EXAMINING THE RELATIONSHIPS BETWEEN SECONDARY GENERAL EDUCATION TEACHERS' ATTITUDES TOWARD INCLUSION, PROFESSIONAL DEVELOPMENT, AND SUPPORT FROM SPECIAL EDUCATION PERSONNEL

by

Lynn S. Wogamon

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

This correlational research study examined the relationships between secondary general education teachers' attitudes toward inclusion, hours of professional development in topics related to special education and hours of support from special education personnel addressing the needs of students with disabilities received weekly. The research also investigated whether this information could be used to predict secondary general education teachers' attitudes towards inclusion. General education teachers in six South Carolina high schools completed the Scale of Teacher Attitudes Toward Inclusive Classrooms (STATIC) and a demographic survey that asked about hours of professional development in special education topics and hours of support received weekly from special education personnel and administrators regarding students with disabilities. Correlational and regression analyses were conducted to determine the strength and direction of relationships, as well as the predictive nature of the data to determine secondary general education teachers' attitudes toward inclusion. Results indicated statistically significant positive correlations between variables, with a slightly stronger correlation when hours of professional development and hours of support were considered together. These findings suggest that additional training and support for teachers in inclusive classrooms may lead to more positive attitudes toward the concept of inclusion, ultimately improving learning outcomes for students with disabilities.

DEDICATION

This dissertation is dedicated to my parents who instilled in me a love of learning and the confidence that I could achieve any goal in life. Mom and Dad, your encouragement has helped keep me focused during the long months of this process. I am truly blessed to have such godly parents!

I also dedicate this work to my amazing husband and children. Chris, I appreciate your patience and willingness to carry more than your fair share of the load for the last few years. You have been my rock, support, and cheerleader for over 30 years. I love you and thank God daily that He loved me enough to send you to me. To my children, I say thank you. You all have taught me more than a library full of books. Never forget that all things are possible through Christ.

Finally, I would like to dedicate this dissertation to all students with disabilities who deserve the opportunity to be "included" in all school environments and to reach their God-given potential.

"Permit the children to come to Me. Do not hinder them. For the kingdom of God belongs to such as these." Mark 10:14

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CHAPTER ONE: INTRODUCTION

One of the fundamental beliefs in the American education system is that all children, regardless of race, religion, socio-economic status, and ability level have the ability to learn and deserve the opportunity to obtain an education. Recent changes in legislation requiring that students with disabilities have access to the general education curriculum and make adequate yearly progress (AYP) have prompted educators to focus on providing more opportunities for students with disabilities to be educated in general education classrooms. According to the National Center for Educational Statistics (2011a), the percentage of students with disabilities receiving more than 79% of their instruction in the general education setting has risen from 31.7% in 1989 to 59.4% in 2009. In this same time frame, the placement rate of students with learning disabilities in the general education setting has grown 166% (McLeskey, Landers, Hoppey, & Williamson, 2011). While some of these students have pull-out services for a portion of the school day, many receive their entire academic curriculum in the general education classroom. This service model is referred to as *inclusion* (Idol, 2006). Inclusion means more than just the integration of students with disabilities into general education classes. Rather, it suggests that these students are part of the academic and social environment of the school (Coutsocostas & Alborz, 2010).

The inclusion movement has resulted in more general education teachers being presented with the task of educating students with disabilities. Voltz, Sims, and Nelson (2008) reported that approximately 82% of public school teachers teach in classrooms that include students with disabilities. With an increased focus on accountability for the academic achievement of all

students, it is important for educational leaders to understand the variables that affect secondary general education teachers' attitudes towards inclusion.

Background

The history of special education has been one of exclusion and segregation. Prior to 1975, students with disabilities were primarily educated in segregated classrooms, away from the general school population. In the past three decades, federal legislation has been enacted, resulting in changes to the way special education is provided. Specifically, PL94-142, also known as the Education for All Handicapped Children Act (1975), mandated that in order to receive federal funds, states must develop and implement policies that assure a free appropriate public education (FAPE) to all children with disabilities. Later, the Individuals with Disabilities Education Act (IDEA) (1997) and the No Child Left Behind Act of 2001(NCLB) (2002) specified that students with disabilities have access to the same general education curriculum as students without disabilities, be taught by "highly qualified teachers", and make adequate yearly progress (AYP). This legislation also placed the responsibility on schools to educate students in the *least restrictive environment* (LRE). LRE is defined as the setting where students with disabilities are educated with students who are not disabled to the maximum extent appropriate (U. S. Department of Education, 2012). One method of implementing LRE is the practice of inclusion, where students with disabilities are taught in the general education classroom. The term "full inclusion" is used to describe situations where students attend the same classes they would if they did not have a disability and have the opportunity to participate in all academic and social school environments (Ben- Yehuda, Leyser, & Last, 2010; Coutsocostas & Alborz, 2010; Worrell, 2008).

The inclusion model of special education places additional responsibilities on general education teachers. They must provide accommodations required in the student's individualized education program (IEP), modify the standard curriculum in order to meet a variety of learning needs, and often implement highly specialized behavior intervention plans. The increase of teachers' workloads resulting from the adoption of an inclusionary model has been shown to impact teachers' attitudes toward inclusion (Battige, 2008; Brackenreed, 2011; Bradshaw, 2009; Horne & Timmons, 2009). These attitudes range from the belief that all students should be taught in inclusive settings, to feeling that all students with disabilities are best served in segregated classrooms (Berry, 2010; Coutsocostas & Alborz, 2010; Koutrouba, Vamvakari, & Theodoropoulos, 2008; Wilde & Avramidis, 2011). Many teachers do not favor inclusion because they feel unprepared to meet the demands and responsibilities for students with disabilities (Blecker & Boakes, 2010; Brackenreed, 2011; Fuchs, 2010; Glazzard, 2011). Harpell and Andrews (2010) suggested that unfamiliarity with special education practices, combined with a lack of time and resources, may lead to feelings of frustration and resentment. These feelings, when not addressed, frequently result in negative attitudes toward inclusion (Coutsocostas & Alborz, 2010; de Boer, Pijl, & Minnaert, 2011; Forlin, Keen, & Barrett, 2008). Research indicates that teachers' negative attitudes can impact the quality of education for all students (Elliott, 2008; Jacobs & Harvey, 2010; Santoli, Sachs, Romey, & McClurg, 2008). Secondary teachers tend to have more negative attitudes toward inclusion than those who teach at the elementary level (Connor, Bickens, & Bittman, 2009; Kozik, Cooney, Vinciguerra, Gradel, & Black, 2009). Additionally, research has shown that nearly half of all new teachers leave the field within the first five years (Brackenreed, 2011; Ingersoll, 2012). Many of these teachers cite lack of support to adjust to the demands of the classroom and overall stress as reasons for

leaving. The increased preparation time and classroom management required to meet the needs of students with disabilities may add to this stress for beginning teachers.

Researchers have noted two critical needs identified by general education teachers working in inclusive settings; namely, more training in meeting the needs of students with disabilities and additional support from administration and special education personnel (Blecker & Boakes, 2010; Brackenreed, 2011; Coutsocostas & Alborz, 2010; Koutrouba et al., 2008). Philpott, Furey, and Penny (2010) stated that professional development can improve teachers' attitudes toward inclusion, develop evidence-based practices, and build collaboration. Other research has shown a significant link between level of support and teacher attitudes toward inclusion (Avramidis & Elias, 2007; Ben-Yehuda et al., 2010; DeSimone & Parmar, 2006). This support most frequently comes from special education personnel and administrators.

Problem Statement

The Office of Exceptional Children for the South Carolina Department of Education has placed a priority on increasing the number of students being served primarily in the general education setting (S.C. State Department of Education, 2012a). Within the state, the percentage of students in inclusive settings has increased from 48% in 2003 to 57.3% in 2010. At the same time, the South Carolina Department of Education has set target goals for student performance on statewide assessments and graduation rates, resulting in increased teacher accountability for student success. Despite the priority placed on inclusive education, implementation varies greatly between districts. South Carolina school districts' annual reports for the 2010-2011 school year indicated that the percentage of students with disabilities educated in the general education setting for more than 80% of the school day ranged from under 35% in some districts to more than 80% in other districts (S.C. Department of Education, 2012b).

The practice of inclusion and the increased expectations for student performance place new demands on general education inclusion teachers. This is particularly true for those teaching at the secondary level. High school teachers must address increased academic complexity, faster instructional pacing, lecture-dominated instructional arrangements, and greater expectations for student independence (Carter & Hughes, 2006; Kozik et al., 2009). These demands often lead to negative attitudes towards inclusion (Berry, 2010; Brackenreed, 2011; Voltz et al., 2008). Teachers' negative beliefs and feelings have been identified as one of the primary barriers to effective inclusion (Blecker & Boakes, 2010; DeSimone & Parmar, 2006; Glazzard, 2011). These negative attitudes may impact the way teachers interact with the students in their classes (Philpott et al., 2010; Poulou, 2009). Research has shown that positive teacher attitudes are critical to successful inclusion, impacting classroom practices and ultimately, student achievement (Elliott, 2008; Santoli et al., 2008). Much research has been conducted regarding inclusion, with an abundance of information regarding teacher attitudes toward this model. The problem this study sought to address is that limited information is available regarding the relationships between teacher attitude towards inclusion, professional development, and support for teachers. Few investigations have been conducted to consider how this information may be used to predict the attitudes toward inclusion of secondary general education inclusion teachers in South Carolina. This information can assist educational leaders in understanding the needs teachers in inclusive classrooms have so that appropriate training and support may be provided.

Purpose Statement

The purpose of this correlational research study was to determine the strength and direction of relationships between teacher attitude towards inclusion, hours of professional

development addressing topics related to special education, and hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities. The study also investigated whether this information could be used to predict secondary general education teachers' attitudes toward inclusion. Teacher attitude was measured by the Scale of Teachers' Attitudes Toward Inclusive Classrooms (STATIC). A teacher survey was utilized to collect demographic information including years of teaching experience, level of education, subject area taught, and number of special needs students in the classroom. This information was used to identify teachers who currently teach in inclusion settings, to form subgroups, and to provide statistical controls. Teachers also provided information regarding the number of hours of professional development related to special education they had received, as well as the average hours of support they received weekly from special education personnel and administrators that specifically addressed meeting the needs of students with disabilities. The STATIC and demographic survey were completed by 245 high school general education teachers who taught students with disabilities in six South Carolina high schools. Survey data were analyzed using correlational statistics. Spearman's rho coefficients (r_s) were obtained to determine the strength and direction of the relationships between the criterion variable, teacher attitude towards inclusion, and the predictor variables of hours of professional development and hours of support. Regression analyses were also conducted to determine whether hours of professional development and support could be used to predict secondary general education teachers' attitudes toward inclusion.

Significance of the Study

As more students with disabilities are receiving most of their instruction in the general education classroom (Grskovic & Trzcinka, 2011; McLeskey, 2011), it is imperative that

educational leaders and administrators in South Carolina have a clearer understanding of the variables impacting teacher attitudes toward inclusion. To this end, the current study sought to provide information regarding secondary general education teachers' attitudes toward inclusion by examining the correlation between teacher attitude and the variables of hours of professional development in special education topics and hours of support from special education personnel and administrators. This information will assist educational leaders and policy-makers in making well-informed decisions regarding provision of professional development and support for educators teaching in inclusive classrooms.

Research Questions

The current study sought to investigate possible correlations between teacher attitudes toward inclusion, hours of professional development addressing topics related to special education, and hours of support from special education personnel and administrators addressing the needs of students with disabilities. The study was guided by three research questions:

RQ1: What relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and the hours of professional development they have received addressing topics related to special education as measured by responses to a teacher survey?

RQ2: What relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and the hours of support received weekly from

special education personnel and administrators addressing the needs of students with disabilities as measured by responses to a teacher survey?

RQ3: To what extent can the hours of professional development hours on topics related to special education and hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities predict South Carolina secondary general education teachers' attitudes toward inclusion?

Research Hypotheses

The following are the null hypotheses:

H_{01}: No significant relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and the hours of professional development they have received addressing topics related to special education as measured by responses to a teacher survey.

H_{02}: No significant relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and the hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities as measured by responses to a teacher survey.

H_{03} : The hours of professional development in topics related to special education and hours of support received weekly from special education personnel and administrators

addressing the needs of students with disabilities cannot accurately predict South Carolina secondary general education teachers' attitudes toward inclusion.

Identification of Variables

The criterion variable, teacher attitude towards inclusion, was determined by a total score attained on the STATIC rating scale. This scale consisted of four subscales: (a) Advantages and Disadvantages of Inclusive Education, (b) Professional Issues, (c) Philosophical Issues, and (d) Logistical Concerns (Cochran, 1998). A numerical value for the STATIC ranged from 0 to 100, with higher scores indicating a more positive attitude towards inclusion.

Two predictor variables, hours of professional development and hours of support, were assessed by responses to a teacher survey. Professional development was defined as any training that "is designed to provide teachers with new skills and strategies that are used in classroom practice" (McLeskey, 2011, p. 26). For the purposes of this study, teachers reported the number of participation hours in training addressing topics related to special education either through district- provided professional development, college coursework, or independent study within the previous three years. Support was defined as contact with special education personnel (special education teachers, paraprofessionals, related service providers, and school psychologists) and administrators (school administrators, coordinators) for the purposes of educational, logistical, or emotional support for students with disabilities. For the purposes of this study, teachers reported the average hours of support received weekly from special education personnel and administrators that met the operational definition.

Research Summary

The current study was conducted using a correlational research design. The setting of this study was three school districts in South Carolina. The first district was primarily a rural community school district. The second and third districts were located in suburban areas. The

non-randomized convenience sample included general education high school teachers who taught students with disabilities within the regular classroom setting. Approximately 540 teachers were invited to participate in the study.

Three variables, teacher attitude towards inclusion, hours of professional development in topics related to special education, and hours of support from special education personnel and administrators regarding students with disabilities were assessed using the STATIC (Cochran, 1997) and a demographic survey. The STATIC is a teacher-completed rating scale developed by Cochran to measure the attitudes of teachers toward the inclusion of students with special needs in general education classrooms. Data from the STATIC and demographic surveys were analyzed using correlational statistics. Spearman's rho coefficients (r_s) were obtained to determine the strength and direction of the relationships between variables. Regression analyses were also conducted to determine whether hours of professional development and support could be used to predict secondary general education teachers' attitudes toward inclusion.

Definitions

Communities of Practice (CoP): Etienne Wenger's theory describing groups of people informally bound together by shared expertise and passion for a joint enterprise. Wenger identified four characteristics of CoP as identification, meaning, involvement, and belongingness (Wenger, 2000).

Co-teaching: Method of instruction in which a general education teacher and a special education teacher share responsibility for planning, delivering, and evaluating instruction for a diverse group of students, some of whom are students with disabilities (Kloo & Zigmond, 2008).

Inclusion: A special education service model in which students with disabilities are educated in the general education classroom with non-disabled students.

Least restrictive environment (LRE): Concept identified in the Individuals with Disabilities Education Act of 1997 (IDEA) that states "to the maximum extent appropriate, children with disabilities are educated with children who are not disabled, and that the 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" (U.S. Department of Education, 2012, "Least Restrictive Environment," para. 1).

No Child Left Behind (NCLB): Common name for Public Law 107-110 passed in 2001. This legislation was a reauthorization of the Elementary and Secondary Education Act which focused on improving academic achievement for disadvantaged students. It required school accountability through state testing, report cards, and increased teacher qualifications (No Child Left Behind, 2011).

Professional development: Teacher participation in opportunities that result in the acquisition of new knowledge, understandings, skills, or strategies that enhances and builds upon current knowledge (Lassonde, Israel, & Almasi, 2009, p. 6).

Scale of Teachers' Attitudes Toward Inclusive Classrooms (STATIC): A 20-item Likert scale created by Cochran (1998) to measure teachers' attitudes towards the inclusion of students with disabilities in general education classrooms.

Self-efficacy theory: A theory founded on the construct of self-efficacy, an expectation that a person holds regarding their personal capability to accomplish a particular task or goal (Walsh, 2003, p. 65).

Zone of proximal development (ZPD): A concept defined by Vygotsky as the distance between a person's actual development level and the level of potential development possible under adult guidance or in collaboration with more capable peer (Ketterer, 2008, p. 1,017).

CHAPTER TWO: REVIEW OF LITERATURE

Introduction

The field of special education has undergone significant changes in the past 40 years. These changes have focused primarily on the setting where students with disabilities are educated. Prior to 1975, students requiring special education were almost exclusively educated outside of the general education setting. PL 94-142, The Education for All Handicapped Children Act, (1975) was enacted to ensure that students with disabilities received "a free appropriate public education which emphasizes special education and related services to meet their unique needs" (Zigmond, Kloo, & Volonino, 2009, p. 189). Kirk and Gallagher (as cited in Zigmond et al., 2009) wrote at the time that the purpose of the law was not to force all students with special needs into the regular classroom, but to bring them "back into the orbit of the public school" (p. 191). Despite this legislation, placement for these students varied from segregated classrooms to more inclusive settings. In the 1990s, exclusionary practices were once again brought into question as advocates began to campaign for the provision of special education services within the general classroom setting (Heflin & Bullock, 1997). The increased public awareness and scrutiny of special education resulted in legislation addressing the academic achievement of all students. In 1997, Congress enacted The Individuals with Disabilities Education Act (IDEA), which emphasized that exceptional students must have access to the same general education curriculum as students without disabilities (U.S. Department of Education, 2012). Zigmond (2001) described this change by noting that "over the 20-year period between the implementation of P.L. 94-142 and its reauthorization as IDEA '97, the focus of Congress and much of the special education community changed. In IDEA '97, the emphasis is

not on access to schooling or on access to special education, but rather on access to general education" (p. 71).

IDEA '97 was followed by the passage of the No Child Left Behind Act of 2001(NCLB) requiring that all students, including those with disabilities, make adequate yearly progress (AYP) (Zigmond et al., 2009). Teachers, principals, superintendents, school boards, and states were held accountable for the academic progress of all students. NCLB also required that instruction be provided by *highly qualified* teachers. To meet this requirement, teachers must have at least a bachelor's degree, obtain full state certification or licensure, and demonstrate subject area competence (No Child Left Behind Act of 2001, 2002). While special education teachers are highly qualified to work with students with disabilities by providing remediation, accommodations, modifications, and educational strategies, the vast majority do not have subject area certification (Carpenter & Dyal, 2007). This is especially true at the secondary level, where teachers are required to be qualified in each subject area taught. Therefore, in order to meet the requirements for a high school diploma, a large number of high school students with disabilities receive most of their instruction from general education teachers (Grskovic & Trzcinka, 2011; Swanson, 2008).

Another tenet of IDEA is the concept of *least restrictive environment* (LRE). There is little consensus within the field of special education as to the exact definition of LRE. The Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) defines LRE by stating:

> 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 (U.S. Department of Education, 2012, "Least Restrictive Environment," para. 1).

The basic idea underlying LRE is that students with disabilities should be educated with their non-disabled peers to the maximum extent possible, being removed only when the nature of the student's disabilities precludes effective instruction even with the use of supplementary aids and services (Swanson, 2008). In their discussion of LRE, Kirk and Gallagher (as cited in Zigmond et al., 2009) noted, "In this view, the special class was preferable to the institution, the resource room preferable to the special class and the regular classroom preferable to the resource room if the capabilities of the child permit" (p. 190). Regardless of placement, students should continue to receive the same level of support in the regular education environment that was provided in the special education classroom (Worell, 2008). Without a mandate requiring inclusion for all students, local education agencies must determine how they will implement LRE. Some educators support case-by-case decisions, while others support inclusive education for all students, regardless of disability (Carroll, Fulmer, & Sobel, 2011). An examination of current practices leads to the conclusion that the term LRE remains ambiguous and its practice, inconsistent (McLeskey, 2011; Thomazet, 2009).

Finally, the revision of IDEA in 2004 called for students with disabilities to be held to the same performance standards and be responsible for the same academic content as non-disabled students. They were also expected to participate in statewide and district standardized assessments (Zigmond et al., 2009). These expectations reinforced the need for all students to

have access to the general education curriculum. Inclusion became the rule, rather than the exception.

Inclusion requires general education teachers to meet a wide range of student needs. Research has shown that teachers often feel ill-equipped to adequately meet the unique needs of the students in their classrooms (Blecker & Boakes, 2010; Grskovic & Trzcinka, 2011; Paliokosta & Blandford, 2010; Voltz et al., 2008). These feelings often lead to negative attitudes toward the inclusion process (Coutsocostas & Alborz, 2010, de Boer et al., 2011) and may ultimately impact the education experience for students with disabilities (Elliott, 2008; Jacobs & Harvey, 2010).

Theoretical Framework

Several theories of learning provide the foundation for the current study. Vygotsky's zone of proximal development (ZPD) provides a theoretical basis for the practices of inclusion and teacher support. It recognizes not only the importance of modeling and collaboration for students with special education needs, but also the benefit that specially-trained personnel can provide classroom teachers. Bandura's self-efficacy theory and Wenger's communities of practice theory are applicable to teacher attitudes toward inclusion and the effects of training and support on these attitudes. These theories support the concepts of training and collaborative support to develop expertise and strong working partnerships.

Zone of Proximal Development

Psychologist Lev Vygotsky recognized the importance of social interactions in the development of complex functions within the educational setting (Cesar & Santos, 2006). He applied Bandura's social learning theory to his work with children, leading to the development of his zone of proximal development (ZPD) theory. ZPD refers to a range of tasks too difficult to

be mastered alone but that can be mastered with assistance from older or more-skilled individuals (Santrock, 2006). This theory proposes that learning occurs when a more competent person collaborates with a less competent person, allowing him to "move from where he is now to where he can be with help" (p. 237). Vygotsky understood ZPD to "describe the current or actual level of development of the learner and the next level attainable through the use of mediating semiotic and environmental tools and capable adult or peer facilitation" (Shabani, Khatib, & Ebadi, 2010, p. 238). The use of the term *proximal* indicates that the assistance extends slightly beyond the learner's current abilities. ZPD theory has several applications in the inclusive classroom. First, it can be utilized by teachers when they interact with students to teach and model new skills (Guk & Kellogg, 2007). It can also be applied to student interaction through a cooperative learning or collaborative approach (Cesar & Santos, 2006; Reilly & Mitchell, 2010; Schmitz &Winskel, 2008) as well as through peer-mediation instruction (Gnadinger, 2008; Guk & Kellogg, 2007). In each format, students who have a better understanding of a concept or have mastered a skill provide scaffolding and support for lower-ability students. ZPD theory can also describe the collaborative work often found between classroom teachers and those with specialized training in the area of disabilities (Shabani et al., 2010).

Self-efficacy Theory

In 1997, psychologist Albert Bandura published the book *Self-Efficacy: The Exercise of Control* in which he described the theory of self-efficacy (Leonard, 2002, p. 168). This theory developed as an extension of his social learning theory. Self-efficacy refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (as cited in Ross, Hogaboam-Gray, & Gray, 2004, p. 164). This theory is based on the construct

of self-efficacy, an expectation that a person holds regarding his capability to accomplish a particular task or goal (Walsh, 2003). According to Bandura, "people tend to avoid situations they believe exceed their capabilities, but undertake and perform with assurance those tasks or activities they judge themselves capable of accomplishing successfully" (as cited in Tollefson, 2000, p. 67). Individuals who believe that they will be successful on a given task are more likely to be so because they are willing to set high goals, work harder to achieve the goals, and persist despite challenges (Ross et al., 2004). Self-efficacy is achieved through positive past experiences, reinforcement from the environment, and modeling after others who have successfully achieved the goal (Leonard, 2002).

Teacher efficacy refers to a teacher's expectation that he will be able to bring about student learning (Ross et al., 2004). This expectation affects his willingness to try new things, especially those that involve risk or are perceived as difficult. According to Tschannen-Moran and McMaster (2009), teachers' self-efficacy beliefs are related to the effort they invest in teaching, the goals they set, their persistence when things do not go smoothly, and their resilience in the face of setbacks. Teachers form perceptions about their personal capabilities in light of the requirements of a particular teaching task. The theory of self-efficacy suggests that efficacy may be most malleable early in the learning process, therefore teacher preparation is key to improving teacher efficacy (Johnson, 2010).

Communities of Practice

Communities of practice (CoP), as defined by Wenger (2000), are groups of people who are informally bound together by shared expertise and passion for a joint enterprise. Recognition of the existence of these communities allows members to "focus on improving the practice that defines the community and brought about its existence" (Seaman, 2008, p. 270). Originally used

to describe academic settings, CoPs have been effectively applied in organizational, governmental, business, and social settings. More recently, CoPs have been formed as online communities. CoPs exhibit four characteristics: (a) learning as a process of becoming a part of something (identification), (b) learning as a set of shared experiences that create a common understanding (meaning), (c) learning as a process of engagement or learning by doing (involvement), and (d) learning as a process of attachment to the community (belongingness). Three dimensions that influence the coherence of a community are joint work, mutual engagement, and shared repertoire (Parks, 2009). CoP theory recognizes the value of teacher collaboration and cooperation in the inclusive classroom as teachers share their skills and expertise to meet the needs of students with special education needs.

Defining Inclusion

The concept of inclusion originated soon after the passing of special education laws in the 1970s. During the 20-year period between passage of PL 94-142 and IDEA, the focus of special education changed from students with disabilities having access to special education, to that of having access to general education (Zigmond, 2001). School-based and statewide initiatives began experimenting with more inclusive approaches to teaching students with disabilities (Osgood, 2005, Chapter 4). Results were generally encouraging, resulting in more comprehensive efforts throughout the 1970s and 1980s. The passage of IDEA, with its mandate to educate students with disabilities in least restrictive environments (LRE), made these initiatives even more necessary. This approach was initially described as "mainstreaming" (Volonino & Zigmond, 2007), but was later referred to as "inclusion." In 1997, Choate defined inclusive education as "providing appropriate educational opportunities for students with disabilities in the general education class" (as cited in Blecker & Boakes, 2010, p. 435).

Inclusion generally connotes a situation where students with disabilities receive their entire academic curriculum in the general education class as opposed to mainstreaming, where students receive substantial services in a special education setting, joining in regular education classes for certain subjects or non-academic periods (Swanson, 2008). It involves moving special education services from isolated schools or sections of school buildings into the general education environment (Lamar-Dukes & Dukes, 2005). The idea of "full inclusion" is used to describe the situation in which students are educated in the general education setting, attending the same classes they would if they did not have a disability, and receiving supportive services from the special education teacher (Heflin & Bullock, 1999; Worell, 2008). Worrell noted that the student should receive the same level of support in the inclusive setting that was provided in the special education classroom. Nilholm and Alm (2010) suggested that it is wise not to view inclusion as an all-or-none phenomenon, but rather a situation that can be more or less inclusive. Idol (2006) further noted that inclusion allows for students with disabilities to interact with those having no disabilities. Advocates for inclusion stress the importance of having an attitude of acceptance within the school setting for students with disabilities as valued members of the school academic and social environment of the school (Coutsocostas & Alborz, 2010; McLeskey & Waldron, 2011). Ben-Yehuda et al. (2010) agreed that inclusion should involve not only physical placement, but also social and instructional integration in the general education setting.

Components of Inclusion

Ryndak, Jackson, and Billingsley (2000) identified several components of successful inclusion of students with moderate to severe disabilities. These components include

- placement in natural typical settings
- all students together for instruction and learning

- supports and modifications within general education to meet appropriate learning outcomes
- belongingness, equal membership, acceptance, and being valued
- collaborative integrated services by education teams

Successful inclusion programs share many common traits, regardless of student disabilities. These common traits include positive attitudes by teachers and administrators, support for collaboration, curriculum modification, accommodations, and differentiated instruction to meet academic goals (Lapka, 2006). Teachers must have a positive attitude towards inclusion and a fundamental belief that all children can learn, as well as a sense of efficacy that they can successfully educate their students (Kozik et al., 2009; Lapka, 2006; Stanovich & Jordan, 2002). Based on their study of inclusion teachers, Ben-Yehuda et al. (2010) concluded that successful inclusion teachers are interested in the child's home background and maintain positive communication with parents. These teachers send "a message that they expect the child to do well while providing educational conditions to fulfill these expectations" (p. 17). Administrators must also demonstrate support for inclusion by providing common planning time for collaboration between general education and special education teachers, as well as providing training opportunities for school personnel (Heflin & Bullock, 1999; Kozik et al., 2009). Grskovic and Trzcinka (2011) highlighted the use of curriculum-based assessments, modification of curriculum materials to meet individual students' needs, utilization of small groups for direct instruction, and use of repetition and review as essential components for the inclusion of students with disabilities in regular classrooms. In describing inclusion needs at the secondary level, Kozik et al. (20090emphasized the importance of differentiated instruction in all courses and collaboration as strategies necessary for successful adolescent inclusion.

Implementing Inclusion

As definitions of inclusion vary, so do implementation practices. Many schools choose to use a collaborative/consultative model in which special education teachers provide support and advice to general education teachers (Ben-Yehuda et al., 2010). Developing a collaborative environment requires interaction between all stakeholders, including general education teachers, special education teachers, administrators, and parents. Cook and Friend (2010) defined effective collaboration as a relationship that is voluntary, demonstrates parity among participants, is based on mutual goals, shares responsibility for outcomes, shares resources, and is based on a foundation of trust, respect, and a sense of community. One example of a collaborative effort is the use of Instructional Assistance Teams (IAT). These teams serve as a venue for teachers to exchange ideas and develop plans to solve problems and meet student needs (Dukes & Lamar-Dukes, 2006). A collaborative or consultative model is frequently used when general education teachers feel confident in their abilities to work with students who have disabilities and do not feel the need for continuous support (Pugach & Winn, 2011). Special education team members provide expertise when needed (Pugach & Winn; Santoli et al., 2008). In a study of successful and unsuccessful inclusion teachers, Ben-Yehuda et al. (2010) found that successful inclusion teachers reported participating in collaboration on a daily basis with their special education colleagues. In order for these collaborative relationships to be successful, Eccleston (2010) recommended four essential traits for special education teachers. He noted that successful teachers are thoughtful, knowledgeable of policies and best teaching practices, compassionate, and possess well-developed leadership skills.

A second model of inclusive practice places the special education teacher within the general education classroom as part of a team approach to instruction. Co-teaching is defined as

"a shared responsibility for teaching within the same classroom by a general and special education teacher and team teaching as an interdisciplinary group of teachers sharing responsibility for a group of students" (Pugach & Winn, 2011,p. 36). Hallahan and Kaufman (as cited in Volonino & Zigmond, 2007) noted that co-teaching is expected to enhance the general education experience for various learners, including those with disabilities, by combining the pedagogical strengths of both teachers. The intent of co-teaching is "to make it possible for students with disabilities to access the general curriculum while at the same time benefiting from specialized instructional strategies necessary to nurture their learning" (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 11). Components of co-teaching include: (a) two certified teachers, usually one general education teacher and one special education teacher; (b) instruction delivery by both teachers; (c) a heterogeneous group of students; and (d) a single classroom where students with disabilities are taught with their non-disabled peers.

There are many variations of co-teaching found in practice. Friend et al. (2010) described practices ranging from one person teaching and the other acting as an assistant, to team teaching, which involves teachers alternating the role of primary instructor within individual lessons. Studies of successful inclusion programs have identified several attributes of effective co-teaching. First, co-teaching should be a matter of teacher choice. Pugach & Winn (2011) found that teachers who volunteered for co-teaching were more satisfied than those who did not volunteer. Volunteers also reported greater mutual respect for their co-teachers than those who were assigned to co-teach**.** Other characteristics of successful co-teaching include personal and professional compatibility among teaching pairs (Isherwood & Barger-Anderson, 2008; Kohler-Evans, 2006; Pugach & Winn, 2011; Simmons & Magiera, 2007), congruency of teaching philosophies (Kohler-Evans, 2006; Pugach & Winn, 2011; Sileo & Van Garderen, 2010),

individualized student instruction (Simmons & Magiera, 2007), and administrative support (Isherwood & Barger-Anderson, 2008; Scruggs, Mastriopieri, & McDuffie, 2007). Additionally, effective co-teaching includes clearly defined roles (Isherwood & Barger-Anderson, 2008), as well as equity of teaching roles (Simmons & Magiera, 2007). Lapka (2006) emphasized the importance of equity among school personnel in any collaborative model of inclusion. She noted "teams can organize and meet, but just being in the same room does not guarantee that all members think their contributions are valued or that decision making is shared. Teachers might be assigned to work together, but unless they share their ideas, they might as well be working independently side by side**"** (para. 12). Grenier (2011) suggested that teachers must find their place in the co-teaching setting by considering student needs, teacher personalities, content knowledge, and instructional practices.

Challenges of Inclusion

Challenges and barriers to learning are inherent in any educational setting. This is certainly true in inclusive classrooms. Developing strong working relationships and establishing teacher roles are two of the more significant challenges teachers face. Changing the typical teaching environment to a cooperative model may lead to role confusion, possibly resulting in control struggles between regular education and special education teachers (Friend, 2007; Volonino & Zigmond, 2007). This frequently results in special education teachers being relegated to the subordinate role of assistant or mediator for students with disabilities (Nilholm & Alm, 2010; Pugach & Winn, 2011; Scruggs et al., 2007). Pugach and Winn (2011) also noted that novice teachers may find it difficult to work with more experienced teachers. These beginning teachers may be hesitant to act as an equal partner because they recognize they lack sufficient academic content knowledge, pedagogical content knowledge, or classroom

experience. Additionally, teachers may also find that a lack of shared planning time hinders effective inclusive practice (Carpenter & Dyal, 2007; Kohler-Evans, 2006; Pugach & Winn, 2011). This is especially significant at the secondary level, where shared planning time is necessary to allow content area specialists and special education teachers to plan for the individual needs of all students (Kozik et al., 2009). Finally, limited content knowledge, combined with limited research-based practices and difficulty implementing remediation may result in less than desirable academic results (Pugach & Winn, 2011; Rosas & Campbell, 2010; Sileo & Van Garderen, 2010). Special education teachers frequently have limited knowledge of specific subject matter, while regular education teachers may be unfamiliar with strategies to work with students with disabilities (Carter & Hughes, 2006; Grskovic & Trzcinka, 2011; Rosas & Campbell, 2010). Dee (2011) noted that "inclusion requires that the general education classroom teacher possess skills that were once the purview of the special education teacher alone" (p. 53).

A study of inclusive practices reveals frequent disparity not only between special education theory and practice, but also fidelity of implementation within classrooms. Volonino and Zigmond (2007) concluded:

> What is understood as effective special education may be neither feasible nor practical in general education classrooms, where teachers must address individual needs in large group settings. Effective special education encompasses low student-to-staff ratios, intensive and prescribed instruction in basic skills, frequent performance monitoring and opportunities for one-on-one instruction. The research also demonstrates that these practices are rarely evidenced in general education classrooms (p. 297).

Efforts to implement inclusion at the secondary level may be hindered by many challenges not found at the lower grade levels. Academic complexities such as broader range of content and larger gaps in student abilities make meeting individual needs difficult (Carter & Hughes, 2006; Cole & McLeskey, 1997; Kozik et al., 2009). Mandatory standardized testing, such as exit exams, end of course exams, and college entrance exams put pressure on teachers and students to teach and master rigorous standards (Cole & McLeskey, 1997; Connor et al., 2009). Larger class sizes and the expectation for independent student work limit the opportunity for remediation and individualized instruction (Carter & Hughes, 2006). Teacher characteristics also impact the effectiveness of inclusion. At the secondary level, creating effective collaboration among staff members can be challenging because many secondary teachers are accustomed to working alone or within departments (Worell, 2008). Carter and Hughes (2006) noted high school teachers are generally content specialists, are typically more autonomous in their planning, and tend to use more didactic instructional methods. Research has also shown that high school teachers tend to have less positive attitudes toward inclusion (Kozik et al., 2009). Finally, the unique needs of high school students present additional challenges for teachers. During the high school years, adolescents experience tremendous emotional, social, and physical changes (Cole & McLeskey, 1997). These individual needs may be difficult to address within the general education classroom.

Results of Inclusion

The practice of inclusion has received mixed reviews regarding the benefits for students with disabilities and their non-disabled classmates. While the general public and parents of both students with disabilities and typically developing children appear to embrace the concept of inclusion (Avramidis & Elias, 2007; Kalyva & Agaliotis, 2009; Kozik et al., 2009), teachers and

administrators must consider educational outcomes for all students. A review of current research shows that social and academic benefits of inclusion remain unclear.

For students with disabilities, the most significant benefit is the opportunity to interact socially with peers (Carter & Hughes, 2006; Coutsocostas & Alborz, 2010; Lapka, 2006; McDuffie, Mastriopieri, & Scruggs, 2009). Carter, Moss, and Hoffman (2011) noted an increase in peer interaction for students with disabilities as a result of peer partnerships, while Hughes, Golas, and Cosgriff (2011) found an increase in conversation initiation for students with autism and language disabilities in general education settings. A study examining the results of inclusion in a high school band program suggested that students with disabilities demonstrated both social and musical gains from participation in band (Lapka, 2006). Parents appreciated the opportunity for their children to be a part of a "regular" group, participating in "normal" activities. Inclusion also allows students to experience a sense of belonging and community, as well as an increased level of self-esteem (Horne & Timmons, 2009). Nilholm and Alm (2010) surveyed children who were involved in an inclusive classroom. They noted all children reported feeling content and secure in the class, and nearly always had someone to be with during breaks. They observed that the children enjoyed working in groups and no one seemed to be socially isolated.

Social benefits have also been reported for general education students. In several studies, teachers noted students' attitudes toward those with disabilities improved and the students demonstrated more understanding of diversity when in an inclusive classroom (Carter & Hughes, 2006; Coutsocostas & Alborz, 2010; Lapka, 2006). In a study of inclusion in physical education classes, teachers reported that students appeared more tolerant and accepting of students with disabilities when they understood the nature of the disability and were able to ask questions

(Horne & Timmons, 2009). One student supported this by stating "When you are forced to spend time with someone, you learn to understand the person" (Lapka, 2006, para. 35). In another study, classmates of a student with physical disabilities (PD) displayed a more sophisticated understanding of PD compared to children without contact with PD (Kalyva & Agaliotis, 2009). Bunch and Valeo (2004), in their examination of students in both segregated and inclusive settings, found that general education students in inclusive classrooms knew the names of peers with disabilities and claimed friendships with those in their classes. Secondary students also defended their peers with disabilities against abusive attitudes and behaviors. Naraian (2010) investigated the inclusion of a high school student with significant intellectual and physical disabilities. He noted that classmates were well aware of the difficulties this student experienced because of his disabilities. They also indicated their acceptance of him in the classroom by describing his sense of humor and personal interests.

Limited academic benefits have been noted for students in inclusive classrooms (Kohler-Evans, 2006; McDuffie et al., 2009). One study showed that students with learning disabilities in co-taught classrooms earned higher grades and achieved higher scores on the language and mathematics subtests of standardized tests than students served in pull-out special education classrooms (Volonino & Zigmond, 2007). In a similar study, students with disabilities in inclusive classrooms earned higher grades and performed better on standardized tests than students served in a pull-out program (Rea, McLaughlin, & Walther-Thomas, 2002). A study of high school English inclusion classes showed improved literacy and better grades for students with disabilities (Wilson & Michaels, 2006). Another study by Kemp and Carter (2006) showed that while the performance of students with disabilities was lower than their non-disabled peers, some were able to achieve near age-appropriate performance. In his doctoral dissertation

research, Dawkins (2010) examined the academic achievement of high school students in inclusion settings. He found that students involved in inclusive classrooms showed significant gains over students in resource settings in some subjects such as biology, but gains were not found in English and algebra. Another study of elementary students suggested a strong correlation between the amount of time students with disabilities participated in the general education setting and passing rates on state achievement tests (Black, 2010).

A final area of benefit for students in inclusive settings involves the development of functional and independent living skills. These skills are especially significant for high school students as they prepare for adulthood. Students who participate in the technical training programs available in most high schools benefit from the job skill training they receive (Casale-Giannola, 2011). Myklebust & Batevik (2009) found that students in regular education classes obtained vocational or academic diplomas more often than students in special education classes. They also obtained better adult outcomes, such as acquiring a driver's license and obtaining work with sufficient pay for independent living (Ryndak, Ward, & Alper, 2010).

Despite the social and academic benefits of inclusion reported by some researchers, other research indicates significant disadvantages. Many teachers in inclusive classrooms report that students with disabilities are not fully accepted socially by their peers (Heflin & Bullock, 1999) and experience infrequent interaction with their non-disabled peers. This is especially true among high school students (Carter et al., 2011). Hutzler and Levi (2008) found that regular education students who were familiar with the disabilities of their peers were less willing to have these students in their physical education classes. Students with emotional and behavioral disabilities often experience more indifference and rejection by teachers (Cook, Cameron, & Tankersley, 2007). A study of students with emotional disabilities indicated no improvement in

behavior or academic achievement based on placement (Siperstein, Wiley, & Forness, 2011). Hang and Rabren (2009) also noted more absences for students with disabilities in inclusion classes than those in special education classes.

Another area of concern is the academic ability and progress of students with disabilities in inclusion classrooms. Many teachers express concerns regarding both the ability of students with disabilities to follow lessons and the lack of special education services provided for these students (Lapka, 2006). Other teachers have noted that students who receive pull-out services lose continuity in their courses and do not develop relationships with classmates (Grskovic & Trzcinka, 2011). Several studies have shown that, despite a positive school culture towards inclusion, students with disabilities received virtually no explicit or differentiated instruction (Bunch & Valeo, 2004; Carroll et al., 2011; Harbort, Gunter, Hull, Venn, Wiley & Wiley, 2007; McDuffie et al., 2009). A study conducted at the middle school level showed that instruction in co-taught classes was very similar to other general education classes. Volonino and Zigmond (2007) noted "the claim of co-teaching proponents that co-teaching would provide enhanced instructional experiences was not borne out in this study" (p. 295).

Negative effects for regular education students have also been noted. In a study investigating the effects of inclusion for all students, teachers noted detrimental effects for non-disabled students in the inclusive classroom (Horne & Timmons, 2009). Sixty-five percent of participating teachers expressed concern that students were not being adequately challenged. Specifically, they noted that students without disabilities often received limited attention from the teacher due to the extra time required by the student with special needs. Concerns were also noted regarding possible distractions caused by the teacher assistant working in the same classroom. Another study investigating the effects of teacher qualification and inclusion on

reading achievement showed that as the number of students with disabilities in a class increased, reading achievement for all students decreased (Robinson, 2011). Other research has suggested no effect on academic achievement. Rouse and Florian (2006) found no evidence that the increased presence of students with disabilities lowered the performance of other students in the school. Bru (2009) concurred with these findings, reporting no evidence that the inclusion of students with disabilities affected classmates' grades or ability to learn.

Teacher Attitudes toward Inclusion

The success of inclusive education depends in large part on the attitudes of general education teachers and administrators (DeSimone & Parmar, 2006; Elliott, 2008; Kim, 2011; Philpott et al., 2010; Stanovich & Jordan, 2002). According to Santoli et al. (2008), teacher attitudes are critical to successful inclusion, and impact classroom practices and, ultimately, student achievement. Their research led them to conclude "it would seem that, in the absence of positive beliefs about student achievement, teachers are going through empty motions in making modifications for special education students" (para. 19). Teacher attitudes impact classroom practices and the way teachers interact with students with disabilities (Park & Chitiyo, 2011; Philpott et al., 2010; Poulou, 2007). When teachers recognize that environment rather than the disability is the primary barrier to learning, they are more likely to engage in direct interaction with the child than those who see the characteristics of the child as the barrier. In a study of teacher-student interactions in inclusive classrooms, teachers were considerably more engaged with both groups of students individually and in small groups (Jordan & Stanovich, 2001). They also facilitated higher levels of cognitive engagement than other teachers. Teacher attitudes are important because they influence the type of interventions chosen and how successful those interventions will be (Park & Chitiyo, 2011). Kochhar, West, and Taymans (as cited in

DeSimone & Parmar, 2006) reported teachers' negative beliefs and feelings as one of the three major barriers to effective inclusion. Additionally, teachers' attitudes transfer to their students and may indirectly affect peer relationships between students with and without disabilities (Kim, 2011).

With attitude playing such a crucial role in the effectiveness of the inclusion model, it is important to understand factors that impact teachers' attitudes. Several factors have been found to significantly impact teachers' attitudes towards students with disabilities and inclusive education (Coutsocostas & Alborz, 2010; de Boer et al., 2011; Gal, Schreur, & Engel-Yeger, 2010; Hwang & Evans, 2011). These include prior training, previous experience with disabilities, teacher efficacy, and time. Avramidis and Elias (2007) found that while teachers were generally positive towards the concept of inclusion, those with prior education or training in special needs had more positive attitudes than other teachers. Coutsocostas and Alborz (2010) found similar results, leading them to conclude their research with the recommendation that mainstream or inclusion teachers receive additional training in meeting the needs of students with disabilities.

Research has also shown that educators who have had prior personal or professional experience with various disabilities have more positive attitudes towards inclusion (Ben-Yehuda et al., 2010; de Boer et al, 2011; Pearson, 2007; Subban & Sharma, 2005). One study suggested that teachers who have worked with students with low vision either directly or indirectly are more positive regarding their inclusion than randomly selected teachers (Wall, 2002). In contrast, other studies have shown little support for the effects of previous experience with special needs on teacher attitudes (Hastings & Oakford, 2003; Rae, Murray, & McKenzie, 2010).

Another critical factor affecting attitude is teacher efficacy and perceived professional competency (Ben-Yehuda et al., 2010; Forlin et al., 2008; Jung, 2007; Kosko & Wilkins, 2009). Teaching efficacy is a strong predictor of classroom actions (Kosko & Wilkins, 2009), affecting the efforts teachers invest and the goals they set (Ben-Yehuda et al., 2010). Teachers with greater efficacy are more open to new ideas, are less critical of student errors, and work longer with struggling students. Improved efficacy has also been linked with higher student achievement (Akbari & Allvar, 2010). Efficacious teachers are more likely to implement strategies to enhance student learning. Finally, teachers' attitudes toward inclusion are affected by school characteristics such as grade levels served and the socio-economic status of a school's student population. Elementary school teachers are generally more positive toward inclusion than teachers working at the secondary level (Berry, 2010**;** O'Rourke, Main, & Cooper, 2008**).** As noted previously, the unique academic and social demands placed on high school teachers may contribute to more negative attitudes toward inclusion. Berry (2010) also noted that teachers in schools with high socioeconomic characteristics were less accepting of students with disabilities. She suggested this is perhaps the result of increased academic expectations placed on students and teachers by parents and the community.

The fourth factor that has been identified as a contributor to teacher attitude is time. In their study of teacher attitudes toward inclusion, Santoli et al. (2008) found that time was a significant factor. Specifically, they found relationships between attitude and time in three areas: consulting with other teachers regarding students with disabilities, attending meetings regarding students with disabilities, and working with students with disabilities in the regular classroom.

Three distinct profiles have been identified in regards to teacher attitudes toward inclusion (Berry, 2010). Results of a survey conducted at the end of a graduate-level special

education course showed that teachers' responses fell into three categories primarily identified by level of teaching experience and confidence. Profile A, "Keen, but Anxious, Beginners" was used to describe young preservice teachers. These teachers had positive attitudes toward inclusion but expressed concerns regarding their effectiveness in inclusive classrooms. The second category, Profile B, labeled teachers as "Positive Doers." Teachers in this category were generally novice teachers who maintained positive feelings towards inclusion despite facing the struggles and challenges of inclusion. These teachers indicated more confidence in their teaching abilities than those in Profile A. The final Profile C, "Resistance", identified teachers who reported negative feelings toward inclusion. The majority of respondents in this category were either experienced teachers or those working at the high school level.

Research has shown a range of teacher attitudes toward inclusion from very receptive toward inclusion for all students, to unfavorable toward the inclusion of any child with a disability in the general education classroom. Few studies have shown that all teachers favor inclusion, although individual attitudes may tend to improve over time (Ross-Hill, 2009; Winzer & Mazurek, 2011). Many studies have shown that teachers are generally positive toward the concept of inclusion (Avramidis & Elias, 2007; Brackenreed, 2011; DeSimone & Parmar, 2006; Horne & Timmons, 2009; Kohler-Evans, 2006; Koutrouba et al., 2008; Kozik et al., 2009). One study showed that more than half of teachers favored inclusion (Koutrouba et al., 2008). Those who support inclusion expressed the belief that coeducation prepares students with disabilities for their futures in society. In other studies, teachers noted that all students, regardless of educational needs, benefit from inclusion (Subban & Sharma, 2005). For many, inclusion is seen as a human right, and diversity is viewed as positive and appreciated (Kozik et al., 2009).

Teachers who favor inclusion generally do so for students with mild disabilities such as speech, learning disabilities, or mild physical disabilities (Avramidis & Elias, 2007; Koutrouba et al., 2008). DeSimone and Parmar (2006) found that four out of five teachers responding to a survey agreed with the statement that students with learning disabilities should have the opportunity to learn mathematics with general education students. A frequent teacher response to the question of inclusion was that decisions should be made on a case-by-case basis, with success being dependent on the characteristics of the individual child (Wah, 2010). One teacher described the feelings of many by stating "I don't think you can… categorically say whether for all children inclusion is good or bad because there are just so many different individual cases that I've experienced" (Wilde & Avramidis, 2011, p. 83).

Other research has shown teacher attitudes to be less than favorable toward inclusion (Coutsocostas & Alborz, 2010; de Boer et al., 2011; Santoli et al., 2008). Many teachers express the opinion that inclusion is not appropriate for students with behavioral disorders, mental disabilities, or significant physical disabilities (Coutsocostas & Alborz, 2010; Santoli et al., 2008). In one study, three out of four teachers were not in favor of inclusion for mental retardation or physical disabilities such as hearing or vision impairment (Koutrouba et al., 2008). Results also indicated nearly half of teachers were not in favor of any inclusion of students with disabilities into regular classes. These teachers justified their negative opinion by referring to the challenges of curricula inflexibility and lack of infrastructural equipment. Approximately one-third of the teachers said they would advise these students' parents to place their child in a special school. The authors summarized their results by saying "while teachers were willing to make needed adaptations for those students who had disabilities, the majority did not believe that

students with disabilities, regardless of the level of their disability, could be educated in regular classrooms" (p. 413).

Two topics indirectly related to teacher attitude towards inclusion are instructional goals and teacher efficacy. Carter and Hughes (2006) examined teachers' attitudes towards instructional goals for regular education and special education students. They found that differences in ratings of the importance of instructional areas for students with severe disabilities and general education students were quite pronounced. Specifically, instruction was rated more important for general education students in five goal areas: actively participating in class, acquiring academic or vocational skills, learning course content, developing critical thinking, and completing homework and assignments. Administrators rated "learning course content" for students with disabilities significantly higher than both special education and general education teachers.

Researchers have found mixed results regarding teacher efficacy related to special education and inclusion. Many teachers express confidence in their abilities to work with special needs students. In response to a survey on inclusion in a middle school setting, 78% of teachers expressed confidence that they knew teaching strategies for helping students with disabilities master new content (Santoli et al., 2008). An even larger number of teachers felt they were able to adjust assignments to meet students' needs. Other studies have shown contrasting results. For example, Forlin et al. (2008) found a high percentage of teachers who felt inadequately prepared to meet the needs of students with disabilities. In a study of preservice and novice teachers, Jung (2007) found that beginning teachers expressed concerns regarding their ability to teach students with disabilities while developing their personal teaching skills. Regardless of their perceived

level of efficacy, teachers and administrators note the importance of continued training for inclusion teachers (Carpenter & Dyal, 2007; Grskovic & Trzcinka, 2011).

Despite differences in attitudes toward teaching students with disabilities, teachers share many common concerns about the inclusion process. Among the most frequently cited concerns are individual student needs and behavior, lack of time, need for support, and lack of resources. Many teachers are concerned that students with disabilities lack skills needed to master regular education course content (Santoli et al., 2008). Others are concerned about the behavior of students, such as inappropriate social skills, short attention spans, and poor communication skills (Forlin et al., 2008). Teachers are also concerned with the amount of time they feel will be required to meet the needs of students with disabilities (Glazzard, 2011). They frequently note a lack of time for planning lessons and teaching other students in the class (Blecker & Boakes, 2010; Horne & Timmons, 2009). Teachers also recognize the need for additional professional development (Blecker & Boakes, 2010; Subban & Sharma, 2005), as well as collaboration and support from special education staff (Coutsocostas & Alborz, 2010). The need for additional resources and equipment to meet the needs of students with disabilities is another area of concern (Forlin et al., 2008). Koutrouba et al. (2008) reported nearly half of the teachers responding to a survey considered their school either “not at all equipped” or “slightly equipped” to meet the needs of inclusion. Finally, concerns were noted regarding the difficulties students with disabilities may face due to the increased academic standards of regular education classes (Horne & Timmons, 2009), student distractions caused by special education personnel being in the classroom, classroom adaptations needed to accommodate students with physical disabilities (Kargin, Guldenoglu, & Sahin, 2010), and the difficulty working with special education teachers (Hwang & Evans, 2011).

Research has shown that teachers differ in their attitudes toward inclusion. Attitudes range from being in favor of all students being afforded an inclusive education, to believing in a totally segregated environment for all students with disabilities. Most educators fall somewhere between these two extremes. Regardless of where they fall on the inclusion spectrum, their beliefs directly influence the way they interact with and educate students with disabilities. Therefore, it is important to identify strategies to improve teachers' attitudes, as well as address the concerns they have regarding inclusion.

Teacher Training

One of the most frequently cited needs of teachers regarding inclusion is training in special education. Koutrouba et al. (2008) found that four out of five teachers responding to a survey reported that they had never attended a seminar on special education. These respondents agreed that all teachers should be required to have additional education in this area, especially first-time teachers or those without previous experience working with student with disabilities. Glazzard (2011) also noted that participants in a study of teachers and teacher assistants felt that they were inadequately trained to educate students with special needs. The two primary methods of teacher training are college preservice education programs and continuing professional development. For active teachers, in-service training and enrolling in college courses are the most preferred methods of professional development to improve inclusion practice (Ben-Yehuda et al., 2010). Quality training is vital to provide those who teach students with disabilities the information and tools they need to be successful.

Preservice Education

Teacher education programs face the daunting task of preparing students to be effective educators in a variety of academic settings. Inclusion is one of the more challenging settings due

to the need for accommodating a wide range of educational, behavioral, and emotional needs. Preservice teachers must master a range of topics from subject content and pedagogy to classroom and behavior management. There is concern that many teacher preparation programs, particularly those designed to prepare secondary teachers, do not provide a sufficient theoretical background of special education or strategies to meet the learning needs of students with disabilities (Gately & Hammer, 2005). Discussion continues as to the best way to present necessary pedagogical knowledge. Some schools have compulsory special education courses, while others offer these classes as electives, or optional courses (Vickerman & Coates, 2009). One effective approach currently being used is a collaborative method in which special education content is embedded throughout the entire program rather than as a separate course (Brown, Welsh, Hill, & Cipko, 2008; Kim, 2011; O'Rourke et al., 2008). A study on the effects of embedding information on special education and adaptations in a general education preservice class indicated improved understanding of special education concepts (O'Rourke et al., 2008). Kim (2011) also found that teachers from infused curricula programs had significantly more positive attitudes toward inclusion that those from separate programs. Research has identified several curricular topics that would be beneficial for all general education teachers to know before working in an inclusion setting. According to Grskovic and Trzcinka (2011), preservice teachers should have a basic understanding of the characteristics commonly associated with students with disabilities, learning modalities, and methods of differentiated instruction necessary to meet the needs of all students. In 2005, the Committee for Teacher Education (CTE), sponsored by the National Academy of Education (NAE), also stressed the need for pre-service programs to provide foundations in special education law, eligibility procedures, and teaching strategies (LePage, Courey, & Fearn, 2010). They suggested that program curriculum

standards and textbooks be updated to place more emphasis on inclusion. When high school special education teachers were asked to rate items needed by general education teachers, instructional strategies such as methods for modifying the general curriculum, academic accommodations, learning strategies, and study skills received the highest rankings. James and Kader (as cited by Bain & Hasio, 2011) stated "it is imperative that pre-service students learn how to adjust and accommodate for diverse learners" (p. 35).

Teacher education programs should also provide preservice teachers the opportunity to interact with students with disabilities and practice implementing teaching strategies. Richards and Clough (2004) conducted a study to determine if interaction with students with disabilities affected preservice teachers' views on inclusion. They found that preservice teachers generally held positive views toward inclusion and most continued to do so after inclusive teaching experiences. Participants noted the need for additional training in teaching strategies to support students with special needs. Another study showed that when preservice teachers worked with children with special needs in authentic learning experiences, they were more prepared for the "wide variety of the demands, challenges, and rewards they will face in their own classrooms" (Bain & Hasio, 2011, p. 38). A study conducted by Forlin and Chambers (2011) showed that preservice teachers who were involved in an applied experience program demonstrated significant increases in their perceived level of confidence in teaching special needs students and overall knowledge about special education legislation. However, these experiences did not result in significant changes in perception or attitude towards inclusion. The authors noted "it would seem that greater engagement with people with disabilities had highlighted what they would need to do as teachers to accommodate the needs of students with disabilities, thus leading to greater concerns about this" (p. 29).

Administrators and teachers report mixed feelings regarding preservice training. Many administrators believe that new teachers enter the field unprepared for the challenges they will face. In a study of Canadian school principals, 81% ranked preservice training in accommodating diverse needs as important for new teachers, while only 8% of them felt that current graduates were well prepared in the area of working with students with disabilities (as cited in Philpott et al., 2010). Teachers also express concern about their lack of preparation to teach in inclusive settings. In a study that examined teacher training programs for physical education teachers, 25% to 40% of students were dissatisfied with their training related to special education needs (Vickerman & Coates, 2009). Forlin et al. (2008) reported that 93% of teachers felt that they had received insufficient training in their teacher preparation programs to address special education needs. Sadler (2005) reported that approximately 88% of teachers in a preschool setting considered their knowledge level of speech and language impairment to be either "limited" or "very limited." In another study, only about one-fourth of the respondents felt that their teacher education programs helped them develop instructional philosophies related to teaching students with disabilities (DeSimone & Parmar, 2006). They observed that the special education courses mainly provided an overview of special education and the various laws associated with special education students. In a study conducted by McCray and McHatton (2011), results suggested that preservice training increased teachers' understanding and empathy for students with disabilities. However, in regards to teaching efficacy, few participants in the study indicated feeling more prepared to teach these students. In a similar study examining perceived sense of efficacy towards inclusion, findings suggested that while preservice teacher attitudes toward inclusion improved, they continued to be negative towards children with behavioral disabilities (Gao & Mager, 2011). These findings highlight the fact that teacher

preparation programs face the challenging task of providing prospective teachers with the knowledge and skills required to be effective in inclusive schools.

Professional Development

While teacher education programs are critical for providing foundational knowledge for new teachers, ongoing professional development is key to honing skills and making sure that teachers have information necessary in today's changing educational environment. Koutrouba et al. (2008) found that 84% of teachers indicated they "strongly agree" that further training related to special education is needed. Levin (2009) noted that teacher turnover rates are too slow to effectively change system-wide practices without continued post-service training. A majority of general education teachers in the current workforce received their training prior to the wide-spread implementation of inclusion and may not have had adequate professional development in this area (Grskovic & Trzcinka, 2011). Philpott et al. (2010) noted that professional development can improve teachers' attitudes toward inclusion, develop evidence-based practices, and build collaboration. Specialized training may also provide school personnel the information needed to make appropriate decisions regarding specific teaching models for particular classrooms (Carpenter & Dyal, 2007). Wilde and Avramidis (2011) found that teachers frequently mentioned the need for knowledge related to disabilities and advice on specific interventions for specific students.

Researchers examining the effectiveness of professional development have reported mixed findings. Voltz (2006) found that teachers participating in professional development for implementing inclusion expressed a more confident or positive view toward inclusion. They were also more likely to agree that inclusion can enhance learning outcomes for both students with and without disabilities. Another study focused on how much professional development is

required to bring about changes in teachers' self-perceived ability to adapt instruction for students with disabilities. Findings suggested that although some professional development is better than none, having eight hours or more of professional development within a three-year period is more than twice as effective as less than eight hours (Kosko & Wilkins, 2009). This study also suggested that professional development is a better predictor of teachers' improved perceptions of the ability to adapt instruction for students with disabilities than years of experience teaching such students. However, not all research has noted significant positive improvement in teacher attitudes as a result of professional development in special education topics. In contrast to research suggesting positive findings, Forlin et al. (2008) found that participation in professional development to enhance teachers' professional competency made no significant difference in reducing their concerns regarding inclusion. Grskovic and Trzcinka (2011) summarized these findings by stating "many general education teachers continue to report feeling ill-prepared to teach students with disabilities" (p. 95) despite recommendations and improvements in teacher training programs.

Teacher Support

General education teachers who are given the task of educating students with disabilities benefit greatly from support provided by special education personnel and administrators. A lack of support has been identified as the most substantial barrier to inclusion of students with severe disabilities in general education classrooms (Carter & Hughes, 2006). Level of support has also been linked with teachers' attitudes toward inclusion (Avramidis & Elias 2007; DeSimone & Parmar, 2006). This support may be provided by administrators and special education personnel, such as special education teachers, teaching assistants, speech therapists, school psychologists, and behavior interventionists.

Support from Administration

All support for inclusion must begin with the school's administration. Administrators set the tone for inclusion within their schools (Avramidis & Elias, 2007; Horne & Timmons, 2009; Ryan, 2010; Waldron, McLeskey, & Redd, 2011). They show that inclusion is a priority by allocating time and resources to teachers who work with students with disabilities. School principals can initiate a culture of shared learning, collaborative support, and the expectation that all teachers will be actively engaged in instructional improvement (Waldron et al., 2011). The active involvement of the principal serves as a foundation for a school culture that improves outcomes for all students. As such, they become "keepers of the vision" regarding inclusive practices that result in positive achievement outcomes for all students, while continually encouraging teachers to work towards improving their instruction (Waldron & Redd, 2011).

Many administrators may be unfamiliar with the unique characteristics of effective inclusion, resulting in ambiguity of teacher expectations and student outcomes. Glazzard (2011) suggested that misunderstandings may lead to negative feelings toward administration and the inclusion process. To minimize these misunderstandings, Rea and Connell (2005) encouraged administrators to assess their personal knowledge of inclusion and take steps necessary to build their expertise in inclusion strategies prior to evaluating teacher and program effectiveness.

One of the ways administrators demonstrate support for inclusion is by providing supports such as teaching assistants, planning time, smaller class size, and access to special education teachers (Horne & Timmons, 2009). Harpell and Andrews (2010) suggested that they may also empower teachers to make decisions regarding the implementation of

inclusion, such as identifying needed resources and determining appropriate strategies for teaching students with disabilities. Finally, administrators can provide professional development opportunities and induction programs for inclusion teachers. The need for additional training was highlighted by research conducted by DeSimone and Parmar (2006), where they found that more than half of teachers responding to a survey felt that administrators did not provide adequate and consistent professional development opportunities focused on inclusion.

Studies have shown that higher levels of administrative support and availability of support services result in more positive attitudes toward inclusion among teachers. In one study of physical education teachers who worked with students with disabilities, all participants agreed that the leadership of the school principal was necessary for inclusion to work well (Horne & Timmons, 2009).

Support from Special Education Personnel

Most general education teachers recognize the need for support from professionals with specialized training to help them meet the needs of students with disabilities in their classrooms. Cook et al. (2007) stated that teachers need help in managing because "students with disabilities typically require more, not less, teacher interaction" (p. 237). In a study of general education math teachers, most of the participants interviewed identified support staff as the most significant resource available to them (DeSimone & Parmar, 2006). Conversely, general education teachers reported that the lack of personnel to support students in general education classrooms is the most substantial barrier to successful inclusion practice (Brackenreed, 2011; Carter & Hughes, 2006; Coutsocostas & Alborz, 2010). Lack of support makes meeting the needs of students with disabilities difficult, and significantly raises teachers' stress levels (Brackenreed, 2011).

Support for general education teachers can be provided by special education teachers who are trained to work with students with disabilities. As previously noted, co-teaching and collaboration are frequently used methods for providing this support. Ben-Yehuda et al. (2010) discussed this trend towards partnership and collaboration among educators, noting "As schools move toward inclusion, collaboration and teaming between regular education teachers and special education teachers is becoming a growing practice" (p.17). They added that successful inclusion teachers are involved significantly more often in collaboration with special education colleagues, planning and implementing various instructional strategies in a cooperative teaching setting. Lingo, Barton-Arwood, and Jolivette (2011) described how general education and special education teachers can work together to create and implement assessments to determine the effectiveness of classroom instruction and interventions. They noted that special education teachers often have training in curriculum-based data collection and can assist the general education teacher in designing, administering, and analyzing these assessments.

While most educators recognize the importance of collaboration between general education and special education teachers, collaboration between classroom teachers and related special education service providers is equally important (Nochajski, 2001). These support personnel can bring specialized skills to the inclusive classroom. Paraprofessionals, or teaching assistants, are frequently utilized within inclusive classrooms. Recognizing the increasing number of students with disabilities in the general education classroom and the need for teacher support, IDEA was recently amended to allow for the use of paraprofessionals who are appropriately trained and supervised to assist in the provision of special education services (Giangreco, Backus, CichoskiKelly, Sherman, & Mavropoulos, 2011). Utilization of paraprofessionals has advanced and their roles in instruction have expanded since this change in

the law (Giangreco, 2010). Other special education staff available to assist the general education teachers includes speech pathologists, occupational and physical therapists, behavior interventionists, and school psychologists. Teachers should be made aware of the availability of all support staff. In a study of general education inclusion teachers, Nochajski (2001) found that the majority of teachers in an inclusion program were unaware of the expertise of available related service providers. Collaboration encourages team members to share insights, skills, and expertise to improve the effectiveness of the inclusion process.

In summary, teachers' attitudes play an important role in the success of the inclusion model of special education. Attitudes may be directly impacted by preservice education and professional development, as well as by support received from administrators and special education support personnel. The current study examined the relationships between teacher attitude towards inclusion, number of professional development hours addressing topics related to special education, and number of weekly contacts with special education personnel and administrators specifically addressing the needs of students with disabilities. The study also investigated whether this information may be used to predict secondary general education teachers' attitudes towards inclusion.

CHAPTER THREE: METHODOLOGY

Introduction

The purpose of this correlational research study was to determine the strength and direction of relationships between teacher attitudes toward inclusion, hours of professional development in topics related to special education, and hours of support from special education personnel and administrators addressing the needs of students with disabilities. The study also investigated whether this information could be used to predict secondary general education teachers' attitudes toward inclusion. This chapter describes the research design and methodology of the current study. The chapter presents the following information: research design, questions and hypotheses, setting**,** participants, instrumentation, procedures, and data analysis. Issues regarding validity and research integrity are also discussed.

Design

The study was conducted using a correlational research design. The decision to conduct this research using a quantitative rather than a qualitative method was based on the researcher's desire to maintain an objective stance toward the topic, participants, and results (Gall, Gall, & Borg, 2007, p. 32). The researcher also desired to use pre-existing concepts and theories to determine what data would be collected. Finally, the researcher desired to use statistical methods to analyze data and statistical inference procedures to generalize findings from the smaller sample of secondary teachers in three districts to the larger population of all secondary inclusion teachers within the state of South Carolina. A correlational design was chosen because the researcher sought to examine the relationships between three distinct variables; namely secondary general education teachers' attitudes toward inclusion, hours of professional

development in topics related to special education, and hours of support received weekly from special education personnel and administration addressing the needs of students with disabilities.

Gall et al. (2007, p. 332) noted that correlational designs are appropriate when the purpose of the research is to discover relationships between variables. According to Gall et al., the primary advantage of correlational designs over causal-comparative or experimental research designs is that they enable researchers to determine the strength and direction of the relationships between variables being studied. In this study, the researcher sought to determine the strength and direction of the relationships between the variables teacher attitude towards inclusion, hours of professional development in special education topics, and hours of support received weekly from special education personnel and administrators regarding students with disabilities. Correlational designs have frequently been used by researchers studying teacher attitude (Ahsan, Sharma, & Deppeler, 2012; Brandes & Crowson, 2009; Forlin et al., 2008; Gal et al., 2010; Nutter, 2011).

The current study was also designed as a prediction study. The researcher desired to determine whether the predictor variables hours of professional development and hours of support from special education personnel and administrators could be used to predict a teacher's attitude toward inclusion. According to Gall et al. (2007, p. 336), correlational designs are appropriate for determining relationships between predictor variables and a criterion variable. Heiman (2001, p. 251) also noted that correlational designs allow the researcher to identify possible causes of behavior and relationships between variables that may be further studied using experimental designs.

Questions and Hypotheses

The current research sought to investigate possible correlations between teacher attitudes toward inclusion, hours of professional development in topics related to special education, and hours of support from special education personnel and administrators addressing the needs of students with disabilities. The study was guided by three research questions:

RQ1: What relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and the hours of professional development they have received addressing topics related to special education as measured by responses to a teacher survey?

RQ2: What relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and the hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities as measured by responses to a teacher survey?

RQ3: To what extent can hours of professional development hours on topics related to special education and hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities predict South Carolina secondary general education teachers' attitudes toward inclusion?

The following are the null hypotheses:

H_{01}: No significant relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes

Toward Inclusive Classrooms (STATIC) rating scale and hours of professional development they have received addressing topics related to special education as measured by responses to a teacher survey.

H_{02}: No significant relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom as measured by teacher responses to the Survey of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) rating scale and hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities as measured by responses to a teacher survey.

H_{03} : The hours of professional development in topics related to special education and hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities cannot accurately predict South Carolina secondary general education teachers' attitudes toward inclusion.

Setting

The setting of this study was three school districts in South Carolina. As a state, South Carolina has not implemented inclusion to the degree of other states in the southeastern United States. To address this, the South Carolina Department of Education has made inclusion of students with disabilities in the general education setting a priority (S.C. Department of Education, 2012a). A convenience sampling method was used to select the school districts that participated in the study. Gall et al. (2007, p. 175) noted that convenience sampling is a form of nonprobability sampling in which the researcher selects a sample that suits the purposes of the study and is convenient. According to Gall et al., this type of sampling is used in more than 95% of research studies in the social sciences. For this study, districts were selected for participation

in the study based on proximity to the researcher. In order to obtain a comprehensive picture of teacher attitude across the state, districts were also selected based on their representation of several demographic designations of districts across the state; namely race, household income, and percentage of people living below the poverty level. County demographic information is summarized and compared with state demographics in Table 1.

Table 1

Comparison of County and State Demographics

County	1	2	3	State
Population	38,892	136,555	177,843	4,625,364
Race %				
White	57.0	67.8	66.5	66.2
Black	39.0	25.8	25.0	27.9
Other	4.0	6.4	8.5	5.9
Household Income	31,700	54,875	51,093	44,587
% Below Poverty Level	22.8	12.1	13.9	17.0

Note. U.S. Census Bureau (2012).

Specific high schools in each district were also selected based on convenience sampling. The rural school district has only one high school. Schools were selected in the second and third districts based on the willingness of the building administrator to approve and facilitate the study. An attempt was also made to select schools that were representative of the state in several characteristics: location, size, percentage of population with disabilities, annual number of district professional development days, and student to teacher ratios (Table 2).

Table 2

School Demographic Information

School	A	B	C	D	E	F
Location	Rural	City	City	Suburb	Suburb	Suburb
Enrollment	1635	1584	2242	1645	1464	1864
No. of teachers	94	77	110	102	85	119
% of students with disabilities[a]	11	6.1	5.7	9.1	8.6	7.3
Annual PD days[b]	7.2	8.9	18	5	12	7.2
Student: Teacher ratio[c]	28:1	34:1	34:1	24:1	30:1	26:1

Note. PD = Professional development. Source: S.C. Department of Education, 2012b.
[a] Other than speech.
[b] Professional development includes all training, not necessarily related to special education.
[c] In core classes of English, math, science, and social studies.

Districts 1 and 3 were the only school districts in their respective counties. District 2 was one of two districts in the county. At the time of the current study, District 1 enrolled approximately 6,200 students (S.C. Department of Education, 2012b). Districts 2 and 3 enrolled approximately 22,596 and 30,085 students, respectively.

Participants

The target population for this study was all South Carolina secondary general education teachers who taught students with disabilities within the general education classroom. Once schools were identified, all general education teachers who taught students with disabilities in a general education classroom were invited to participate in the study. Approximately 540

teachers were provided materials to complete and submit the research materials for inclusion in the sample. Completed materials were received by 263 teachers. Sixteen returned packets were excluded due to incompleteness, with two packets excluded because the respondents indicated they did not teach students with disabilities. As a result, 245 teacher responses were included in the study.

There are two concerns that affect generalizability of findings due to the sampling procedures utilized in this study. First, inferential statistics require that the sample be randomly drawn from a defined population (Gall et al., 2007, p. 137). Findings from studies using nonrandomized sampling may not be generalizable to the larger population. In the current study, the sample was not randomly selected. All general education teachers employed in the selected schools who met study criteria had equal opportunity to participate in the study. The second concern that must be addressed is sample size. Generally, a larger sample size results in greater generalizability to the population. In survey research, it is suggested that the study include a minimum of 100 participants (Gall et al., p. 176). To address this concern, approximately 540 general education teachers were invited to participate with a 40% expected participation rate. The actual sample size of 245 participants was deemed large enough to allow for generalizability.

Instrumentation

This study examined three variables: teacher attitudes toward inclusion, professional development hours in topics related to special education, and hours of support received weekly from special education personnel and administrators regarding students with disabilities. The instruments used in this study were the STATIC (Cochran, 1997) and a teacher survey. The STATIC was developed by Cochran (1997) to measure the attitudes of teachers who teach

students with special needs and to identify relationships between the attitudes of teachers toward inclusion and towards disabled or special need persons in general. Construct variables were determined based on a review of literature on the topic of teacher attitude toward students with disabilities. Test items were then constructed from the identified variables. The original version, the Teachers' Attitudes Toward Inclusion (TATI) was pilot-tested in two independent studies with both regular education and special education teachers in five school districts. The TATI was renamed the STATIC following the second study. The STATIC rating scale is comprised of 20 items. Four subscales comprise the STATIC questionnaire. These are (a) Advantages and Disadvantages of Inclusive Education, (b) Professional Issues, (c) Philosophical Issues, and (d) Logistical Concerns. To affirm the validity of the STATIC instrument, Cochran conducted a factor analysis. He found that four factors were being measured by the STATIC instrument. These factors corresponded to the four subscale scores. To assess reliability, Cochran also conducted analyses of the internal consistency of the full measure and each of its subscales using Cronbach's alpha. He found that for the overall STATIC instrument, the reliability was consistently observed to be around $\alpha = .89$. This coefficient held for both general and special education teachers as well as elementary and secondary school teachers. Individual subscale scores were found to have varying reliabilities. Reliability coefficients for individual subscales were: Advantages and Disadvantages $\alpha = .87$, Professional Issues $\alpha = .83$, Philosophical Issues $\alpha = .57$, and Logistical Concerns $\alpha = .62$. These results provided evidence that both the overall STATIC score and subscale scores were adequate measurements based on the reliability coefficients. The STATIC has been used in numerous studies investigating teacher attitudes toward inclusion (Martin, 2010; Parker, 2009; Pierre, 2009; Ross-Hill, 2009; Royster, 2011; Smith, 2008; Walpole, 2008).

The survey used in this study was comprised of both multiple-choice and open response items. The information collected via the survey included demographic information such as participants' ethnicity, education, location of teaching assignment, average class size, number of special needs students in the classroom, and years of teaching experience. Teachers were also asked to report the hours of professional development received in topics related to special education, as well as the average hours of support received weekly from special education personnel and administrators regarding students with disabilities. The researcher received written permission from Dr. Cochran to use the STATIC instrument prior to conducting the study. The demographic survey was field-tested with 10 teachers for clarity of questions and responses, ease of completion, and average time of completion. Suggestions were incorporated into the final survey.

Procedures

Prior to presenting the proposal for approval, the researcher contacted Dr. H. Keith Cochran, the author of the STATIC survey by email in order to obtain written permission to use the instrument in the current study. Required research approval paperwork was also obtained from the target school districts. A research proposal was presented to the dissertation committee at Liberty University. With approval from the committee, the research proposal was sent to the Institutional Review Board (IRB) of Liberty University. Upon receiving IRB approval, the researcher completed and submitted to each district all necessary research request paperwork in order to obtain permission to conduct the study. After receiving district approval, building administrators were contacted for permission to conduct research at the individual schools.

The researcher attended faculty meetings at three participating schools (Schools A, B, and C) to introduce the study, answer questions, and distribute research materials to all general

education teachers who taught students with disabilities. Research materials included a description of the study and informed consent information (Appendix A) along with the demographic survey (Appendix B) and STATIC rating scale (Appendix C). The consent letter contained information such as the purpose of the research, use of data, and the amount of time needed to complete the survey and rating scale. Teachers were also advised that they had the option to decline or withdraw from the research at any time with no adverse consequences. Finally, potential risks, incentives, and researcher contact information was provided. Completed materials were collected at the end of the faculty meetings. The researcher followed up with each school two weeks following distribution to collect any materials that had been turned in after the faculty meetings. At the remaining three schools (Schools D, E, and F), no faculty meetings were scheduled for the remainder of the school year; therefore, research materials were delivered to the schools to be distributed by the schools' principals. The researcher met with each of the schools' administrators, explaining the nature of the study and procedures for distributing the materials. The researcher also provided an email describing the study and informed consent, which was also sent by the administrators to all faculty members. Anonymous completed materials were collected by the school administrator at these sites and were collected by the researcher two weeks following distribution.

Upon receiving all submitted responses, the researcher reviewed the surveys and rating scales for completeness of information. Incomplete surveys and those in which the teacher indicated being a special education teacher were excluded from the study, along with the accompanying rating scales. Incomplete rating scales were also excluded, along with the accompanying survey. Correlational statistical analyses on remaining submitted responses were conducted using SPSS statistical software and results included in the findings.

The researcher ensured that all data were kept secure and that all participants and schools remained unidentified. Data collected from the survey were stored on a password- and firewall-protected computer. School names were not printed on data collected for the study. Participants were not identified personally on any document or file. All material collected throughout the study was kept in a locked fireproof file cabinet located in the researcher's home office, with plans to shred all data at the end of three years.

Data Analysis

Data for this study were analyzed using SPSS, originally called "Statistical Package for the Social Sciences" (George & Mallory, 2006, p. 2). Descriptive statistics for the sample were computed. In order to determine the strength of the relationships between variables, as well as the direction of the relationships, the Spearman's correlation coefficient for ranked data was obtained. While it is important to avoid inaccurately rejecting the null hypothesis, it is equally important to correctly identify any significant relationships. Therefore, a significance level of $p < .05$ was used when examining statistical results. Separate bivariate correlational analyses were conducted and correlational coefficients computed to determine the relationships between (a) teacher attitude towards inclusion and hours of professional development in topics related to special education, and (b) teacher attitude towards inclusion and hours of support received weekly from special education personnel and administrators regarding students with disabilities. Each analysis produced an r_s score indicating the strength and direction of the relationship between variables. In order to determine whether teacher attitude towards inclusion could be predicted based on hours of professional development and hours of support, regression analyses were also conducted. Gall et al. (2007) noted that multiple regression analysis can be used to

"determine the correlation between a criterion variable and a combination of two or more predictor variables" (p. 353).

Summary

This study utilized a demographic survey and rating scale to answer three research questions. Specifically, the relationships between three variables were examined: secondary general education teachers' attitudes toward inclusion of students with disabilities, hours of professional development in topics related to special education, and hours of support received weekly from special education personnel and administrators regarding students with disabilities. Data were analyzed to determine the predictive nature of the variables hours of professional development and hours of support to determine teacher attitude. The sample consisted of 245 secondary general education teachers who taught students with disabilities in three districts located in South Carolina. Spearman's correlation coefficients (r_s) were obtained to determine the strength of the relationships between variables, as well as the direction of the relationships. Regression analyses were conducted to determine the data's predictive measures. The following chapters present the results of data analysis and discussion of the findings as they relate to current educational practice.

CHAPTER FOUR: RESULTS

The purpose of this study was to examine relationships between the variables teacher attitude towards inclusion, number of hours of professional development in topics related to special education, and number of hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities. The study also sought to determine whether this information could be used to predict secondary general education teachers' attitudes toward inclusion. This chapter is organized into four sections: (a) descriptive statistics, (b) assumption tests, (c) hypotheses testing, and (d) summary of the results.

Descriptive Statistics

The sample of teachers in this study represented general education high school teachers in the state of South Carolina. Research materials were distributed to approximately 540 general education teachers employed in six high schools in the state. Descriptive statistics for the participating districts and schools are provided in the Methodology section. Completed surveys and rating scales were received from 263 teachers, resulting in a 48.7% response rate. Sixteen returned packets had missing or incomplete data and were therefore excluded from the sample. Two respondents indicated they did not teach students with disabilities; therefore, these packets were also excluded. Analysis was conducted on the remaining 245 completed packets, resulting in an actual participation response rate of 45.4%. The following sections present the demographic information of all participants.

Years of Teaching Experience

Teachers were asked to indicate the number of years of teaching experience. Figure 1 illustrates the breakdown of all participants by years of teaching experience. A breakdown of experience by school is presented in Appendix D. Twenty-two percent of teachers reported three

or less years' experience (n = 54), with another 29% indicating 4-10 years' experience (n = 71). Forty-nine percent of teachers reported more than 10 years of teaching experience (n = 120). While a direct comparison could not be made due to differences in response categories, results were similar to 2011 South Carolina and national percentages reported by the National Center for Education Statistics (2011b; Appendix E). The percentage of teachers in the sample with more than 10 years' experience was slightly less than the state and national percentages of teachers with 10 or more years. This may be due to the fact that teachers with exactly 10 years' experience were included in the state and national figures, but not in the sample figures. Differences were noted in the percentages of teachers with less than 10 years' experience. Again, this is most likely due to the difference in response categories.

Figure 1. Participants by Years of Teaching Experience

Education

A majority of teachers participating in this study (62%) had completed graduate work to earn advanced education degrees. Results are displayed in Figure 2. Fifty-seven percent of participants reported having earned master's degrees (n = 140), with 5% (n = 13) earning higher level specialist or doctoral degrees. Nearly 38% of participants (n = 92) had earned undergraduate degrees. A breakdown of participants' highest degree earned by school is presented in Appendix D.

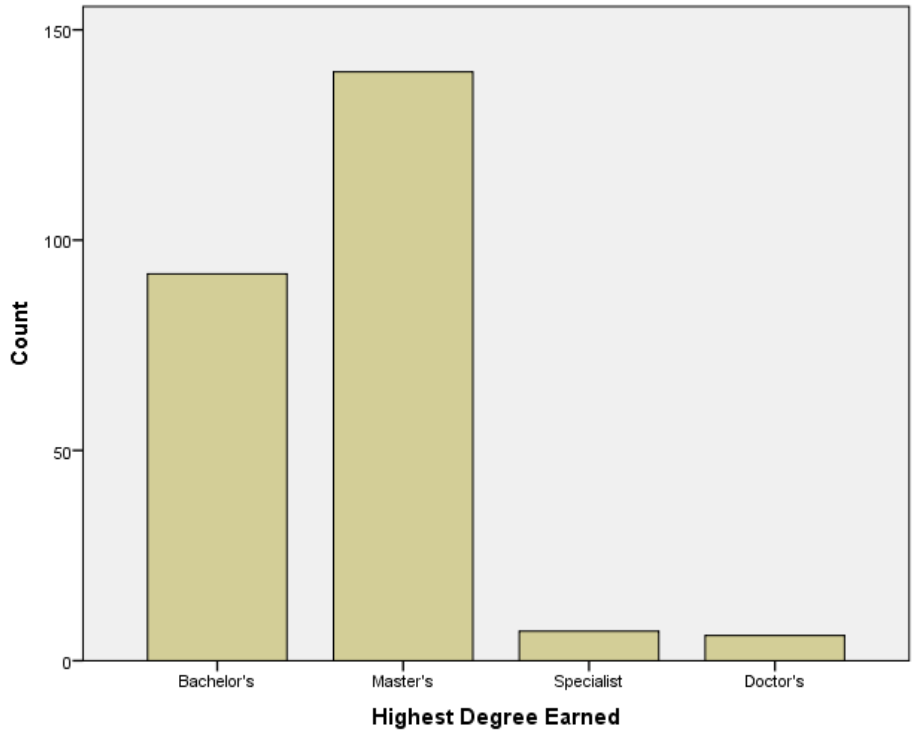

Figure 2. Participants by Highest Degree Earned

In this sample, a larger percentage of teachers reported having earned master's and doctor's degrees than teachers at the state and national level (Table 3). However, fewer teachers participating in this study reported having earned specialist degrees when compared with state and national percentages (41% and 47%, respectively).

Table 3

Comparison of Highest Degree Earned with State and National Percentages

Degree	Sample	State	National
Bachelor's	37.6	40.9	47.4
Master's	57.1	52.7	44.5
Education Specialist	2.9	5.1	6.4
Doctor's	2.4	0.5	.09

Note: N = 245.

Subject Area

All major subject areas were represented by participating teachers (Figure 3). A breakdown of participants by school is presented in Appendix D.

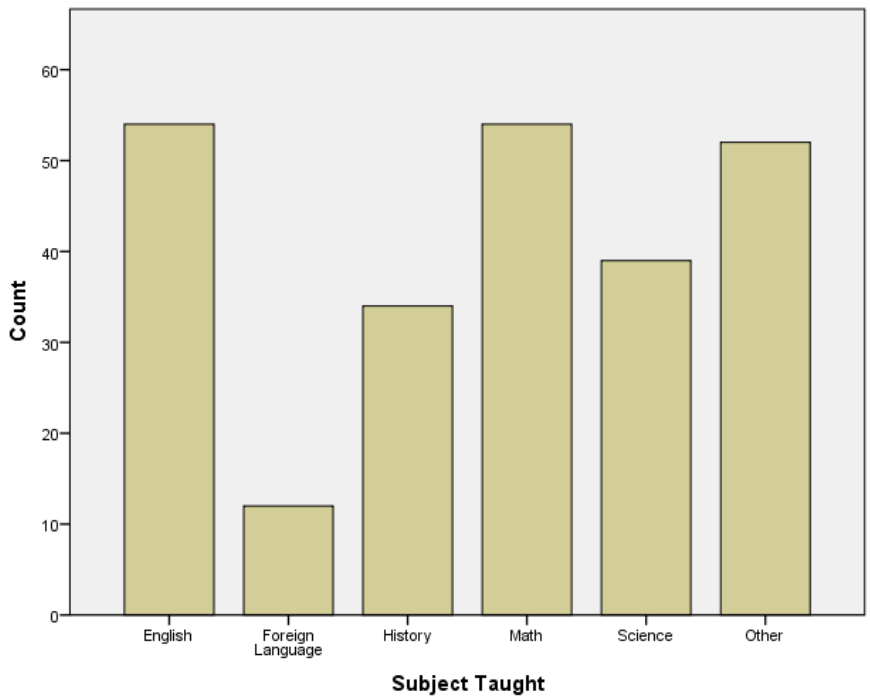

Figure 3. Participants by Subject Taught

The required subjects of English and math were each represented by 22% of participants (*n* = 54). The required subjects of science (*n* = 39) and history (*n* = 34) also had similar representation at 16% and 14%, respectively. Five percent (*n* = 12) of teachers indicated teaching foreign language. The remaining participants (*n* = 52) taught electives such as fine arts, business, computer and technology, ROTC, and physical education (Appendix F).

Special Education Students

Most teachers participating in the study indicated having at least two special education students per class. As displayed in Figure 4, 9.4 % of teachers (*n* = 23) reported one special education student in each class. Thirty- two percent (*n* = 79) reported two to three students per class and 20.4 % (*n* = 50) indicated four to five special education students in each class. Twenty-nine percent of teachers (*n* = 70) reported more than five students with disabilities per class, while 9.4 percent (*n* = 23) were unsure of the number of special needs students taught. A breakdown by school of special education students is presented in Appendix D.

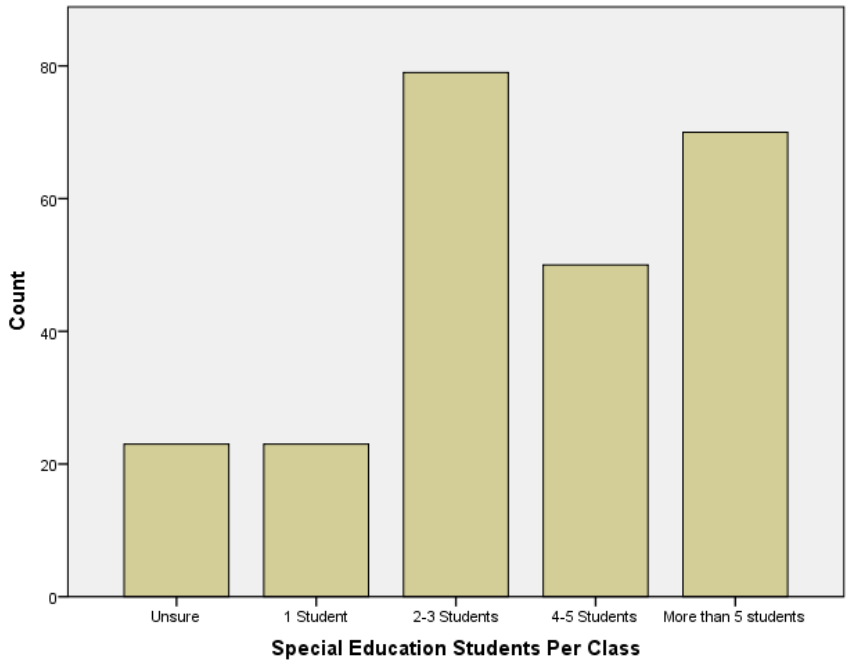

Figure 4. Participants by Average Number of Special Education Students Per Class

Descriptive Statistics for Variables of Interest

Descriptive statistics for the variables of interest are displayed in Table 4 and Appendix G. The criterion variable, STATIC total score, represents the overall teacher's attitude towards inclusion. Teachers responded to statements about different aspects of inclusion, including advantages and disadvantages of inclusion, professional and philosophical issues, and logistical concerns associated with implementing inclusion in the general education classroom. Scores for each statement range from 0 ("strongly disagree") to 5 ("strongly agree"), with a maximum possible score of 100 for the scale. Higher scores indicate more positive attitudes toward inclusion. Results show that scores ranged from 13 to 98, with a mean score of 67.79 (Appendix H).

Table 4

Descriptive Statistics for Variables of Interest

Variable	*N*	*M*	*SD*	Skewness	Kurtosis	Range
STATIC total score	245	67.79	12.98	-0.75	1.06	85
Hours of professional Development	245	2.90	5.50	4.12	21.89	45
Hours of support	245	2.15	3.38	2.97	12.13	25

Data were analyzed for skewness and kurtosis. Skewness is a measure of the degree to which a distribution is asymmetrical (Howell, 2011, p. 51). The presence of extreme scores on one end of the distribution causes the data to be skewed. Scores close to 0 indicate a normal distribution pattern. Kurtosis is a measure of the peakedness or flatness of data distribution relative to a normal distribution pattern (Heiman, 2001, p. 145). For most data, scores near 3

indicate a normal distribution. In this study, the variable STATIC score had a skewness statistic of -0.75 and a kurtosis statistic of 1.06, suggesting a normal distribution pattern.

The first predictor variable, hours of professional development, indicated the actual number of professional development hours in topics related to special education teachers had received. Hours ranged from 0 to 45, with a mean of 2.9 hours (Appendix I). As depicted in Figure 5, 42% of teachers (n = 102) reported no professional development related to special education. Thirty-nine percent (n = 96) had participated in one to three hours of training, with another 12% (n = 29) having received four to nine hours of training. Approximately seven percent of teachers (n = 18) indicated receiving 10 hours or more in special education professional development. Skewness and kurtosis statistics (4.12 and 21.8, respectively) indicate sharply peaked and positively skewed data patterns.

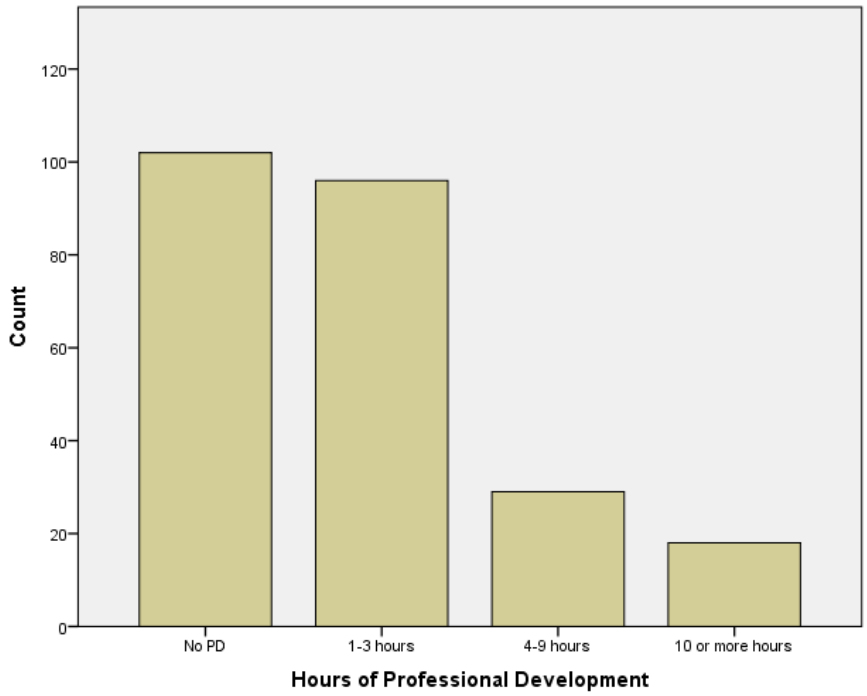

Figure 5. Participants by Hours of Professional Development

The second predictor variable, hours of support, indicated the average number of hours weekly teachers received support from special education personnel and administrators regarding

students with disabilities. Reported hours ranged from 0 to 25, with a mean of 2.15 hours (Appendix J). As depicted in Figure 6, 27% of teachers (n = 67) reported receiving no support from special education personnel or administrators regarding students with disabilities. Approximately 49% (n = 120) indicated receiving some support but not more than two hours weekly. Twelve percent of teachers (n = 29) reported three to five hours of support, while six percent (n = 15) indicated receiving six to nine hours of support weekly. An additional six percent of teachers (n = 14) reported receiving 10 or more hours of support weekly from special education personnel and administrators. Skewness and kurtosis statistics (2.93 and 12.13, respectively) indicated sharply peaked and positively skewed patterns of distribution. The researcher considered that the data for the two predictor variables were not normally distributed when selecting appropriate tests for data analysis.

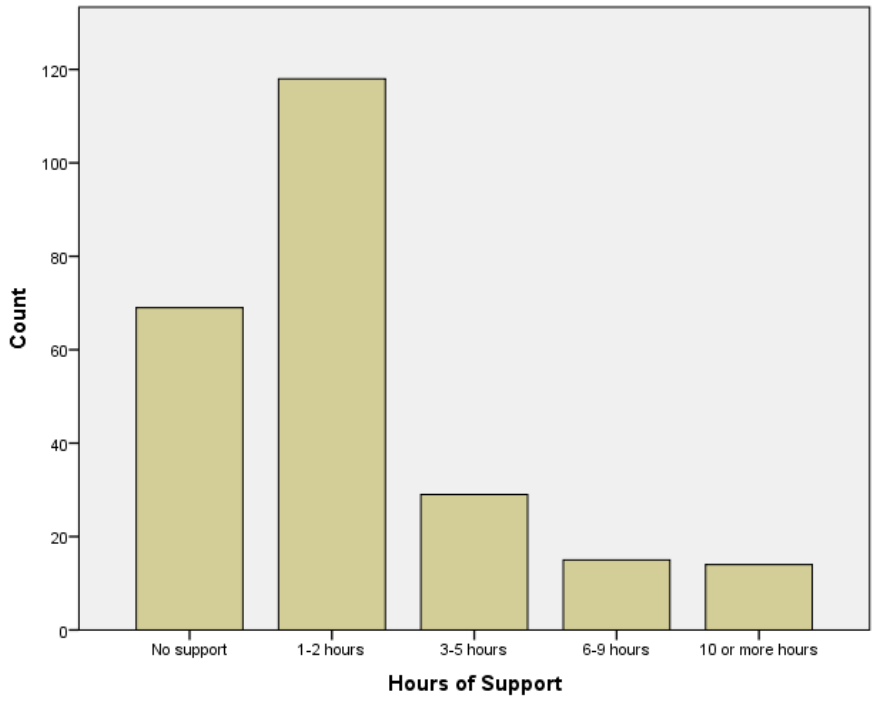

Figure 6. Participants by Hours of Support

Assumption Testing

Testing was conducted to determine whether data met the assumptions necessary for correlational analysis. The first assumption is that variables are normally distributed, indicating that they follow a symmetrical pattern of distribution around the mean score. The second assumption is that the data represent a random sample from the population and that scores on variables for each case are independent of scores on variables for other cases.

To address the first assumption, frequency histograms were produced for the variables STATIC scores, hours of professional development, and hours of support (Appendices K, L, and M, respectively). Kolmogorov-Smirnov testing was conducted to confirm visual assessment of the histograms. Results indicated that the variable STATIC total score met the assumption of normality, while the variables hours of professional development and hours of support were not normally distributed. Because correlational analysis requires the assumption of normality of data, this information was considered when selecting appropriate tests for data analysis.

In addition to normal distribution testing, scatterplots of the variables were analyzed to assess the relationships between variables (Appendix N and Appendix O). The scatterplot of STATIC total scores and hours of professional development showed that most of the plotted values fell in the extreme left side of the scatterplot. The scatterplot of STATIC total scores and hours of support demonstrated a similar pattern, with plots slightly more spread out. Regression lines showed a slight positive correlation between variables. These figures also indicated the presence of several scores that differed significantly from other scores. According to Gall et al. (2007, p. 154), these outlying scores may distort the results of data analysis if not addressed.

Testing for outliers using the "trimmed mean" indicated that outlying scores had a significant impact on the overall means for the variables hours of professional development (32%) and hours of support (22%). ANOVA linear trend tests were also conducted to assess the

linear relationships between variables. Based on this analysis, the assumption of linearity was met for both predictor variables

The second assumption in correlational analysis dictates that the samples should be randomly drawn from the respective populations and that the variables are independent of one another. For this study, the target population was secondary general education teachers who teach students with disabilities in inclusive classrooms in the state of South Carolina. As described in the procedures, the study did not utilize random sampling, but rather convenience sampling to determine participating districts and schools. All regular education teachers meeting the study criteria in these identified schools were given equal opportunity to participate in the study. Teachers completed the materials independently. Based on this information, the requirements for the second assumption were not met.

Regression analysis requires that data meet two additional assumptions, namely independence of observations and homoscedasticity. To assess this, the Durbin-Watson statistic was produced to confirm independence of observations. The data met this assumption. To examine homoscedasticity, the Levene Test for Homogeneity of Variance was conducted. Results indicated significant variances at the $p < .05$ significance level for hours of professional development, while results for the variable hours of support indicated variances were not significant. Therefore, the assumption of homoscedasticity was not met for the variable hours of professional development. Based on the results of assumption testing, the researcher determined that data must be analyzed using correlational tests for non-normal data.

Hypotheses Testing

In order to investigate the primary research questions, data were analyzed using correlational analyses to determine strength and direction of relationships between variables of

interest (teacher attitude toward inclusion, hours of professional development, and hours of support). Regression analyses were also conducted to determine whether teacher attitude towards inclusion can be predicted based on hours of professional development and hours of support received weekly from special education personnel and administrators.

Research Question 1

The first research question this study sought to answer was what relationship exists between secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom and the hours of professional development they have received addressing topics related to special education. The null hypothesis was there would be no significant relationship between these variables. In order to investigate this question, correlational analysis was conducted. The most common measure for correlational analysis is the Pearson Product-Moment Correlation Coefficient (*r).* According to Gall et al. (2007), the product-moment correlation is "the most widely used bivariate correlational technique because most educational measures yield continuous scores and because *r* has a small standard error" (p. 347). However, because the data did not meet assumption tests for normality and randomness, the researcher sought to use a more appropriate test. In a study conducted by Bishara and Hittner (2012), an analysis of statistics textbooks from various fields of study revealed that Spearman's rho was the most frequently recommended procedure for analyzing non-normal data. They also found that empirical literature suggests that using the Spearman approach may improve power while minimizing Type I errors. In order to conduct Spearman's rho analysis, data for the two predictor variables were transformed to rank data using a transformation function in SPSS. Testing was conducted and a correlation coefficient (r_s), along with the associated *p* value, was computed to determine if a relationship existed between teacher

STATIC scores and hours of professional development. A 1% significance level was selected in an effort to minimize the possibility of a Type 1 error in which the null hypothesis is rejected when it is actually true (Gall et al., p. 140).

Results of analysis, as shown in Table 5, indicated a statistically significant positive correlation between teacher STATIC scores (M = 67.79, SD = 12.98) and hours of professional development (M = 2.90, SD = 5.50), r_s = .22, p < .01. The p value, 0.001, is the likelihood of observing the given samples if the null hypothesis was true. The low p value gives evidence that there is a relationship at the 1% significance level. Based on this analysis, the null hypothesis was rejected. When evaluating correlational coefficients, Green and Salkind (2011) suggested that "coefficients of .10, .30, and .50, irrespective of sign, are, by convention, interpreted as small, medium, and large coefficients, respectively" (p. 259). Additionally, Gall et al. (2007, p. 377) noted that correlations in the range of .20 to .40 are common in educational research.

Table 5

Correlation Coefficients for Variables of Interest

Variable	r_s	r_s^2	p
Professional Development	.22	.047	.001
Support	.23	.053	.000

Note. r_s= Spearman's rho coefficient; p = 2-tailed significance level

In this instance, the r_s of .22 indicated a statistically significant positive correlation between variables. However, using Green and Salkind's description, this correlation was considered small (r_s^2 = .047). Approximately 5% of the variance in STATIC scores was accounted for by hours of professional development in topics related to special education.

Research Question 2

The second question this study sought to answer was whether a relationship exists between secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom and the hours of support received weekly from special education personnel and administrators addressing the needs of students with disabilities. The null hypothesis was that no significant relationship exists between these variables. Correlational analyses were conducted to investigate this research question. As previously described, the Spearman's rho correlation coefficient (r_s) was obtained to assess the degree that the variables were linearly related.

Results of analysis, as previously shown in Table 5, indicated a statistically significant positive correlation between teacher STATIC scores (M = 67.79, SD = 12.98) and hours of support (M = 2.57, SD = 3.38), r_s = .23, p = .000. As noted for the first research question, the low p value gives evidence that there is a relationship at the 1% significance level. Based on this analysis, the null hypothesis was rejected. The r_s of .23 indicated a positive correlation between variables, falling within the expected range of correlation. However, the effect size was small (r_s^2 = .052). Approximately 5% of the variance in STATIC scores was accounted for by hours of support from special education personnel and administrators.

Research Question 3

This study also sought to examine whether hours of professional development in topics related to special education and hours of support received weekly can predict secondary general education teachers' attitudes toward inclusion. The null hypothesis was that these variables could not accurately predict teachers' attitudes toward inclusion. Linear regression analyses were conducted to evaluate the null hypothesis that teachers' total STATIC scores cannot be predicted from either their hours of professional development or hours of support. Because data

for the variable hours of professional development did not meet the necessary assumption of homoscedasticity, an additional transformation was performed using a logarithm command in SPSS. This transformation was used to correct for significant positive skewness and outliers. Following data transformation, linear regression analyses were conducted. Results are displayed in Table 6. Results indicated a small positive correlation between hours of professional development (M = 2.88, SD = 5.39) and STATIC total score (M = 67.79, SD = 12.98), $F(245)$ = 11.7, $p < .05$. Specifically, as hours of professional development increase, STATIC total score increases, r = .28. Based on this analysis, the null hypothesis was rejected. The regression equation for predicting STATIC total scores based on hours of professional development is $Y = 8.71X_{PD} + 65.10$. Approximately 8% of the variance in STATIC total scores was accounted for by its linear relationship with hours of professional development. A small positive correlation was also indicated between hours of support (M = 2.14, SD = 53.38) and STATIC total score (M = 67.79, SD = 12.98), $F(245) = 0.80$, $p < .05$. Specifically, as hours of support increase, STATIC total score increases, r = .21. The regression equation for predicting STATIC total scores based on hours of support is $Y = 0.80X_{SUP} + 66.06$. Approximately 4% of the variance in STATIC total scores was accounted for by its linear relationship with hours of support.

Table 6

Summary of Regression Analysis for Individual Variables Predicting STATIC Total Scores

	B	*SEB*	β	β^2	*F*	*p*
Hours of PD	8.71	2.55	.28	.08	11.70	.001
Hours of Support	0.80	0.24	.21	.04	11.12	.001

Note. N = 245.

Multiple regression analysis was also conducted to determine the predictive nature of the combination of both predictor variables on teachers' STATIC total scores. Results are displayed in Table 7 and Table 8.

Table 7

Summary of Multiple Regression Analysis for STATIC Total Scores

Statistic	Sum of Squares	*df*	Mean Squares	*F*	*P*
Regression	2332.78	2	1166.39	8.95	.000
Residual	12844.76	140	130.32		
Total	20577.54	142			

Note. $N = 245$.

Findings indicated that the linear combination of hours of professional development and hours of support predicted STATIC total scores, $r = .34$, $p < .05$. The relationship met statistical significance with approximately 12% of the variance in STATIC scores related to hours of professional development and hours of support. The null hypothesis was rejected.

Table 8

Regression Coefficients for STATIC Total Score

	B	*SE*	*β*	*t*	*P*
Hours of PD_a	5.91	2.76	.19	2.14	.03
Hours of Support	0.75	0.31	.21	2.41	.02

Note. $N = 245$.
$_a$PD = Professional Development

Summary of Results

Research Question One asked what relationship exists between high school general education teachers' attitudes toward inclusion and the hours of professional development in topics related to special education they have received. Based on correlational analysis of STATIC total scores and hours of professional development, the null hypothesis was rejected. A positive correlation between variables was noted.

Research Question Two asked what relationship exists between high school general education teachers' attitudes toward inclusion and the hours of support from special education personnel and administrators. Based on correlational analysis of STATIC total scores and hours of support, the null hypothesis was rejected. A positive correlation between variables was noted.

Research Question Three asked if teachers' hours of professional development or hours of support predict their attitudes toward inclusion. Linear regression analyses were conducted. Based on results of analyses, the null hypothesis was rejected. Multiple regression analyses were also conducted on the ability of the two predictive variables when combined to predict teacher attitudes toward inclusion. Again, results revealed statistically significant correlations, thereby rejecting the null hypothesis. These findings are expounded upon in the following chapter.

CHAPTER FIVE: SUMMARY AND DISCUSSION

The previous chapter presented the results of data analysis examining the relationships between teacher attitudes toward inclusion, hours of professional development in topics related to special education, and hours of support received weekly from special education personnel and administrators. Chapter Five is organized into five sections: review of the study and findings, discussion of the findings, limitations of the study, implications of the study, and recommendations for further research and practice.

Review of Study and Findings

The passage of legislation such as the No Child Left Behind Act has resulted in an increase of students with disabilities receiving most of their instruction in the general education classroom (Grskovic & Trzcinka, 2011; McLeskey et al., 2011). The model of inclusion holds great potential for these students. However, teachers' attitudes toward inclusion play a significant role in the success of this model. According to Santoli et al. (2008), teachers are just "going through empty motions" when they do not have positive beliefs about the inclusion of students with disabilities in the general education classroom. A review of the literature showed that teachers' attitudes toward inclusion were impacted by a variety of factors, such as prior training in special education (Avramidis & Elias, 2007), personal experience with disabilities (Ben-Yehuda et al., 2010), time for planning and preparation (Santoli et al., 2008), confidence in their ability to teach students with disabilities (Grskovic &Trzcinka, 2011; Kosko & Wilkins, 2009), and school characteristics such as grade levels and socioeconomic status of student population (Berry, 2010). Two specific factors fall within the sphere of influence for school leaders to address; namely, professional development and support for teachers in inclusive

classrooms. The purpose of this study was to examine the relationship between these two factors and the attitudes of general education high school teachers toward the inclusion of students with disabilities in the regular classroom setting. The study focused on the relationship between these two variables and teacher attitudes toward inclusion.

The first research question this study sought to address was "What relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom and the hours of professional development they have received addressing topics related to special education?" The null hypothesis stated that there would be no relationship between STATIC scores and number of hours of professional development in special education topics. Correlational analysis results indicated a statistically significant correlation ($r_s = .22$, $p < .01$). Therefore, the null hypothesis was rejected. Findings suggested a positive correlation between STATIC scores and hours of professional development in special education topics. Specifically, as professional development hours increased, STATIC scores increased. This relationship, however, was relatively weak, as noted by the effect size of $r_s^2 = .05$.

The second research question examined was "What relationship exists between South Carolina secondary general education teachers' attitudes toward the inclusion of special education students in the general education classroom and hours of support from special education personnel and administrators addressing the needs of students with disabilities?" The null hypothesis stated that there would be no relationship between these variables. Results indicated a statistically significant relationship ($r_s = .23$, $p < .01$). Therefore, the null hypothesis was rejected. Results of data analysis suggested a positive correlation between STATIC scores and number of hours of support from special education personnel and administrators.

Specifically, as hours of support increased, STATIC scores increased. As with Research Question One, the relationship was relatively weak (r_s^2 =.05).

The third research question guiding this study was "To what extent can the hours of professional development on topics related to special education and hours of support from special education personnel and administrators addressing the needs of students with disabilities predict South Carolina secondary general education teachers' attitudes toward inclusion?" The null hypothesis stated that teacher attitude cannot be predicted based on hours of professional development and hours of support. Regression analyses indicated statistically significant correlations between variables, thereby failing to support the null hypothesis. When examining the predictive relationship between professional development and STATIC scores, a positive correlation was found (r = .28). A positive correlation between hours of support and STATIC scores (r = .21) was also noted. Multiple regression analyses were also conducted on the ability of the two predictive variables when combined to predict teacher attitudes toward inclusion. Results revealed a statistically significant correlation (r = .34), thereby rejecting the null hypothesis. These findings suggest that as teachers receive more hours of professional development and support, their scores on the STATIC rating scale increase.

Discussion of the Findings

The demographic information obtained from the survey confirmed that participants were representative of South Carolina secondary general education teachers in categories such as teaching experience, subject area, and level of education. All participants reported teaching at least one student with a disability, with more than half indicating two or more students with disabilities per class. It was noted that a significant number of teachers at two schools reported being unsure of the number of students with disabilities in their classes (School B = 17%, School

F = 20%). The reason for this uncertainty was not clear, but may be related to school-wide procedures of informing teachers about students with special needs in their classes.

The findings of this study support research suggesting that teachers' attitudes toward inclusion are positively related to hours of professional development in special education topics (Blecker & Boakes, 2010; Brackenreed, 2011; Coutsocostas & Alborz, 2010; Koutrouba et al., 2008; Philpott et al., 2010). In studies conducted by Male (2011) and Royster (2011), significant improvement in teacher knowledge and attitudes toward inclusion were observed following a program of professional development focusing on meeting the needs of special education students in inclusion settings. In contrast, Forlin et al. (2008) found no improvement in attitude resulting from professional development. The current study found a statistically significant correlation between hours of professional development and teacher attitudes toward inclusion. However, the effect was small. This finding suggests that a positive relationship does exist between hours of professional development related to special education and attitudes toward inclusion.

Findings of this study also support research suggesting that teachers' attitudes toward inclusion are positively related to hours of support from special education personnel and administrators (Avramidis & Elias, 2007; Ben-Yehuda et al., 2010; Coutsocostas & Alborz, 2010; DeSimone & Parmar, 2006). Fuchs (2010) and Shemesh (2009) found that teachers' attitudes were positively related to the level of perceived support from administrators and special education personnel. The current study suggested similar results. A statistically significant positive correlation was found between STATIC scores and hours of support received weekly. However, as with professional development, the effect size was small.

The current study also sought to determine whether teacher attitude can be predicted based on the level of professional development and support received. A review of the literature identified a gap in research that specifically addresses the predictive nature of the variables of interest in the current study. Regression analyses indicated that STATIC scores can be predicted based on hours of professional development (r = .28), as well as hours of support (r = .21). Additionally, predictive ability is stronger when professional development and support are combined (r = .34). Heiman (2001, p. 11) noted that in order to fully understand a behavior, it is important to know when it will occur or what will bring it about. The accuracy with which a behavior can be predicted is an indication of how well the behavior has been explained. The findings of this study suggest that in order to more accurately predict a teacher's attitude toward inclusion, both professional development and support should be considered.

Limitations of the Study

There are several limitations in this study that should be noted. First, the study was conducted as a correlational study. Correlational research only identifies relationships between variables. It does not allow for the researcher to make causative statements regarding findings.

Another limitation is related to the variation in inclusion methods within participating schools. Some schools had many supports in place, such as teacher assistants, special education teachers serving as co-teachers, and shared planning times between regular education and special education teachers. Other schools had very few specialized supports available. The school-wide culture and attitude toward inclusion evidenced by the overall availability of supports at the school level may have impacted individual teachers' attitudes toward the inclusion model.

A third limitation involves the use of self-reports. The current study relied heavily on teacher recollection and estimation. As such, the responses may have been inaccurate or based

on feelings rather than fact. Teachers may not have responded to the survey and rating scale honestly, perhaps responding more positively due to a desire to meet assumed expectations.

Timing of the study may also have impacted results. Because the study was conducted during the last weeks of the school year, additional demands commonly associated with the end of a school term may have affected teacher responses. Responsibilities such as preparing students for end of course examinations and grading student work to meet deadlines for final grades add stress to the already difficult work of being a high school teacher. These pressures may have caused teachers to respond more negatively to the rating scale than they would have at other times of the school year.

Finally, it should be noted that although statistically significant correlations were found between variables of interest, these correlations were found to be relatively small. The actual relationships between teacher attitude towards inclusion and the individual variables of hours of professional development and hours of support may be minimal within the context of the school setting and general education classrooms.

Implications of the Study

There are many issues vying for the attention of educational leaders. One of the more important issues is teacher accountability. Teachers are now aware that they will be held accountable for the academic success of students (No Child Left Behind Act of 2011, 2002). This mandate extends to students with disabilities through the IDEA and IDEIA legislation. Based on this mandate, why should teacher attitudes toward inclusion be a concern for leaders and administrator? The answer is simply this: teacher attitudes matter. There is a growing body of research suggesting that positive teacher attitude is the most important factor governing the success of inclusive education (Jordan & Stanovich, 2004; Sharma, Forlin, & Loreman, 2008).

Teacher attitudes impact what is done in the classroom. They affect how teachers interact with students both verbally and non-verbally (Hornstra, Denessen, Bakker, van den Bergh, & Voeten, 2010). Some studies even suggest that teachers who are positive towards inclusion may use more effective teaching practices (McGhie- Richmond, Irvine, Loreman, Cizman, & Lupart, 2013; Stanovich & Jordan, 2000). Teacher attitudes may have an even greater impact at the secondary level. Academic pressures, structure of classrooms, physical and social/emotional changes experienced during adolescence, and teacher expectations "often work counter to the conditions under which inclusive education has been found to be successful" (as cited in McGhie-Richmond et al., 2013). It is imperative that policy makers and educational leaders recognize the needs of teachers and be willing to implement policies that support teachers in inclusive classrooms.

Previous research has shown that general education teachers feel ill-equipped to meet the unique needs of students with disabilities in their classrooms (Blecker & Boakes, 2010; Paliokosta & Blandford, 2010; Voltz et al., 2008). Klehm (2013) suggested that when teachers do not feel equipped to meet the needs of their students with disabilities, these students may be "in danger of being rejected, ignored, or receiving less than adequate instruction" (p. 95). While research highlights the importance of teacher training, the current study showed that 81% of teachers had received three hours or less of professional development in topics related to special education. The reason for this lack of training was not reported. There may be several explanations for this finding, including non-availability of training, difficulty in attending training due to teaching responsibilities, or disinterest or unwillingness on the teacher's part to participate in professional development opportunities.

Despite the large number of teachers with limited training, a positive correlation was noted between professional development and attitudes toward inclusion. Additional training may not only improve attitudes, but may lead to more positive educational experiences for students with disabilities (Park & Chitiyo, 2011; Philpott et al., 2010; Poulou, 2007; Santoli et al., 2008). The implication arising from this finding is that provision of high-quality professional development should be a priority for policy makers. Equipping educators with the knowledge and pedagogy required to meet the needs of students with disabilities is key to ensuring their academic success. Logan and Wimer (2013) suggested that teachers may not be willing to try something new if they are not confident in their abilities. Adequate training in special education topics should be considered when planning yearly staff development opportunities. Professional development should focus on building teacher confidence and capacity. Topics such as evidence-based practices and interventions, accommodations and modifications of the curriculum, as well as decision-making regarding high-stakes testing should be addressed.

A second vital aspect for successful inclusion is recognizing the need teachers working in inclusive classrooms have for additional support from special education personnel and administrators. Research has shown that teachers recognize the value of collaboration and support to meet the needs of their students (Coutsocostas & Alborz, 2010; De Simone & Parmar, 2006; Horne & Timmons, 2009). One case study suggested that the opportunity for collaboration and planning was a primary trait of successful inclusion programs (Bargerhuff, 2013). McLeskey and Waldron (2002) also concluded that when school leaders were supportive and consultants were provided to assist teachers in the implementation of inclusion, teachers were more favorable toward curriculum and instructional adaptations for students with disabilities.

Despite research indicating the importance of support for teachers in inclusive classrooms, the current study showed that 76% of teachers reported receiving two hours or less of weekly support from special education personnel and administrators regarding students with disabilities. This may be due to several reasons. First, adequate resource personnel may not be available due to staffing or budget shortages. Additionally, classroom teachers may not seek outside help, feeling that this assistance is either not needed or that seeking assistance may be perceived by supervisors as a lack of skill. A third reason may be that opportunities for consultation and collaboration are not possible due to the school schedule. Findings from this study imply that policy makers should place a priority on allocating resources to assist teachers working in inclusive classrooms. Administrators should lead the way by offering their time and resources, developing schedules that allow for collaborative planning, and creating a supportive environment for all teachers. Policy makers should also allocate financial resources to hire sufficient support personnel. Additional special education teachers, paraprofessionals, and other support staff may help ensure that general education teachers are able to meet the needs of their students with disabilities.

A third implication of this study is that while both professional development and support are important, it is not an "either/or" situation. The current findings suggest that the most positive change in teacher attitude is found when a combination of training and support are provided. Policy makers should not make one variable a priority to the detriment of the other. Both professional development and support are necessary for teachers to feel prepared and positive about providing students with disabilities the best possible education.

Recommendations for Further Research and Practice

Based on the findings of the current study, the following recommendations are offered:

It was noted in this study that a significant number of teachers at two participating schools reported being unsure of the number of students with disabilities in their classes. In order to provide appropriate supports for these students, school-wide procedures of informing regular education teachers about students with special needs should be periodically examined to ensure that teachers are kept informed about their students with disabilities. At the high school level, these procedures may be necessary at the beginning of each grading term, as students may be enrolled in new classes each quarter or semester.

A quantitative research study should be conducted to examine various types of professional development in order to ascertain which are most effective in improving teacher attitudes toward inclusion. Quantitative research should also be conducted to examine various forms of support in order to determine which supports are most effective in improving teacher attitudes toward inclusion. This information would prove helpful in determining allocation of staff resources.

A qualitative study that gathers information from individual teachers and focus groups should be conducted in order to provide insight into the ways in which professional development and support help teachers in inclusive classrooms. This type of study would give school leaders a better understanding of what professional development topics teachers find most helpful, as well as what type of support is most beneficial in meeting the needs of teachers and students with disabilities in regular education classes.

The current study should be replicated with two additional components: participant descriptions of previous professional development in topics related to special education and submission of weekly contact logs provided by participants for a designated length of time. This

information would provide confirmation of data, thereby improving the reliability of the findings.

Research should also be conducted to identify teacher attitudes toward inclusion based on disability type. This information would be beneficial in determining placement for students with disabilities in various classroom settings. Additionally, prior knowledge and attitudes can be considered when developing in-service training (Symeonidou & Phthiaka, 2009). Recognizing teachers' current attitudes toward inclusion and specific disabilities would assist in planning professional development to improve teachers' knowledge and understanding of those disabilities.

Finally, the current study highlights the need for an experimental design study that examines the effect of professional development and support not only on teacher attitude, but on teacher effectiveness and student achievement. The focus of this study should be on the success of the student, both academically and socially.

Conclusion

Teachers have been given the daunting task of educating children with differing abilities, talents, backgrounds, and interests. Students with disabilities pose additional challenges that many teachers may not be prepared to address. The inclusion model places these students within the general education classroom with the expectation that general education teachers will be able to meet their needs. However, implementing inclusion is not without challenges. Teachers in inclusive classes face unique needs that often go unrecognized. The current study focused on two specific needs of secondary general education teachers who teach students with disabilities that school leaders can address; namely, the need for professional development in topics related to special education and the need for support from special education personnel and

administrators. Findings of the current study suggest that these needs significantly impact teachers' attitudes towards inclusion and may, in turn, affect the students they teach. Fortunately, school leaders and policy makers have an opportunity to take positive steps to address these needs. As teachers receive needed training and support, they will become more confident in their ability to teach students with disabilities. This confidence will be manifested in their work, ultimately resulting in a quality education for all students.

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Appendix A

Consent Form

Examining the Relationships between Secondary General Education Teachers' Attitudes toward Inclusion, Professional Development, and Support from Special Education Personnel

Lynn S. Wogamon
Liberty University
School of Education

You are invited to be in a research study of high school teachers' attitudes toward the inclusion of students with disabilities in the general education classroom. You were selected as a possible participant because you teach special education students in an inclusion setting. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Lynn S. Wogamon, School of Education, Liberty University.

Background Information:
The purpose of this study is to examine the relationships between three variables– teacher attitudes toward inclusion, professional development hours in topics related to special education, and weekly contacts with special education personnel and administrators regarding students with disabilities. Understanding how these variables affect teacher attitudes toward inclusion is important as administrators design programs to meet the needs of teachers in inclusive classrooms.

Procedures:
If you agree to participate in this study, you will be asked to complete a questionnaire and attitude rating scale. You will not be asked to include your name or other identifying information. Completed materials will be submitted in a sealed envelope either at the meeting or returned to the school psychologist within two weeks following the meeting. Participation in this study should take approximately 15 minutes.

Risks and Benefits of being in the Study:
The risks associated with participation in this study are no more than the participant would encounter in everyday life. The primary risk is breach of confidentiality. However, as no identifying information is required, this risk is minimal.

There are no direct benefits associated with participation in this study. However, this research may provide benefits to all teachers as the results of the study may lead to the adoption of school and district practices that provide support for teachers in inclusive classrooms.

Compensation:
You will not be compensated for your participation in this research.

Confidentiality:
The records of this study will be kept private. All materials will be submitted anonymously in a sealed envelope. Submitted materials will be physically stored in a locked filing cabinet in the researcher's home. Digital data will be stored on a USB drive and will also be kept in a locked filing cabinet in the researcher's home office. The researcher will be the only person with access to the data. Data will be stored for three years in the researcher's home office. After three years, paper materials will be shredded and digital data will be erased. In any sort of report the researcher might publish, no information will be included that will make it possible to identify a subject.

Voluntary Nature of the Study:
Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:
The researcher conducting this study is Lynn S. Wogamon. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at xxx-xxx-xxxx. You may also contact the dissertation committee chair at xxx-xxx-xxxx.
If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24502 or email at irb@liberty.edu.

You will be given a copy of this information to keep for your records.

Appendix B

Demographic Survey

Demographic Information:

A. Circle the response that BEST describes the location of your teaching assignment for this year.

0 Urban (100,000 or more)
1 Suburban (30,000-99,999)
2 Community (5,000-29,999)
3 Rural (less than 5,000)

B. Circle the response that identifies the number of years' experience you will have as a teacher at the end of this school year.

0 Preservice or student teaching
1 0-1 years
2 2-3 years
3 4-5 years
4 6-10 years
5 More than 10 years

C. Circle the response that describes your average class size.

0 1-10 students
1 11-20 students
2 21-25 students
3 26-30 students
4 More than 30 students

D. Circle the response that identifies the highest degree that you have earned.

0 Less than Bachelor's Degree
1 Bachelor's degree
2 Master's degree
3 Educational Specialist Degree
4 Doctor of Education
5 Doctor of Philosophy

E. Circle the response that most closely identifies your racial/ethnic background.

0 Asian
1 Black
2 Hispanic
3 White
4 Other

F. Circle the response that identifies the subject you teach.

0 English
1 Foreign Language
2 History
3 Math
4 Science
5 Other (please name) _____

G. Circle the response that identifies the number of students you teach per class this year that have been identified as special education students.

0 0 students
1 1 student
2 2-3 students
3 4-5 students
4 More than 5 students

H. On the response sheet, circle the response that BEST identifies your college experience with special education classes.

0 No special education classes taken
1 1-2 special education classes taken
2 3-4 special education classes taken
3 5 or more special education classes taken
4 Special Education Degree

I. Please indicate the number of hours of professional development you have received in the past 3 years in inclusion and special needs education. (This includes school-based, district-based, and independently obtained training). _____ hours

J. Please indicate the average number of contact hours weekly with special education personnel (special education teachers, paraprofessionals, speech or physical therapists, behavior interventionists, school psychologists) and administrators regarding students with disabilities.

_____ hours

Appendix C

Scale of Teachers' Attitudes Toward Inclusive Classrooms (STATIC)

H. Keith Cochran, PhD
1999

DIRECTIONS: The purpose of this instrument is to obtain information about your attitude toward the inclusion of students with special needs in regular education classrooms. There are no correct or incorrect answers. Your responses are completely autonomous and confidential. You should mark your response to each item on the response sheet provided.

Attitude survey directions: Read each item and decide how you would react. Rate your reaction using the scale below as your guide to describe the extent you believe best describes your attitude. Answer any items that do not specifically define the type of disability or special need of a student with the response that best describes your *general perception* of a student with a disability or special need.

0 STRONGLY DISAGREE
1 DISAGREE
2 NOT SURE, BUT TEND TO DISAGREE
3 NOT SURE, BUT TEND TO AGREE
4 AGREE
5 STRONGLY AGREE

_____ 1. I am confident in my ability to teach children with special needs.

_____ 2. I have been adequately trained to meet the needs of children with disabilities.

_____ 3. I become easily frustrated when teaching students with special needs.

_____ 4. I become anxious when I learn that a student with special needs will be in my classroom.

_____ 5. Although children differ intellectually, physically, and psychologically, I believe that all children can learn in most environments.

_____ 6. I believe that academic progress is possible in children with special needs.

_____ 7. I believe that children with special needs should be placed in special education classes.

_____ 8. I am comfortable teaching a child that is moderately physically disabled.

_____ 9. I have problems teaching a student with cognitive deficits.

_____ 10. I can adequately handle students with mild to moderate behavioral problems.

_____ 11. Students with special needs learn social skills that are modeled by regular education students.

_____ 12. Students with special needs have higher academic achievements when included in the regular education classroom.

_____ 13. It is difficult for children with special needs to make strides in academic achievement in the regular classroom.

_____ 14. Self-esteem of children with special needs is increased when included in the regular education classroom.

_____ 15. Students with special needs in the regular education classroom hinder the academic progress of the regular education student.

_____ 16. Special in-service training in teaching special needs students should be required for all regular education teachers.

_____ 17. I don't mind making special physical arrangements in my room to meet the needs of students with special needs.

_____ 18. Adaptive materials and equipment are easily acquired for meeting the needs of students with special needs.

_____ 19. My principal is supportive in making needed accommodations for teaching children with special needs.

_____ 20. Students with special needs should be included in regular education classrooms.

H. Keith Cochran, PhD

1999

Appendix D

Demographic Data by School

School	1	2	3	4	5	6
n	45	69	26	36	19	50
Experience						
0-1 years	11.1	15.9	7.7	5.6	15.8	20.0
2-3 years	6.7	11.6	11.5	13.9	36.8	8.0
4-5 years	15.6	5.8	23.1	19.4	10.5	6.0
6-10 years	11.1	23.3	19.2	13.9	21.1	14.0
> 10 years	55.6	45.5	38.5	47.2	15.8	70.0
Highest degree						
Bachelor	40.0	46.4	46.2	30.6	36.8	24.0
Master	57.8	52.2	53.8	58.3	57.9	64.0
Specialist	2.2	1.4	0.0	5.6	5.3	6.0
Doctorate	0.0	0.0	0.0	5.6	0.00	6.0
Subject						
English	22.2	23.2	23.1	19.4	21.1	22.0
Foreign Lang	6.7	5.8	3.8	5.6	0.0	4.0
History	17.8	8.7	7.7	30.6	21.1	6.0
Math	17.8	24.6	34.6	13.9	26.3	20.0
Science	13.3	17.4	19.2	13.9	26.3	12.0
Other	22.2	20.3	11.5	16.7	5.3	36.0
# Special Ed students						
Unsure	2.2	17.4	0.0	0.0	0.0	20.0
1student	6.7	13.0	7.7	13.9	5.3	6.0
2-3students	48.9	26.1	46.2	22.2	26.3	28.0
4-5 students	15.6	18.8	23.1	30.6	15.8	20.0
> 5 students	26.7	24.6	23.1	33.3	52.6	26.0

Note. All figures are percentages of *n.*

Appendix E

Table 1

Participants' Years of Teaching Experience

Years' experience	Number	Percentage
0-1	24	9.8
2-3	30	12.2
4-5	29	11.8
6-10	42	17.1
More than 10	120	49.0

Table 2

State and National Percentages for Years of Teacher Experience

Years' experience	% of SC teachers*	% of US teachers*
Less than 3	12.8	13.4
3-9	31.5	33.6
10-20	27.3	29.3
More than 20	28.5	23.7

Note. Categories of experience are not identical, making it difficult to make exact comparisons.
*National Center for Educational Statistics. (2011b). *Digest of Education Statistics.* Retrieved from http://nces.ed.gov/programs/digest/d11/tables/dt11_072.asp

Appendix F

Participants by Subject Taught

Subject	*n*	%
English	54	22.0
Math	54	22.0
Other	52	21.2
Business	11	4.5
Career-Technology	7	2.9
Fine Arts	17	6.9
Physical Education	6	2.4
ROTC	4	1.6
Support teachers	7	2.9
Science	39	15.9
History	34	13.9
Foreign Language	12	4.9

Note. $N = 245$.

Appendix G

Variables of Interest by School

School	A	B	C	D	E	F
n	45	69	26	36	19	50
STATIC mean	69.82	68.22	69.15	65.33	65.89	67.14
Professional Development[a]						
No PD	47.4	27.5	42.3	36.1	57.9	54.0
1-3 hours	24.4	49.3	38.5	52.8	36.8	30.0
4-9 hours	24.4	11.6	7.7	5.6	0.0	12.0
10 or more hours	4.4	11.6	11.5	5.6	5.3	4.0
Support[a]						
No support	31.1	27.5	11.5	27.8	21.1	38.0
1-2 hours	26.7	47.8	57.7	61.1	63.2	48.0
3-5 hours	17.8	15.9	11.5	8.3	5.3	8.0
6-9 hours	17.8	1.4	7.7	2.8	10.5	4.0
10 or more hours	6.7	7.2	11.5	0.0	0.0	2.0

Note. [a] Percentage of *n*.

Appendix H

Frequency Table for STATIC Scores

Score	Freq	Percent	Score	Freq	Percent	Score	Freq	Percent
13	1	0.4	56	3	1.2	75	8	3.3
30	1	0.4	57	5	2.0	76	7	2.9
32	1	0.4	58	3	1.2	77	3	1.2
36	2	0.8	59	4	1.6	78	8	3.3
37	1	0.4	60	7	2.9	79	7	2.9
39	3	1.2	61	4	1.6	80	6	2.4
40	1	0.4	62	9	3.7	81	7	2.9
41	1	0.4	63	9	3.7	82	4	1.6
43	3	1.2	64	6	2.4	83	9	3.7
45	2	0.8	65	9	3.7	84	2	0.8
46	1	0.4	66	5	2.0	85	4	1.6
47	2	0.8	67	9	3.7	86	1	0.4
48	1	0.4	68	10	4.1	87	4	1.6
49	1	0.4	69	9	3.7	88	1	0.4
50	5	2.0	70	4	1.6	89	2	0.8
51	1	0.4	71	9	3.7	90	2	0.8
52	4	1.6	72	9	3.7	71	1	0.4
53	2	0.8	73	4	1.6	94	1	0.4
55	4	1.6	74	12	4.9	98	1	0.4

Appendix I

Frequency Table for Hours of Professional Development

Hours PD	Freq	Percent
0	102	41.6
.5	2	0.8
1	24	9.8
1.5	1	0.4
2	27	11.0
3	42	17.1
4	6	2.4
5	7	2.9
6	9	3.7
7	3	1.2
8	1	0.4
9	3	1.2
10	5	2.0
12	1	0.4
15	3	1.2
16	1	0.4
18	1	0.4
20	3	1.2
25	1	0.4
30	1	0.4
35	1	0.4
45	1	0.4

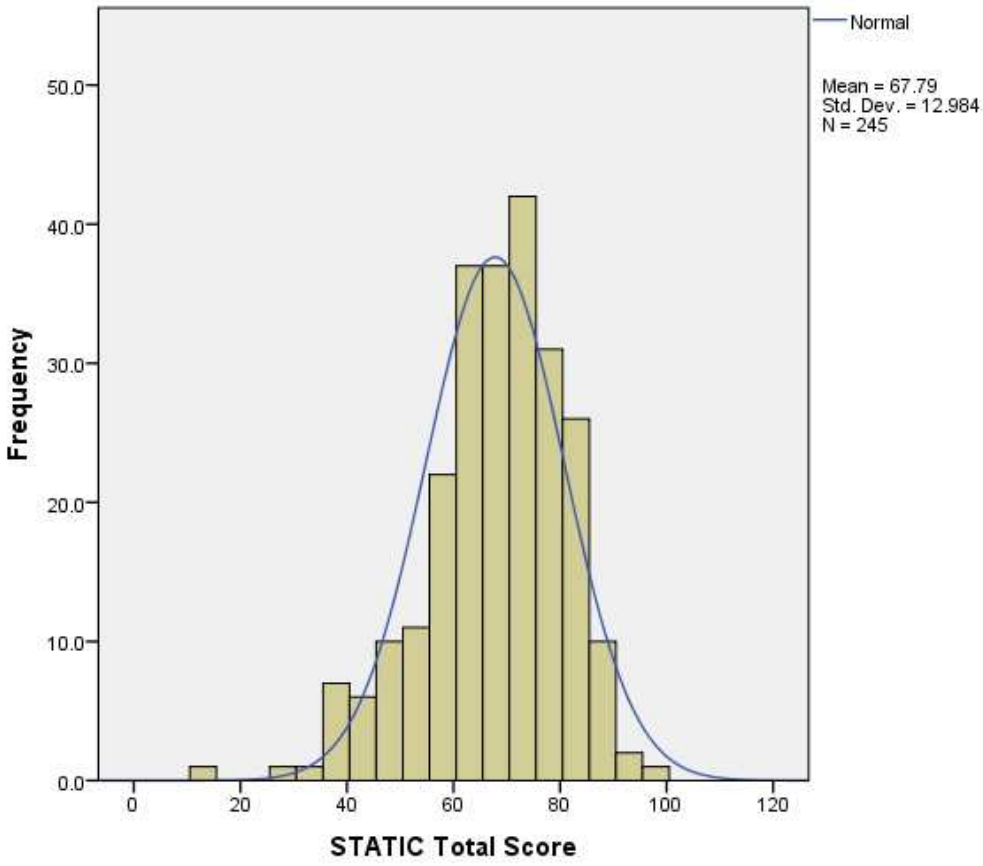
Appendix J

Frequency Table for Hours of Support

Support	Freq	Percent	Support	Freq	Percent
0.0	67	27.3	5.0	13	5.3
0.2	1	0.4	6.0	4	1.6
0.3	1	0.4	7.0	2	0.8
0.5	28	11.4	7.5	3	1.2
1.0	66	26.9	8.0	6	2.4
1.5	8	3.3	10.0	8	3.3
2.0	16	6.5	11.0	1	0.4
2.5	2	0.8	12.0	2	0.8
3.0	8	3.3	15.0	1	0.4
4.0	5	2.0	20.0	1	0.4
4.5	1	0.4	25.0	1	0.4

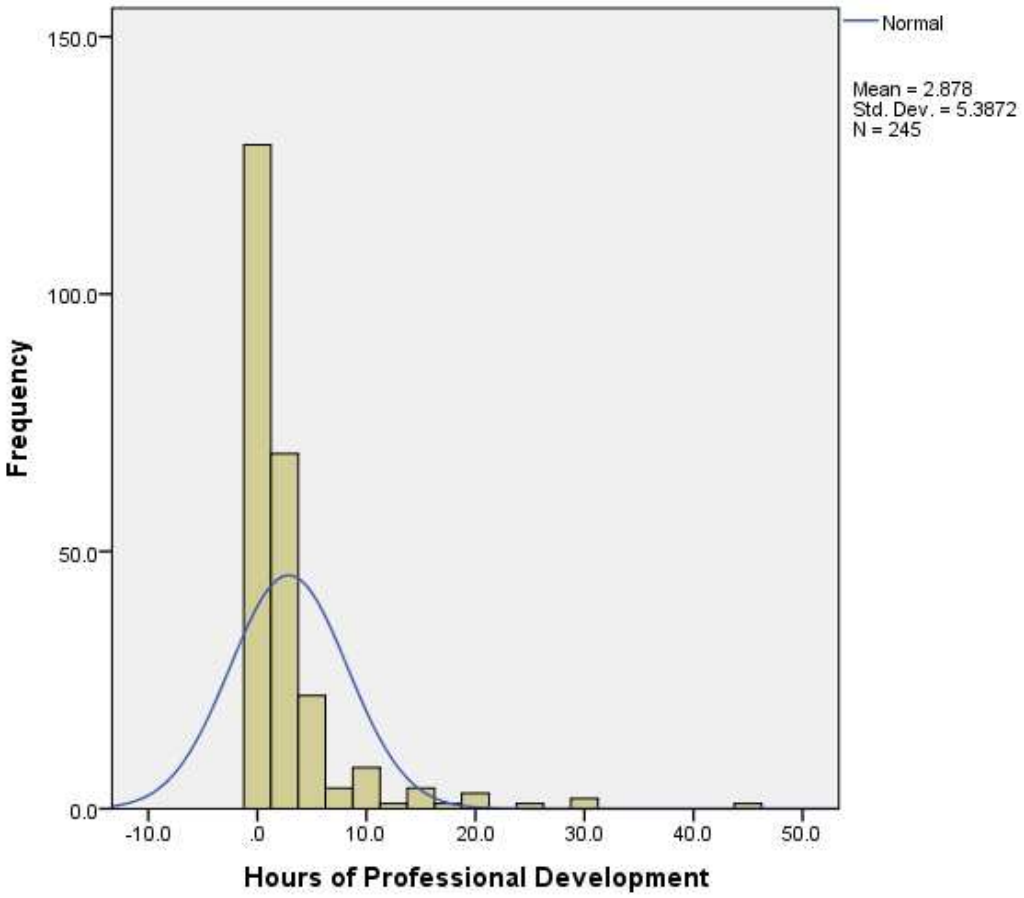
Appendix K

Histogram of STATIC Total Scores



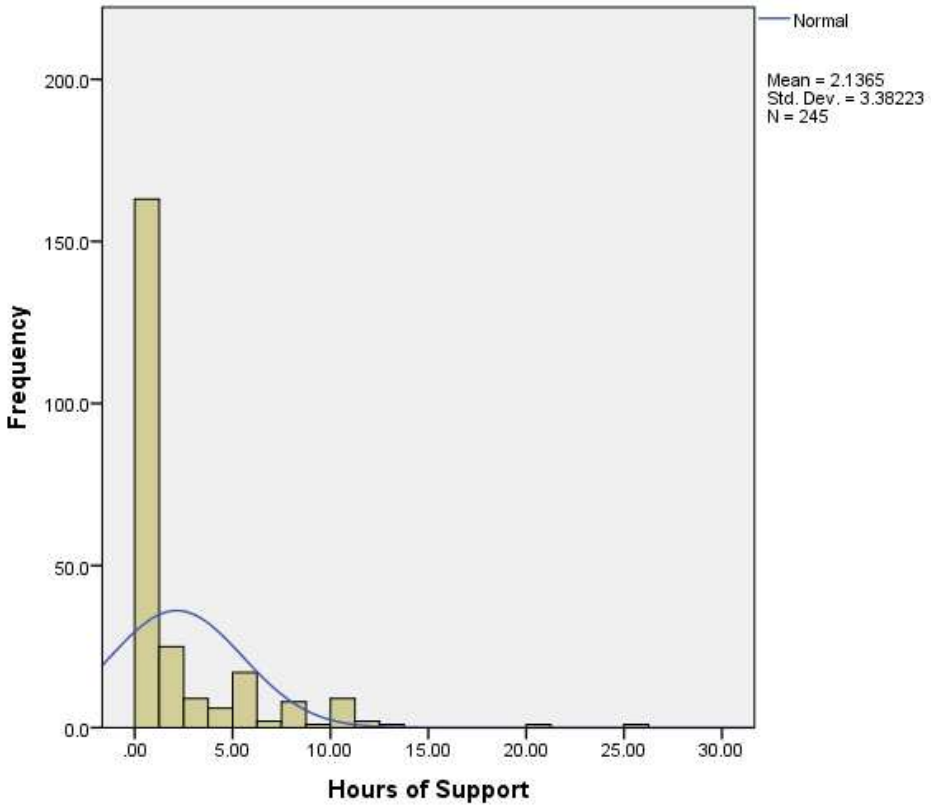
Appendix L

Histogram of Hours of Professional Development



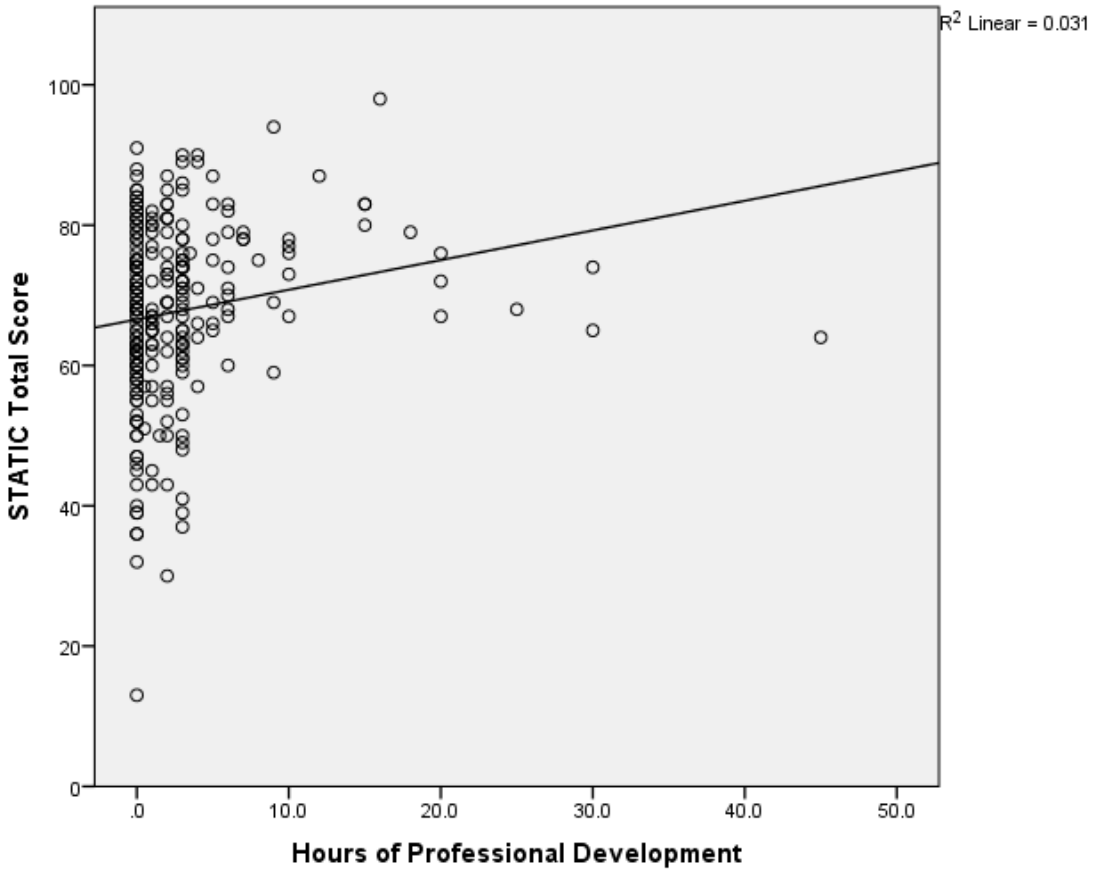
Appendix M

Histogram of Hours of Support



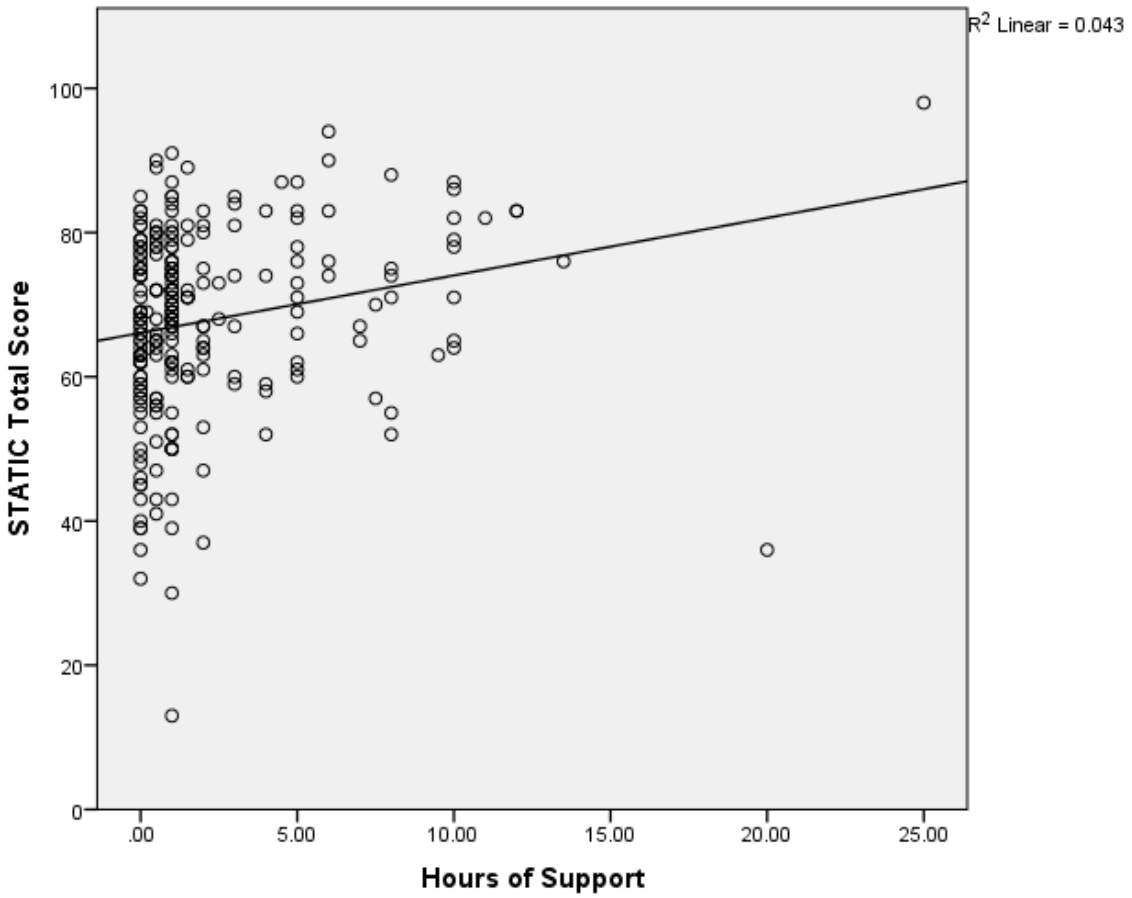
Appendix N

Scatterplot of Hours of Professional Development and STATIC Total Score



Appendix O

Scatterplot of Hours of Support and STATIC Total Score



Appendix P

Permission to Use STATIC in Research

From: Keith Cochran
To: Lynn Wogamon [CCHS/SPS]
CC:
Date: Friday, January 13, 2012 10:35:56 AM
Subject Re: Use of STATIC

Dear Ms. Wogamon,
Thank you for you interest in the STATIC instrument. I am overwhelmed at the interest it generated after having created it. It has been used in scores of studies, in more than 18 countries and translated into at least seven languages.
I have attached a copy of the STATIC instrument, scoring information, and a summary of the development of the instrument. I am happy to grant permission for you to use the STATIC in your dissertation study. I wish you the very best with your research and honored to be a small part of it.
Sincerely,
H. Keith Cochran, Ph.D.
Associate Professor

From: Lynn Wogamon [CCHS/SPS] <lwogamon@mail.colleton.k12.sc.us>
To: kcochran1976@yahoo.com
Sent: Thursday, January 12, 2012 12:22 PM
Subject: Use of STATIC

Good morning. I am preparing to conduct my dissertation research at Liberty University for the EdD in Curriculum and Instruction. My research will examine the relationships between attitudes of high school general education teachers toward inclusion and amount of professional development/ support . I would like to use the STATIC instrument with approximately 350 high school teachers. Please let me know if you would approve its use in this way. Also, please describe any fees or requirements associated with its use. I would be happy to provide further information, if needed. I appreciate your consideration of this request.
Lynn S. Wogamon
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