

ABSTRACT

Title of Dissertation: AN ANALYSIS OF THE ACADEMIC
GROWTH OF STUDENTS WITH
DISABILITIES INSTRUCTED IN
SELF-CONTAINED SCHOOLS AND
A UNIQUE THERAPEUTIC
INCLUSIVE PUBLIC SCHOOL
SPECIAL EDUCATION PROGRAM.

Jeffrey Scott Gladhill, Doctor of
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Directed by: Dennis Kivlighan, Ph.D.

This study analyzes the academic growth of students with disabilities (SWD) educated in two self-contained schools and a unique therapeutic inclusive public school program (TP) located in Piedmont County (PC). The majority of participants in this study were classified as students with an emotional disability (ED) (40%) or other health impairment (OHI) (34%). Results revealed that students in the TP group showed overall higher significant growth in mathematics as gauged by the Measures of Academic Progress (MAP) assessment, until variables of grade level, gender, and medical assistance (MA) eligibility were added to the analysis. Following an additional analysis of growth accounting for these additional variables, there were no significant differences between

the two educational environments. This study suggests that variables of teacher efficacy, relationship, background, prior knowledge, professional development, lack of random assignment of students, teacher certification and content knowledge of teachers need to be studied in future research. Findings from this research should not be generalized beyond this study due to a low number of participants (48 students) and the unique nature of the TP. Additional limitations regarding generalizability and recommendations are addressed within this study.

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PROGRAM

by

Jeffrey Scott Gladhill

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Advisory Committee:
Professor Dennis Kivlighan, Chair
Professor Carol Parham
Professor Helene Cohen
Professor Donna Wiseman
Professor William Strein

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DEDICATION

I dedicate this work to my wife, Eneida Gjiguria-Gladhill, my daughters, Agapi Gjiguria Gladhill, Andriana Gjiguria Gladhill, my sons, Stephanos Gjiguria Gladhill, Maximos Gjiguria Gladhill, and Stavros Gjiguria Gladhill who are the center of all my thoughts and aspirations. I thank God for every second of every moment we are blessed to be together.

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CHAPTER 1: INTRODUCTION

Since the passage of PL 94-142 in 1975, school districts across the nation have been charged with crafting special education programs to provide educational services for SWD within comprehensive public schools. These programs are usually developed for financial reasons or to prevent students from being placed into self-contained schools. However, the most substantial reason for inclusive special education programming is to educate SWD with their non-disabled peers to the maximum extent appropriate, which is aligned with the Individuals with Disabilities Education Improvement Act (IDEIA). The services provided to SWD are based on student need related to educational impact. Services include special education, as well as related services, including: speech and language pathology, transportation, occupational therapy, physical therapy, and in some cases nursing and social work services. Districts have to navigate school capacity, transportation, cultural/personal bias, and political barriers to successfully implement these programs. Research supports the theory that academic achievement and a feeling of connectedness to the school climate are enhanced when students' social/emotional well-being is adequately addressed (Zins & Elias, 2006). However, no existing research is available regarding the impact of this support when comparing therapeutic inclusive public educational programs to self-contained schools. Furthermore, there is no available research comparing the academic or behavioral growth for SWD in a self-contained school vs. similar SWD within a unique comprehensive/inclusive public education school setting receiving comparable therapeutic supports.

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Pseudonyms were created to protect students, schools, and staff throughout this study. This study analyzed the academic growth of SWD in a unique special education program developed in Piedmont County (PC). All of the students studied were SWD in grades kindergarten (K) through eight and were working towards graduating with a diploma. This means that none of the participants was working towards a certificate of completion or other non-diploma pathway to graduation. This analysis was specifically chosen due to the dismal outcomes of SWD with an ED in both self-contained classrooms and self-contained schools as shared by Maggin, Wehby, Moore-Partin, Robertson, and Oliver 2011; Lane, 2008; and Siperstein, 2011. The local school system created the TP so it could maximize therapeutic services for SWD with emotional/behavioral needs while it provided quality, rigorous curriculum in or as close to each student's natural environment as much as possible. When this program began, it only comprised students from Self-Contained School A (SCSA) and Self-Contained School B (SCSB). Both SCSA and SCSB schools were located in PC.

Self-Contained School A was attached to an acute psychiatric hospital and a residential psychiatric respite facility, which provided psychiatric and social work services in addition to educational services aligned with each student's individualized education program (IEP). The capacity of the SCSA was seventy students, with the ability to serve students of the ages five through twenty-one and grades 1 through 12. The school was certified to provide educational services to special education students.

Self-Contained School B was a non-denominational, non-profit Christian outreach school that provided social work and residential services for students placed through the Department of Juvenile Services and the Department of Social Services. The capacity of

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SCSB was 64 students (boys only) of the ages seven through twenty-one and grades 2 through 12. The school was certified to educate special education and general education students. While providing social work services, SCSB focused more on mal-adjusted students with a behavioral based program.

The TP in PC was a unique program in the county, state and nation, based upon a thorough review of the research. The TP was initiated during the 2009 - 2010 school year. The majority of students educated in the TP during the first year transferred back from self-contained schools. Throughout the course of this study during the 2012 - 2013 school year, students consisted of those who had returned from self-contained schools and those who were placed into the TP vs. being placed into a self-contained school.

The majority of self-contained programs in Maryland, where PC was located did not have the ability to provide focused therapeutic services. The TP was modeled after a neighboring county's model; however, the TP assigned a social worker to each class, thus facilitating more intensive therapeutic services than those offered by the neighboring model.

Students with disabilities were required to be educated with their non-disabled peers to the maximum extent possible (in the least restrictive environment), as long as a free appropriate public education (FAPE) could be provided through the IDEIA. A FAPE is the right of each special education student to receive all educational and related services at public expense. This phrase was defined in a 1982 Supreme Court decision in *Hendrick Hudson Central School District v. Rowley*, 458 U.S. 176 (1982), better known as *Rowley*, which is the standard to determine the least restrictive environment (LRE) for SWD through the creation of a two prong test. The first prong reviewed the school

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district's compliance with the procedures set forth in the Education of the Handicapped Act (EHA). The second prong determined if the IEP developed through the EHA was reasonably calculated to enable the child to receive educational benefits. The EHA defined an "appropriate education" to be the provision of personalized educational services. Rowley made it clear that courts were not to substitute their judgment on "preferred" educational policy for school districts or state administrative officers. The Rowley standard enforced the "basic floor of opportunity" provided by the EHA for SWD but did not require maximization of educational progress. However, the basic floor of opportunity stipulated that educational planning must be "sufficient to confer some educational benefit," or a FAPE as referred to by this study (*Hendrick Hudson Central School District v. Rowley*, 1982).

When a student is unable to receive "educational benefit" in the naturalistic setting of their home or neighborhood school, a change of placement must occur to ensure each child with a disability receives a FAPE. The LRE is the determination of where the student's IEP can be implemented:

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 (20 U.S.C.1412 (a) (5) (A)).

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Students educated within self-contained schools, classrooms, and inclusionary programs may have different disabilities. Although a student may be coded with a specific disability, other unidentified disabilities may exist, and other needs may be present. The disability listed on the IEP represents the educational disability, which has the most impact on the student in an educational setting. The disabilities of students within this study included: ED, 40%; OHI, 34%; autism (ASD), 19%; learning disabilities (LD) 2%; and intellectual disabilities (ID), 4%. Students with an ED comprised 44% of all SWD from the self-contained schools, and 39% of SWD in the TP for this study. These statistics are similar to the national average of 41% of SWD with an ED in self-contained schools and educational programs (United States Department of Education, 2009). The United States Department of Education (USDE) reported that the cost differential associated with the provision of mental health supports within general education settings compared to the placement of students with ED in self-contained programs has received little attention (USDE, 2009).

Emotional disturbance (disability – in PC) means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child’s educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers. (C) Inappropriate types of behavior or feelings under normal circumstances. (D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems. (ii) Emotional disturbance includes schizophrenia. The term

does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.

(Individuals with Disabilities Education Act Federal Regulations, 2006, p. 46756)

Reid and Cullinan (2004) defined a student with an ED as one who has persistent emotional and/or behavioral problems that limit his or her ability to adapt to the norms of behavior in a general education classroom.

Statement of the Problem

Students with disabilities are most frequently the lowest performing subgroup in every school system. They are often placed into self-contained classrooms and self-contained schools; however, there is little existent research regarding the academic growth of students in these settings as opposed to inclusive therapeutic programs. The legal standard for placing a SWD into a more restrictive placement such as a self-contained classroom or school is to identify what makes the segregated placement more superior to the general education setting and to determine if those services could be “feasibly” implemented in the non-segregated regular education setting (*Geffre v. Leola School District 44-2*, No. 06-1047).

The placement of SWD in self-contained schools or classrooms inside and outside of their ‘home schools’, within their least restrictive environment, occurs as part of the IEP process. A self-contained school is considered to be a school other than the student’s home school. A child with a disability may be placed in a self-contained school if the student’s IEP team determines that the student cannot make reasonable progress in the regular education classroom. A self-contained classroom is similarly defined. However, it is a separate classroom located within a regular education public school where students

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do not access regular education instruction or participate with non-disabled peers. These segregated programs are composed solely of SWD, who cannot be educated appropriately in a regular classroom and are to receive individualized, closely supervised specialized instruction (Legal Resource Publications, 2013). One of the common missing components of self-contained classrooms in public schools is access to readily available therapeutic or social work services. Therapeutic supports for the purpose of this study are defined as therapeutic services provided through an accessible licensed clinical social worker aligned with the student's IEP.

Do SWD requiring therapeutic support, show greater academic growth in self-contained schools or a unique therapeutic inclusive public school program? This study researched the differences in these programs and how they affect the academic growth of SWD.

Research has shown that SWD in inclusive general education classrooms have demonstrated increased levels of school connectedness, achievement and content knowledge when compared to SWD in self-contained placements (Causton, 2013; Lane et al., 2008; Signor-Buhl, 2006). A review of data from the Maryland State Department of Education (MSDE) shows that 89% of general education teachers in PC were highly qualified in the subject they taught compared with 41% of teachers in self-contained schools (MSDE, 2009). Existing research compares the academic achievement of students in self-contained schools to self-contained classrooms or self-contained classrooms to students fully included. This research did not address the academic growth of students in full-time inclusive special education programs receiving therapeutic services within the general education setting.

Hypothesis

It was hypothesized that SWD requiring therapeutic support would show greater academic growth in a unique therapeutic inclusive public school program than similar SWD instructed in self-contained schools.

Description of Participating School System

The participating school system, PC, was located in a semi-rural area of Maryland. Historically, PC has been one of the lowest-funded local education agencies (LEA) in Maryland and has a record for being one of the highest achieving despite a challenging student population. The free and reduced meal student (FARMS) population for PC was 46.8%; the unemployment rate was 8.7%, and the employment rate was 42.9% residents compared with the state average of 49.3%. The public school system was one of the county's largest employers, along with the local hospital. Disaggregated employment by industry had education, health, and social services employing 17.2%, manufacturing 14.7%, and retail at 13.4% (United States Department of Labor, 2012). The district has been recognized for its success in dealing with challenging populations of students and for enhancing student achievement.

Methodology

This study was a quantitative study, which utilized MAP assessment data to analyze the growth of SWD in grades K through eight. The MAP assessment was developed by the Northwest Evaluation Association (NWEA) and was administered to every student in the LEA during the fall, winter, and spring of the 2012 - 2013 school year.

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The NWEA utilized an item response theory, which is a theory governing scale development. The score utilized to measure progress is more commonly known as a Rausch unit (RIT) score. Each student's academic growth within the TP and self-contained schools was measured on the MAP assessment through analyzing academic growth in the areas of reading (use of the reading RIT) and mathematics (use of the mathematics RIT). The fall 2012 assessment was the baseline for most students (winter of 2013 for a few), and subsequent assessment data collected during the 2012 - 2013 school year were utilized to calculate the academic growth for each student within each respective learning environment. The data was analyzed to determine if academic growth over time was statistically different between the TP and self-contained schools in reading and/or mathematics.

Research Question

Do SWD requiring therapeutic support, show greater academic growth in self-contained schools or a unique therapeutic inclusive public school program?

Sub Questions

1. What is the academic growth in reading for elementary and middle school SWD educated in a self-contained school as compared to SWD educated in a unique therapeutic inclusive public school program?
2. What is the academic growth in mathematics for elementary and middle school SWD educated in a self-contained school as compared to SWD educated in a unique therapeutic inclusive public school program?

Statement of Purpose and Boundaries

The purpose of this study was to provide all of the necessary information that should be reviewed to make highly effective placement decisions. Given all of the variables LEA review, currently they do not look at the academic achievement of students in one setting vs. another. This study examines the relationship between academic growth of SWD, who are placed in self-contained schools with similar peers who are placed in a unique therapeutic inclusive public school program. Boundaries of this study are limited due to the low number of students and their specific needs participating within this study from PC. Generalizability from this study was limited based on a multitude of variables which impact student's learning in an educational setting such as the teacher efficacy, relationship, background, prior knowledge, professional development, lack of random assignment of students, teacher certification, content knowledge of the teacher, etc...

Significance of Study

This study has contributed to existing literature and databases of best practices regarding the placement of SWD. This study further established a foundation to build upon as it relates to the necessity of ensuring that academic growth and evaluation models are developed across the nation to include all students, schools and learning environments. The impact of this study should be viewed within the context of how instructional programming is developed and implemented within LEA and self-contained schools along with other initiatives, which were in place during the development of the TP and the period in which the data was gathered.

Acronyms

ASD- Autism

AYP- Adequate Yearly Progress

CCSS- Common Core State Standards

EAHCA- Education for All Handicapped Children Act

EBD- Emotional Behavioral Disorder

ED- Emotional Disability

EHA- Education of the Handicapped Act

ELA- English Language Arts

FAPE- Free Appropriate Public Education

FARMS- Free And Reduced Meal Students

FY- Fiscal Year

HLM- Hierarchical Linear Modeling

ID- Intellectual Disability

IDEIA- Individuals with Disabilities Education Improvement Act

IEP- Individualized Education Program

IQ- Intelligence Quotient

K- Kindergarten

LD- Learning Disability

LEA- Local Education Agencies

LRE- Least Restrictive Environment

MA- Medical Assistance

MAP- Measures of Academic Progress

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MSDE- Maryland State Department of Education

NCLBA- No Child Left Behind

NWEA- Northwest Evaluation Association

OHI- Other Health Impairment

OSEP- Office of Special Education Programs

PC- Piedmont County

PDE- Pennsylvania Department of Education

PGSMHI- Prince George's Mental Health Initiative

RIT- Rausch Unit

SCSA- Self-Contained School A

SCSB- Self-Contained School B

SEA- Secondary Education Act

SWD- Students With Disabilities

TP- Unique Therapeutic Inclusive Public School Program

USDE- United States Department of Education

Definition of Key Terms

Adequate Yearly Progress- A requirement of the No Child Left Behind Act (NCLBA) of 2001, which mandated each state to measure the achievement of subgroups in districts and schools.

Autism- A developmental disability significantly affecting verbal and nonverbal communication and social interaction.

Emotional Disability- A disability under the individuals with disabilities education act,

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defined by regulations as "(i) ... a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance -- (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors; (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (C) Inappropriate types of behavior or feelings under normal circumstances; (D) A general pervasive mood of unhappiness or depression; or (E) A tendency to develop physical symptoms or fears associated with personal or school problems.

Free Appropriate Public Education- Special education and related services that are provided at public expense, under public supervision and direction, and without charge.

Individualized Education Program- A written document, developed in a collaborative and cooperative effort between parents and school personnel, that describes the abilities and needs of a child with a disability and prescribes the placement and services designed to meet the child's unique needs.

Individuals with Disabilities Education Improvement Act- Federal legislation that requires states to provide all children with disabilities a free appropriate public education.

Intellectual Disability- A disability under the Individuals with Disabilities Education Act which is determined by a significant sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects a child's educational performance.

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Least Restrictive Environment- The environment in which a student with a disability can be educated with children who are non-disabled to the maximum extent possible while receiving a free appropriate public education through the use of supplementary aids and services.

Learning Disability- A disability that results in a student being unable to achieve in a specific learning area on the same level as other students with the same or comparable mental ability.

No Child Left Behind Act- Legislation reauthorizing the Elementary and Secondary Education Act requiring four essential components to include accountability for results, an emphasis on scientific research expanded parental options and expanded local control and flexibility.

Other Health Impairment- An impairment which results in limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, which can be due to problems such as asthma, attention deficit disorder, attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, etc.

Self-Contained School- Located in a separate school for SWD who cannot be educated appropriately in a regular education classroom.

Self-Contained Classroom- Located in a regular education school for SWD who cannot be educated appropriately in a regular education classroom.

Special Education- Specially designed instruction provided at no cost to the parents, to

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meet the unique needs of a child with a disability. To include instruction conducted in the classroom, in the home, in hospitals and institutions, physical education, and in other settings.

CHAPTER II: REVIEW OF LITERATURE

History and Background of Special Education Inclusion, Exclusion and Achievement

People with disabilities have historically been more segregated, educationally and socially, than any other minority group and are unfortunately in some cases viewed as “defective” (Reid & Knight, 2006, p.19). Federal and state regulations have required the use of disability codes; consequently, codes for LD, ID (previously referred to as mental retardation), and ED are very ambiguous. Due to the difficulty in operationalizing these “educational disabilities,” students have been considered to be impaired in one school setting, but not in another (Ferri & Conner, 2006).

Although our country has a long history of excluding children with disabilities from school, the federal government requires that students be classified by their primary disability; this classification allows the USDE and Office of Special Education Programs (OSEP) to track data and trends to provide financial support to state and local school systems. Developed as a parallel education system, special education has had separate funding sources, teacher certification standards and methodologies since its inception. Classrooms for SWD are supported through specialized academic departments, research, and professional organizations. Ferri and Connor (2006) stated that the cases of *Diana v. California State Board of Education* (1970) and *Larry P. v. Riles* (1979), both publicly highlighted how ability tracking, along with special education, has unofficially served as a tool to segregate classrooms. Thirty years ago, the segregation of SWD occurred frequently despite *Brown et al. v. Board of Education of Topeka et al.*, which ruled it was unconstitutional to racially segregate schools. *Brown* set a precedent, which offered

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special education that segregating a group of children based on any classification, even if completed equally, is unconstitutional under the 14th Amendment of the United States Constitution. This is due to the unavoidable stigma associated with separating students from their general education mainstream classes.

Although our country has a long history of laws mandating school attendance, there is a historical reality in the United States of excluding SWD from public schools. In 1840, Rhode Island was the first state that passed a compulsory education law. Massachusetts followed suit in 1852 along with other states. Despite the intent and nature of these compulsory education laws, SWD were often excluded from a public school education. The exclusion of SWD was often upheld in courts (Yell, 1998). The Massachusetts Supreme Court ruled in *Watson v. City of Cambridge* in 1893, ruled that a child who was “weak in mind,” could not benefit from instruction, was troublesome to other children, and made “uncouth noises” could be expelled from school. The Supreme Court of Illinois in 1958 ruled:

Existing compulsory attendance legislation did not require the state to provide a free public education for the feeble-minded or children who were mentally deficient and who, because of their limited intelligence, were unable to reap the benefits of a good education. (*Department of Public Welfare v. Haas*, as in Yell, 1998, p. 3-4)

The Secondary Education Act (SEA), which passed in 1965, provided an unprecedented \$4 billion in additional financial aid to assist with the education of disadvantaged students and to assist with desegregating black schools. This was in response to some school enrollments remaining at 98% black, a decade after *Brown v. the*

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Board of Education of Topeka, in which the Supreme Court banned segregation in all public schools. Chief Justice Earl Warren announced the court's unanimous decision:

It is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity...is a right, which must be made available to all on equal terms....Separate educational facilities are inherently unequal. (Brown v. the Board of Education of Topeka, 1955, as quoted in Mondale and Patton, p. 138)

While the SEA provided additional funding representing the “carrot” to enhance the inclusion of all students, the Civil Rights Act of 1964 was utilized as the stick, which authorized the revocation of all federal funds if schools were not ethnically integrated (Mondale and Patton, 2001).

In 1973, Section 504 of the Rehabilitation Act was passed, which was the first major effort designed specifically to protect persons with disabilities against discrimination; however, the Education for All Handicapped Children Act (EAHCA) provided the means to ensure states followed suit. President Gerald Ford signed, Public Law 92-142, the EAHCA of 1975 into law. This law provided additional federal funding to states who supported the education of SWD. If states received the federal funding, they were required to submit a plan to the Bureau of Education for the Handicapped. This plan was developed to include the state's policies and procedures regarding the education of SWD in accordance with the EAHCA. If approved by the bureau, the state was obligated to guarantee a FAPE to SWD in return for federal funding. The final regulations of Public Law 92-142 or the EAHCA did not take effect until August 23, 1977 (Yell, 1998).

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Given the lack of progress that students with behavioral problems experience in self-contained environments, regardless of the structural benefits, questions are raised regarding the effectiveness of the educational programming utilized within these classrooms (Wehby, 2003). The academic and behavior deficits exhibited by students attending or enrolled in self-contained programs should reflect best practices (Maggin et al., 2011). Results of the study conducted by Maggin et al. through the use of direct observation and self-report measures indicated that small-group instruction alone was not an effective context for optimal instruction for SWD, who were coded with an ED in a self-contained setting (Maggin et al., 2011).

Lane, Barton-Arwood, Nelson and Wehby (2008) analyzed the academic, social and behavioral performance of students with emotional and behavioral disorders (EBD) receiving services in a self-contained setting. Results revealed that both elementary and secondary group scores were well below the 25th percentile based on reading, math, and written expression measures. The largest differences between the groups were on math performance with the secondary group demonstrating lower skill sets in mathematics. When students are unable to successfully negotiate social demands and meet teachers' expectations for school success, school becomes a formidable task. Without effective interventions, behavior patterns become more rooted and are less likely to be affected by future interventions (Walker, 2004). This study was limited based on the sample size, measurement tools and heterogeneity of primary labels, which made it difficult to generalize the results. Lane et al. (2008) suggested the inclusion of additional schools across a wider geographical area.

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Reid, Gonzalez, Nordness, Trout, and Epstein (2004) also reported findings from their meta-analysis that showed students with emotional or behavioral disabilities had significant deficits in academic achievement. These students performed significantly lower than students without a disability across academic subjects, and there was no statistical difference in academic performance across settings including general education, resource room, self-contained classrooms, self-contained schools and residential. The authors also found that older SWD such as an EBD did not have greater deficits as compared to younger students. A review of the literature consistently indicated that students with comorbid EBD and academic deficits do not improve over time (Anderson, 2001; Nelson, 2004). This data should be used with caution as incomplete information regarding students' ages was provided, but there is evidence indicating that, for some students, academic deficits become worse as the student ages (Reid et al., 2004).

Given the data supporting the challenges of instructing students with EBDs, many researchers believe that teachers are not graduating from pre-service programs with the depth of content knowledge necessary to effectively teach SWD, specifically in the area of mathematics (Ball, 2005).

Although emphasis on the process of special education is important and required under federal and state laws, its application can be hampered by the lack of a teacher's content knowledge. Teacher preparation programs and personnel must look into pursuing models that will ensure positive outcomes for students and address the need for content knowledge. National accreditation agencies of initial teacher certification should re-

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examine the preparation of teachers, specifically, those teaching mathematics to SWD, to ensure that they are prepared to enter the classroom (Meyen, 2010).

The lack of progress of students with EBDs has been documented in longitudinal school-based studies. An inclusion study by Siperstein, Wiley and Forness in 2011, followed eight-six children over a 2 year period. The sample included three sub-groups of students with an ED: one group in low-income schools, a second group in high-income schools, and a third group of students considered high-risk for an ED but not receiving special education services. This study found that no significant progress was made in any of the three groups in reading / math achievement, or within ratings of behavioral progress despite initial differences in overall functioning. This lack of progress was unrelated to special education and related services that the students received in their self-contained or full inclusion program (Siperstein, 2011).

Anderson, Kutash, and Duchnowske (2001) found that students with an ED did not show improvement in academic skills over a five-year period beginning at the end of elementary school. Initially, the students with an ED performed better than students with a LD in K and first grade. However, the findings from this study showed that students with a LD made significant progress over time in reading. This significant progress was associated with the students receiving less full-time special education services (Anderson, 2001). Mattison, Hooper, and Glassberg (2002) also compared students with an ED and a LD and found that neither group made significant progress after their first three years in special education. Greenbaum et al. (1996) found that the percentage of students with an ED reading below grade level, over a period of seven years, increased from 54% to 75%, while the percentage performing below grade level in math remained constant at 93-97%.

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Nelson et al. (2004) conducted a cross-sectional study of students with EBD from kindergarten through grade twelve in an inclusionary environment; the students did not demonstrate any significant growth in reading or written language over three years, and in fact greater deficits in mathematics manifested for some of the students. A meta-analysis conducted by Reid and colleagues in 2004 found that there was no difference in the academic status of participating students with an ED based on age or any subject area, which suggests that academic deficits remain stable over time. The variability in academic and behavioral characteristics for elementary age students with an ED may be more related to the contextual differences in the types of schools where these students receive instruction (Siperstein, 2011).

According to the OSEP 2010 report, as described by Siperstein (2011), 39% of students with an ED ages six through twenty-one are served within a full inclusion environment, 19% were educated in a partial inclusion environment, 23% in a self-contained classroom, and 13% in a self-contained school. Children identified with an ED are arguably only a small fraction of those with emotional or behavioral concerns who need school intervention, and as such, may represent the most impaired of all children with emotional or behavioral disorders (Kauffman, 2007). The data indicates that the students with the most severe needs require instruction through the most highly qualified and effective teachers.

Maggin et al. (2011) studied 77 teachers within general education classrooms and 34 teachers of students with an ED in inclusive and self-contained classrooms. Maggin found that teachers were not more likely to utilize effective instructional content or strategies in the self-contained classroom or the general education classroom. Students in

both groups within the Maggin study remained highly engaged, and the author highlighted that it is critical for teachers to utilize effective instructional practices. Kauffman (2010) shared that small-group instruction alone does not provide an optimal instructional setting for students with an ED, which is usually presented as the main benefit of a self-contained program. Students in self-contained settings require increased attention to instructional content and more effective teaching practices than those typically found in general education, to make up for large academic deficits (Kauffman, 2010). Teaching mathematics to SWD without considering the general education curriculum and the classroom environment where instruction will occur places students with EBD at further risk (Meyen, 2010).

Supplemental Aids and Services

Legal Research Publications (2013), define supplemental aids and services as aids and services provided inside and outside of general education classes, extracurricular activities, and non-academic settings, to enable SWD to be educated with nondisabled children to the maximum extent appropriate.

Effective self-contained programs utilize both curricular and structural modifications to individualize services for enrolled students. Structural adaptations may include a lower student to teacher ratio such as 8:1 or 10:1, the assistance of a paraprofessional, and arrangements within the classroom that optimize space to reduce potential conflicts or obstacles to the learning process (Kauffman, 2002). Such modifications to the general education classroom can promote student progress (Maggin et al., 2011). The provision of explicit instruction was reported to be particularly important for students with an ED to enhance the student's ability to optimize their

school adjustment. Students with an ED may shift educational settings with high frequency more so than most other disability (Lane 2008). Walker et al. (1991) found that students who attend multiple schools (more than two elementary schools or more than one middle school) is a predictive risk factor of negative outcomes.

The effectiveness of individualized, evidence-based behavioral programs can be further enhanced when integrated with a three-tier model of universal, selected, and designed interventions that start in the general education classroom, and gradually move into the special education classroom (Nelson, 2009). Students with an ED require access to supplemental services, including a range of mental health services and supports, while they receive highly qualified education in a highly structured classroom environment (Slade, 2009). Historically, students with mental health care needs have been placed in segregated self-contained programs; however, some researchers suggest that these placements may have been unnecessary if mental health services and supports were provided within a regular public school (Carran, 2005; Parrish, 1998).

Inclusion

Individualized instruction is a requirement of the IDEIA. Special education legislation requires that all school placement options be considered prior to removing a student from his or her general education classroom (Signor-Buhl, 2006). Removing a student from the general education setting raises significant concerns. Catalano, Oeterle, Fleming, and Hawkins (2004) found that school connectedness was associated with lower rates of delinquency, violent behavior, gang membership, and substance abuse. School connectedness, the belief that adults and peers care about the student's sense of belonging in school, has been found to offset the effects of a negative home environment (Maddox

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& Prinz, 2003) and emotional distress (Wilkinson-Lee, 2011). School connectedness positively impacts students' academic performance. Specifically, school connectedness is associated with students' overall grades, scores on standardized tests, and academic achievement (Wang 2010). Connectedness also positively shapes psychosocial functioning. Durlack, Weissberg, Dymnicki, Taylore and Schellinger (2011) found that social-emotional learning programs enhanced students' social emotional functioning, attitudes about school, behavior, performance on state achievement tests and general school climate.

Some students are particularly vulnerable to challenges, impairments, or disruptions within their psychosocial and academic functioning. These students display a greater need to feel included and connected to members of the school community. Students with an ED or chronic health problems may struggle with the transition back into the school environment following a long stay in hospitals, residential treatment centers, or homebound educational placements (Sulkowski, 2012). Students with the greatest learning needs are often provided with the least amount of feedback and practice, which ultimately impacts their chances of learning, as well as their ability to be engaged during instructional activities (Hayden, 2010). Low achieving students in a classroom are usually given fewer opportunities to respond when compared to their higher achieving peers (Good, 1970).

In *Gaskin v. Commonwealth of Pennsylvania*, a settlement agreement was reached between several families of children with disabilities and the Pennsylvania Department of Education (PDE). Pennsylvania agreed to prioritize the placement of all students identified as SWD in the least restrictive environment. This case reinforced the

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understanding that special education is to be a service, not a place. Following this agreement, the PDE more closely monitored its public schools in order to track the percentage of time SWD spent with their general education peers (Skilton-Sylvester, 2009; *Gaskin v. Commonwealth of Pennsylvania*, 2005). Skilton also observed a somewhat disconcerting trend; once a school system designates an ‘inclusion class,’ such a classroom becomes a location where schools place labeled students. When this occurs, the number of students with IEPs usually continues to rise throughout the year.

Creating opportunities for substantial inclusion requires at the minimum three shifts: 1) the ability to focus beyond the behaviors and needs of individual students and toward the needs of a community of learners; 2) a move from an image that SWD need to conform to the structure of the classroom and that schools need to change; and 3) a fundamental shift in redirecting the attention from the deficits of SWD to the strengths that they bring to the community as fully participating members (Skilton-Sylvester, 2009).

Schools continue to use out of date models of inclusion, while segregating SWD in separate classrooms, wings or buildings. The creation of authentic, inclusive schools and districts is hard work and a continuous process, but comes with great promise. Inclusive programs are places where all children, regardless of disability, race, language and income, are integral members of the school community (Causton & Theoharis, 2013). Students who connect with their peers and are consistently provided with meaningful educational activities receive the collaborative support necessary to succeed. The most common strategy for including students has been to utilize paraprofessionals. Often, this was done to appease teachers, principals, or parents with a deal that along with

the student with complex needs, comes a paraprofessional (Causton & Theoharis, 2013). Once a student is assigned a paraprofessional, students tend to receive much less direct teacher involvement. In a study of paraprofessionals utilized in 1:1 student assignments, authors at the University of Vermont reported inadvertent negative effects of the practice, including separation from classmates, unnecessary dependence, interference with peer interaction, loss of personal control, and provocation of negative behaviors (Causton & Theoharis, 2013).

Additional Empirical Research on Academic Growth and Achievement of Students with Disabilities in Inclusionary, Self-contained Classroom, and School Settings

Maggin et al. (2011) found there were no differences found in the use of effective instructional strategies or practices between self-contained and inclusive settings.

Students placed in more restrictive classrooms were shown to provide more active responses to teacher instructional statements; however, there were no differences in the time students spent academically engaged. While self-contained classrooms provided structural advantages, the educational programming provided by these teachers is not necessarily more specialized than the instruction occurring in the general education classroom. In both settings, the researcher observed low rates of opportunities for students to respond and to receive praise, (Maggin et al., 2011).

Reid and colleagues (2004), conducted a meta-analysis to examine the progress of students who were educated in a variety of settings, ranging from resource programs, separate day schools, to outpatient clinical settings. The academic progress for students may vary as a function of their educational setting (Lane, 2008). Although long-term academic achievement outcomes for students with EBD are not promising, one would

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expect superior progress behaviorally, socially, and academically, in settings customized to meet those students' multiple needs (Lane et al. 2005a). It could be reasoned that self-contained classrooms or schools are better equipped with the necessary resources and services these students require. Specialized educational environments (self-contained schools and classrooms) have the perceived benefit of smaller class sizes, the support of paraprofessionals (Singer et al. 1986), modified curriculum, diverse instructional strategies (Meadows et al., 1994), and stronger classroom management (Kauffman & Wong, 1991). These extensive supports should equate to better results in academic and social outcomes in contrast to other placements such as the general education classroom that do not allow for the same level of structural individualization. However, existing data suggests otherwise (Lane et al., 2005a).

Reid et al. (2004) reported that across all general education, resource, self-contained and special school placements, students with an ED continued to show significant academic delays. Lane et al. (2005 a, b) compared the academic profiles of students with an ED educated in self-contained classrooms to those in self-contained schools. It was found that although students in both settings demonstrated broad academic deficits, the students educated in self-contained schools had lower academic achievement than students in self-contained classrooms. Their research further revealed that students in both settings made limited academic progress in reading and math skills. The lack of academic progress was attributed to several possible factors including (a) a greater emphasis on behavioral programming and social skills instruction relative to academic instruction (Lane et al., 2005 a, b; Mooney et al. 2003; Reid et al., 2004); (b) measures of outcomes which may not be sensitive to change (Lane, 1999); or (c) the

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presence of other variables such as hyperactivity, externalizing/internalizing behaviors that may influence student's academic progress (Reid et al., 2004).

Some data suggests that the academic and behavioral performance of students with an ED decreases over time (Greenbaum et al., 1996; Nelson et al., 2004; Walker et al., 2004); however, limited information is available regarding variables that predict differences in elementary and secondary students' achievement. As expected, oral reading fluency rates were higher for older students; however, reading comprehension skills declined for students in upper grades (Lane, 2008). While students are reading more fluently in the later years, their comprehension skills are not commensurately improving (Lane, 2008). When students leave their early elementary years, reading tasks shift from learning to read, to reading to learn (Biancarosa & Snow, 2004). Students with higher levels of school adjustment and internalization of behavior patterns performed better in writing (Lane, 2008). Similarly, school adjustment scores explained a substantial portion of the unique variance in predicting writing scores. Based on the contributions of these three unique variables, school adjustment may be more predictive of performance on literacy variables (Lane, 2008).

The purpose of the Signor-Buhl project (2006) was to evaluate the academic outcomes of students educated in self-contained and inclusive models of special education within a midsized urban school district in Upstate New York. An intelligence quotient (IQ) was used to control for cognitive differences between the two groups and state-mandated, high-stakes assessments of English language arts (ELA) were used for fourth grade students as a measure of achievement. The results of the ELA assessment comparisons suggested that students in inclusive classrooms performed better than

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students in self-contained classrooms. After controlling for significant behavior problems and IQ, students in the inclusion group performed at a higher rate on individual and group measures of reading achievement. Individual reading measures showed that students in inclusive settings performed 0.6 standard deviations (eight standard score points) higher than similar students educated within the self-contained setting. On the ELA assessment, the inclusion group achieved one performance level higher on a four level scoring system than students in the self-contained setting. With respect to the individual measurements of math achievement, students in the inclusion group performed similarly to those in the self-contained group. Students who are educated in inclusive settings achieve at a rate that is comparable to, if not slightly better than students who are educated in self-contained settings (Signor-Buhl, 2006).

Beck, Lindsey, and Frith (1981) investigated the effect of special education class placement on academic achievement and intellectual functioning. Using a pre-post design. Beck et al. (1981) administered assessments at the beginning of the study and again two years later. They found that the number of the years a student spent in a self-contained classroom did not significantly affect scores on the Wechsler Intelligence Scale for Children, Wide Range Achievement Testing in reading and spelling, or Peabody Picture Vocabulary Test scores. After the data was analyzed to determine the efficacy of the treatment on each variable within groups, a significant change in IQ was found for both groups. The significant change consisted of a regression in IQ scores for group I (placed within a self-contained classroom for one year) that was found in both performance IQ and full scale IQ. In group II (placed in a self-contained classroom for two or more years), the regression in IQ scores was significant in verbal and full scale IQ.

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The only academic area that showed significant improvement was arithmetic (Beck, 1981).

Lane, Wehby, Little, and Cooley (2005), studied a sample of 60 students with an ED in self-contained classrooms and self-contained schools; they found that students made slight progress but in limited areas. Students fell further behind in academic, social, and behavioral domains with little disparity in performance between the settings. While research is consistent regarding the lack of improvement for students with an ED, the nature and extent of the lack of improvement varies from one study to another (Lane, 2008).

Siperstein, Wiley, and Fornes (2011), followed 86 students with an ED receiving special education services in low and high-income schools. The comparison group consisted of students who were not receiving special education services but were considered high-risk for an ED. The measures included academic achievement tests consisting of two math subtests and two reading subtests from the Woodcock Johnson III. Students with an ED showed no behavioral progress regardless of counseling, behavioral resource support, or social skills training (Siperstein, 2011). Research has shown that practices in self-contained classrooms or self-contained schools did not individualize. However, these practices did result in higher teacher burnout rates, led students to low postsecondary employment, resulted in low rates of independent living and an over-representation of students of color and students in poverty, and yielded an increased reliance on the use of physical restraint (Causton & Theoharis, 2013). Cosier (2010) examined national data related to SWD as part of her doctoral dissertation; she found a

positive correlation between time spent in general education and increased academic gains (Causton & Theoharis, 2013).

Impact of poverty

Wiley (2008) studied 140 students with an ED across 36 elementary schools in a large metropolitan area in an effort to discern the impact of differences in school context such as family income. Differences in school context were analyzed utilizing school income as a primary variable, which was defined by the percentage of the total number of students enrolled receiving free or reduced-price lunch. According to state mandated achievement testing, students identified as participating in inclusive ED programs located in both high-income and low-income schools performed equally below their same school's non-identified peers. When individual, standardized achievement tests were administered to the students, those with an ED in a low-income school were approximately 20 standard score points below their peers with an ED in high-income schools. Following the examination of behavioral ratings, students with an ED in low-income schools were observed to have significantly lower levels of internalizing behavior, while levels of externalizing behavior tended to be similar in both high and low-income schools (Wiley, 2008). Other studies, such as Siperstein (2011), support the fact that schools in poverty consistently show lower achievement than schools not in poverty for students with an ED.

Long-Term Effects of Students with Emotional and Behavioral Deficits in Inclusive and Self-Contained Programs

Maggin et al. (2011) found that although self-contained classrooms were intended to provide more opportunities for academic and social development, deficits in these

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domains persisted for most students even after being placed in more restrictive settings, despite increased attention to the academic needs of students with an ED. Academic achievement, like behavioral and social skills, did not appear to improve for students in more restrictive settings (Lane, 2008). Nelson and colleagues reported that while reading and written language levels remained stable, there were significant differences between children and adolescents in mathematics. This suggests that deficits in mathematics may increase as students with an ED get older. Likewise, Siperstein (2011) reported, almost without exception, no significant progress in any of the three subgroups studied over the course of a full academic year. This lack of progress was not related to the type of special education and related services that SWD received in self-contained or full inclusion programs.

Perhaps no other finding from special education research is more disheartening than that concerning the lack of success of students with EBD. Although studies aimed at examining the progress of students with an ED are relatively few, the studies have consistently shown little or no improvement over time in academic and social functioning despite placement within self-contained schools, self-contained classrooms, or full inclusion.

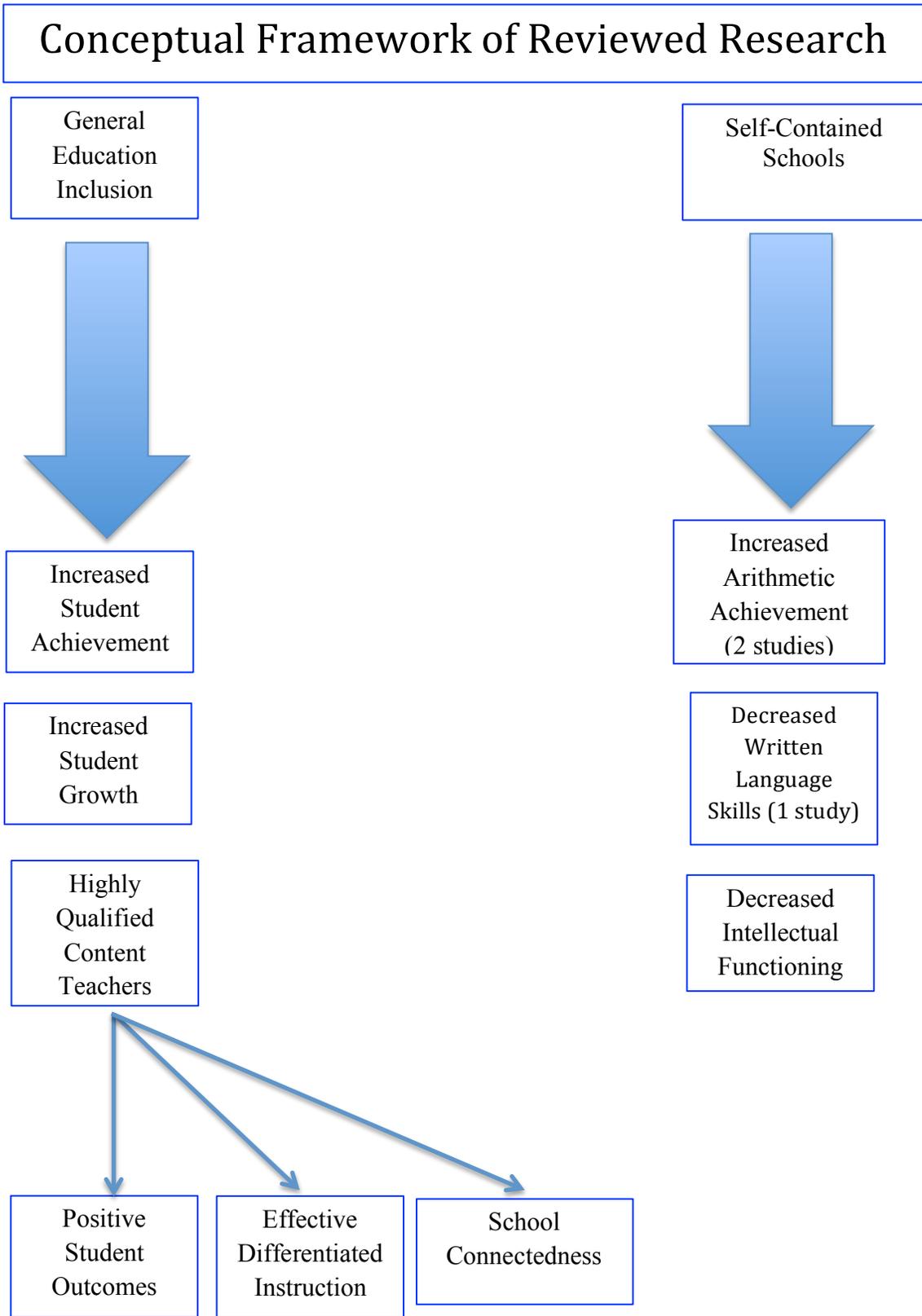
Summary

Considerable research conducted over a period of time by various authors cited in this review did not evidence statistically significant differences in academic growth for students with an ED instructed in self-contained schools or through full inclusion. For all SWD, there is minimal documentation of educational growth in self-contained classrooms within the general education setting. Only two groups of authors reported an

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increase in achievement; these gains were documented in the area of mathematics.

Across all self-contained and full inclusion educational environments, it is clear that students with an ED, which is the predominant disability category in self-contained classrooms and schools, made little to no educational progress. Research regarding school-connectedness and skilled teachers with strong content knowledge were discussed as contributing factors to success within school. Reading deficits and poor educational outcomes were common denominators across the research with regard to students with an ED. Although some studies researched students at-risk for having an ED in the general education setting, the authors did not discuss the ability of students to access general education instruction.



Chapter III: METHODOLOGY

Purpose of Study

The purpose of this study was to provide all of the necessary information that should be reviewed to make highly effective placement decisions. Local education agencies review many variables in making such decisions; however, they do not currently examine the academic achievement of students in one setting vs. another. This study examined the relationship between the academic growth of SWD, who were placed in self-contained schools with similar peers who were placed in a TP. The academic growth of participants was analyzed in reading and mathematics. The TP allowed the matriculation of students throughout general education classes as long as they were able to receive benefits through therapeutic support to assist with these transitions.

Importance of Study

Research conducted on the effectiveness of self-contained schools has consistently shown no significant change of student progress in reading, math, or writing over a full academic year (Lane, 2005a; Siperstein, 2011). Other studies have shown that students educated in inclusive education settings versus self-contained classrooms performed higher on individual measures of reading achievement and ELA assessments (Signor-Buhl, 2006). Beck et al. (1981) found a significant improvement in arithmetic for students in a self-contained classroom; however, this same study suggested that these self-contained classes for students with a LD did not result in a significant increase in functional areas.

Need for Research and Methodology

Existing research in this area was limited and often did not describe if therapeutic services were available in the self-contained classroom or if the students were accessing general education instruction. Research has also shown that teachers will refer students for special education services because referrals often result in student removal from their general education classrooms. Instructing SWD in general education classes is “upsetting” to educators faced with large, diverse classes and increasing demands for achievement and accountability (Causton, 2013, p.22). With the implementation of Common Core State Standards (CCSS) and a major push for teacher evaluation based upon the academic growth of students, our neediest learners may find it more difficult to be educated within their neighborhood public schools. It is critical for researchers to explore the effectiveness of programs that are intended to provide the services to students in their LRE. If cutting-edge practices cannot be academically investigated, communicated, and implemented, our most challenged students may continue to be educated in instructional settings with teachers who do not have the high levels of content and or behavioral expertise.

While previous studies included statistical variables of poverty as defined by students who were in the sub-group of FARMS, these students were only designated within this category if their parents filled out and submitted the appropriate application to the school. For the purpose of this study, the impact of students receiving medical assistance reimbursement is investigated. Medical assistance requires a parent’s authorization for billing; however, the data for each eligible student was cross-referenced and confirmed to ensure that PC maximized reimbursement.

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The TP maximized student involvement in general education classrooms with non-disabled peers, provided instruction through highly qualified teachers, and ensured students maintained the highest levels of school connectedness as possible. All three of these variables were critical to optimize post-secondary outcomes for SWD.

The methodology utilized in this study stood apart from previous studies because it was based on the MAP assessment, which was designed to measure academic progress through computer-adapted measures. Measures of academic progress assessments provided district averages and was nationally normed based on a student's RIT. A RIT scale is a curriculum scale comprised of questions with individual item difficulty values, used to estimate student achievement. Following the completion of the initial assessment, the difficulty of items changed based on each student's responses. The RIT score was the measurement utilized to measure reading and mathematical growth of SWD in the self-contained schools and the TP.

This study included elementary and middle school SWD who received their instruction and FAPE through two separate self-contained schools and several TP. The academic growth of participants within each group was analyzed throughout the 2012 - 2013 school year. Participants took up to three administrations of the MAP assessment in the fall, winter, and spring in the areas of reading and mathematics. The sample consisted of 48 students. Students in the self-contained schools sample were pooled from two separate schools; students in the TP sample were registered at four separate inclusive public schools. All instruction occurred within a self-contained classroom for students receiving their instruction in self-contained schools. Students educated within the TP

accessed the majority of their education within the general education classroom, and they also received commensurate therapeutic services based upon their individual needs.

The statistical methodology utilized within this study was hierarchical linear modeling (HLM). This is a complex form of ordinary least squares regression to analyze variance in outcome variables when predictor variables are at varying hierarchical levels. Prior to the creation of HLM, hierarchical data were analyzed through fixed parameter simple linear regression techniques, which were not sufficient due to neglecting shared variance. This analysis employed a two-level growth model, where three consecutive assessment scores will constitute the level one data. The analysis was performed separately for the reading and mathematics MAP scores. Level-two data consisted of students' characteristics, specifically, where the students were instructed, self-contained or inclusive therapeutic setting. Gender, grade (elementary or middle), and eligibility for medical assistance were added as control variables.

Hierarchical linear modeling was seen as the optimal method because it accounted for shared variance across levels versus aggregating levels together and ignoring lower level individual differences. Aggregation of data may result in up to 80-90% of variability being lost due to individual differences. This could result in a misrepresentation of the relationships between variables. Hierarchical linear modeling is more accurate than disaggregating data because it considers all of the relationships between variables at level one of the hierarchy to be context free, thereby ignoring the potential presence of between-group variation. For example, if all of the variability between level two variables are brought down to level one, placement of a student could no longer be accounted. The ability of HLM to accommodate small and/or discrepant

group sample sizes and missing data are other strengths taken into consideration prior to choosing HLM (Woltman, 2012).

Level one model. Level one modeled the effect of time between math MAP assessments. The equation for each student is:

$$\text{MATH}_{ij} = \beta_{0j} + \beta_{1j}(\text{TIMEOFTE})_{ij} + r_{ij}$$

Where MATH_{ij} is the dependent variable and represents student growth on the mathematics MAP, this represents the math score of student j at time i . The intercept, β_{0j} is the initial math score of student j when TIMEOFTE is equal to zero. The initial math score was recorded during the fall of 2012 or winter 2013. β_{1j} is the growth rate for student j over the data collection period. $(\text{TIMEOFTE})_{ij}$ is the value on the level 1 predictor of change between assessments. It is assumed that the errors associated with the level 1 predictor of change in scores between assessments, r_{ij} , are independent and normally distributed with common variance σ^2 .

Level two models. The level two models consisted of the location where the students were instructed, self-contained vs. inclusion therapeutic public school setting. Student characteristics of gender, grade (elementary or middle), eligibility for medical assistance, were added as control variables. Both initial ability and growth parameters are allowed to vary at level two as a function of personal characteristics of the students, in this study, their placement. The level two equations are as follows:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{PUBLIC_M})_j + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{PUBLIC_M})_j + u_{1j}$$

β_{0j} represents the intercept of the level 1 model, γ_{00} is the common intercept across all students and the grand mean. γ_{01} is the effect of placement on β_{0j} (initial math

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achievement), $PUBLIC_M_j$ is the value of growth of the placement and will be centered around the grand mean. The random effect for each student is u_{0j} ; it represents the random effects of the j th level 2 unit adjusted for growth on the intercept and is assumed to be distributed $N(0, \tau_{00})$. The estimated growth rate through time for student j is β_{1j} . The average growth rate, γ_{10} , is associated with each student, and γ_{11} is the impact of placement (inclusive therapeutic public school program or self-contained school). The random effects of the placement level-2 unit adjusted for student growth on the slope is u_{1j} .

Description of Data and Participants

During this study, SCSA was located in PC, attached to an acute psychiatric hospital, and a residential psychiatric respite facility. This school provided psychiatric and social work services in addition to educational services aligned with each student's IEP. Related services provided by SCSA included psychiatric, social work, speech and occupational therapy. The capacity of the SCSA was 70 students, with the ability to serve students ages five through twenty-one and grades one through twelve. The school was certified to provide educational services to special education students. Self-Contained School A followed a medical model and historically infrequently recommended the transition of students back to a lesser restrictive setting. This recommendation was only made if the staff believed that the medical diagnosis had been cured or was substantially minimized. Each classroom had a teacher and a teacher's assistant, with a class size of three to eight students depending upon the grade level and content area. Instruction was frequently presented through the utilization of worksheets and direct instruction. There were no reading or math intervention programs provided

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outside of individualized instruction based upon each student's IEP. Often within SCSA, teachers taught more than one subject area in the same classroom concurrently. Courses that would have allowed students to graduate with a University of Maryland Completer certificate were not offered, and other course selections were limited for students. The school had "quiet rooms," which were used for self initiated time-outs or restraint/seclusion when necessary. Students were scheduled for counseling services based upon their IEPs. Students typically received approximately two hours of counseling/social work services per week. While it was possible to permit students to participate in extracurricular athletic activities at their home school, students did not usually participate in those activities at the SCSA because of bus/school schedules and the distance between this school and their home school. Participating students in SCSA took MAP assessments at a public school located in Piedmont County. In 2009, SCSA reported that 90% of their teachers were not highly qualified in the content area that they taught. In 2011, Maryland State Department of Education (MSDE) reported that 11.1% were not highly qualified. (MSDE 2009, 2011). When asked how these data were gathered, the school shared that teachers who were certified in special education were reported as highly qualified. This criterion was not aligned with the state requirement of having the teacher of record hold a certificate in the content area in which they were teaching. Clinicians within this school provided therapy to students throughout the school and to outside clients on their caseload. The residential psychiatric respite facility connected to this business, usually did not send their clients to county schools even when clinical issues were not observed within the public school setting. All students who attended SCSA were SWD. When students did transition back to their home school, they

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sometimes returned through a split day schedule; however, in most cases, they transitioned at the beginning of a grading period or the school year.

Self Contained School B was a non-denominational, non-profit Christian outreach school that provided social work and residential services for students placed through the Department of Juvenile Services and the Department of Social Services. Other related services provided by SCSB included contractual nursing, individual student counseling, group counseling, speech/language and occupational therapy. The capacity of SCSB was 64 students (boys only) of the ages seven through twenty-one and grades two through twelve. The school was approved by MSDE to educate special education and general education students. While providing social work services, SCSB focused more on mal-adjusted students through a behavioral based program. The school frequently recommended the transition of students back to their home schools and worked with staff to ensure the transition occurred in a strategic manner. Each classroom had a teacher and a teacher's assistant with an average class size of four to eight students depending upon the grade level and content area. Instruction resembled more traditional classroom instruction with a wider variety of instructional strategies than direct instruction. There were no reading or math intervention programs provided outside of individualized instruction based upon each student's IEP. Courses that would have allowed students to graduate with a University of Maryland Completer certificate were not offered; limited course offerings were available for students. The school had a transition area for students experiencing crises. This school also had restraint/seclusion rooms, which were utilized when necessary. In 2009, SCSB reported that 48.4% of their teachers were not highly qualified. In 2011, MSDE reported that 68.2% of their teachers were not highly qualified

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(MSDE 2009, 2011). When asked how this was reported, the school administration reported that they closely followed guidance from MSDE to ensure proper reporting. Clinicians within this school worked with residential and school clients as part of their caseload. While it was possible to permit students to participate in extracurricular athletic activities at their home school, students did not usually do this because of bus/school schedules and the distance between this school and their home school. All students who attended SCSB and were funded by PC, were SWD. Self-Contained School B only had a few residential general education students who attended classes with the SWD. Self-Contained School B also had residential general education students who were integrated into public schools located within PC. When students transitioned back to their home school, they sometimes returned through a split day schedule however, frequently they returned at the beginning of a grading period or the school year. Self-Contained School B was owned and operated through a separate business.

The TP was a unique public school program in Piedmont County. The program was created and implemented during the 2009 - 2010 school year. All related services required by the students' IEPs were provided through PC including: nursing, speech, counseling, social work, group counseling, speech, assistive technology, and occupational therapy. The majority of students educated in the TP during the first year were all returning/coming back from self-contained schools. During the year of this study in 2012 - 2013, students were approximately evenly split between those who had returned from self-contained schools and those who were placed into the TP vs. being placed into a self-contained school. The philosophy of the TP was to maximize the time students were instructed within their general education classroom. Students were supported by an on-

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site social worker, who was readily available to provide counseling, and teachers were supported by meaningful and continual professional development. Each classroom was assigned a teacher, social worker and two paraprofessionals/instructional assistants, who assisted students to transition into general education classes with non-disabled peers.

When students were not able to be included in the general education classroom due to behaviors, they were educated in the TP classroom. Average class sizes in the TP classroom ranged from three to eight and varied based on grade level and content area.

Elementary programs were organized to include kindergarten through grade two and grades three through grade five. Instructional methodologies in the TP mirrored general education instruction throughout PC. General and special education interventions were provided through the programs as they would be in the general education classroom.

These interventions included Wilson, Foundations, and i-ready. The social worker focused on each student assigned to his or her program and worked with general and special education teachers; additionally, the social worker occasionally assisted with the lessons in the classroom. Social workers also counseled other students within the school including general education students in working groups, and assisted in response to intervention and integrating students into the culture of each school. All of the elementary TP teachers were highly qualified because they had content area certification in the subjects taught. All secondary teachers were highly qualified in special education, and some were highly qualified in several additional curricular areas. All teachers within the TP collaborated with their general education counterparts and received lesson plans from general education classroom teachers to ensure students were following the same curricular scope and sequence. This collaboration assisted in guaranteeing that

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instruction was rigorous, aligned, and facilitated smooth student transitions. Specific teacher data regarding HQ status was not gathered for secondary teachers because a unique part of the program ensured that each student was included the maximum amount of time into the general education classroom. The ability to do this varied upon the student's strengths/needs. Each program ran differently to match student/teacher/administration styles and backgrounds. When students transitioned back to their home schools, itinerant social workers supported the student and staff at their home school for a specified duration of time, which was operationalized within the students' IEPs. The itinerant social worker assigned to the student at the return juncture was usually the same social worker initially assigned to the student; this consistency was planned to maximize instructional strategies and positive behavior supports prior to removing the student from his/her home school. One of the five TPs was an alternative school comprised of general education students and SWD, which provided instruction to SWD assigned in grades six through eight. There was one public elementary school program that hosted two separate classes for grades kindergarten through two, and one for grades three through five. The other two TPs were located in separate general education middle schools.

Disability Demographics of Participants

Overall, 19 participants included within this study (40%) were coded as having an ED; 16 participants (34%) were coded with OHIs; 9 participants (19%) follow suit for the rest of the percentages...it just makes for less words were coded with ASD, two participants or 4% were coded with an ID, and one participant (2%) was coded with a

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LD. The disability code for one student in the elementary TP was not available. Table 1 shows the demographics of participants by disability, as defined within IDEIA.

Table 1

Demographics of Participants by Disability:

	ASD	ED	ID	OHI	SLD
Elementary					
SCSA	0	1	0	0	0
SCSB	0	0	1	0	0
TP	2	9	1	7	0
Total %	10%	48%	10%	33%	0%
Middle					
SCSA	0	1	0	1	0
SCSB	1	2	0	2	0
TP	6	6	0	6	1
Total %	27%	35%	0%	35%	4%
Grand Total%	19%	40%	4%	34%	2%

Reading Demographics of Participants

Overall, there were 48 students who participated in 128 MAP assessments, in reading. There were 38 students (76%) in the therapeutic inclusive program and nine students (24%) in self-contained schools. Of all participants, 41 students (87%) took their initial reading assessment in the fall of 2012 and six (13%) took their initial reading assessment in the winter of 2013.

Students within the elementary TP completed 53 of 59 assessments (90%) and six assessments (10%) were completed by students within elementary self-contained schools. Students within the secondary middle school TP completed 51 of 69 assessments (74%) and the remaining eighteen assessments (26%) were completed by self-contained school students. Of the 21 elementary students participating in the reading assessment, 19

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(90%) were in the inclusive therapeutic program, and two (10%) were in self-contained schools.

There were 17 male (88%) and two female (12%) elementary students in the TP. The elementary self-contained schools consisted of two male students (100%). The secondary/middle school inclusive therapeutic program had 18 male (95%) students and one female (5%) participant. Self-contained schools educated six male (86%) students and one female participant (14%).

Medical Assistance eligibility status for one student was unknown due to the student moving to a new LEA prior to the gathering of data for this study. There were 30 eligible students (64%) of the remaining 47 students. Within the elementary TP, 11 of the known 18 students (61%) were eligible, and one of the two students (50%) educated within self-contained schools was eligible. For secondary students, 12 of the 19 (53%) TP students were eligible and six of the seven (86%) self-contained school students were eligible.

Overall, seven students (15%) were identified as African American, one Hispanic (2%), five (11%) as “two or more races,” and 34 (72%) were white. Race was identified based on information as it was programmed into PC’s student information database, which also provided testing data to the state. There were no Hispanic or African American students within self-contained schools and one secondary participant (17%) was identified as “two or more races”. The TP had 13 white elementary students (68%) and 13 white secondary students (68%). Within the secondary TP, there were five African American students (26%) and one participant coded as two or more races (5%). The elementary inclusive therapeutic program also consisted of two African American

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students (11%), one Hispanic student (5%), and three, two or more races students (16%).

Table 2 shows the reading demographics of all participants in reading.

Table 2

Demographics of Participants in Reading:

	Elementary School				Middle School			
	TP		Self-Contained School		TP		Self-Contained School	
	#	%	#	%	#	%	#	%
Participants	19	90%	2	10%	19	63%	7	37%
Assessments	53	89%	6	11%	51	65%	18	35%
Male	17	88%	2	100%	18	95%	6	86%
Female	2	12%	0	0%	1	5%	1	14%
Eligible for Medical Assistance	*11	58%	1	50%	12	63%	6	86%
Race	2	11%	0	0%	5	26%	0	0%
African Am.	0	0%	0	0%	0	0%	0	0%
Asian	1	5%	0	0%	0	0%	0	0%
Hispanic	3	16%	0	0%	1	5%	1	17%
Two or more	13	68%	2	100%	13	68%	6	83%
White								

*MA eligibility was not available for one elementary TP student

Math Demographics of Participants

The demographics of participants within the mathematics MAP assessments are very similar to those in reading (Table 1). All of the participants who took the reading assessment also took the mathematics assessment, with the exception of one middle

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school student in the TP who only took the reading assessments. One additional elementary school student in the TP, who was Asian, only participated in the mathematics assessments. Of all participants, 39 or 83% took their initial reading assessment in the fall of 2012 and eight or 17% took their initial reading assessment in the winter of 2013. The demographics for the participants in the mathematics assessments are shown in Table 3.

Table 3

Demographics of Participants in Mathematics:

	Elementary School				Middle School			
	TP		Self-Contained Schools		TP		Self-Contained Schools	
	#	%	#	%	#	%	#	%
Participants	20	91%	2	9%	18	72%	7	28%
Assessments	54	90%	6	10%	49	73%	18	27%
Male	18	89%	2	100%	17	94%	6	86%
Female	2	11%	0	0%	1	6%	1	14%
Eligible for Medical Assistance	*12	63%	1	50%	11	61%	6	86%
Race	2	10%	0	0%	5	26%	0	0%
African Am.	1	5%	0	0%	0	0%	0	0%
Asian	1	5%	0	0%	0	0%	0	0%
Hispanic	3	15%	0	0%	1	6%	1	17%
Two or more	13	65%	2	10%	12	67%	6	86%
White								

*MA eligibility was not available for one participant in the elementary TP student

Intelligence Quotient Ranges

Intelligence Quotient scores were available for only 34 of the 48 participating students across reading and mathematics. This data was not separated by assessment because there was only one participant in each group who did not take both tests. Neither of these participants had an IQ score available on file. The incomplete availability of data was due in part to students moving to another LEA following the completion of the MAP assessments but prior to the beginning of this study; other student records did not contain documented IQ scores. The IQ score for participants within the elementary TP ranged from 56 to 117, with a mean of 82. There was only one IQ listed for the elementary self-contained schools, which was 52. Overall, 12 elementary IQ scores were not available, and four IQ scores were not available for middle school students. The middle school TP IQ score range was from 51 to 128 with a mean score of 80. The middle self-contained school IQ score range was from 71 through 118, with a mean of 91. The range of IQ scores for reading and mathematics participants are shown in Table 4.

Table 4

Intelligent Quotient Range of Reading and Mathematics Participants:

	Elementary School		Middle School	
	TP	Self-Contained School	TP	Self-Contained School
I.Q. Range	*56-117	*52	*51-128	*71-118
Mean I.Q.	*82	*52	*80	*91

*IQ was not available for one elementary Self-contained school student, one middle Self-contained school student, 11 elementary TP students, and 3 middle TP students

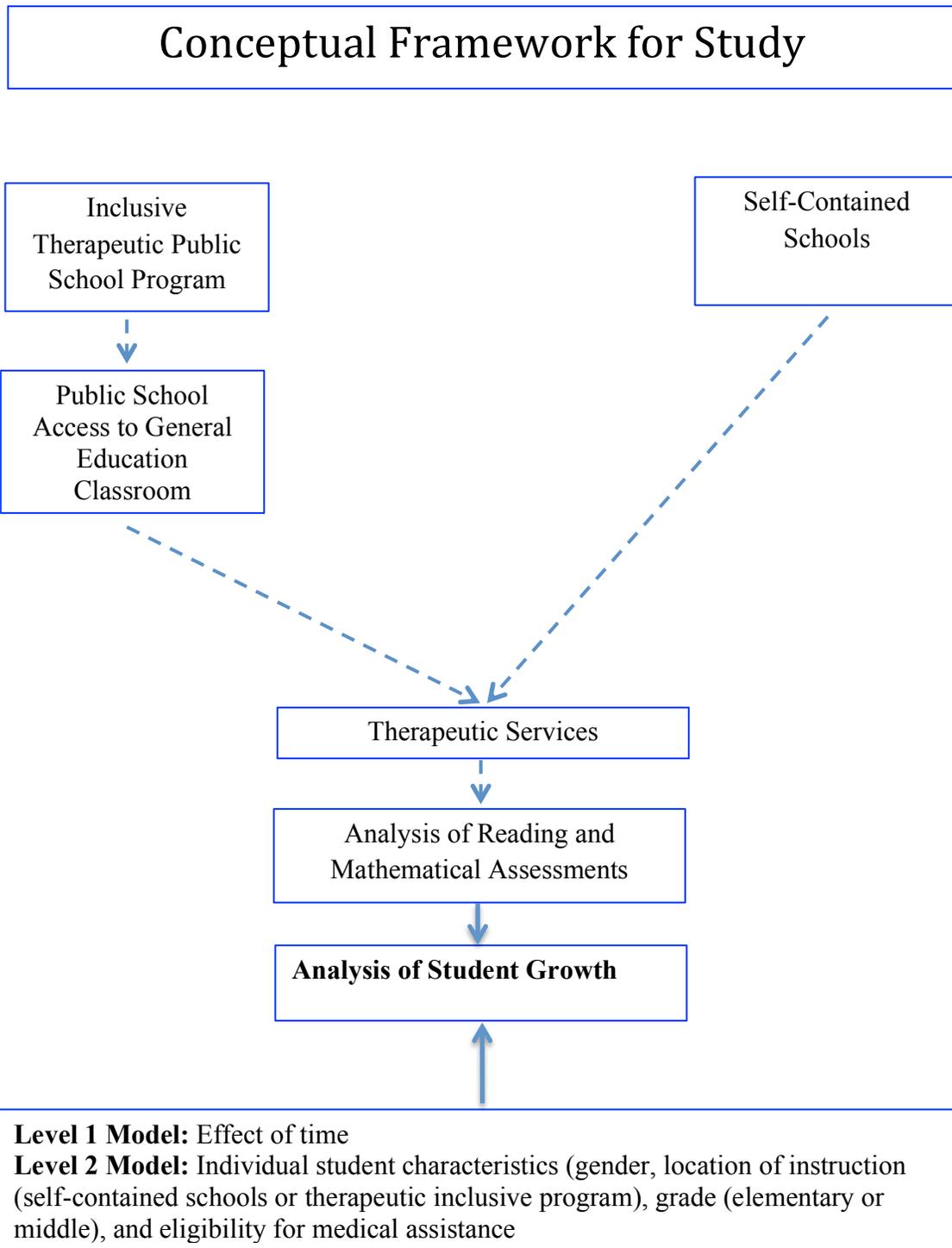


Figure 3.1: Conceptual Framework for Study- This figure shows the conceptual model of differences and similarities between self-contained school placements and the TP for SWD. Solid arrows designate the focus of this study.

Research Question

The purpose of this study was to provide all of the necessary information that should be reviewed to make highly effective placement decisions. Given all of the variables reviewed by LEAs, currently they do not look at the academic achievement of students in one setting vs. another. This study examined the relationship between the academic growth of SWD who were placed in self-contained schools with similar peers who were placed in a TP. The overarching research question in this study is as follows: Do SWD requiring therapeutic support, show greater academic growth in self-contained schools or a unique therapeutic inclusive public school program?

Sub Questions

1. What is the academic growth in reading for elementary and middle school SWD educated in a self-contained school as compared to SWD educated in a unique therapeutic inclusive public school program?
2. What is the academic growth in mathematics for elementary and middle school SWD educated in a self-contained school as compared to SWD educated in a unique therapeutic inclusive public school program?

Hypothesis

It was hypothesized that participants in the TP, which permitted maximum access to the general education classroom would show a higher rate of growth than similar SWD instructed through SCSEA and SCSEB. Research supported that higher content knowledge of the teacher and differentiated instruction would lead to higher student outcomes. Although recent research studies have not published a significant difference in growth across these settings, the self-contained programs researched did not allow for or discuss

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the potential of students accessing general education instruction. The MSDE, *Highly Qualified Teacher Data Analysis*, shows that general education teachers highly qualified status of 89% for courses they instruct in public schools is significantly higher than the 41% highly qualified status of those teachers teaching in self-contained schools. The data on school connectedness also evidence that students who have increased connections within their school have a greater likelihood of positive academic outcomes. It is vital to conduct research on programs available and examine which programs result in the most academic growth based on the existing research showing dismal outcomes for students with social/emotional concerns. Recent communication has shown that few LEA in Maryland, where PC was located, were tracking assessment data for SWD in self-contained schools. The necessity of informed decision-making based on poor academic outcomes of SWD specifically with an ED has shown that research in this area is imperative for the future success of SWD.

Chapter IV: RESULTS

Research Question

Do SWD requiring therapeutic support, show greater academic growth in self-contained schools or in a unique therapeutic inclusive public school program?

Sub Questions

1. What is the academic growth in reading for elementary and middle school SWD educated in a self-contained school as compared to SWD educated in a unique therapeutic inclusive public school program?
2. What is the academic growth in mathematics for elementary and middle school SWD educated in a self-contained school as compared to SWD educated in a unique therapeutic inclusive public school program?

Prior to running the data through the HLM software, students educated within self-contained schools were coded with a 0 (reference group) and participants in the TP were coded with a 1. Male participants were coded with a 0 and females 1. White students were coded 0; all other races were coded 1. Participants not eligible for medical assistance were coded 0 and those eligible were coded 1. Elementary participants were coded 0 and middle school participants were coded 1.

Reading Growth

The results of the reading analysis are in Table 5. As seen in the table, the reading intercept was significantly different from zero ($\gamma_{00} = 181.87$, $t(df = 44) = 49.93$, $p < .001$). This means that the average initial Rausch Unit (RIT) score for all of the students in reading was 181.87. Although this score was significantly different from zero, this is also a trivial finding because the scoring of the RIT does not include zero. The

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placement coefficient for the initial Rausch Unit scores was not significant ($\gamma_{01} = -11.95$, $t(df = 44) = -1.38$, $p < .175$). This means that students in the TP had a lower initial score by 11.95 points, than students in self-contained schools as a mean on their first assessment, which was not a significant difference in reading. The coefficient for *TIME* was significantly different from zero ($\gamma_{10} = 1.97$, $t(df = 44) = 2.56$, $p < .014$). This shows that students' reading scores, regardless of placement, increased at an average of 1.97 points per testing occasion. There was not a significant difference in the amount of growth made by students within the therapeutic inclusive public school program over students in self-contained schools ($\gamma_{11} = 2.95$, $t(df = 44) = 1.36$, $p < .181$).

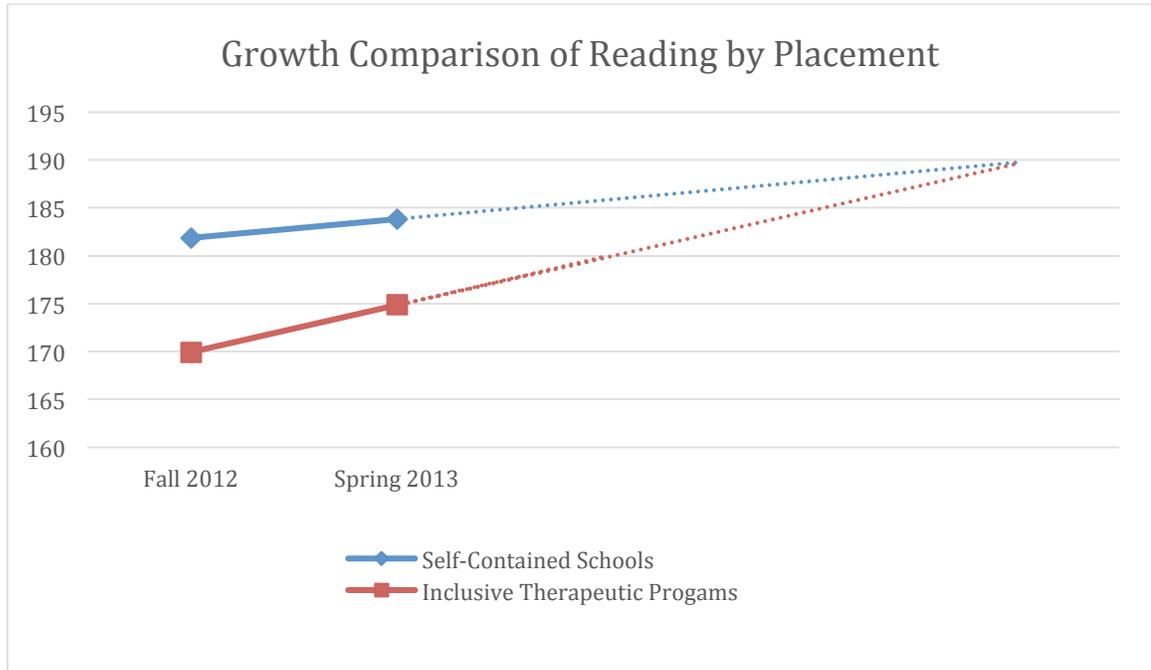
Table 5

Final Estimation of Fixed Effects in Reading (with robust standard errors):

Fixed Effect	Coefficient	Standard Error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTERCEPT2, γ_{00}	181.865698	3.642506	49.929	44	<.001
PLACEMENT, γ_{01}	-11.945362	8.667016	-1.378	44	.175
For TIME slope, β_1					
INTERCEPT2, γ_{10}	1.973798	.770784	2.561	44	.014
PLACEMENT, γ_{11}	2.947994	2.168307	1.36	44	.181

Figure 1

Graph of Overall Growth in Reading Comparing the TP to Self-Contained Schools



Mathematics Growth

The results of the math analysis are listed in Table 5. As seen in the table, the mathematics intercept was significantly different from zero ($\gamma_{00} = 174.77$, $t(df = 44) = 36.91$, $p < .001$). This means that the average initial RIT score for all of the students in the sample was 174.77. Whereas this score was significantly different from zero, this is a trivial finding because of the scoring of the RIT does not include zero. The placement coefficient for the initial Rausch Unit scores was also significant ($\gamma_{01} = -23.04$, $t(df = 44) = -2.14$, $p < .038$). This means that students in the TP had significantly lower math scores, 23.04 points, than students in self-contained schools on their first assessment. The coefficient for *TIME* was significantly different from zero ($\gamma_{10} = 7.27$, $t(df = 44) =$

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6.09, $p < .001$). This shows that students' math scores, regardless of placement, increased at an average of 7.27 points per testing occasion. In addition, students within the TP grew at a significantly higher level than students in self-contained schools ($\gamma_{11}=5$, $t(df = 44) = 2.94$, $p < .005$). Figure 1 illustrates these differences in math growth for students in the TP as compared to students in self-contained schools.

Table 6

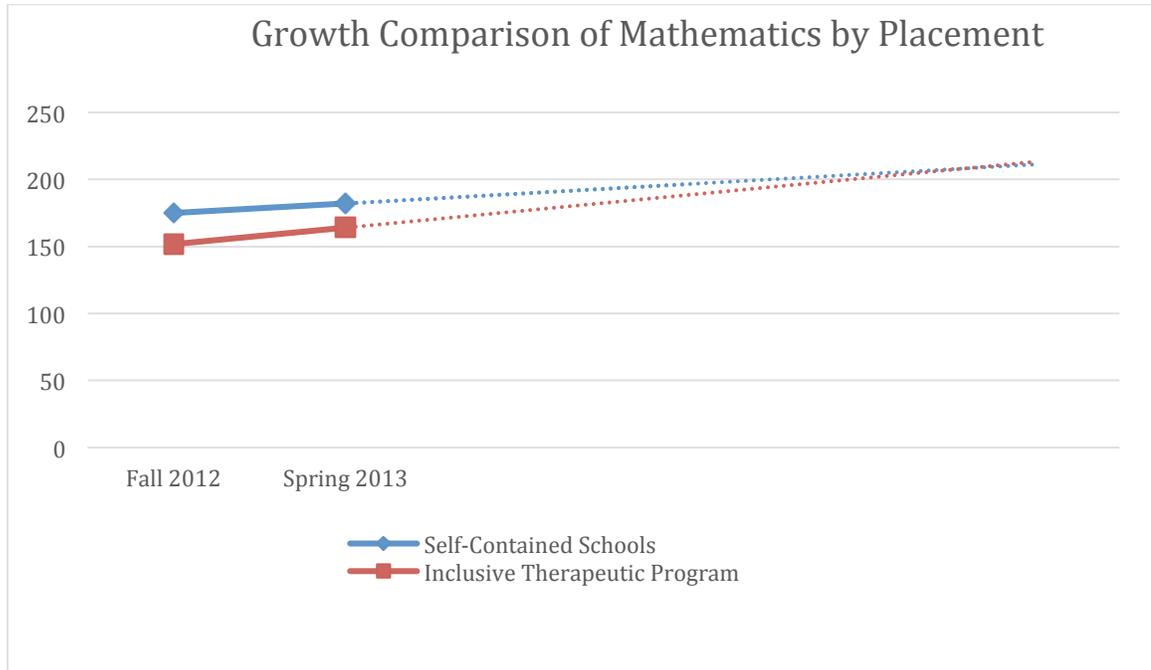
Final Estimation of Fixed Effects in Mathematics (with robust standard errors):

Fixed Effect	Coefficient	Standard Error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTERCEPT2, γ_{00}	174.797027	4.734598	36.914	44	<.001
PLACEMENT, γ_{01}	-23.035935	10.745800	-2.144	44	.038
For TIME slope, β_1					
INTERCEPT2, γ_{10}	7.272885	1.194720	6.088	44	.001
PLACEMENT, γ_{11}	4.998108	1.700994	2.938	44	.005

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Figure 2

Graph of Overall Growth in Mathematics Comparing the TP to Self-Contained Schools



Summary of Overall Growth by Placement

Overall, as seen in Table 7, students in the TP grew 12.27 points (significant) in mathematics and 4.92 points in reading. Students in self-contained schools grew 7.27 points in mathematics and 1.97 points in reading.

Table 7

Overall Average Growth in Placement by Rausch Unit Score

Reading	
Self-Contained School	1.97
TP	4.92
Mathematics	
Placement	Growth Rate
Self-Contained School	7.27
TP	*12.27

*= Statistical Significance at .005

Reading Grade Level Growth

Following the analysis of data at the placement level, data was also analyzed to determine if the effects for placement found in overall reading were affected by the students' grade level. The results of this analysis are displayed in Table 9. The intercept in reading was significantly different from zero ($\gamma_{00} = 181.85$, $t(df = 43) = 52.62$, $p < .001$). This means that the average initial RIT score for all of the students in reading at this level was 181.85. Although this score was significantly different from zero, this is an inconsequential finding because of the scoring of the RIT. The placement coefficient for the initial RIT scores was not significant for students in the therapeutic inclusive public school program ($\gamma_{01} = -10.92$, $t(df = 43) = -1.4$, $p < .168$) for reading. This means that there was no significant difference in initial (assessment1) reading scores between students in the TP and students in self-contained schools. The coefficient for grade level was ($\gamma_{02} = 8.39$, $t(df = 43) = 2.05$, $p < .047$). This indicates that students in middle schools, regardless of placement, scored higher on the initial reading assessment than students in elementary schools. The coefficient for *TIME* was significantly different from zero ($\gamma_{10} = 1.98$, $t(df = 43) = 2.57$, $p < .014$). All students, regardless of their placement, increased their math scores by approximately 1.98 points per assessment period. Students within the TP did not grow at a significantly higher level than students in self-contained schools when controlling for the students grade level ($\gamma_{11} = 2.96$, $t(df = 43) = 1.36$, $p < .182$).

Table 8

Final Estimation of Fixed Effects in Reading Grade Level Growth: (with robust standard errors):

Fixed Effect	Coefficient	Standard Error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTERCEPT2, γ_{00}	181.854799	3.455913	52.621	43	<.001
PLACEMENT, γ_{01}	-10.924830	7.799257	-1.401	43	.168
GRADE, γ_{12}	8.389669	4.092812	2.050	43	.047
For TIME slope, β_1					
INTERCEPT2, γ_{10}	1.984504	.772846	2.568	43	.014
PLACEMENT, γ_{11}	2.958077	2.181789	1.356	43	.182
GRADE, γ_{12}	-.159689	.511936	-.312	43	.757

Mathematics Grade Level Growth

Following the analysis of data at the placement level, data was analyzed to determine if the effects for placement were affected by the students' grade level. The results of this analysis are displayed in Table 8. The intercept in mathematics was significantly different from zero ($\gamma_{00} = 174.8$, $t(df = 43) = 44.71$, $p < .001$). This means that the average initial RIT score for all students in mathematics at this level was 174.8. Although this score was significantly different from zero, this is also a trivial finding because of the scoring of the RIT. The placement coefficient for the initial RIT scores was not significant ($\gamma_{01} = -13.31$, $t(df = 43) = -1.79$, $p < .081$). This means that there was not a significant difference in initial (assessment 1) math scores between students in the TP and students in self-contained schools. The coefficient for grade level was ($\gamma_{02} = 35.56$, $t(df = 43) = 4.35$, $p < .001$). This indicates that students in middle schools, regardless of placement, scored higher on the initial mathematics assessment than students in elementary schools. The coefficient for *TIME* was significantly different

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from zero ($\gamma_{10}=7.27$, $t(df = 43) = 4.34$, $p < .001$). All students, regardless of their placements, increased their math scores by approximately 7.27 points per assessment period. Unlike the initial math analysis, students within the TP did not grow at a significantly higher rate than students in self-contained schools when controlling for the students grade level ($\gamma_{11}=2.7$, $t(df = 43) = 1.75$, $p < .088$).

Table 9

Final Estimation of Fixed Effects in Mathematics Grade Level Growth (with robust standard errors):

Fixed Effect	Coefficient	Standard Error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTERCEPT2, γ_{00}	174.797027	3.909662	44.709	43	<.001
PLACEMENT, γ_{01}	-13.313235	7.441045	-1.789	43	.081
GRADE, γ_{12}	35.564578	8.185860	5.345	43	<.001
For TIME slope, β_1					
INTERCEPT2, γ_{10}	7.266982	1.040172	6.986	43	<.001
PLACEMENT, γ_{11}	2.699170	1.546287	1.746	43	.0888
GRADE, γ_{12}	-8.689484	2.178582	-3.989	43	<.001

Summary of Results

For this study, it was hypothesized that participants in the TP, which permitted maximum access to the general education classroom would show a higher rate of growth than similar SWD instructed through SCSA and SCSB. There was an overall significant growth of participants in the TP over the self-contained schools in mathematics; however, this difference disappeared when variables of grade level, gender, and MA eligibility were analyzed. There were no other results from this study to show that the academic achievement of the TP, SCSA or SCSB were superior over the other programs.

Chapter V: DISCUSSION

Introduction

Individualized education program meetings are continuously held across the nation to determine the appropriate LRE for SWD. Often, there is minimal data showing the effectiveness of different educational placements in terms of academic growth. There are many reasons why a student may need to be in a more restrictive environment. The most critical reasons for this is for the safety and security of the student, other students, the faculty, and community members. The instructional efficacy of placements being considered remains a crucial issue in optimizing positive post secondary outcomes for SWD.

School systems looking to create opportunities for substantial inclusion require at a minimum, three shifts: 1) the ability to focus beyond behaviors and needs of students and vision the needs of the entire school; 2) a move from the belief that SWD need to adjust to the classroom routine and that the classroom, policies and procedures need to change; and 3) a substantial shift in redirecting the focus from the deficits of students with disabilities to the strengths they bring to the community as participating members (Skilton-Sylvester, 2009).

The results from this study showed that students educated in the TP made greater mathematics growth than students educated in self-contained schools. However, the mathematics results should be interpreted very cautiously because when grade level (elementary/middle) was added to the model, the results were no longer significant. Unfortunately, there were not enough participants to examine a possible placement by grade level interaction.

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It should be noted that the initial achievement levels of students in the TP were lower than for students in self-contained schools. The overall achievement of students in the TP was 23 points lower in mathematics and 12 points lower in reading than students in self-contained schools. While not all of the IQ data was available for participants, only one data point existed for one elementary student in a self-contained school. The elementary mean for the TP was 45 points lower than the average IQ of the students in self-contained schools. The middle school mean for the TP was 11 points lower than in self-contained schools. It was speculated that many of the students in self-contained schools had more involvement with outside agencies and received additional assistance that may attributed to the higher levels of initial achievement. Another potential reason is that school personnel reported that following the study, students in the TP as a group were more cognitively impaired than students educated in self-contained schools. This phenomenon has recently been reported and attributed to the increasing demands of the Common Core State Standards. This speculation should be reviewed in future studies as the marked difference in mean IQ scores and the initial scoring deficit of students in TP on MAP assessments appear to vary widely and can not be explained by the data gathered within this study. This difference may merely be a phenomenon in this study created by the unintentional non-random assignment of students.

It is further speculated that the overall significant difference in math, not reading, is due to mathematics being more sequential and not always building upon a prior skill. Reading strategies are more repetitive over time and become internalized. Thus, mathematics requires a more instructionally planned/structured environment indicating a stronger than expected relationship between student growth and teacher expertise,

certification, and experience. This is also an area that needs to be reviewed in future studies in order to firm up a more conclusive relationship to student placement and academic growth. It is hoped that future studies will include a larger sample size, taking into account student differences, in order to further contribute to the research regarding the academic growth of our neediest learners.

Limitations

This study was limited to participants from PC in Maryland. There were five TPs participating along with data from SWD, who attended two self-contained schools. Hierarchical linear modeling was chosen based on it being the preferred method to utilize with small sample sizes, which may include missing data points. The results were limited due to the smaller sample sizes, specifically for students attending self-contained schools; a larger sample size is necessary to generalize conclusions. Another limitation was that students in the TP started with a lower baseline than students in self-contained schools. Many factors such as instructional efficacy, teacher preparation, certification, content knowledge, student/teacher relationships/rapport, school connectedness, parental engagement, and agency/community involvement play a critical role in optimizing academic growth/achievement. Due to the highly unique and fluid structure of the TP, the overall significant growth of the TP should not be generalized to other inclusive special education programs as they would not be applicable. Additionally, placement decisions should not be made based on the results of this study alone. This study should be carefully interpreted, communicated and further researched to maximize existing educational programming for SWD. Other limitations include the lack of random

assignments of students to each placement and the uniformity of the testing environment across assessments.

Implications of Placement on Student Growth

Some students may require the structure and low class size that self-contained schools and programs can provide. It is speculated that the content certification of teachers and the number of highly qualified teachers would help to explain the differences this study found in student growth. In Maryland, the state in which this study was conducted, certification for teachers in these self-contained schools is not reported in the same manner as public school teachers. Public schools are required to submit the “Class Level Membership Report,” which establishes the percentage of highly qualified teachers within each subject they taught. While state officials reported that the self-contained schools studied within this study were exempt from this report, there is a separate report, which identified the number and percentage of teachers who were not highly qualified per content area. Communication with SCSA and SCSB, explained inconsistencies in the manner in which this data was reported. Due to these discrepancies, the status of “highly qualified” teacher status would remain questionable pending statewide clarification and future monitoring activities. Piedmont County officials reported that the likely cause of SCSA increasing their highly qualified teachers by 80% over a 2 year period was based on how they changed their reporting criteria. Following the increase, SCSA reported that they considered classes taught by a certified special education teacher as those taught by a highly qualified teacher, although the teacher did not have his or her content area certificate in the subject they taught. It was also reported that SCSB saw an increase of 20% due to what the school reported to be a

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specific focus on increasing the number of their teachers who were certified in the specific content area they were assigned to teach.

Implications for School Administrators, Teachers, Parents and Stakeholders

The Maryland State Department of Education (MSDE) estimated the cost for SWD placed in similar self-contained schools at \$271,363,279. This was based on the MSDE Division of Special Education/Early Intervention Services Nonpublic Special Education Section fiscal year (FY) 2009 Nonpublic Tuition Assistance Program School (Per Diem) Listing Report, Nonpublic School Summary Data, and a ratio of the cost for 1:1s within Piedmont County for the state, in 2009.

According to the Code of Maryland Regulations, nonpublic school teachers are to hold the same teacher certification as their public school peers. The MSDE, who conducts site visits for accreditation only, required that nonpublic special education schools be certified in special education. During the 2009 - 2010 school year, MSDE alone spent \$100,692,192 for students in nonpublic (self-contained school) placements. This is only a small percentage of the financing supplied to private businesses providing this service.

Piedmont County implemented the TP during the 2009 school year. Full implementation was not completed until midway through the 2010 school year through funding from the America Recovery and Reinvestment Act. In utilizing FY 2008 expenditures as a baseline, PC saved \$1.8 million in FY 2010, and \$2.6 million for each subsequent year. The total nonpublic (self-contained) expenditures for PC in FY 2008 was \$5,299,359. Total expenditures for FY 2011, the first full year following

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implementation of the TP, totaled \$2,676,141, which resulted in a financial savings of \$2,623,218.

The Prince George's Mental Health Initiative (PGSMHI) program was launched in 2006 and was designed to avert the placement of SWD coded as having an ED into nonpublic (self-contained) schools. The program was estimated to have a total cost of \$7,212 per student per year, or \$30 per student per day. In contrast, this cost was associated with a savings of \$31,826 per student per year, or \$133 per student per day (Slade, 2009). Burdette (2006) reported that in 2004, approximately 1.5% of the United States primary and secondary school students were attending publicly funded special education programs, which were publicly or privately funded. While nonpublic schools and programs provide SWD a higher level of structure and support than can be provided in most public schools, the fact is that nonpublic programs restrict students' autonomy to a greater extent and are more expensive than regular public schools (Burdette, 2006; Chambers, 2003; MSDE, 2006).

The PGSMHI has shown that savings achieved through reducing nonpublic placements (self-contained schools) for students with an ED can be allocated to purchase the necessary mental health services and other supports for students with or at risk for an ED in the general education setting (Slade, 2009). Wagner, 2006, corroborated this through sharing that some young people may have acute symptoms of transitory anger or distress, which could be treatable in the general educational setting. Unfortunately, placement decisions are made with vaguely documented criteria, which vary between school systems and may be inconsistently applied across individual cases (Parrish, 1998). Frequently, key factors in the decision to place a student with an ED into a nonpublic

school include only a history of aggressive, disruptive, and/or antisocial acts in school. Additionally, students are sometimes placed following a specific incident or event, followed-up with a disciplinary suspension, rather than in response to ongoing behavior problems (Parrish, 1998).

Implications for Special Education Students

The NCLBA created a potential motive for placing students in a self-contained school (nonpublic) placement. As a result of this act, each state was required to individually define subgroups of students and ensure 100% proficiency by 2014. Each state also developed varying degrees of rigorous standards and levels of accountability. In Maryland, if a student was in a nonpublic school, results from the State School Assessments were not factored into the student's home school's adequate yearly progress (AYP) results. This provided a potential incentive for students to be placed outside of school when a specific sub-group was on the bubble to make AYP. Local Educational Agencies would retain the score; however, it would not count against the school, which could make a difference of annual measurable objectives being met. This would have sometimes been the difference of a school being in corrective action or not.

Students placed in self-contained placements need services and providers who are available to institute those services. Students may not require services following their first year and those who do may only need varied levels of service or support (Slade, 2009). This makes a financial analysis between self-contained schools and inclusive public school programs difficult. Mental health services and support can be scaffolded to meet students' needs while maximizing student autonomy and optimizing the teaching of response strategies so students may more efficiently internalize appropriate coping

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techniques. Attention should be directed toward current and past cost differences regarding these inclusive programs rather than estimating future differences. School systems have no direct information about a student's future use of these programs and services. While the PGSMHI program saves \$31,826 per student, per year, over the cost of a nonpublic (self-contained) placement, classroom teachers will often refer students for special education because it means those students will go "somewhere else. This suggests that SWD being taught in general education classes is challenging to educators already faced with large classes of students with diverse needs and increased demands to improve achievement. Special educators are sometimes the most resistant to inclusion because it is their role that will usually change the most. Special education teachers would be expected to exchange the security of their own classroom, where they have worked with a small number of students for a flexible schedule serving students in several different classes (Slade, 2009). Each LEA and state department of education should examine its own procedures, guidelines, and regulations to ensure that all public, private, and parochial schools are held to the same expectation and level of student, teacher, and administrative accountability.

Research Recommendations

In the future, researchers should focus on the academic growth rates of students based on the environment in which they are placed for educational services. In looking at inclusive programs compared to self-contained schools, students of similar skill levels can be found at opposite ends of the LRE continuum due to the philosophy/climate/culture of the community and school system. Operationalizing growth through assessments, which are nationally normed similar to the MAP

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assessment, is a necessary component to generalize differences of educational placements. Those conducting future studies need to consider all variables that go into the education of SWD and compare these across settings. Findings must also understand and communicate that if students are in acute care placements, academic growth may not be the primary focus for a student who is in an acute crisis. However, comparing variables to find similar students will ensure more valid results. Major variables in environments requiring comparisons of one placement versus another should look more into teacher certification/training, school connectedness of students, instructional methodology, interventions (type and fidelity of administration), classroom environment/resources, and student differences.

Summary/Conclusions

This study utilized a quantitative methodology and examined the academic growth of elementary and middle school SWD located in PC's TP and similar SWD located in two self-contained schools within Maryland. The MAP assessment was utilized in reading and mathematics to measure the progress of participants within these different educational environments. The assessment was given during the fall, winter, and spring administrations. Results were analyzed utilizing HLM; this type of linear modeling was used because it is the optimal statistic to utilize with a low sample size and missing data points.

This study showed that students within the unique TP grew significantly more in mathematics than similar peers educated within self-contained schools. However, when grade level was controlled, this difference was no longer significant. There were no significant differences found between variables of grade (elementary/middle), eligibility

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for medical assistance, and gender. Based on the low number of participants, the unique nature of the TP program, results should not be generalized beyond this study and should not be used in isolation when making placement decisions for SWD. This study is one of the few studies to investigate the academic growth of SWD in separate settings based on a nationally normed assessment over time.

References

- Anderson, J. A., Kutash, K., & Duchnowske, A. J. (2001). A comparison of the academic progress of students with EBD and students with LD. *Journal Of Emotional & Behavioral Disorders*, 9 (2), 106-111.
- Ball, D. L., Hill, H. C., & Bass, H. (2005). Knowing mathematics for teaching: Who knows mathematics well enough to teach third grade, and how can we decide? *American Educator*, 29(3), 14-22, 43-46.
- Beck, F. W., Lindsey, J. D., & Frith, G. H. (1981). Effects of self-contained special class placement on intellectual functioning on learning disabled students. *Journal of Learning Disabilities*, 14 (5) 280-282.
- Biancarosa, G., & Snow, C. (2004). *Reading Next- A vision for action and research in middle and high school literacy*. New York: Carnegie Corporation of New York.
- Breslau, J., Miller, E., Breslau, N., Bohnert, K., Lucia, V., & Schweitzer, J. (2009). The impact of early behavior disturbances on academic achievement in high school. *Pediatrics*, 123 (6), 1472-1476.
- Brown et al. v. Board of Education of Topeka et al. (1955) 31 May 1955.
- Burdette P. (2006). Publicly placed private school students with disabilities: Issues and recommendations. Alexandria, VA, USA: Project Forum, National Association of State Directors of Special Education.
- Carran D., Kerins, M. & Murray, S. (2005). Three-year outcomes for positively and negatively discharged EBD students from nonpublic special education facilities. *Behavioral Disorders*, 30, 119-34.

ANALYSIS OF ACADEMIC GROWTH

- Catalano, R. F., Oesterle, S., Fleming, C. B. & Hawkins, J. D. (2004). The importance of bonding to school for healthy development: Findings from the social development research group. *Journal of School Health*, 74, 252-261.
doi:10.1111/j.1746-1561.2004.tb08281.x
- Causton, J., & Theoharis, G. (2013). Inclusive schooling are we there yet? *School Administrator*, February, 19-25.
- Chambers J. G., Shkolnik, J. & Pérez, M. (2003). *Total expenditures for students with disabilities, 1999-2000: Spending variation by disability*. Special Education Expenditure Project. Palo Alto, CA, USA. American Institutes for Research, Center for Special Education Finance.
- Cullinan, D., & Sabornie, E. J. (2004). Characteristics of emotional disturbance in middle and high school students. *Journal of Emotional and Behavioral Disorders*, 12, 157-167.
- Department of Public Welfare v. Haas, No. 34924, Supreme Court of Illinois.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D. & Schellinger, K. B. (2011). The impact of enhancing student's social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82, 405-432.
- Federal Register, 2006. Monday, August 14, 2006 / Rules and Regulations. 71(156), 46753-46845. Retrieved November 24, 2012 from <http://idea.ed.gov/download/finalregulations>. Pdf.

ANALYSIS OF ACADEMIC GROWTH

Ferri, B. & Connor, D. (2006). Chapter 2: Strange Bedfellows: Race and Disability in U.S. History. *Reading Resistance: Discourses and Exclusion in Desegregation & Inclusion Debates*, pp. 23-39.

Gaskin v. Commonwealth of Pennsylvania (2005). No. 90-4048. Ed. Pa. 16 Sept. 2005.

Geffre v. Leola School District, U.S. Dist. Lexis 88278 (2009).

Good, T. L. (1970). Which pupils do teachers call on? *The Elementary School Journal*, 70, 190-198.

Greenbaum, P. E., Dedrick, R. F., Friedman, R. M., Kutash, K., Brown, E. C., Lardierh, S. P., & Pugh, A. M. (1996). National adolescent and child treatment study (NATS): Outcomes for children with serious emotional and behavioral disturbance. *Journal of Emotional and Behavioral Disorders*, 4, 130-146.

Haydon, T., Conroy, M. A., Scott, T. M., Sindelar, P. T., Barber, B. R., & Orlando, A. (2010). A comparison of three types of opportunities to respond on student academic and social behaviors. *Journal of Emotional and Behavioral Disorders*, 18, 27-40.

Hendrick Hudson Central School District v. Rowley, 458 U.S. 176 (1982).

Kauffman, J. M. (2010). Commentary: Current status of the field and future directions. *Behavioral Disorders*, 35, 180-184.

Kauffman, J. M., Bantz, J., & McCullough, J. (2002). Separate and better: A special public school class for students with emotional and behavioral disorders. *Exceptionality*, 10, 149-170.

ANALYSIS OF ACADEMIC GROWTH

- Kauffman, J. M., Mock, D. R., & Simpson, R. L. (2007). Problems related to underservice of students with emotional and behavioral disorders. *Behavioral Disorders, 33*, 43-57.
- Kauffman, J. M., & Wong, L. L. H. (1991). Effective teachers of students with behavioral disorders: Are generic teaching skills enough? *Behavioral Disorders, 16*, 225-237.
- Lane, K. L. (1999). Young students at risk for antisocial behavior: The utility of academic and social skills interventions. *Journal of Emotional and Behavioral Disorders, 7*, 211-223.
- Lane, K. L., Barton-Arwood, S. M., Nelson, J. R., & Wehby, J. H. (2008). Academic performance of students with emotional and behavioral disorders served in a self-contained setting. *Journal of Behavioral Education, 17*, 43-62.
- Lane, K. L., Wehby, J. H., Little, A. M., & Cooley, C. (2005a). Academic, social, and behavioral profiles of students with emotional and behavioral disorders educated in self-contained classrooms and self-contained schools: Part I-Are they more alike than different? *Behavioral Disorders, 30*, 349-361.
- Lane, K. L., Wehby, J. H., Little, A. M., & Cooley, C. (2005b). Students educated in self-contained classrooms and self-contained schools: Part II-How do they progress over time? *Behavioral Disorders, 30*, 363-374.
- Legal Resource Publication. (2012). Special Education Connection. Retrieved on November 28, 2013.

ANALYSIS OF ACADEMIC GROWTH

- Maddox, S. J., & Prinz, R. J. (2003). School bonding in children and adolescents: Conceptualization, assessment, and associated variables. *Clinical Child and Family Psychology Review*, 6, 31-49.
- Maggin, D., Wehby, J., Moore-Partin, T., Robertson, R., & Oliver R. (2011). A comparison of the instructional context for students with behavioral issues enrolled in self-contained and general education classrooms. *Behavioral Disorders*, 36 (2), 84-99.
- Maryland State Department of Education, Division of Special Education/Early Intervention Services. *Report of the Least Restrictive Environment Workgroup*. www.marylandpublicschools.org.
- Maryland State Department of Education. (2012). Division of Accountability, Assessment, and Data Systems LEA 24-03. *Classes Not Taught by Highly Qualified Teachers*. April.
- Maryland State Department of Education. (2009). *Highly Qualified Teacher Data Analysis*. December.
- Mattison, R. E., Hooper, S. R., & Glassberg, L. A. (2002). Three-year course of learning disorders in children classified as behaviorally disordered. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1454-1461.
- Meadow, N. B., Neel, R. S., Scott, C. M., & Parker, G. (1994). Academic performance, social competence, and mainstream accommodations: A look at mainstreamed and non-mainstreamed students with serious behavioral disorders. *Behavioral Disorders*, 19, 170-189.

ANALYSIS OF ACADEMIC GROWTH

- Meyen, M. L., & Greer, D. L. (2010). Applying technology to enhance STEM achievement for students with disabilities: The blending assessment with instruction program. *Journal of Special Education Technology*, 25, (3) 49-63.
- Mondale, S. & Patton, S. (Eds.). (2001). *School: The Story of American Public Education*. Boston, MA: Beacon Press.
- Mooney, P., Epstein, M. H., Reid, & Nelson, J. R. (2003). Status of and trends in academic intervention in research for students with emotional disturbance. *Remedial and Special Education*, 24, 273-287.
- Nelson, J. R., Benner, G. J., Lane, K., & Smith, B. W. (2004). An investigation of the academic achievement of K-12 students with emotional and behavioral disorders in public school settings. *Exceptional Children*, 71, 59-73.
- Nelson, J. R., Hurley, K. D., Synhorst, L., Epstein, M. H., Stage, S., & Buckley, J. (2009). The child outcomes of a behavior model. *Exceptional Children*, 76(1), 7-30.
- No Child Left Behind <http://www2.ed.gov/nclb/overview/intro/execsumm.pdf>2012 from <http://www.specialedconnection.com/LrpSecStoryTool/dictionary.jsp>
- Office of Special Education Programs (OSEP). (2010). *Percentage of students with emotional disturbance ages 6-21 served under IDEA, part B, by educational environment and state: Fall 2008*. [Data file]. Retrieved from www.ideadata.org.
- Parrish T., Chen G., & Saw, H. (1998). *Special Education: Nonpublic school and nonpublic agency study*. Sacramento, CA, USA: California Department of Education.

ANALYSIS OF ACADEMIC GROWTH

- Reid, K. & Knight, M. (2006). Disability justifies exclusion of minority students: A critical history grounded in disability students. *Educational Researcher*, Vol. 35, Issue 6, August/September pp. 18-23.
- Reid, R., Gonzalez, J., Nordness, P. D., Trout, A., & Epstein, M. H. (2004). A meta-analysis of the academic status of students with emotional/ behavioral disturbance. *The Journal of Special Education*, 38, 130-143.
- Signor-Buhl, S. J., Leblanc, M., & McDougal, J. (2006). Conducting district-wide evaluations of special education services: A case example. *Psychology in the Schools*, 43(1), 109-115.
- Singer, J. D., Butler, J. A., Palfrey, J. S., & Walker, D. K. (1986). Characteristics of special education placements: Findings from probability samples in five metropolitan school districts. *The Journal of Special Education*, 20, 319-337.
- Siperstein, G. N., Wiley, A. L., & Fornes, S. R. (2011). School context and the academic and behavioral progress of students with emotional disturbance. *Behavioral Disorders*, 36(3), 172-184.
- Skilton-Sylvester, & E., Slesaransky-Poe, G. (2009). More than a least restrictive environment: Living up to the civil covenant in building inclusive schools. *Perspectives on Urban Education*, spring, 32-37.
- Slade, E., Mills, C., Cunningham, D., Hobbs, N, Andrews, C., & Weist, M. (2009). Non-public special education programs: Evaluating the costs of within school alternatives for students with emotional disturbance. *Advances in School Mental Health Promotion*, 2 (3), 30-37.

ANALYSIS OF ACADEMIC GROWTH

- Sulkowski, M. L., Demaray, M. K., & Lazarus, P. J. (2012). *Connecting students to schools to support their emotional well-being and academic success*. The Newspaper of the National Association of School Psychologists: Communique', 40 (7), 1 & 20.
- United States Code, (20 U.S.C.1412 (a) (5) (A)). <http://us-code.vlex.com/vid/sec-state-eligibility-19194992>.
- United States Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs. (2009). *28th Annual Report to Congress on the Implementation of the Individuals with disabilities Education Act, 2006*. Washington, D. C., USA: Author.
- United States Department of Labor. Retrieved October, 2012 from www.bls.gov.
- Wagner, M., Friend, M., Bursuck, W. D., et al (2006). Education students with emotional disturbances: A national perspective on school programs and services. *Journal of Emotional and Behavioral Disorders*, 14, 12-30.
- Walker, H. M., Block-Pedago, A., Todis, B., & Severson, H. (1991). *School archival records search*. Longmont, CO: Sopris West.
- Walker, H. M., Ramsey, E., & Gresham, F. M. (2004). *Antisocial behavior in school: Evidence-based practices* (2nd ed.). Belmont, CA: Wadsworth.
- Wang, M., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal*, 47, 633-662.
- Watson v. City of Cambridge*, Supreme Judicial Court of Massachusetts, 1893.

ANALYSIS OF ACADEMIC GROWTH

- Weber, M. C. (1992). *Special education line and litigation treatise*. Horsham, PA: LRP Publications.
- Wehby, J. H., Lane, K. L., & Faulk, K. B. (2003). Academic instruction for students with emotional and behavioral disorders. *Journal of Emotional and Behavioral Disorders*, 11, 194-197.
- Wiley, A. L., Siperstein, G. N., Bountress, K. E., Forness, S. R., & Brigham, F. J. (2008). School context and the academic achievement of students with emotional disturbance. *Behavioral Disorders*, 33, 198-210.
- Wilkinson-Lee, A. M., Zhang, Q., Nuno, V. L., & Wilhelm, M. S. (2011). Adolescent emotional distress: The role of family obligations and school connectedness. *Journal of Youth and Adolescence*, 40, 221-230.
- Yell, M., Rogers, D., & Lodge Rodgers, E. (1998). The legal history of special education. *Remedial & Special Education*. Vol. 19, Issue 4, p. 219.
- Zins, J. E., & Elias, M. J. (2006). Social and emotional learning. In G. G. Baer & K. M. Minke (Eds.), *Children's needs III: Development, prevention, and intervention* (pp. 1-13). Bethesda, MD: National Association of School Psychologists.