relationships (e.g., adult invites child to play with isolated child; adult purposefully pairs two children for an activity; adult teaches child how to model appropriate requests for peer). (0) Y N	

Criteria for rating indicators

3.2 Occasionally= at least 2 examples in which adults acknowledge or respond positively to children's peer interactions should be observed.

5.1 To score YES: several examples should be observed. Certain group activities can also count as examples. For example, giving a hug to a peer as part of a planned social group activity can count as a teaching supportive strategy. However, simply holding hands during circle time is not enough to count as an example.

5.3 "More socially competent peers" can include both children with and without identified disabilities.

7.1 To score YES: you have to observe several examples of reciprocal, sustained peer interactions resulting from adult facilitation.

7.2 Score NA if: children observed cannot engage in cooperative problem solving and, therefore, encouraging it seems inappropriate.

3. Membership (O)(I)			
1.1 No opportunities for children to assume social roles and responsibilities in the classroom (e.g., become helpers, set up a group activity) <u>and</u>, No opportunities for children to make choices about their routines and/or learning. (O) Y N	3.1 Adults offer children some opportunities to assume social roles and responsibilities in the classroom (e.g., help at snack time; set up table for activity; weekly helper for circle time; child reminds play rules for children; child counts children in group etc). (O) Y N	5.1 Adults provide the necessary support for children to make choices and decisions about their own learning and classroom experiences (e.g., child decides what activity center to join during free play; adult uses picture schedule to help child choose an activity). (O) Y N	7.1 Adults offer children opportunities to make choices about the whole group (or a group of children). Adults provide the necessary support for children to make their choices (e.g., adult asks child to choose book for group story time; child chooses music activity for the group; children choose place for field trip). (O, I) Y N
1.2 Frequent bullying and/or persistent teasing in the class towards children. (O) Y N	3.2 Children are given some opportunities during the day to make choices regarding daily routines and/or activities (e.g., child can choose who to sit by; work with; child can choose between two types of snack). (O) Y N	5.2 Peers show understanding and respect for children's differences in terms of academic performance, time schedule, or educational program (e.g., children show familiarity with presence of therapists; children may ask questions about why some children do some things differently but their questions, responses, and attitudes show understanding and respect towards individual differences). (O) Y N	7.2 Individual differences are accepted and celebrated through group discussions and planned activities (e.g., adults use story time to discuss individual differences; adults talk to children about disabilities in positive ways; adults engage in role playing using characters with diverse strengths and needs). (O, I) Y N
1.3 Adults do not intervene to stop the bullying or persistent teasing towards children. (O) Y N	3.3 Adults most of the time intervene to stop bullying or persistent teasing between children in the classroom. (O) <i>NA Permitted</i> Y N NA		

Criteria for rating indicators

3.1 Social roles and responsibilities include: Helping set up the table for snack or activity; reminding other children of an upcoming classroom event; helping the teacher prepare materials for group projects; becoming the helper of the day etc. Cleaning up toys and food can count as one example (clean up).

Score YES if: At least 2 examples are observed with any child (with or without disabilities) in the classroom.

Score NO if: It is evident from the observation that children with disabilities are not given such opportunities (e.g., children with special needs are not encouraged to clean up their snacks; all children take a turn to help prepare snack excluding some children).

5.1 Several examples need to be observed with different children. To score YES: adults should not only offer children many choices, but also help them understand and express their decisions.

7.1 For this indicator, interviewing should occur only as a supplement to observational evidence. Score NO if: You do not observe adults offering any children these opportunities. If you observe adults offering typically developing children these opportunities, but you don't get a chance to observe an opportunity involving a child with a disability, then supplement your observation with questioning:

(I)Ask: How do you decide who is going to choose today's book/song? Do all the children get to have a turn? If yes, can you give some examples of decisions they are encouraged to make?

Score YES if: Teachers report that ALL children are offered opportunities to make group choices and provide at least one or two examples of group decisions that children are encouraged to make.

7.2 If you don't get to observe any examples of activities or discussions, interview the teacher.

(I)Ask: Do you plan any activities to acknowledge and celebrate exceptionality in the classroom? If yes, can you give some examples?

Score YES if: At least several examples of planned activities are described. Purpose of activity also needs to be clearly described.

4. Support for Social Communication (O, DR)			
1.1 Adults make no attempts to adapt their communicative interactions with individual children (e.g., adults talk to all children in the same way, overwhelm children with speech or gestures too complex for their developmental level). (O) ☐ Y ☐ N 1.2 Adults ignore children's attempts to communicate or make no efforts to interpret them (e.g., adult ignores child's persistent pointing to a specific toy; child left crying for long period of time). (O) ☐ Y ☐ N 1.3 Alternative Communication Systems (A.C.S) (e.g., PECS, visuals, sign symbols, voice communicators) are required by IEPs/ statements or professionals but not available in the classroom. <i>NA Permitted</i> (O, DR) ☐ Y ☐ N ☐ NA	3.1 Adults communicate with children at pace which enables them to respond (e.g., adult waits for child's response; speaks at slower rate for child with auditory processing difficulties). (O) ☐ Y ☐ N	5.1 Adults adapt verbal communication to children's individual level of understanding (e.g., adult avoids long, complex sentences with child w/ speech delay; adult emphasizes words to support understanding; adult repeats question or prompt and waits for child to respond). (O) ☐ Y ☐ N	7.1 Adults facilitate communication among children (e.g., adult encourages ALL children to sign during group activity if one child uses sign language; adult clarifies to other children what a child said; adult repeats child's comment for peer w/ speech delay; adult helps peer use pictures to communicate with non verbal child). (O) ☐ Y ☐ N 7.2. Specific interventions involving <u>Alternative Communication Systems</u> (A.C. S) with children are used <u>systematically</u> during the day and are incorporated in daily activities and routines. (O, I, DR) <i>NA</i> ☐ Y ☐ N ☐ NA
	3.2 Adults occasionally recognize children's attempts to communicate and respond to them promptly (e.g., adult acknowledges child's pointing and looks to see where child is pointing to; adult comments on child's effort to verbalize something; adult repeats child's words in effort to understand him/her). (O) ☐ Y ☐ N	5.2 Adults seem well aware of children's communicative attempts and most of the time respond to them in relation to the meaning and situation (e.g., adult ends or modifies communication upon child's signs of frustration; adult encourages child to show her what she is pointing at; child covers ears in response to noise and adult responds with e.g. "You heard that loud noise. Did that scare you?"). (O) ☐ Y ☐ N	
	3.3 Adults make some attempts to adapt verbal or non-verbal communication to children's individual level of understanding (e.g., adults avoid overwhelming children w/ gestures; adult faces child w/ hearing impairment; adult talks to child at his/her eye level). (O) ☐ Y ☐ N	5.3 Adults incorporate various non- verbal communication into activities & interactions with children to enhance communication with adults and peers (e.g., adult points to object that he is referring to while talking to child; adults uses visuals and props and gestures to support story telling; adult models manual sign for child; adult helps child use picture to make a request; adult uses a visual showing a sad face to help child communicate his feelings). (O) ☐ Y ☐ N	
	3.4 Alternative Communication Systems (A.C.S) (e.g., pictures, visuals, sign symbols, PECS, voice communicators) required by IEPs/ Statements or professionals are available in the classroom. (O, DR) <i>NA Permitted</i> ☐ Y ☐ N ☐ NA	5.4 Adults use at least two of the following strategies with children: 1. Repetition; 2. Commenting and; 3. Expanding. (O) ☐ Y ☐ N	
	3.5 Adults use at least one of the following strategies with children: 1. Repetition; 2. Commenting; and 3. Expanding (see clarification notes). (O) ☐ Y ☐ N		

Criteria for rating indicators

1.2 Communicative attempts include intentional behaviors by the child that aim at purposeful communication with an adult or peer (e.g., pointing, reaching, verbal requesting; gesturing etc.)

3.2 Occasionally= At least several examples (of adults recognizing children's attempts to communicate and responding to them promptly) must be observed with each child throughout the day to give credit. Promptly = adults usually respond within 5 sec from child's initiation. Adults may misread, at times, children's behaviors but you can still give credit if they are responsive to them most of the time.

3.5 To score YES: you need to observe at least 2 examples of one strategy used. The three strategies are:

1. Repetition: Adult repeats or recasts own words in order to emphasize important words (e.g., adult says to child "Do you hear the doggie? Hear the doggie? Doggie!")

2. Commenting: Adult comments on what the child appears to be attending (e.g., Adult watches child painting and says "You are painting with so many colors"; adult approaches child and initiates "Look! It's raining!")

3. Expanding: Adult elaborates on what the child says. Expansions can be semantically when adult adds meaning (e.g., child says "doggie" and adult expands "Yes, that is a big, brown doggie") or syntactical when adult extends syntax (e.g., child points to cookie saying "cookie" and adult extends with "This is a cookie")

5.1 Verbal communication includes use of speech as well as paralinguistic aspects of verbal communication (emphasizing words, intonation etc.)

5.3 Non- verbal means of communication include: visuals, gestures, facial expressions as well as Alternative Communication Systems (A.C.S.) such as PECS, sign systems, voice communicators. Because use of certain A.C. S (e.g. sign language) often requires professional assessment, Do NOT underscore a classroom that doesn't use them unless there is evidence that they were professionally recommended. You can still score the descriptor from the way adults adapt and use non-verbal communication in their interactions with children. Several examples (3-4) need to be observed.

5.4 To score YES: you need observe at least 2 of the 3 strategies used (at least once). Strategies need to be integrated into activities and routines.

7.2 If A.C. S. are used in the classroom, look for evidence in the planning or interview the teacher about how these are used with the children.

Evidence (DR or I) should demonstrate that A.C.S s are used systematically (e.g., A.C.S. are used on a regular basis, purpose for using them and specific activities are identified, and children's progress is monitored).

5. Adaptations of group activities (0) (Small and whole-group activities that are teacher-planned. e.g., story time; circle time; small group instruction; cooking projects; group art projects)			
1.1 Adults make no attempts to adapt group activities to support children's individual needs. (e.g., all children are presented always with the same materials, work on the same content, are stimulated at same pace, or work on the same goals). (0) ☐ Y ☐ N	3.1 Children usually participate in some group activities with their peers (e.g., adults avoid pulling children out each time there is a group activity; child sits in cooking project with others but may be coloring on paper). (0) ☐ Y ☐ N	5.1 Adults make some adaptations to the activities' objectives, materials or type of instructional support to promote children's engagement (e.g., adult reads shorter story to children with reading difficulty; adult positions child w/ visual impairment in the front of the group; adult gives child hand over hand assistance to perform song movements; adults give additional time for child to complete activity). (0) ☐ Y ☐ N	7.1 Adults adapt the activities' objectives, materials or type of instructional support in ways that stimulate children towards exceeding their individual goals, while enabling them to engage in many same activities as their peers (e.g., during group writing activity, adult uses concrete props and works with child on pointing to letters; adult breaks task into concrete steps for child; adult shows child visual model of the completed project before child begins activity; adult uses manipulatives to support child's understanding of quantities). (0) ☐ Y ☐ N
1.2 Children are excluded from participating in all group activities with their peers. (e.g., children always pulled out during group time). (0) ☐ Y ☐ N	3.2 Children interact with materials and/or others in compliance with the overall demands of the group activity. (e.g., child attends quietly to story time; child scribbles on paper during group writing activity; child performs cooking activity with adult hand over hand assistance). (0) ☐ Y ☐ N	5.2 In most group activities, children engage in the same <u>type</u> of activity as their peers, although they may be working on individual goals. (e.g., while children participate in cooking project, one child works closely with teacher on feeling the cooking ingredients). (0) ☐ Y ☐ N	7.2 During most group activities ALL children are actively engaged. (0) ☐ Y ☐ N
1.3 During group activities children either: a) do not interact at all with materials and/or others (e.g., children are spacing out; children are left alone and don't know what they're supposed to do) Or b) Children interact with materials, and/or others in ways that significantly disrupt the group activity (e.g., children are forced to participate in an activity despite expressing significant frustration; children distract peers and are not being supported by adults). (0) ☐ Y ☐ N		5.3 Children's engagement in group activities is most of the time active and intentional (e.g., child finger-paints showing interest and motivation; child actively follows song rhymes in group; child actively traces name on paper). (0) ☐ Y ☐ N	

Criteria for rating indicators

3.1 Score YES if: children are encouraged to participate with their peers in at least one group activity. If a child is being pulled out from a group activity, do not underscore until other group activities are observed. Examples include: cooking activities, group art activity etc. Snack time, alone does NOT count as one activity for this indicator. If a child is encouraged to participate in a group activity but doesn't want to attend, you can still count that activity as an inclusive opportunity.

Special case: If there is only one child with a disability in the classroom and he/she is pulled out from the group activity(ies) to perform a one-to one activity with an adult during the observation period, then, score 1.2 as NO, 3.1 & 5.2 as NA and score the rest of the indicators as they are (treating the one- to -one activity as a group activity).

5.1 To score YES: you need to observe children in their groups and score it based on the average performance of most children throughout most group activities observed. Groups can include whole group activities, such as story time in which an adult reads a story to all children, or small groups (e.g., 4-5 children) lead by different adults. Children may be grouped according to age, assessed needs or other ways. How groups are formed is not assessed by this indicator. Observe children with disabilities in their groups (including groups only of children with disabilities). To score YES, you need to see examples of ways in which adults adjust various aspects of the activity to maximize children's engagement. Adjustments can be made in the materials (e.g.,, easier story book, visuals, adaptive equipment; thicker brush); the activity's goals (e.g., while other children are drawing shapes, one child's task is to trace a circle); the level of instructional support (e.g., repositioning child; offering hand over hand assistance; modeling for child how to perform activity; adapting directions and prompts; repeating instructions for child). You need to see 1-2 examples that demonstrate that adults make some adjustments to the group activity in order to encourage children with SEN to participate actively.

Special cases: If you DO NOT observe any of the adaptations described above and at least one child is not engaged in activity, DO NOT give credit.

5.2 The purpose of this indicator is to assess the inclusiveness of adaptations of group time. To score YES, you need to observe all group activities in which children with disabilities participate in. Give credit if in at least half or more of the activities observed, children with disabilities were encouraged to become involved in the same type of activity (e.g., language, writing, art, or movement). Even if you only observe one group activity because children are removed from most group activities, you can still score it based on that one instance.

5.3 This indicator refers to the majority of the children with special needs in the group. However, if at least one child is constantly unengaged throughout most group activities, DO NOT give credit.

7.1 To score YES: you need to observe several examples of individual adaptations, which are carefully made to support each child's needs in the group and enable the child to engage in similar activities with his peers. Examples of adaptations can include the ones described in 5.1 but there are overall more systematic, highly individualized and aim at enabling the child to be actively engaged in many same activities as his/ her peers.

6. Feedback (0, 1)			
1.1. No positive feedback on children's learning experiences and accomplishments is provided (e.g., feedback is only used as praise for discipline). (0) ☐ Y ☐ N	3.1 Some feedback is used as praise for discipline (e.g., praise for listening; for trying hard to wait quietly). (0) ☐ Y ☐ N	5.1 Majority of feedback provided focuses on 'children's learning experiences and is process oriented (e.g., adults praise children's efforts; adult comments on child's problem solving strategy; adult praises child's persistence). (0) ☐ Y ☐ N	7.1 Each child's learning experiences, efforts and progress are acknowledged and reinforced during the day. (0) ☐ Y ☐ N
1.2. Negative Feedback predominates in classroom (0) ☐ Y ☐ N	3.2 Children receive some feedback about their learning experiences. (e.g., adult praises child for completing a puzzle; adult praises group of children for singing a song well, etc.) (0) ☐ Y ☐ N	5.2 When providing feedback, adults are explicit about what they are praising (e.g., "I really liked the way you shared your book with Jane"). (0) ☐ Y ☐ N	7.2 Feedback that relates to children's sensitive difficulties and/or weaknesses is provided in supportive and encouraging ways. (0, 1) ☐ Y ☐ N
	3.3 Adults provide some positive feedback to individual children (e.g., "Nice drawing!"). (0) ☐ Y ☐ N	5.3 Adults use various forms of feedback (physical, verbal, non-verbal) contingent to children's developmental level (e.g., adults may use a high five, smiles, pat on the back, or hug. (0) ☐ Y ☐ N	
		5.4 Adults frequently provide positive feedback to individual children throughout the day. (0) ☐ Y ☐ N	

Criteria for rating indicators

3.2 Examples of feedback related to learning experiences include: adult praising child for completing painting; working together with peer to build tower. At least one example must be observed.

3.3 Individually targeted feedback is feedback given by an adult that is about one child's behaviors (Can be given in a one-on-one or group situation. At least one example must be observed.

5.1 Process oriented feedback = feedback that focuses on children's efforts and process of doing things rather than their end products.

5.2 Adults describe the behaviors and activities children are given feedback on.

7.1 Score YES if: at least one example of positive, process oriented feedback is given during the day to each child with a disability.

7.2 For this descriptor, interviewing should occur ONLY as a supplement to observational evidence.

Score NO if: you observe adults giving sensitive feedback in non-supportive ways to any children. If you observe adults responding well to most children but you don't get to observe any examples with a child with a disability (e.g., if on your visit adults happen not to respond to such behaviors) then supplement your observation with questioning:

(1)Ask: How do you respond to children's difficulties and/or inappropriate behaviors?

Score YES if: adult gives a few examples of supportive responses to children's difficulties. The important point here is that to score YES, you must first observe the desired behavior with some children.

Appendix F

SPECS for IMFS Student Demographic Survey

SPECS for IMFS CHILD DEMOGRAPHICS SURVEY																			
Child ID Number: _____																			
Each parent and consultant should fill out the survey together. This information is confidential and anonymous; we don't ask for names. Thanks for your help.																			
1. Sex of child: ☐ Male ☐ Female 2. Child's Date of Birth: mm/dd/yy ____/____/____ Number of Siblings ____ 3. My child is in: ☐ Half-day Kindergarten ☐ Full-day Kindergarten ☐ First Grade																			
4. Child's Race/ethnicity <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">☐ Non-hispanic</td> <td style="width: 50%;">☐ Hispanic or Latino</td> </tr> <tr> <td>☐ White</td> <td>☐ African American</td> </tr> <tr> <td>☐ Asian</td> <td>☐ Other</td> </tr> <tr> <td colspan="2">☐ American Indian or Alaska Native</td> </tr> </table>				☐ Non-hispanic	☐ Hispanic or Latino	☐ White	☐ African American	☐ Asian	☐ Other	☐ American Indian or Alaska Native									
☐ Non-hispanic	☐ Hispanic or Latino																		
☐ White	☐ African American																		
☐ Asian	☐ Other																		
☐ American Indian or Alaska Native																			
5. Primary Caregiver's relationship to child (This applies to whomever is filling out this form.) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">☐ Biological Mother</td> <td style="width: 33%;">☐ Adoptive Father</td> <td style="width: 33%;">☐ Other Adult relative</td> </tr> <tr> <td>☐ Biological Father</td> <td>☐ Step parent</td> <td>☐ Foster Parent</td> </tr> <tr> <td>☐ Adoptive Mother</td> <td>☐ Parent's partner (living in home)</td> <td>☐ Other</td> </tr> </table>				☐ Biological Mother	☐ Adoptive Father	☐ Other Adult relative	☐ Biological Father	☐ Step parent	☐ Foster Parent	☐ Adoptive Mother	☐ Parent's partner (living in home)	☐ Other							
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☐ Adoptive Mother	☐ Parent's partner (living in home)	☐ Other																	
9. Qualifying Disability (✓ all that apply) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>☐ Hearing Impairment</td></tr> <tr><td>☐ Deafness</td></tr> <tr><td>☐ Speech or language Impairment</td></tr> <tr><td>☐ Visual Impairment including blindness</td></tr> <tr><td>☐ Traumatic Brain Injury</td></tr> <tr><td>☐ Autism</td></tr> <tr><td>☐ Deaf-blindness</td></tr> <tr><td>☐ Intellectual disability</td></tr> <tr><td>☐ Emotional disturbance</td></tr> <tr><td>☐ Orthopedic Impairment</td></tr> <tr><td>☐ Specific learning disability</td></tr> <tr><td>☐ Other health impairment</td></tr> <tr><td>☐ Multiple disabilities</td></tr> </table> Specific diagnosis: _____		☐ Hearing Impairment	☐ Deafness	☐ Speech or language Impairment	☐ Visual Impairment including blindness	☐ Traumatic Brain Injury	☐ Autism	☐ Deaf-blindness	☐ Intellectual disability	☐ Emotional disturbance	☐ Orthopedic Impairment	☐ Specific learning disability	☐ Other health impairment	☐ Multiple disabilities	6. Amount of Special Education your child receives <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>☐ Itinerant (20% or less of school day)</td></tr> <tr><td>☐ Supplemental (20-80% of school day)</td></tr> <tr><td>☐ Full-time (80-100% of school day) Segregated setting</td></tr> </table>		☐ Itinerant (20% or less of school day)	☐ Supplemental (20-80% of school day)	☐ Full-time (80-100% of school day) Segregated setting
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☐ Full-time (80-100% of school day) Segregated setting																			
7. Type of support your child receives <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>☐ Autism support</td></tr> <tr><td>☐ Blind –visually impaired support</td></tr> <tr><td>☐ Deaf and hearing impaired support</td></tr> <tr><td>☐ Emotional support</td></tr> <tr><td>☐ Learning support</td></tr> <tr><td>☐ Life skills support</td></tr> <tr><td>☐ Physical support</td></tr> <tr><td>☐ Speech and language support</td></tr> </table>		☐ Autism support	☐ Blind –visually impaired support	☐ Deaf and hearing impaired support	☐ Emotional support	☐ Learning support	☐ Life skills support	☐ Physical support	☐ Speech and language support										
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☐ Life skills support																			
☐ Physical support																			
☐ Speech and language support																			
8. Other information			yes	no															
a	This is my child's first experience in a classroom with regular education students.	☐	☐																
b	My child has an aide or TSS in the classroom. If yes, how many hours is the aide or TSS in the classroom? (for example: 2.5 hours)	☐	☐	_____ hours															
c	My child participated in early intervention services in preschool.	☐	☐																
d	My child receives support and programming at home now.	☐	☐																
e	My child is currently taking prescription medication(s) related to his/her disability/diagnosis	☐	☐																

Appendix G

Developmental Healthcare Complexity Scale

DEVELOPMENTAL HEALTHCARE COMPLEXITY SCALE: Research Classification of Functional & Support Needs Stephen J. Bagnato, Ed.D. Professor of Psychology & Pediatrics Candace Hawthorne, Ph.D., OTR/L Assistant Professor of Occupational Therapy University of Pittsburgh/Office of Child Development @Early Childhood Partnerships 2012 (www.earlychildhoodpartnerships.org)
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FUNCTIONAL COMPLEXITY	
<i>HEALTH</i>	
NONE: No chronic healthcare problems are evident; minor illnesses that do not impede development or adjustment.	0
LOW: Health care needs of child require minimal physician/nurse monitoring; yearly or biannual hospital based clinic follow up for professional evaluation and/or monitoring. Example would be a child with one leg brace for hemiplegia, cardiac defect which requires regular monitoring, community pediatrician can monitor all medical issues.	1
MODERATE: Recurrent healthcare problems that have a clear negative effect on development, school adjustment and family coping; frequent visits to physician needed and/or occasional emergency room visits. Examples are moderate autism, cerebral palsy requiring regular therapy outpatient, asthma, recent surgery for G-tube, poor seizure management, post rhizotomy management (within 4-6 weeks), chronic unstable hydrocephalus.	2
SEVERE: Chronic and serious healthcare problems that have a significant impact on development, school adjustment, and family coping. Problems require constant intervention by physicians, specialists, nursing and therapists. Examples are severe cerebral palsy with tracheostomy, G-tube, failure to thrive, home bound due to frequent respiratory illnesses, in-home nursing required to meet healthcare monitoring, uncontrolled seizures.	3
Health TOTAL	
<i>BEHAVIOR</i>	
NONE: No evidence of behavioral or adjustment problems; minor normal expressions of adjustment reactions or developmental stages. Examples are "terrible twos" and separation anxiety surrounding kindergarten.	0
LOW: Minor behavioral issues that require education to address and/or repeat evaluation and monitoring. Example would be need for occasional aggressive behavior, tantrum behavior easily managed by parent education, manipulative behavior or need for high parental attention (i.e. due to extended family member death).	1
MODERATE: Behavior interferes with school adjustment and home functioning. Behavior requires changes in program or professional consultation. Examples include CARS score of mild to moderate involvement, feeding aversion, need for behavioral contract, combination of several behavioral reinforcement strategies for child to attend, adjustment reaction which interferes with school attendance.	2
SEVERE: Chronic and serious behavioral dysfunction which may influence school placement require medication monitoring, and rigid behavioral management with specialist involvement. Examples include oppositional defiant disorder, severe autism, severe ADHD, severe failure to thrive.	3
Behavior TOTAL	

FAMILY	
NONE: No reports of family coping problems; intact family or single parent with identified good supports; family reports positive expectations for their child.	0
LOW: Parent reports minor problems in family coping; feelings of sadness but acceptance of child's condition; has one or two identified supports, adopted child, stable foster family placement since birth.	1
MODERATE: Family reports need for counseling; child not in natural home for various reasons; family reports mixed expectations and expressions of loss regarding child's medical and developmental status. Examples are divorce, foster care placement, recent, acute stress such as parent illness, anxiety, separation or unemployment, death of a close family member.	2
SEVERE: Chronic and serious family problems that have significant impact on child's development and family's ability to cope. Examples are Children and Youth services referral and regular monitoring, psychiatric illness or depression in parent or sibling, parent with chronic healthcare problems, chronic parent unemployment.	3
Family TOTAL	
DEVELOPMENTAL	
NONE: No developmental delay reported or documented.	0
LOW: Developmental Delay in one domain area and scores suggest mild to moderate delay only; two areas identified with mild delay.	1
MODERATE: Developmental Delay identified in two domain areas of moderate or severe delay and/or one other area of mild delay; mixed presentation of delay. Example would be a child with more motor delays but normal cognitive skills.	2
SEVERE: Presence of moderate to severe developmental delay in three or more domains of development. Global severe developmental delay.	3
Developmental TOTAL	
TOTAL FUNCTIONAL COMPLEXITY	

PROGRAMMATIC SUPPORT COMPLEXITY	
HEALTHCARE SUPPORT	
NONE: No health needs for child other than regular well child care.	0
LOW: Health care needs of child require minimal physician/nurse monitoring; yearly or biannual hospital based clinic follow up for professional evaluation and/or monitoring. Example would be a child with one leg brace for hemiplegia, cardiac defect which requires regular monitoring, community pediatrician can monitor all medical issues.	1
MODERATE: Health needs require coordination of several professionals and parents; may need frequent (one to two visits monthly) for physician or specialists; school personnel may need education as to healthcare need. Examples may be child progressing onto table foods from G-tube feeds, cleft palate requiring or with recent surgery, need for hearing impaired services, frequent neurology visits needed for seizure medications.	2
HIGH: Health care needs are overwhelming and require hospital and/or weekly physician/nursing interventions. Example would be child at home on a ventilator or child with baclofen pump, recent extensive surgery (rhizotomy, shunt placement, scoliosis, hearing, and vision impairment.	3
Health TOTAL	
FAMILY SUPPORT	
NONE: No special assistance indicated.	0
LOW: Requires assistance to arrange services for child or education. Adequate financial resources; access to respite care if needed. Minimal education needed regarding child's problems.	1
MODERATE: Requires parent support group, may need a parent advocate, education and financial resources limited. Family may carry most of the financial burden or may not qualify for assistance. Child not receiving services indicated by evaluations. Example may be a family that cannot carry over professional behavioral management suggestions without regular therapy visits.	2
HIGH: No family or spousal supports. Needed nursing services limited. High need for financial support. Familial retardation or need for life skills training.	3
Family TOTAL	
BEHAVIOR SUPPORT	
NONE: No specific behavioral concerns and behavior does not preclude regular preschool or school attendance.	0
LOW: Requires additional verbal praise and cues to attend. Low educational needs for parents and/or school.	1
MODERATE: Requires behavioral management in form of structured written format incorporated into IFSP or IEP, needs consistency between home and school, may require one on one therapy over a short but intense time.	2
HIGH: Requires professional behavioral and/or psychological supports for family and child; may need intensive parent and school staff training; remedial placement required due to severe behavioral problems; may need TSS (therapeutic staff support, wrap around services). Examples may include need for autism behavioral support or inpatient program for self-injurious behavior.	3
Behavior TOTAL	

PROGRAM SUPPORT	
NONE: No alteration in preschool, school or early intervention programming.	0
LOW: Placement in regular preschool or school with possible learning resource for academics only; need for one therapy within classroom; consultation from therapy. Examples may include need for speech consultation only, need for physical therapy only for stretching of heel cords.	1
MODERATE: School placement requires integration, inclusion, related service mix; specialized setting for half of school day and regular placement other half of day. Examples may be need for two or more regular weekly direct therapy services with classroom consultation/integration.	2
HIGH: Requires specialized setting with intensive and related services to function or learn; adaptive services may be needed; personnel aid required, high equipment needs such as augmentative communication or power wheelchair. Examples include specialized school placements such as blind school or specialized rehabilitation setting.	3
Program Support TOTAL	
TOTAL SUPPORT	

DEVELOPMENTAL HEALTHCARE COMPLEXITY SCALE		
	Raw Score Total	Complexity Level
Functional Complexity		
Programmatic Support Complexity		
TOTAL COMPLEXITY		

Complexity Level Interpretative Rubrics:

FUNCTIONAL COMPLEXITY AND PROGRAMMATIC SUPPORT COMPLEXITY:
0-4= None to Low
5-8= Moderate
9-12= High

TOTAL COMPLEXITY:
0-8= None to Low
9-16= Moderate
17-24= High

Appendix H

Research Questions, Hypotheses, Variables, Instruments and Statistical Analyses

Table 20

Research Questions, Hypotheses, Variables, Instruments, and Statistical Analyses

^a Research Questions/Hypotheses	Variables	Instruments	Statistical Analyses
Q ¹ : What is the relationship between SC and each of the inclusive classroom indicators: AIPI, M, and SSC?	Independent Variable: Inclusive Classroom Quality	Inclusive Classroom Profile & Vineland SEEC pre/post test data	Pearson product moment correlations and stepwise multiple linear regression
H ⁰ : Children in classrooms with higher ratings of AIPI, M, and SSC will demonstrate greater SC.	Dependent Variable: Social Competence		
H ¹ : AIPI will be the best predictor of SC.			
Q ² : Are there differences in the relationship between SC and each of the inclusive classroom quality indicators: AIPI, M, and SSC, for children with a high level of COD versus children with a moderate level of COD?	Independent Variable: Inclusive Classroom Quality Dependent Variable: Social Competence	Inclusive Classroom Profile & Vineland SEEC pre/post test data; DV Healthcare Complexity Scale Total Complexity Data	Pearson product moment correlations, Fisher r-to-z transformation, and stepwise multiple linear regression
H ² : The relationships among SC and the inclusive classroom quality indicators of AIPI, M, and SSC will be greater for children with a moderate COD.	Moderator Variable: Total Complexity of Disability		

(Table continues)

(Table continued)

^a Research Questions/Hypotheses	Variables	Instruments	Statistical Analyses
Q ³ : What effect does the level of inclusive education (low, moderate, or high level of inclusion) have on the change in SC when controlling for the child's total COD?	Independent Variable: Level of Inclusive Education	Vineland SEEC pre/post test data, level of inclusive education, and DV	Analysis of Covariance (ANCOVA)
H ³ : Children who have higher levels of inclusive education, regardless of total COD will experience a greater change in SC.	Dependent Variable: Social Competence Moderator Variable: Total Complexity of Disability	Healthcare Complexity Scale Total Complexity Data	

Note. SC = Social Competence; AIPI = Adult Involvement in Peer Interaction; M = Membership; SSC = Support for Social Communication; COD = Complexity of Disability.

^a The words "It is hypothesized based on theory and previous research", in addition to relevant references, were removed from the hypotheses for inclusion in the table.