Improving Outcomes for Preschool Inclusion Students

By Cheryl A. Hamlin

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Abstract

Current inclusion models often fail to produce the desired outcomes for many pre-school students. This research study sought to compare reading skills, placement and social skills outcomes for children who attended pre-school placements in high-functioning inclusive settings as opposed to self-contained settings. Literature reviewed for this study included topics such as issues in special education, special education practices, service delivery models and program implementation, teacher and paraprofessional training and evidence-based Pre-K programs and behavioral interventions.

The study employed descriptive and quasi-experimental methods (comparing outcomes or dependent variables for groups enrolled in different placements, the independent variable) and a non-parametric test to describe differences between reading scores, kindergarten and first grade placements, and social emotional skills of similar groups of children who attended inclusive versus self-contained preschools. Twenty first grade students who met the criteria of interest were selected as a convenience sample for this study as they were accessible to this researcher in her role as Early Childhood Intervention Specialist.

Data from the research study the results did not provide evidence that preschool placement is statistically significantly related to reading performance in first grade. Furthermore, preschool placement for this sample was not found to correlate significantly with kindergarten or first grade placements. Finally, teacher feedback on social and emotional functioning-did not differ significantly for students who attended self-contained versus inclusive preschool classroom settings.
Additional research with increased controls for student demographics, teacher quality, and disability status is recommended to inform educators regarding how variations in placements may affect long term outcomes for special education preschool students.
CHAPTER I
INTRODUCTION

Educators throughout the nation have identified achieving success for all students as a major, desired outcome for schooling at every level. Much debate and many differences of opinion exist regarding the most effective ways to achieve optimum levels of success for students, including those with special needs. Among the issues of interest to educational researchers such as those affiliated with the United States Department of Health and Human Services and the United States Department of Education (2015) is identifying the most effective strategies for improving outcomes for preschool students with special needs. For example, researchers seek to determine whether students in high-functioning, inclusive pre-school settings will experience greater success than their peers who are placed in self-contained educational settings.

Educators struggle to determine the best course of action to respond to what many consider a crisis situation. Early, significant investment in early intervention programs to meet the needs of these students not only could result in fiscal savings for a school system, but also could enable students to remain in the Least Restrictive Environment (LRE) and provide better outcomes for each of their futures. According to some noted economists, for every dollar spent on early education there is an eight-dollar return (Rolnick & Gruenwald, 2003). However, before increasing expenditures on such programs, it would be prudent to identify evidence-based programs that are worthy of the investment of taxpayer dollars. Additionally, it is important to consider the root causes of the growth in non-public special education referrals.

This researcher became interested in examining the issue of effective placements for preschool students with special needs in her role as Early Childhood Intervention Specialist.
She observed that a gap in educational outcomes has developed and persisted for students receiving ECI services and wished to learn more about what supports could be put in place to support students and their teachers.

**Problem Statement**

Current inclusion models often fail to produce the desired outcomes for many pre-school students. This research study sought to compare placement and social skills outcomes for children who attended pre-school placements in high-functioning inclusive settings as opposed to those assigned to self-contained settings in a suburban district. It was hoped that results from the study could inform future efforts to reduce the need for costly and restrictive non-public placements, which have increased in recent years.

**Hypotheses**

The following null hypothesis were tested to address the problem statement:

1) *Kindergarten Fountas & Pinnell (F&P) (2016) Reading Assessment Accuracy scores* of students who participated in high-functioning, inclusive pre-school settings will not differ significantly from those of similar peers who participated in self-contained pre-school settings.

   \( \text{ho1: Kindergarten F&P scores of children who attended inclusive preschools} = \)

   Kindergarten F&P scores of children who attended self-contained settings

2) *Kindergarten and First grade placements* of students who participated in high-functioning inclusive pre-school settings will not differ significantly from those of similar peers who participated in self-contained settings.

   \( \text{ho2: Participants’ preschool and kindergarten/first grade placement categories are} \)

   statistically independent
3) Social and emotional skills of first grade students who participated in high-functioning inclusive pre-school settings will not differ significantly from those of similar peers who participated in self-contained settings.

h₀₃: Mean ratings for first graders who attended inclusive preschools = mean ratings for similar first graders who attended self-contained settings.

Operational Definitions

Preschool Placements

- **Inclusion** – Classrooms that integrate students with special education needs alongside typically developing peers.

- **Self-Contained classrooms** – Classrooms that are comprised solely of students with special education needs.

Kindergarten and First Grade Placements

- **Center-Based Placements** – All students at a center-based placement have Individual Education Plans (IEPs). All classrooms are self-contained and follow a modified curriculum. There are low student teacher ratios, typically about six to eight students per class and at least two staff members including a teacher and a teaching assistant. Children served at center-based placements typically have significant needs, either medically, cognitively, and/or behaviorally. There are many supports within the school to address students’ needs such as occupational therapists, behavioral therapists, and school psychologists.

- **Inclusive Placements** – Students are placed in typical classrooms within comprehensive school buildings. Special education services are provided within the classroom.
Occasionally, students are pulled out of the classroom to receive direct instruction related to specific IEP goals and objectives. Students participate with typically developing peers in all areas of instruction. Students in these settings typically have less severe delays in cognition and do not have significant behavioral challenges.

- **Autism Site** – Students in an autism site participate in a modified curriculum. Core subject areas are taught in a self-contained setting using evidenced based practices specific to addressing the needs of students with autism. These programs are housed in comprehensive schools that allow many opportunities for inclusion. These opportunities are student-specific. Typically, students with special needs participate in lunch, recess, and cultural arts with peers. Additional opportunities are student-specific.

- **Alternative Curriculum Classrooms (ACC)** are offered for students with a variety of disabilities. Classrooms are self-contained for core subject areas. Teaching strategies in the alternative curriculum classrooms are student-specific, driven by the IEP. These programs are housed in comprehensive schools, and offer opportunities for inclusion. Typically, students participate in lunch, recess, and cultural arts with peers. Additional opportunities are student-specific.

- **Non-Public Placements** – When it is determined that IEP goals and objectives cannot be met in any of the available public settings, students are considered for a non-public placement. Typically, students who are recommended for non-public placement have significant cognitive and behavioral needs. There are a wide variety of non-public settings available. Students are placed in these settings based on individual needs.

- **Fountas & Pinnell (F&P) Reading Assessment** - An assessment battery used to identify the instructional and independent reading levels of students. The F&P Assessment is
administered multiple times in kindergarten, first and second grade, and provides measures across several domains. The score of interest in this study is accuracy rate, the percentage of words read correctly or accurately, at the end of kindergarten. Accuracy scores could range from 0 to 100 percent correct.

**Mental and Emotional Health** - Students will demonstrate the ability to use mental and emotional health knowledge, skills, and strategies to enhance wellness.

- **Communication** – Student recognizes methods of communication. Student communicates with peers using appropriate eye contact and tone of voice. Student communicates with adults using appropriate eye contact and tone of voice.

- **Emotions** – Student examines emotions and responses to various situations. Student can identify emotions such as happy, upset, calm and surprised. Student demonstrates emotions appropriate to a given situation.

- **Decision Making** – Student identifies how to make a good choice/decision. Student is able to make good decisions during conflict. Student makes appropriate choices when directed to non-preferred activities.
CHAPTER II

REVIEW OF THE LITERATURE

This literature review discusses methods for improving outcomes of the inclusion of preschool children in public school settings. The review begins by identifying issues in special education and is followed by a discussion of special education practices. Teacher training programs, service-delivery models, and modes of implementation are explored. The chapter concludes with an examination of the available evidence-based programs available for improving inclusion outcomes.

Issues in Special Education

Through a series of laws, the federal government has established a legal foundation for inclusion. Inclusion refers to students with special education needs receiving instruction in the same classroom setting as their typically developing peers. The Individuals with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, the Head Start Act and the Child Care and Development Block Grant Act have served to provide clear guidance to states and school districts regarding the rights of students with special needs. (Bounds, Woolums, Bresler, Eisenberg, & O’Meally, 2014). In terms of academic performance and high-stakes testing, students receiving special education services are a prominent focus of laws such as the No Child Left Behind Act of 2001 and the Every Student Succeeds Act of 2015 (Bounds et al., 2014). The legal basis for providing special education services to early childhood-aged students is well established as are the effects of public education policy at the local level.

A significant challenge facing local school districts is enforcing compliance of federal regulations at all levels, including the individual school level. There are many layers of local
educational bureaucracy that can influence the implementation of special education policy, including principals, teachers, and support staff. This is critical considering that “the most frequently reported barrier to accessing early childhood inclusion continues to be attitudes and beliefs of educators” (Barton & Smith, 2015). Teachers and teacher assistants sometimes attribute students’ behaviors as characteristics of students themselves instead of observations of students’ actions. In one study, educators used the terms, “defiant, challenging, behavior problems, and bully, to describe students that did not comply with the rules in the classroom” (Orsati & Causton-Theoharris, 2013, p. 515). Although addressing such attitude issues held by teachers and paraprofessionals can be accomplished through professional development, the perceptions of just one educator can affect the educational outcomes for a large number of students within a school or district.

Another major issue facing local districts is that procedures for the identification of students for specialized services can lack clarity. Often behavioral issues take precedence over academic performance. Too often, “when students’ behaviors are considered as potentially hostile and sometimes violent, students tend to be labelled and placed in special education, often in segregated settings, largely impacting the student’s educational future” (Orsati & Causton-Theoharris, 2013, p. 509). Although student behaviors can affect their educational attainment, these behaviors should not become the primary criteria for special education placement. It can be difficult for teachers and Individualized Education Program (IEP) teams to separate behavioral and academic issues but it is very important to do so. In a deficit-approach classroom, “teachers start labelling the students as problems or as challenging themselves, not as presenting them. As a consequence, instead of educationally supporting students in dealing with their
behaviors in the classrooms, teachers exclude the problems from the classroom” (Orsati & Causton-Theoharris, p. 521).

When the focus of special education classrooms becomes students’ behaviors academic matters may receive insufficient focus. According to Petriwskyj, Thorpe and Tayler (2014), “teachers’ attention to externalizing behaviors, limited English and disability, rather than to high achievement and cultural diversity, indicated that their focus was on categories of risk framed by funding availability, support services and statutory assessment requirements” (p. 376). In essence, teachers may allow a student’s behaviors to interfere with their assessment of what the child is capable of learning. When negative or disruptive behaviors persist, teachers frequently focus on removing the student from the classroom rather than addressing the function of the behavior. As noted by Orsati and Causton-Theoharris (2013), “exclusion from the classroom is a prevalent practice in inclusive settings for students with behavior issues” (p. 517). Without access to high-quality instruction and an opportunity to interact with typically developing peers, special education students have limited opportunities for academic growth.

**Special Education Practices**

Several studies have focused on the practice of educating students with special needs within the public school setting. The two primary approaches used by schools to address the special needs of students are to teach special needs students in an isolated setting, commonly referred to as self-contained, or in a classroom that mixes special needs students with typically developing peers, or inclusion. In a policy statement on the inclusion of children with disabilities in early childhood programs, the U.S. Department of Health and Human Services and the U.S. Department of Education (2015) outlined several recommendations for local action:

1) “Partner with families” (p. 14)
2) “Adhere to legal provision of supports and services in inclusive settings with IFSPs/IEPs” (p. 15)

3) “Assess and improve the quality of inclusion in early childhood programs” (p. 15)

4) “Review and modify resource allocation” (p. 16)

5) “Enhance professional development” (p. 16)

6) “Establish an appropriate staffing structure and strengthen staff collaboration” (p. 18)

7) “Ensure access to specialized supports” (p. 19)

8) “Develop formal collaboration with community partners” (p. 19)

Inclusion is not a broad, “one-size-fits-all” approach to specialized instruction. Individualized or differentiated instruction is a strategy that is appropriate in any classroom, but especially a classroom in which special education students are enrolled. As stated by Odom, Buysse and Soukakou (2011), there is a growing realization in early education “that the definition of quality must reflect the need to customize early care and education practices to ensure that every child – those with learning or behavior difficulties, identified disabilities, and from diverse cultural and linguistic backgrounds – can reach his or her full potential” (p. 349). Inclusion programs in name only fail to account for the unique attributes and needs of students.

The DEC/NAEYC joint policy statement (2007) states that, “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). Access, participation, and support are the primary functions of the school-based IEP team who should base decisions on data and the best interests of the child.

IEP teams meet regularly to monitor the progress of a student towards goals and objectives outlined in the IEP. In every way, IEP teams should attempt to place the child in the
Least Restrictive Environment (LRE) possible. In public education settings, the typical LRE for special education students is the inclusion classroom. Beyond the legal basis for inclusion, “studies have shown that children with disabilities in inclusive settings experienced greater cognitive and communication development than children with disabilities who were in separate settings” (US DHHS, 2015, p. 3). Significant academic gains have been observed, especially for severely disabled children, when they are placed in an inclusive setting (Eldevik, Hastings, Jahr & Hughes 2012; Odom, et al., 2011; Stahmer & Carter 2005). As increasing numbers of studies are developed or replicated, the legal basis for inclusion continues to be justified.

One of the most rapidly growing groups of students identified for special education services are those diagnosed with Autism Spectrum Disorder (ASD). Despite initial deficits in oral language and cognitive and adaptive behavior, students with ASD in inclusive settings, “made statistically and clinically significant gains in developmental level, receptive and expressive communication, and adaptive behavior” (Stahmer & Carter, p. 637). Some school systems have developed separate programs exclusively for students with ASD but these children thrive in inclusive settings when compared to similar students in an autism-only or mixed-disability classroom. According to Nahmias, Kase and Mandell (2014), “controlling for initial cognitive scores and other covariates, cognitive outcomes for children in inclusive placements were better than those of children in mixed disability settings” (p. 311).

A disproportionate number of special education students come from homes in which poverty is a factor. In a study comparing the educational outcomes of an inclusive approach for students from different socio-economic backgrounds, “disadvantaged children in mixed preschool and kindergarten classrooms gained more in literacy and math than disadvantaged children in targeted classrooms” (de Haan, Elbers, Hoofs & Leseman, 2013, p. 177). Teachers
require extensive training to overcome the challenges of severe student disabilities and poverty in the classroom

**Service Delivery Models and Program Implementation**

To support the birth-to-five-year-old special needs student, school districts have developed unique programs and have partnered with private community programs to begin early interventions. In the available literature, early childhood education (ECE) programs are best defined as school-based programs for children aged three to five. Examples of such programs are those offered in Anne Arundel County Public Schools, Maryland (AACPS) include Infants and Toddlers, Community-Based Services, Early Childhood Intervention, and Pre-kindergarten (AACPS, 2017).

“The number of children attending ECE programs has grown rapidly in recent years with programs reaching an unprecedentedly large proportion of low-income children, who are at an increased risk for displaying externalizing behavior problems” (Schindler, Kholoptseva, Oh, Yoshikawa, Duncan, Magnuson, & Shonkoff, 2015, p. 244). Along with this proliferation in ECE enrollment has been an increase in studies examining outcomes for students. A meta-analysis of research on ECE programs indicated that, “level 2 programs, or those with a clear but broad focus on social and emotional development, were associated with significant, modest reductions in externalizing behavior problems relative to control groups”( p.256). Given the data espousing the effectiveness of early childhood education programs, school districts must make cost-benefit decisions to both comply with legal obligations and to support students with special needs.

Educational policies often are the result of well-intentioned efforts on behalf of students. A significant detail that is the subject of debate with respect to policy decisions is the
implementation of these efforts. Pejorative phrases such as “unfunded mandate” and “throwing money at the problem” summarize the polarized political philosophies surrounding teachers and students. School districts have struggled to manage the costs associated with early childhood education programs. Odom et al. (2001) noted “costs were higher for the inclusive services as compared to the traditional special education program” (p. 53). One strategy used by school districts is to partner with community-based child-care centers to avoid building their own pre-kindergarten centers. In this model, the district employs teachers and support staff who visit private preschools to provide training, intervention and support. Not surprisingly, one of the major budget line items for the district is personnel. This personnel item is considered a necessary cost of doing business, especially in special education settings, as “a program’s strength relies on a teacher-student ratio that ensures each child is nurtured, supported and encouraged to achieve maximum development (Stafford & Green, 1996, p. 218). Given the extensive financial commitment borne by districts to put enough staff and interventions in place to serve students appropriately, a strong plan and thorough implementation are essential to realize the value of this investment.

Results from research on the benefits of inclusion are overwhelmingly positive. In many studies, such as those reported by Strain & Bovey (2011), a primary cause of variation in student outcomes is the fidelity of intervention implementation. An early intervention program identified by the National Research Council as evidence-based is the Learning Experiences and Alternative Program for Preschoolers and Their Parents (LEAP) preschool model. In a randomized, controlled trial of the LEAP model, the researchers found that, “after 2 years, experimental class children were found to have made significantly greater improvement than their comparison cohorts on measures of cognitive, language, social, and problem behavior, and
autism symptoms. The fidelity with which teachers implemented LEAP strategies did predict outcomes” (p. 133). Adherence to the tenets of any intervention model is predicated on the education, training, and support provided to the staff conducting the front-line implementation.

**Teacher and Paraprofessional Training**

Special education teachers and the paraprofessionals who support them receive training related to a variety of issues such as testing, legal compliance, instructional practices, and medical conditions. Teachers and teacher assistants play a significant role in determining the long-term outcomes for students. Unfortunately, “there is large variability in the training, education, and expertise of the early childhood workforce” (US DHHS, 2015, p. 6). Districts have worked to shorten the learning curve for professional staff by insisting that they have degrees and certificates from accredited programs. Studies such as that reported by Petriwsyj, et al., (2014) have revealed that “specialized professional knowledge or university-educated early education teachers was a positive influence on program quality” (p. 377). Building on that strong foundation, districts typically provide a professional development program for teachers and their assistants.

Effective professional development must be research-based, ongoing, and supplemented with frequent coaching conversations. The effect of professional development is not realized immediately; “in some cases, prolonged coaching, lasting as much as two years, appears necessary in order to reach fidelity when implementing a comprehensive, evidence-based intervention” (Lawrence, Smith & Banerjee, 2016, p. 10). An important companion to coaching and training is monitoring. If the use of a given instructional practice is not viewed as valuable to their day-to-day teaching or, at a minimum, valued by their supervisor, then teachers likely will not utilize the strategy consistently. One study suggests that while educators understand the
importance and value of critical instructional strategies, they are not used frequently in the classroom because of implementation concerns (Yang and Rusli, 2012).

According to Brown, Gatmaitan and Harjusola-Webb (2014), the best method for providing both training and accountability for teachers and paraprofessionals is through the development of a comprehensive performance feedback program. Whenever possible, performance feedback goals should be individualized based on the level of readiness of each staff member. They have identified the following steps for providing quality performance feedback:

1. Choose a focus of the performance feedback and have an initial discussion regarding the skill.
2. Jointly set priorities and outcomes and develop a schedule for providing feedback.
3. Establish a procedure for collecting data on the target skill.
4. Establish a feedback protocol that describes how the feedback session will proceed.

The researchers contend that, “when learners are individually motivated, performance can be enhanced” (p. 28). Again, the success of an intervention program, regardless of evidence of its effectiveness, is dependent on the capacity of the teachers and staff charged with its implementation.

Evidence-Based Pre-K Programs and Behavioral Interventions

A wide variety of evidence-based Pre-K programs and behavioral interventions currently are being explored or would be worthy of exploration by school districts throughout the country. For example, The Maryland State Department of Education (MSDE) has partnered with two nationally recognized universities to develop programs to support inclusion. Johns Hopkins University has initiated the Making Access Happen project designed to improve outcomes for
pre-k children by providing job-imbedded professional development opportunities for teachers and staff. The primary focus of Making Access Happen, “is developing practitioners’ skills in universal design for learning (UDL) and collaborative practices to close the achievement gap for all children” (Castellani, Boyle & Tsantis, 2013, p. 2). Another promising instructional approach supported by a growing body of research is Universal Design for Learning (UDL). A recent content analysis study concluded that UDL is a preferred approach for special education students. “UDL-inspired courses do not require special accommodation because learner needs can be considered from the start” (Al-Azawei, Serenelli & Lundqvist, 2016, p. 51).

A program focused on training and coaching teachers, the Social Emotional Foundations for Early Learning MD (SEFEL) initiative offered through the University of Maryland (UMD, 2016). The SEFEL model’s origins lie in the concept of the “Teaching Pyramid” that suggests, “the capacity to develop positive social relationships, to concentrate and persist on challenging tasks, to effectively communicate emotions, and to problem solve are just a few of the competencies young children need to be successful as they transition to school” (Hemmeter, Ostrosky & Fox, 2006, p. 583). Building on this foundation, the University of Maryland School of Social Work has developed a training program, monitoring system, and online resource center to support the work of teachers. According to their website, “in Maryland, SEFEL has been implemented in a variety of different child care settings to great success and is currently being adapted for elementary school settings” (UMD, 2016). AACPS describes SEFEL as a recommended practice for the development of social and emotional skills in preschool settings, especially for those displaying challenging behaviors.

A key component of the State of Maryland’s “Ready for Kindergarten” initiative is the Early Learning Assessment (ELA). The ELA is best described as a formative assessment cycle
that teachers use in the classroom to improve student outcomes. As the Maryland State Department of Education (MSDE) (2016A) describes the process on its website “think of formative assessment as a cycle -- you collect information about what a child knows, understands and is able to do; you reflect on the information gathered; and then you use the data to support a child’s learning and development.” MSDE is mandating implementation of this program in local jurisdictions beginning in the 2017-18 school year.

MSDE has developed the Child Outcomes Summary (COS) process that is used in Maryland for “measuring child outcomes to meet federal accountability reporting requirements for all children receiving services through an Individualized Family Service Plan (IFSP) or a preschool Individualized Education Program (IEP). This process also drives State and local data-based decision making” (MSDE, 2016B). The goal of the COS process is to provide a snapshot of the student’s development in three areas: social relationships, taking action to meet needs, and acquiring skills and knowledge. Students are rated using a seven-point measurement scale against same-age peers. A unique attribute of this process is that it incorporates input from a variety of stakeholders including teachers, parents, related-service providers, childcare providers, and others who interact with the student. The COS process is not supported currently by available research.

**Conclusion**

The literature discussed in this review provides a foundation for the current study. It is not clear if any one of the evidence-based pre-kindergarten programs or behavioral interventions discussed in the final section of the review improves outcomes of inclusion for preschoolers in public school settings better than the rest. What is clear is that educators must continue researching and examining interventions until a definitive conclusion is reached because the
problem is that important. The crisis facing special education birth to five programs is not a problem that simply will disappear. If left unchecked, it will permeate elementary, middle, and high school programs. There is a strong public sentiment growing around interventions for this age group. For example, in a recent article in *The Capital*, Dr. Pamela Brown, executive director of the Anne Arundel County Partnership for Children, Youth and Families noted that, “While the need for public health services is quickly rising among children 5 and younger, there are only two evidence-based behavioral programs for that age group in the county, offered by Anne Arundel Community College and Arundel Child Care Connections” (Loricchio, 2016, p.1).
CHAPTER III

METHODS

This research study sought to compare reading skills, placement, and social skills outcomes for children who were enrolled in pre-school placements in high-functioning, inclusive settings as opposed to those who were enrolled in self-contained settings in a suburban school district.

Design

The study employed descriptive and quasi-experimental methods (comparing outcomes or dependent variables for groups enrolled in different placements, the independent variable) and a non-parametric test in an effort to describe differences between reading scores, kindergarten and first grade placements, and social emotional skills of similar children who attended inclusive versus self-contained preschools.

Participants

Twenty students who were currently enrolled in first grade were selected as a convenience sample for this study as they were accessible to this researcher in her role as Early Childhood Intervention Specialist and met the criteria of interest. All 20 children had IEPs and were selected and matched in groups based on similarities in their special education services and disability status in preschool. Ten of the participants selected attended inclusive pre-school settings and ten of them attended self-contained preschool settings. To guard against any student privacy concerns, all data were collected and coded without identifiable information by using a simple numeric label. The data used for this study were accessible to the researcher as part of her professional duties.
Instruments

Placement and Reading Score Data

Data were collected from the students’ IEPs, a district database, and the participants’ first grade teachers. Primary data points gathered for each participant included the type of pre-school, kindergarten, and first grade placements each student attended. Accuracy subtest scores from each student’s 2015-2016 Fountas & Pinnell (F&P) Reading Assessment were collected from a district database called PowerSchool SMS. Finally, teacher ratings of the participants’ social skills were assessed via a brief survey described below.

Social Skills Data

A survey (located in Appendix A) was developed based on the Maryland State Department of Education’s College and Career Readiness (CCR) Health Standard 1.0 for first grade students, which states that, “students will demonstrate the ability to use mental and emotional health knowledge, skills and strategies to enhance wellness” (MSDE, 2017). This survey was sent to current first grade teachers of each of the student participants. Teachers were asked to rate six behaviors for each student with two items each related to communication, emotions, and decision-making based on their observations. Ratings ranged from “never” to “sometimes” to “always” and were quantified and summed to yield a total score reflecting the student’s proficiency on the standard’s overall content.

Procedure

Once the primary data points were gathered, participants’ 2015-16 F&P scores and kindergarten and first grade placements and survey scores were compared to determine whether any of those three outcomes differed significantly for students who attended inclusive or self-contained preschool placements.
Results follow in Chapter IV and their implications are discussed in Chapter V.
CHAPTER IV

RESULTS

Description of Participants

This research study sought to compare reading skills, placement, and social skills outcomes for children who were enrolled in pre-school placements in a high-functioning, inclusive setting as opposed to those who were enrolled in self-contained settings in a suburban school district.

Sample Characteristics

Table 1, below, summarizes the preschool, Kindergarten and First Grade placements of the 20 participating preschoolers in relation to their educational diagnoses in preschool. As can be seen, the majority of the students’ educational diagnoses were Speech and Language Impaired (7) and Autism (6) but students of each category were in inclusive or self-contained classes over time.

<table>
<thead>
<tr>
<th>Educational Disability</th>
<th>N</th>
<th>Preschool</th>
<th>Kindergarten</th>
<th>First Grade</th>
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<td></td>
<td>Inclusive</td>
<td>Self-Contained</td>
<td>Inclusive</td>
</tr>
<tr>
<td>Speech Language Impaired (SLI)</td>
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<td>4</td>
<td>3</td>
<td>7</td>
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</table>
Reading Assessment Data

Hypothesis 1

It was hypothesized that the mean first grade Fountas and Pinnell Accuracy Scores, which could range from 0-100 would not differ significantly for students who attended inclusive versus self-contained special education preschools. Table 2 presents the descriptive statistics for the First Grade Accuracy scores broken down by preschool type. Table 3 presents the results of the $t$-test for Independent Samples that compared the Accuracy scores for students who attended inclusive versus self-contained preschools. As is seen in Table 2, the means for the two groups were 94.5 and 93, respectively. Table 3 shows that the $t$ value of .788 had a significance (p) value of .441, indicating the mean difference of 1.5 points between the groups’ Accuracy scores was not large enough to be considered statistically significant. Therefore, null Hypothesis 1 was retained.

Table 2 - Fountas and Pinnell Accuracy Scores for Students Who Attended Inclusive and Self-Contained Preschools

<table>
<thead>
<tr>
<th>Fountas and Pinnell Accuracy Scores for students attending</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive Preschools</td>
<td>10</td>
<td>94.5</td>
<td>4.625</td>
<td>1.462</td>
</tr>
<tr>
<td>Self-Contained Preschools</td>
<td>10</td>
<td>93</td>
<td>3.859</td>
<td>1.220</td>
</tr>
</tbody>
</table>

Table 3 - Results of $t$-test for Independent Samples comparing Accuracy Scores for Students Who Attended Inclusive and Self-Contained Preschools

<table>
<thead>
<tr>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>.788</td>
<td>18</td>
<td>.441</td>
<td>1.500</td>
<td>1.905</td>
<td>-2.502 - 5.502</td>
</tr>
</tbody>
</table>

*Equal variances assumed*
Kindergarten and First Grade Placements in relation to Preschool Placements

Descriptive Data

The specific types of first grade and kindergarten placements associated with inclusive or self-contained preschool placements were tallied. Results follow in Table 4 and show the majority of participants attended inclusive kindergarten settings (17 out of 20) and inclusive first grade settings (16 out of 20).

Table 4 Kindergarten and First Grade Placement by Preschool Setting Types

<table>
<thead>
<tr>
<th>Kindergarten Setting (n)</th>
<th>Inclusive</th>
<th>Autism Site</th>
<th>ED Program</th>
<th>Center-based</th>
<th>Non-Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool Placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusion</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Self-Contained</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>17</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Grade Setting (n)</th>
<th>Inclusive</th>
<th>Autism Site</th>
<th>ED Program</th>
<th>Center-based</th>
<th>Non-Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool Placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusion</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Self-Contained</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>16</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Hypothesis 2

To test Hypothesis 2, Chi Square analyses were run to determine whether participants’ type of kindergarten or first grade placements were statistically independent of their type of preschool placements. Due to the small sample size, the kindergarten and first grade placement categories were consolidated to two types, “Inclusion” or “Self-Contained”, in order to have large enough expected frequencies in each cell to run the analyses. Cross tabulation tables and the results of the Chi Square analyses follow.
Table 5 - Tally of Kindergarten Class Type by Preschool Class Type

<table>
<thead>
<tr>
<th>Preschool Placement</th>
<th>Inclusion</th>
<th>Self-Contained</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Self-Contained</td>
<td>8</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>3</td>
<td>20</td>
</tr>
</tbody>
</table>

The Pearson Chi-Square value (df=1) for the independence of the kindergarten and preschool placement types (inclusion or self-contained) was .392 with a p value (asymptotic significance, 2-sided) of .531, so null hypothesis 2 was retained when applied to kindergarten placements, meaning preschool placement was not significantly related to kindergarten placement.

The researcher was particularly interested in whether the participants’ first grade placements were statistically independent of their special education preschool placements. Cross tabulations and the results of that Chi Square analyses follow.

Table 6 - Tally of First Grade Class Type by Preschool Class Type

<table>
<thead>
<tr>
<th>Preschool Placement</th>
<th>Inclusion</th>
<th>Self-Contained</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Self-Contained</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

The Pearson Chi-Square value (df=1) for the independence of the first grade and preschool placements (inclusion or self-contained) was 1.250 with a p value (asymptotic significance, 2-sided) of .264, so null Hypothesis 2 was also retained when applied to first grade
placements, meaning the participants’ preschool and first grade placement categories were not associated to a statistically significant degree.

**Teacher Feedback Regarding Social and Emotional Functioning in Grade 1**

**Hypothesis 3**

A copy of the survey in Appendix A was sent to the primary first grade teacher of each student in the study to assess their attainment of the targeted social and emotional goals of Standard 1.0 (Communications, Emotions and Decision Making). Seventeen surveys, or 85% of them, were returned to the researcher. Below are descriptive statistics of the first grade teachers’ ratings of the students’ attainment of the skills assessed by Standard 1.0.

**Table 7 - Descriptive Statistics of Ratings of Standard 1.0 by First Grade Teachers**

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication - Recognize methods of communication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Item 1</strong> Student communicates with <em>peers</em> using appropriate eye contact and tone of voice</td>
<td>17</td>
<td>0-2</td>
<td>.941</td>
<td>.429</td>
</tr>
<tr>
<td><strong>Item 2</strong> Student communicates with <em>adults</em> using appropriate eye contact and tone of voice</td>
<td>17</td>
<td>0-2</td>
<td>1.177</td>
<td>.529</td>
</tr>
<tr>
<td><strong>Emotions - Examine emotions and responses to various situations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Item 1</strong> Student can <strong>identify</strong> emotions such as happy, upset, calm and surprised</td>
<td>17</td>
<td>1-2</td>
<td>1.529</td>
<td>.515</td>
</tr>
<tr>
<td><strong>Item 2</strong> Student <strong>demonstrates</strong> emotions appropriate to a given situation</td>
<td>17</td>
<td>1-2</td>
<td>1.118</td>
<td>.485</td>
</tr>
<tr>
<td><strong>Decision Making - Identify how to make a good choice/decision</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Item 1</strong> Student is able to make good decisions during <strong>conflict</strong></td>
<td>17</td>
<td>0-1</td>
<td>.765</td>
<td>.437</td>
</tr>
<tr>
<td><strong>Item 2</strong> Student makes <strong>appropriate choices</strong> when directed to non-preferred activities</td>
<td>17</td>
<td>0-2</td>
<td>.941</td>
<td>.428</td>
</tr>
</tbody>
</table>
Teacher ratings, each of which could range from zero to two, of the six skills under Standard 1.0 were totaled to yield a total survey score for each participant for whom a survey was completed. A t-test for independent samples was run to compare the total ratings for students who attended Inclusion versus Self-Contained preschool settings. Descriptive statistics for the total scores follow in Table 8 and results of the t-test follow in Table 9.

**Table 8 - Descriptive Statistics of Total Scores of Ratings of Standard 1.0 by First Grade Teachers**

<table>
<thead>
<tr>
<th>Total Survey Scores</th>
<th>N</th>
<th>Mean</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive Preschool</td>
<td>9</td>
<td>6.556</td>
<td>.412</td>
</tr>
<tr>
<td>Self-Contained Preschool</td>
<td>8</td>
<td>6.375</td>
<td>.885</td>
</tr>
</tbody>
</table>

**Table 9 - Results of t-test for Independent Samples Comparing the Mean Total Scores of Ratings of Standard 1.0 for Students who Attended Inclusive Versus Self-Contained Preschools**

<table>
<thead>
<tr>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>.192</td>
<td>15</td>
<td>.85</td>
<td>.181</td>
<td>.940</td>
<td>Lower: -1.822  Upper: 2.183</td>
</tr>
</tbody>
</table>

*Equal variances assumed*

The $t$-test yielded a t value of .192 that had a significance (p) level of .85. This indicated the mean difference of .181 in the two groups’ total scores was not large enough to be considered statistically significant. Therefore, null Hypothesis 3 was also retained.
CHAPTER V
DISCUSSION

This study sought to identify whether preschool placements were associated with student success and placements in Kindergarten and First Grade. The data analysis tested three null hypotheses related to these questions.

The first null hypothesis, that Kindergarten Fountas & Pinnell (2016) Reading Assessment Accuracy scores of students who participated in high-functioning inclusive pre-school settings would not differ significantly from those of similar peers who participated in self-contained pre-school settings, was tested using a t-test for independent samples. The slightly higher performance (1.5%) by students in the inclusive group was not large enough to be determined significantly different from that of the self-contained group, so null Hypothesis 1 was retained.

The second null hypothesis, that Kindergarten and First grade placements of students who participated in high-functioning inclusive pre-school settings would not differ significantly from those of similar peers who participated in self-contained settings, was tested using Pearson Chi Square analyses. A Pearson Chi Square is designed to “test how likely it is that an observed distribution is due to chance” (Ling, 2008). Based on the data collected in the present study, pre-school placement was not determined to have a significant association with Kindergarten or First Grade placements. Therefore, null Hypothesis 2 also was retained.

The third and final null hypothesis, that the social and emotional skills of students who participated in high-functioning inclusive pre-school settings would not differ significantly from those of similar peers who participated in self-contained settings, was tested using a t-test for independent samples. The t-test compared the mean teacher ratings of the two groups of
students’ social and emotional functioning in the First Grade. Again, no significant difference was found between the outcomes for the participants who had been enrolled in self-contained versus inclusive group preschool settings.

**Theoretical Consequences**

The findings of the present study conflict with much of the literature reviewed in Chapter II. The fact that no difference in outcomes was observed between self-contained and inclusive students is inconsistent with the United States Department of Health and Human Services’ (2015) claim that, “studies have shown that children with disabilities in inclusive settings experienced greater cognitive and communication development than children with disabilities who were in separate settings” (p. 3). Additionally, significant academic gains have been observed, especially for severely disabled children, when they are placed in inclusive settings (Eldevik et al., 2012; Odom et al., 2011; Stahmer & Carter 2005), but that was not the case in the present study, at least in comparison with the group sampled that attended self-contained preschools. The included preschool group may have fared better than they would have in a self-contained preschool class but there is no way to know this for certain. Furthermore, according to Nahmias et al., (2014), “controlling for initial cognitive scores and other covariates, cognitive outcomes for children in inclusive placements were better than those of children in mixed disability settings” (p. 311). These inconsistencies possibly can be attributed to the small sample size used for this analysis or a variety of other limitations discussed in the next section.

Finally, it is interesting to note that of the three domains examined using the survey instrument, communication, emotions and decision-making, the third domain, decision-making, yielded the lowest scores for both groups of participants. The incorporation of a teacher survey may have introduced some bias to this analysis. As noted by Orsati and Caustom-Theoharris
(2013), teachers tend to identify students based on the presentation of problem behaviors and lose sight of academic supports. In essence, the behaviors are so overwhelming to some instructors that they believe any attempt at academic progress may be impossible. There is no way to know whether that this was the case in any of the respondents’ classrooms included in the present study, but it is worthy of consideration.

**Limitations of Present Study**

The results of this study may cause district leaders or teachers to question the efficacy of running both self-contained and inclusive classroom settings. However, the present study faced several limitations that threaten its internal and external validity that should be considered before using the results to influence policy decisions. First, preschool students were placed in their programs for reasons that could have affected the outcomes of the tests of the hypotheses. For instance, the students who attended self-contained preschool settings may have benefitted from this intervention and, as a result, later appear similar to the students who attended inclusive settings. Conversely, perhaps some or all of the students in inclusive settings needed more direct assistance than they received or would have shown more progress in a self-contained setting. In essence, it cannot be determined with certainty which intervention yielded the best results or that a school system should save or spend money by cancelling or offering either. The results of the current study simply suggest that these sample groups demonstrated similar outcomes on the criteria selected as the sampling method and resultant design lacked controls to determine how the participants might have performed had they been placed in other preschool settings. It also is important to note that the criteria measured are not the only important outcomes for students.

An additional limitation to the present study is the confounding variability in just how preschool placement initially is determined. It would be unfair to describe the process as
arbitrary, but it can be highly subjective. For example, if a student enters a school system with an out-of-state IEP, he or she is provided with comparable services based on that IEP even if he or she does not necessarily meet the district’s standards for initial placement into a self-contained or inclusive classroom setting. It might take a full school year before the IEP team can evaluate the needs of the student sufficiently and place him or her appropriately the following school year. Furthermore, some families lack the resources or information to advocate effectively for more desirable or alternative preschool placements than initially are recommended or suggested for their child. Variation in parent knowledge can lead to some preschool students receiving services that are inferior or superior to those initially recommended by school-based IEP teams.

A final limitation of the present study is that it did not control for teacher or program quality. As with many educational studies, this analysis included students who were taught by teachers who likely have varying levels of skill and effectiveness. As noted by Darling-Hammond (2000), “teacher preparation and certification are by far the strongest correlates of student achievement in reading and mathematics, both before and after controlling for student poverty and language status” (p.1). Had the study had a larger sample of students and teachers and been able to control for factors such as teacher preparation, years of experience, and tenure status, the ability to determine what factors influence outcomes for students and how they do so may have been enhanced. Additionally, no consideration was given to the quality of the classroom environment. Specifically, teacher to student ratio was not controlled for in the present study. As noted by Stafford and Green (1996), “a program’s strength relies on a teacher-student ratio that ensures each child is nurtured, supported and encouraged to achieve maximum development” (p. 218). The lack of a control for classroom factors may have influenced the outcomes for both self-contained and inclusive students in this study.
Areas for Further Research

Based on the results of the present study, additional research is warranted in several areas. First and most importantly, replicating the study with the controls discussed in the previous section would help to answer the initial research questions. The addition of comparison groups with students matched for traits such as disability, service hours, and socio-economic status, would enable a more robust analysis of factors affecting student achievement and the outcomes associated with variations in early education classroom placements. Including data for students who left the district to attend non-public school settings also would provide a more complete picture of the outcomes of early placements. One such student initially was included in the sample for this study. It would be interesting to determine what level of achievement or social skills that student and others like him may-have attained in comparison to the rest of the group.

Including parents’ perspectives within a study such as this may offer greater clarity with regard to outcomes and provide important information such as what other services students might receive outside of the school setting and the level of parents’ satisfaction with their child’s placement or programs. Addressing these areas would allow future research results to explain more fully the effect of variations in preschool placements on short and long term academic and other outcomes for students.

Conclusion

The examination of variables effecting program costs and outcomes, especially in the area of special education, is ongoing. Legal precedents have compelled schools to educate students with special education needs in the least restrictive environment possible. As noted in its recent decision, the United States Supreme Court held that, “the adequacy of a given IEP
turns on the unique circumstances of the child for whom it was created” (2017, p. 15). The ability of a large school district to meet the unique needs of every child is limited by variables such as its available programs, teacher effectiveness, and budget constraints. Continued efforts to explore ways to enhance program effectiveness through studies such as this one are important in order to improve outcomes for all students.
REFERENCES


Appendix A

Survey Instrument – Ratings of Standard 1.0 by First Grade Teachers

Teacher: ___________________________ Student: ___________________________

Directions: Please rate your student’s communication, emotion and decision making ability as defined by the statements below.

Grade 1 - Standard 1.0 - Mental and Emotional Health: Students will demonstrate the ability to use mental and emotional health knowledge, skills, and strategies to enhance wellness.

A. Communication - Recognize methods of communication

Statements:
- Student communicates with peers using appropriate eye contact and tone of voice
  
  Always  Sometimes  Never

- Student communicates with adults using appropriate eye contact and tone of voice
  
  Always  Sometimes  Never

B. Emotions - Examine emotions and responses to various situations

Statements:
- Student can identify emotions such as happy, upset, calm and surprised.
  
  Always  Sometimes  Never

- Student demonstrates emotions appropriate to a given situation
  
  Always  Sometimes  Never

C. Decision-Making - Identify how to make a good choice/decision

Statements:
- Student is able to make good decisions during conflict.
  
  Always  Sometimes  Never

- Student makes appropriate choices when directed to non-preferred activities.
  
  Always  Sometimes  Never