

DETERMINING FACTORS CONTRIBUTING TO GRADUATION FOR
STUDENTS WITH LEARNING DISABILITIES IN COMMUNITY COLLEGES

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Determining factors contributing to graduation for Students with Learning Disabilities in
community colleges

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ABSTRACT

Crystal P. Ange. DETERMINING FACTORS CONTRIBUTING TO GRADUATION FOR STUDENTS WITH LEARNING DISABILITIES IN COMMUNITY COLLEGES. (Under the direction of Dr. Andrea Beam, Professor, Liberty University). School of Education. April, 2011.

This study examined Students with Learning Disabilities (SLD) graduation rates from two-year community colleges. Specifically, the purpose of this paper was to determine if identifiable demographics or accommodations were related to SLD who graduated from community colleges. Data were collected from the records of SLD at four community colleges in North Carolina. The information collected included demographic data, the accommodations of SLD, and graduation status from community college. The results were analyzed using hierarchical multiple regression. The overall study demonstrated no factors were identified that predict graduation for SLD from a two-year community college. Implications for future research include the need to provide training for students in self-determination as well as federal transition requirements from high school to college. At the postsecondary level there is a need for training for faculty on the Americans with Disabilities Act (ADA), SLD and accommodations.

Keywords: Students with Learning Disabilities, graduation rates, community college

Dedication

A man gets to choose his friends but his family is a gift from God. My daughters Corey and Peri, and my husband Richie are truly just that...gifts from the Lord. I want to thank each of them for the sacrifices they have made over the past several years. My girls have watched me go to school almost their entire lives and they have never complained. I am so very proud of both of them and I love them so very much. When I look at my daughters I see precious young women and such sweet spirits. I see all I hope to be in their eyes.

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To my Father God and Lord Jesus, I am nothing without you. My prayer is to do Your work, Your will, Your way. You are my strength, and my redeemer! In the words of Dr. Jill Jones you reminded me to not undo in fear what I began in faith.

I dedicate this work to each of you, for you have provided me inspiration and love.

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To all of my extended family, we have finally done it. I know you wondered if this day would ever arrive but here we are. Thank you for your many words of support and for never giving up on me. I love each of you!

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List of Abbreviations

AMERICAN WITH DISABILITY ACT OF 1990	(ADA)
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2000	(ARRA)
EDUCATION FOR ALL HANDICAPPED CHILDREN ACT	(EHA)
EDUCATIONAL RESOURCES INFORMATION CENTER	(ERIC)
ELEMENTARY AND SECONDARY EDUCATION ACT	(ESEA)
FREE APPROPRIATED PUBLIC EDUCATION	(FAPE)
GRADE POINT AVERAGE	(GPA)
INDIVIDUALS WITH DISABILITY EDUCATION ACT	(IDEA)
INDIVIDUAL WITH DISABILITY EDUCATION IMPROVED ACT	(IDEIA)
INDIVIDUAL EDUCATION PLAN	(IEP)
INPUT-ENVIRONMENT-OUTPUT	(IEO)
INSTITUTIONAL REVIEW BOARD	(IRB)
INTELLIGENCE QUOTIENT	(IQ)
LEARNING DISABLED	(LD)
LOCAL EDUCATION AGENCY	(LEA)
LEAST RESTRICTIVE ENVIRONMENT	(LRE)
NATIONAL COUNCIL OF EDUCATION STATISTICS	(NCES)
NO CHILD LEFT BEHIND	(NCLB)
OFFICE OF SPECIAL EDUCATION	(OSEP)
PREDICTIVE ANALYTICS SOFTWARE	(PASW)
REHABILITATION ACT	(RA)
SELF-DETERMINATION	(SD)

STUDENTS WITH LEARNING DISABILITIES	(SLD)
STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES	(SPSS)
STUDENTS WITH DISABILITIES	(SWD)
VIRGINIA HIGHER EDUCATION LEADERSHIP FOR PARTNERS	(VHELP)

CHAPTER ONE: INTRODUCTION

Background

Many students graduate from high school and look forward to the next phase of life. However, all students do not graduate with the same aspirations. For example, students with disabilities (SWD) do not attend college at the same rates as students without disabilities. White et al. (1982) conveyed that 84% of high school students without a disability had plans for higher education while only 67% of high school students identified with a learning disability expressed educational objectives beyond high school. These figures have expanded appreciably since that time, but the enrollment rates of students with learning disabilities are still lower in postsecondary establishments than in the population at large (Henderson, 1999). The percentage of first-time, full-time students with disabilities going to colleges and universities more than tripled between 1978 and 1994 from 2.6 percent to 9.2 percent (Henderson, 1999; Leahman, Davies, & Laurin, 2000; National Council on Disability, 2000; Vogel, Leyser, Wyland & Brulle, 1999). By 1998, the number had risen to 10.5 percent of the postsecondary student population (Gajar, 1998).

The varying types of student disabilities include autism, deafness, serious emotional disturbance, hearing impairment, intellectual disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment, including blindness (IDEA, 2004). The Rehabilitation Act (RA) of 1973 and the Americans with Disabilities Act (ADA) of 1990, combined with the Reauthorization of Individuals with Disabilities Education Act of 2004 (IDEA 04), have served to focus the need for services to SWD.

Theoretical Constructs

This study entailed a broad evaluation of the literature. The research included books, educational journals, the internet, and forms from Educational Resources Information Center (ERIC). Several dissertations were analyzed and provided information for this research. Also included were the Federal Register and various public laws. The encompassing review of the literature revealed a plethora of information used in examining Students with Learning Disabilities (SLD) and graduation from two-year community colleges. One poignant article by Stodden and Conway (2003) provided an overview of the issues surrounding SWD in college. The second piece of their work was a personal perspective from Stodden, who is deaf-blind and working toward a doctorate degree, and about the issues she faced as she matriculated the educational maze towards her own degree.

The literature review in chapter two begins with a history of special education law dated to 1954. The Brown vs. Board of Education legal case began the journey for the equal education of minority students and laid the groundwork for the education of all students, including those with disabilities. Just as minorities were kept in separate schools, SWD were kept in separate classrooms. The legal history includes the Elementary and Secondary Education Act (ESEA) passed in 1965 and ends with the American Recovery and Investment Act (ARRA) in 2009. Also included in the literature review is the definition of SLD, student demographics of SLD attending public, two-year community colleges, and accommodations received by SLD attending public, two-year community colleges.

Problem Statement

Students with disabilities may find life in high school significantly different than their college experience. While in high school, students have an Individual Education Plan (IEP). This plan contains goals and objectives specific to the student's needs. There are IEP meetings involving the student, the teachers and the student's parents and everyone shares input. At the college level, however, students must demonstrate self-advocacy skills as there is no Individuals with Disability Education Act (IDEA) or IEP, but the Americans with Disabilities Act does apply to them. At the high school level, there are specific regulations and procedures to which local education agencies (LEA) must adhere but the mandates do not address service delivery options at the collegiate level. There is autonomy in service delivery options, and they often differ at various institutions. In other words, there is no formal process as required by IDEA. In addition, there is variance among institutions with self-determination and each facility determines their processes. Colleges determine the forms used to verify disabilities, and colleges establish accommodations offered to the SWD. Postsecondary education requires proof of disabilities before academic adjustments, auxiliary aids, or testing accommodations are provided and the burden of providing that proof is on the student.

SWD may find college life more flexible but the courses are more demanding. The grades reflect student performance and the student is considered an adult and must act as his/her own advocate. While there is a vast amount of research regarding accommodations and graduation rates of SWD at the high-school level, there is a lack of literature regarding the graduation rates of SLD at the postsecondary level. There is a need for research associated with identifying types of accommodations provided at universities as well as graduation rates of SLDs at the collegiate level.

Purpose Statement

The purpose of this study was to examine the set of characteristics (i.e., demographic data including gender, ethnicity, and age) and disability related services or accommodations that best predict success for graduation of SLD. College students must use self-determination skills and provide current formation of their disability in order to receive services at this level of their education. This is the exact opposite of what they have experienced while in the school system. In all cases, proviso of certification or verification of the disability is the responsibility of the student and not of the college. Due to potential legal ramifications of non-compliance with ADA, there is an obligation of the college to provide services to SWD (ADA, 1990). Most postsecondary schools have some type of disability support program but there is a need for further investigation at the postsecondary level that concentrates on the outcomes of students with learning disabilities (SLD), including disability support, grade point average, demographics and graduation rates.

Significance of the Study

There is research accessible that supports graduation rates of SLD in K12 but there is no research available that tracks these same students to determine if they graduate from a two-year community college. The results of this study will provide legal policy makers, state community college personnel, and researchers insight into the association between specific demographics, accommodations, and graduation rates of SLD from two-year community colleges. Thus far research seems to concentrate on these areas in an isolated manner versus looking at the components together to determine if there is a correlation. North Carolina policy makers will have this data to utilize as a tool for improvement of the implementation of ADA and increased graduation rates of SLD; however, correlations may be drawn for other states. Practitioners can use the data to

potentially guide program decisions for SLD that will affect graduation rates. One of the roles of educators is to help students succeed. This research is an attempt to determine if there are pieces of data that instructors or administrators might utilize to more effectively contribute to the achievement of this population of students. Finally, similar studies might be conducted to continue to draw connections that impact local practices, state policies, and possibly national policy.

Research Questions

This study will explore factors that correlate with SLD graduation from college.

The objectives of this study will be to:

1. establish demographic traits of SLD receiving disability assistance at a public, two-year community college,
2. establish if a specific set of accommodations received by SLD predict student graduation at a public, two-year community college, and
3. determine the graduation rate of SLD registered at the disability office of a public, two-year community college.

This research will examine the set of characteristics (i.e., demographic data including gender, ethnicity, and age) and disability related services or accommodations that best predict success for graduation of SLD. There is a need for the study in North Carolina since to date there is no consistent method of collecting data regarding this population of students at two-year community colleges. The number of SLD as well as their specific identifying type is not generally collected in the state. The data collecting process, the disability offices, and the types of services offered vary across campuses. Based on this information, the following research questions were generated:

1. What set of demographics (i.e., gender, ethnicity, and age) of SLD receiving disability assistance provided by public, community colleges predict student graduation?
2. What set of accommodations or disability-related services provided by public, community colleges predict student graduation? Accommodations include adjustments made in course materials or instructional methodology which do not change the essential nature or academic and technical standards of the course. If a SLD student receives a specific accommodation or service does this accommodation impact graduation of this population?
3. What is the graduation rate of SLD registered with the disability offices at community colleges? What is the graduation rate of their non-disabled peers over the equivalent time frame?

Null Hypotheses

Null Hypothesis 1: There is no statistical relationship between the gender, ethnicity, and age of Students with Learning Disabilities and the graduation rates of this population from a public, two-year community college. Demographics of the SLD population do not affect their graduation rates.

Null Hypothesis 2: There is no statistical relationship between the types of accommodations and disability related services received by Students with Learning Disabilities attending a community college and their graduation rates. If a SLD student receives accommodations or disability related services their graduation rates are not affected.

Null Hypothesis 3: There is no statistical relationship between the mean graduation rate of Students with Learning Disabilities registered with disability offices at community

colleges and the mean graduation rate of their non-disabled peers over the equivalent time frame.

Methodological Summary

The researcher conducted a quantitative study to ascertain if a connection exists between SLD, graduation rates, demographics of SLD, and accommodations for SLD who attend two-year community colleges. This study utilized a combination of correlation and comparative designs. The researcher used a hierarchical logistical equation to identify relationships. A regression equation was also utilized to predict the probability that an individual would fall into a specific category. In hierarchical regression, the independent variables are entered into the equation in the order specified by the researcher based on theoretical grounds. Variables or sets of variables are entered in steps with each independent variable being assessed in terms of what it adds to the prediction of the dependent variable (Pallant, 2005). A t-test was used to compare means of graduation rates.

Assumptions and Limitations

The results from this study have the potential to serve as a baseline for community colleges in assessing services for SLD. The researcher assumed that two-year community colleges kept records of SLD that included demographics, accommodations, and graduation rates. The researcher also assumed that the SLD had utilized self-determination skills to ensure their identification with the special population's offices at the varying community colleges.

The target population for this study was limited to SWD, specifically SLD. To be included in this study, the group of SLD had to provide appropriate information to the two-year community college and therefore be eligible to receive an accommodation. The scope of the study was limited by the size of the community colleges, by the number of

SLD that were identified and the varying methods of organizing and keeping data on SLD.

Conclusion

It is important to understand issues and concerns surrounding the terms of educational supports to students with disabilities in postsecondary education. The purpose of the study is to determine if self-advocating SLD who attend two-year community college and receive accommodations graduate. The research will review the demographics of this SLD population to determine if there is a correlation between SLD, accommodations, and graduation rates. Chapter 2 contains a literature review that begins with the legal landscape of special education and the impact of the legal changes on SLD. The analysis explains the definition of students with learning disabilities and continues with the demographics of self-advocating SLD who attend two-year community colleges and receive accommodations. Literature on graduation rates of SLD who attend two-year community colleges is reviewed to determine if SLD graduate at the same rates as their non-disabled peers.

Chapter 3 describes the methodology used to execute this research. Chapter 4 contains the management of the data collected and results of the analyses. Chapter 5 consists of a final discussion of the results with respect to the research questions to determine whether or not the hypotheses were supported. Chapter 5 also includes points for legislators on how to use this material as a guide for decisions that impact policies that support services and accommodations most useful in helping SLD graduate from a two-year community college. The study will focus on SLD but there are multiple disabilities that researchers could study to determine the impact of accommodations upon graduation rates. Practitioners can use the research in guiding programming decisions or procedures that influence SLD. In summary, the results of this study will provide

legislators, practitioners, and educators' insight into the relationship between SLD demographics, the accommodations the SLD received and if demographics or accommodations affect graduation rates of SLD from two-year community college.

Definitions

Autism: A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. Autism does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance (Section 504 Rehabilitation Act 1973).

Deafness: A hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification that adversely affects a child's educational performance (Section 504 Rehabilitation Act 1973).

Serious Emotional Disturbance: A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

- (1) An inability to learn that cannot be explained by intellectual, sensory, or health factors.
- (2) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.
- (3) Inappropriate types of behavior or feelings under normal circumstances.
- (4) A general pervasive mood of unhappiness or depression.

- (5) A tendency to develop physical symptoms or fears associated with personal or school problems. Emotional disturbance includes schizophrenia (Section 504 Rehabilitation Act 1973).

Hearing Impairment: An impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness in this section (Section 504 Rehabilitation Act 1973).

Mental Retardation now known as Intellectual Disability: Significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects a child's educational performance (Section 504 Rehabilitation Act 1973).

Orthopedic Impairment: A severe physical impairment that adversely affects a child's educational performance. The term includes impairments caused by a congenital anomaly, impairments caused by disease (e.g., poliomyelitis, bone tuberculosis), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns that cause contractures) (Section 504 Rehabilitation Act 1973).

Other Health Impairment: Having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that—(1) is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourettes Syndrome; and (2) adversely affects a child's educational performance. (Section 504 Rehabilitation Act 1973).

Specific Learning Disability: Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia (Section 504 Rehabilitation Act 1973). The following disorders are not included: learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disabilities, of emotional disturbance, or of environmental, cultural or economic disadvantage (Section 504 Rehabilitation Act 1973).

Speech or Language Impairment: A communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance. (Section 504 Rehabilitation Act 1973).

Traumatic Brain Injury: An acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language, memory; attention; reasoning; abstract thinking; judgment; problem solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; information processing; and speech. Traumatic brain injury does not apply to brain injuries that are congenital or degenerative or to brain injuries induced by birth trauma. (Section 504 Rehabilitation Act 1973).

Visual impairment including blindness: Impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes

both partial sight and blindness (IDEA, 2004).

Academic Adjustment Requirements: A recipient to whom this subpart applies shall make such modifications to its academic requirements as are necessary to ensure that such requirements do not discriminate or have the effect of discriminating, on the basis of handicap, against a qualified handicapped applicant or student. Academic requirements that the recipient can demonstrate are essential to the instruction being pursued by such a student or to any directly related licensing requirement will not be regarded as discriminatory within the meaning of this section. Modifications may include changes in the length of time permitted for the completion of degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted (Section 504 Rehabilitation Act 1973).

Accommodation: Adjustments made in course materials or instructional methodology which do not change the essential nature or academic and technical standards of the course. Adjustments made in the physical attributes of a classroom such as the provision of tables and/or chairs which do not disrupt the essential activities of the class or program. Assistive technology made available to persons with disabilities in college learning labs, the library, test center or classroom (Section 504 Rehabilitation Act 1973).

Assistive Technology: Any item, piece of equipment, or product system, whether acquired commercially off-the-shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities for individuals with disabilities (Section 504 Rehabilitation Act 1973).

Auxiliary aids: (1) A recipient to whom this subpart applies shall take such steps as are necessary to ensure that no handicapped student is denied the benefits of,

excluded from participation in, or otherwise subjected to discrimination because of the absence of educational auxiliary aids for students with impaired sensory, manual, or speaking skills. (2) Auxiliary aids may include taped texts, interpreters or other effective methods of making orally delivered materials available to students with hearing impairments, readers in libraries for students with visual impairments, classroom equipment adapted for use by students with manual impairments, and other similar services and actions. Recipients need not provide attendants, individually prescribed devices, readers for personal use or study, or other devices or services of a personal nature (RA, 1973).

Closed Captioning: Closed captioning allows individuals who are deaf or have limited hearing to view television and read what is being said. The words spoken through the television are written across the bottom of the screen so the person can read the dialogue and see action of the program (Section 504 Rehabilitation Act 1973).

Descriptive Video: Descriptive videos are designed for people who are visually impaired. The videos provide additional narration which carefully describes the visual elements of the film, such as the action of the characters, location, and costumes, without interfering with the actual dialogue and sound effects. (Section 504 Rehabilitation Act 1973).

Extended Testing Time: Increased amount of time for taking a test, exam or written assignment (Section 504 Rehabilitation Act 1973).

Free and Appropriate Public Education (FAPE): Public Law 94-142 (EHA, 1975), developed the principle of a FAPE: Requiring special education and related services...to be provided at public expense, under public supervision and direction, and without charge to meet standards of the local education agency, including preschool, elementary school, or secondary school, and/or vocational education ...and

provided in accordance with an IEP (§ 300.8).

Individualized Education Plan (IEP): The framework of a specific student's education that includes goals and objectives indicative to specific needs (Section 504 Rehabilitation Act 1973).

Interpreting Services: Cued speech using hand gestures to simulate language (Section 504 Rehabilitation Act 1973).

Least Restrictive Environment: The regular educational environment that includes instruction with non-disabled peers (Section 504 Rehabilitation Act 1973).

Modified Test or Assignments: Shortened assignments or an alternate assignment. Changes in the length of time permitted for the completion of tests, assignments, or degree requirements (Section 504 Rehabilitation Act 1973).

Telecommunications Relay System: These are services (usually maintained by telephone companies) that will relay information verbally for those individuals whose communication must rely on electronic transmission due to a functional limitation; (i.e., speech or hearing limitation) (Section 504 Rehabilitation Act 1973).

CHAPTER TWO: LITERATURE REVIEW

Introduction

This study, in examining the demographic traits of SLD who receive disability assistance at a public, two-year community college, attempted to build upon the body of research on SLD who attend and graduate from college. While ADA ensures equal access at institutions of higher learning, the previous research presents a complex picture of results. A review of the important findings of that previous research will provide an intellectual context for this study. This chapter is organized into seven sections that begin with the theoretical need for this study. The researcher believed it important to note the history of special education law and the changes that have evolved over time as those changes have set direction for the SWD program. The definition of SLD is included next. The meaning of SLD is explored in order to demonstrate directional changes over time. Accommodations received by SLD who attend two-year community colleges are appraised followed by the demographics of SLD who attended two-year community colleges and graduation rates of SLD.

Theoretical Framework

The numbers of students with disabilities attending college has multiplied throughout the years partially due to the enactment of the Americans with Disabilities Act (ADA). The ADA, like the earlier Rehabilitation Act of 1973, was proposed to level the playing field. The broad mandate of the ADA is for students with disabilities to have the same access to educational programs as students without disabilities (Eliason, 1992). The U.S. Department of Education suggested that nearly 60% of students with disabilities who attend postsecondary institutions go to two year schools (U.S. Department of Education, 2002) and “these numbers have increased rapidly at two-year institutions to

the point where more students with disabilities are attending two-year institutions as opposed to four-year” (Cocchi, 1997). An additional reason the number of SLD attending community colleges has increased is the open door policy that admits all students. Section 504 of the Rehabilitation Act,

[states that]...no otherwise qualified handicapped individual shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal assistance... (Subpart E, Section 504)

Due to an ever changing college environment, the number of self-reporting LD students has escalated three times over a ten-year period (Henderson, 1995). California Community Colleges (1988) reported to the Postsecondary Education Commission on the number, gender, age, and ethnicity of SLD students for 1987-1988 and 1990-1991. Although this report did not address rates of graduation of SLD, it indicated the process community colleges utilized for choosing services demonstrated no substantiation of ethnic, gender, or age-related bias in its intent.

The most common form of disability found in the college-age population is learning disabilities (Eliason, 1992, p. 375) and the American Association of Community Colleges stated that SLD students represent the prevalent group of disability served by special population offices in community colleges (Barnet, 1992). Taymans, West, & Sullivan (2000) stated “researchers report that 5 to 10 percent of Americans have learning disabilities (LD), and while no two people with LD are exactly the same, many do share certain characteristics”. (p. 2)

The National Center for Education Statistics (NCES) reported that nine percent of undergraduates reported having disabilities that created difficulties for them as students in its 1999-2000 survey, and eleven percent reported a learning disability or Attention

Deficit Disorder (U. S. Department of Education, 2003). LD is not a single disorder, but a term that refers to a group of disorders. "Most experts believe that LD represents a group of related disorders with different characteristics, requiring different types of treatment and/ or accommodations." (Eliason,1992, p. 375). The National Center for Learning Disabilities (NCLD, 2005) defines LD as

a neurological disorder that affects the brain's ability to receive, process, store and respond to information" (p. 1), and note that LDs can affect a person's ability in the areas of listening, speaking, reading, writing, or mathematics. The term LD is used to describe the seeming unexplained difficulty a person of at least average intelligence has in acquiring basic academic skills. These skills are essential for success at school and work, and for coping with life in general. (p. 15)

Cohen and Brawer (2003) stated SWD are twice as likely to drop out of college as students without SWD. This information combined with aforementioned data regarding numbers of SLD bears review. It is the intent of the researcher to look further than disability type and to research what a SLD graduate looks like in terms of gender, ethnicity, and age and determine if accommodations impact success.

Pingry's (2007) work reviewed and provided a foundation for the basis of need for this study. Pingry surveyed 1,289 students using ex post facto information and focused on predictors for graduation of SWD at four-year colleges with differences in the areas of disability type and instrument. Her research had similar components to this work with several variations. First, Pingry's work was much broader in the perspective that it did not focus on one disability area, instead it utilized all disability areas including cognitive, mental, and physical. Pingry's research also included the effect of environment on SWD performance in college. The major method of determining this was Astin's (1998) input-environment-output college impact model that explored the

characteristics of student change through environmental or sociological origins. Astin suggested student related characteristics, structural organizational characteristics, and environmental characteristics interrelate to establish and affect the success of students in postsecondary institutions.

Pingry focused on the extent to which student success may differ based on environmental setting while that component is not included in the context of this study. However, in the input-environment-output model one of the major components is student demographics and graduation rates thus indicating relevance and importance. Astin's model explored the combination of environmental settings on student success as measured by grade point average and graduation rates. Additionally, his research did not focus on student demographics or accommodations received by the SWD population to establish if these components were related to SWD graduation rates. Pingry's work utilized the Astin model to determine if environment or accommodations received impacted graduation for all disability types and resolved that indeed connections did exist. Pingry did not focus on demographics or a specific disability. There is additional work needed in the area of particular disability types, specifically students with learning disabilities, student demographics, accommodations, and graduation from college.

While Pingry focused on different types of disabilities, demographics, accommodations and graduation, Stodden and Conway's (2003) work *Supporting Individuals with Disabilities in Postsecondary Education* focused on the services SWD utilized in order to achieve success. One of the most unique components of their work was a personal dialogue from one of the authors Megan Conway. She is deaf-blind and actually described the challenges she faced while navigating the postsecondary world. She described a situation where services are offered but the student must know how to traverse the system. Stodden and Conway determined the focus from the college

perspective was different across states and campuses and commonly not well developed or associated programmatically to instruction. This lack of consistency bears study. Additionally, the services are inclined toward advocacy, informational services, or remediation of content rather than support in the compensation areas necessary for independent learning and self-reliance (Gajar, 1998; Izzo & Lamb, 2002; National Center for the Study of Postsecondary Educational Supports, 2000; Stodden et al., 2001).

“There is no legal requirement for students to disclose their disabilities, nor can institutions make inquiries to determine whether an individual has a disability.

Institutions are required to provide accommodations only for the known disabilities of a student” (HEATH Resource Center, n.d., p.4) and students must be aware that

effective self-advocacy requires that students understand their rights and responsibilities as students with disabilities on campus. In other words, they must assume responsibility for their education and for their disability, learn about any available support services, register with the DSS office if they need support, and have complete documentation of the disability on hand. (HEATH Resource Center, n.d. p.7)

Students must have a comprehension of their learning style and be able to express the need for accommodations that lessen the impact of the LD on their education and their transition to work (Stern, 2002).

Stodden and Conway described Gajar’s (1998) and Stodden’s et al. (2002) perspective that ADA and IDEA are diametrically different and thus confusing to the student leaving high school and entering college. In public school, the school system has a obligation to become aware of students with disabilities. This is not so in college.

When students with disabilities move from high school to college, the legal structure that characterized their rights and responsibilities altered considerably. This causes trouble

for students, families, and service providers because the end result is the need to travel through two different systems. 9). While in high school,

under the IDEA (Individuals with Disabilities Education Act), a student is considered to have a disability if he or she has one or more of thirteen enumerated impairments, such as a speech or language impairment, autism, or a specific learning disability, and by reason thereof, needs special education. (VHELP, 2007, p. 12)

High school students whose disabilities entitled them to special education or related services find that in college they are no longer entitled to, but must ask for, and be determined eligible for, accommodations. This results in a number of serious concerns that introduce obstacles to access to postsecondary education (VHELP, 2007, p. 9).

Secondary education and postsecondary education employees function in disconnected specialized worlds. Accordingly, the public policy “tools” that power one division (i.e., funding, accountability, assessment, and governance systems) have little in common with the policy tools that influence the other. The problem of these two systems lacking continuity is mainly imperceptible because they fall between the cracks of separate governance and policy systems (Kirst & Venezia, 2004).

In high school the student is monitored closely due to varying statutes and regulations but in college the focus is on self-directed education and autonomy “yet success with making decisions and communicating one's needs can be difficult for students with learning disabilities beyond high school. Without these skills, however, the transition from high school to college for students with learning disabilities may be daunting” (Goldhammer & Brinckerhoff, 1993, n.p.). The researcher wanted to build on the current information and add components that incorporated SLD, self-determination, accommodations, demographics, and graduation rates.

While there are studies that include pieces of each of these categories, there are few studies that include them all. In 2007, the Virginia Higher Education Leadership

Partners (VHELP) published *Access to Postsecondary Education for Individuals with Disabilities*. This report addressed documentation issues and future directions for merging public education and postsecondary education to better facilitate the transition process for SWD. These include

1. Address lack of funding resources
2. Review extensive documentation requirements for higher education
3. Attend to the critical need for research on policy integration
4. Develop potential strategies and approaches for secondary and postsecondary education to work together.

The VHELP findings confirmed Hicks-Coolick (1996) who found that

all postsecondary schools...offered basic services for students with LD...

The type and range of these services, however, varied greatly and disability support services had limited staff and funds. Because services are legally mandated in public postsecondary schools, the number of students requesting services was unlimited by admission policies. (n.p.)

Hicks-Coolick also stated there appeared to be a necessity for students to take responsibility for themselves in acquiring assistance as disability support services did not offer structured SLD programs. Consequently, students must be able to plainly be aware of their learning disabilities and to successfully advocate for themselves to take advantage of the service opportunities. This concept has not changed with time.

Ganschow, Coyne, Parks, & Antonoff, (1999) performed a 10-year study comparing “programs and services for students with learning disabilities (LD) in graduate and professional schools between 1985 and 1995. In 1995, surveys were sent to the same institutions (n = 682) as in the earlier survey, with a response rate of 30.6%” (p.72). One of their major findings was a much higher level of familiarity of SLD and the institution’s

services. Another salient point was “the change in the specificity of the assessments or the information required for the identification of students who are entitled to services” (p. 82). Ganschow et al (1999) also conveyed increased program visibility as well as improved program service.

These results conveyed the need for vital research to verify SLD student success via graduation. “Amid the changing postsecondary environment, students with disabilities frequently feel overwhelmed, resulting in low retention and graduation rates (Getzel, Stodden, & Briel, 2001; Wille-Gregory, Graham, & Hughes, 1995). “Further research is needed on the types of supports provided and their impact on the educational outcomes of students with disabilities, as well as on the various models of service delivery” (Getzel, McManus, & Briel, 2004, para. 2).

The numbers of SLD attending community college has increased over time, and “although the numbers of SLD students appearing on the college threshold are increasing, the available research on college students with learning disabilities is still limited” (Stage & Milne, 1996). From this study, emerging themes that may be useful to other SLD students and educators may evolve thus providing awareness of the needs and challenges this population faces as they matriculate the postsecondary process.

History of Special Education Law

Brown versus Board of Education

The legislative processes for SWD have evolved over the past three decades and parents and education advocates have found information has become prevalent on the internet. Understanding the history of special education will provide an awareness of how the services offered have changed. Legislative history began in 1954 with Brown verses the Board of Education (Brown vs. Board of Education, 1954). The intent of this lawsuit was to provide equal education for all students regardless of ethnicity. It also

served to provide the groundwork for equal educational opportunities among all students regardless of cognitive ability. *Brown vs. Board of Education of Topeka, Kansas* (1954) was not simply about children and education. The laws and policies struck down by this court decision were products of the human tendencies to prejudice, discriminate against, and stereotype other people by their ethnic, religious, physical, or cultural characteristics (Brown Foundation, 2004, n.p.). *Brown vs. Topeka Board of Education* set the premise for all equal rights.

Elementary and Secondary Education Act of 1965

In 1965, the Elementary and Secondary Education Act (ESEA) provided for the assumption that low-income homes produced children who needed additional educational resources. This law also established the groundwork to require that all states provide an education to all children who exhibit a disability (Erickson, 2000 in Beam, 2005). In addition, Congress created a Bureau of Education for the Handicapped (now referenced as the Office of Special Education (OSEP)). In 1973, Section 504 of the Rehabilitation Act (RA) was enacted into statute and affected the recipients of federal financial assistance such as local school districts and state education agencies (Philpot, 2010).

The rights of students with disabilities in postsecondary institutions in the United States are governed principally by the RA of 1973 (29 U.S.C. § 701 et seq.) and the ADA (42 U.S.C. § 12101 et seq.). Reasonable accommodations, including auxiliary aids and services, are required by the ADA and the RA of 1973 to be made available to students with learning disabilities who need these services in et seq. order to access the institution's courses, examinations and activities. (NCLLD, 1994)

Education of All Handicapped Children Act of 1975

Originating from ESEA was Public Law 94-142. This is known as the Education of All Handicapped Children Act (EHA). It was generated in 1975. The EHA afforded all children with disabilities a free appropriate public education (FAPE) in their least restrictive educational environment (LRE) designed to meet their unique needs. EHA introduced the concept of FAPE and LRE. Essentially FAPE applied to students age 3 to 21 and indicated that students with special needs should be educated in a manner specific to their special needs. FAPE should be offered to the student in the same environment to the maximum extent possible, with their non-disabled peers (EHA, 1975). EHA also included an educational framework for each student with special needs. This was the IEP. Every LEA was charged with the responsibility of providing these three components to every student with special needs. If the LEA did comply, the parent of a special needs child had the legal right to file a complaint. This law was renamed the Individuals with Disabilities Education Act (IDEA) in 1990 (Public Law number 101-476, 104 § 1142).

Americans with Disabilities Act of 1990

An important year for helping both the student with special needs and adults with exceptional needs was 1975. The Vocational Rehabilitation Act of 1975 was enacted and this law provided assistance to disabled veterans, and adults with special needs. Currently, this has segued into financial assistance for the children of veterans to attend college. To prevent discrimination of those with disabilities, another revision of EHA was passed in 1990— Public Law 101-336 or the Americans with Disabilities Act (ADA). It went into effect in 1992. It is a broad-scoped civil rights law that disallows intolerance founded on disability. The following areas are encompassed within the ADA law: employment, public transportation and state and local government services, public

accommodations, and telecommunications. “Public and private businesses, state and local government agencies and private entities offering public accommodations and services, transportation and utilities are required to comply with the law” (ADA, 1990, p.

1). The actual law reads:

No covered entity shall discriminate against a qualified individual with a disability because of the disability of such individual in regard to job application procedures, the hiring, advancement, or discharge of employees, employee compensation, job training, and other terms, conditions, and privileges of employment. (ADA, P. L.101-336, Section 102 (a))

Section 504 of the Rehabilitation Act of 1973 states that:

The Americans with Disabilities Act of 1990 (ADA) and not Section 504 of the Rehabilitation Act of 1973 requires public educational institutions with 50 or more employees to inform the public about the ADA and how the laws affect the institutions services and programs. Schools can comply with this requirement by preparing handbooks or manuals, posters, pamphlets, or information for broadcast. In disseminating the information, educators must comply with the ADA requirement that communications be offered in alternative formats such as large print or audiotapes. No otherwise qualified individual with a disability in the United States ... shall, solely by reason of ... disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

ADA prohibits discrimination on the basis of a disability by any organization that receives federal funds. Grant recipients must provide access and opportunities to qualified individuals with disabilities who wish to participate in their services, activities, or programs. This includes community colleges.

The Americans with Disabilities Act of 1990, much of which took effect on January 26, 1992, is both the most recent and the most inclusive law excluding inequity against individuals with disabilities. It extends many of the requirements of the Rehabilitation Act of 1973 to the private sector. It stipulates conditions for services for individuals with disabilities in terms of employment practices, programs, building accessibility, transportation, and telecommunications.

Individuals with Disabilities Education Act of 1990

Following this revision, Public Law 101-476 or IDEA was passed in 1990. Officially, this is the Education of the Handicapped Act Amendment. The central component of this law was to change terminology. Children with disabilities were no longer called handicapped children. They were to be referred to as children with disabilities. This amendment also included a focus on transition planning from high school to college. The revised IEP included a transition component for postsecondary goals. Transition services

means a coordinated set of activities for a child with a disability that: (a) is designed to be within a results-oriented process that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including postsecondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, and community participation; (b) is based on the individual child's needs, taking into account the child's strengths, preferences, and interests; and (c) includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives and, if appropriate,

acquisition of daily living skills and functional vocational evaluation. (IDEA, 1990)

After students turned 14 years of age their IEPs had to include this component.

Individuals with Disability Education Act Reauthorization of 1997

In 1997, the phrase “disabled children” was expanded to include developmentally delayed children between the ages of three to nine years old (IDEA, 1997). This reauthorization had major changes in the IEP including:

1. A new focus on the general curriculum.
2. The inclusion of benchmarks with objectives or in place of objectives.
3. An explanation of why the SWD was being displaced from the regular education environment.
4. Timely progress reports towards completion of IEP goals sent to parents.
5. The addition of a functional behavior assessment for students with behavior issues. (IDEA, 1997)

In 2004, IDEA was amended to Individuals With Disabilities Education Improvement Act (IDEIA) of 2004. IDEIA aligned with the No Child Left Behind Act (NCLB) of 2001 and served to bring focus to the subgroup of children with disabilities in public schools.

No Child Left Behind 2001/IDEIA Reauthorized 2004

In 2002, President George Bush signed the No Child Left Behind Act (NCLB) into law. This piece of legislation required that every school in the United States measure the annual progress of its students, “regardless of ethnicity, family background, or disability status” (PCESE, 2002, p. 1). These central themes became the driving force of the reauthorization of IDEA 2004. NCLB focused on the success of all children including SLD. The law funded a number of federal programs directed at advancing the

success of U.S. schools by increasing the standards of accountability for schools, school districts and states as well as offering parents added flexibility in selecting which schools their children will attend. In addition, it advocated an augmented concentration on reading and math. Title I (“Title One”) of the Federal Elementary and Secondary Education Act (now known as No Child Left Behind Act) is a set of programs set up by the United States Department of Education to allocate funding to schools and school districts with students from low-income families. Title 1, Part A monies allow schools to present opportunities, programs, and resources for disadvantaged students to assist them in achieving state academic achievement standards. The intent of NCLB is that all children will meet state academic achievement standards to reach their full potential through improved programs.

Increased opportunity to the regular education curriculum was a major component of NCLB. This exposed the SWD population to services beyond high school. NCLB required all states to develop standards in the areas of reading and math and these standards applied equally to SWD. NCLB generated requirements for assessments for all students which indicated SWD had to take regular grade-level assessments comparable to their regular education peers. In addition, schools had to achieve adequate yearly progress demonstrating acceptable academic growth for all subgroups of forty students. This included SWD and put the spotlight on insuring quality instruction for all students. The revision of IDEA and NCLB increased focus on access to the general curriculum for SLD.

The intent of the No Child Left Behind (NCLB) Act of 2001 [was] to hold schools accountable for ensuring that all their students achieve mastery in reading and math, with a particular focus on groups that have traditionally been left behind. Under NCLB, states submit accountability plans to the U.S. Department

of Education detailing the rules and policies to be used in tracking the adequate yearly progress (AYP) of schools toward these goals. (Fordham Institute, 2009, p. 1)

American Recovery and Reinvestment Act of 2009

Finally, on January 28, 2009, the American Recovery and Reinvestment Act (ARRA) awarded \$12.2 billion to provide funding to fully implement IDEA; however, there were no similar grants for the ADA that applied at postsecondary institutions. Section II and Section III of ADA, state that postsecondary institutions “are required by law to provide any reasonable accommodation that may be necessary for those persons with an identified disability to have equal access to the educational opportunities and services available to non-disabled peers” (Stodden, Jones & Chang, 2002).

Postsecondary students with disabilities are charged with the bulk of the responsibility for initiating, designing and ensuring their own educational accommodations (Battle, Dickens-Wright & Murphy, 1998; Gajar, 1998; Tucker, 1997). They must inform school officials of their disability, provide information of the disability, and offer practical alternatives for meeting the accommodation needs specific to their disability (Izzo & Lamb, 2002; Lamb, 2002; Stodden et al., 2002).

Student with Learning Disability Definition

There are several definitions or interpretations of what constitutes a learning disability. The general definition of SLD utilized in this study is

a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia (RA, 1973).

Ericson (2000) presented an exhaustive description of SLD that encompasses those disabilities that

adversely affect educational performance [and] are determined through a disorder in one or more of the basic phonological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. It includes perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and development aphasia. (R 340.1713)

The following definition is the most widely accepted definition of SLD and was approved by the members of the organizations that are represented on the National Joint Committee on Learning Disabilities (over 70,000 professionals). *Learning disabilities* is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, or serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences (National Joint Committee on Learning Disabilities, 1998).

The definition of SLD has not changed in over 40 years and Kavale, Spaulding, and Beam, (2009) suggest a better definition of SLD would be as follows:

[SLD] refers to heterogeneous clusters of disorders that significantly impede the normal progress of academic achievement in 2% - 3% of the school population. The lack of progress is exhibited in school performance that remains below expectation for chronological and mental ages, even when provided with high-quality instruction.... The specific learning disability is a discrete condition differentiated from generalized learning failure by average or above cognitive ability and a learning skill profile exhibiting significant scatter indicating areas of strength and weakness.

They indicate that the method to best define SLD is to redress the formal definition. Currently, the legal definition is the explanation that the researcher utilized for this research.

Student Demographics

Astin (1977) described information regarding student abilities and characteristics in the framework of demographics. The input-environment-output (IEO) model was introduced as a methodology for college impact studies. His model discussed utilizing pre-test scoring information to determine post-test performance. Astin looked at the relationship of GPA in student satisfaction and outcome while this study does not explore GPA. Also, Astin examined disability, demographic, and accommodation type to determine a relationship with graduation from college. Astin (1977) indicated that success of students is influenced by the amount and value of their interface with colleagues as well as with faculty and staff. This proposal does not use Astin's tool yet seeks very similar answers to questions regarding disability, sex, ethnicity, age, and type of accommodation received.

The research of Pingry (2007) utilized Astin's model to determine if demographics and accommodations predicted graduation and the research had several

interesting points. First the sample population in this study indicated greater numbers of SWD males inconsistent with current literature from the National Council for Education Statistics (NCES, 2010). It also found the average age of the SWD to be 26 although this study was performed at a four-year university versus a two-year community college. Pingry indicated that older students tend to graduate at a greater percentage than their younger peers. Pingry's study included cognitive, mental, and physical disabilities and compared the demographics and accommodations of all three types. She utilized the input-environment-output model prescribed by Astin and determined a connection between demographics and accommodations received by SWD and graduation. If this is the case, it should provide college leaders with the impetus to be involved in ensuring faculty are cognizant of proper accommodations and ensure they are utilized in the classrooms. This will focus on SWD success in a collegiate environment that is already a challenge. There are many factors that influence student academic success. Instructor knowledge of ADA requirements, accommodations and what if any specific demographic populations are at risk should be a focus of all educators.

Self-Advocacy

VanReusen and Bos (1994) refers to "self-advocacy as an individual's ability to effectively communicate, convey, negotiate, or assert his or her own interests, desires, needs, and rights. It involves making informed decisions and taking responsibility for those decisions" (p. 466). West, Corbey, Boyer-Stephens, Jones, Miller, and Sarkees-Wircenski (1999) indicated self-knowledge was the first step in self-advocacy skills. They also stated that it was not a new concept for educators and students but it was not well developed. There is not a prescriptive set of directions on how to teach students to effectively advocate for themselves. Research on an intervention type to promote self-determination by Algozzine, Browder, Karvonen, Test, and Wood (2001) consisted of a

literature review on interventions to promote self-determination for individuals with disabilities. It included a meta-analysis of twenty-two studies to scrutinize the effects of such interventions. Although all elements of self-determination were considered in this research, it concentrated on teaching decision-making skills to individuals with moderate and severe mental retardation or self-advocacy to individuals with learning disabilities or mild mental retardation. The focus of the research was self-determination and interventions versus accommodations and disability.

The North Carolina University of Charlotte conducted a Self-Determination (SD) Synthesis Project in 2001. The focus of the project was to blend, authenticate and share the professional knowledge based on children and youth with disabilities and their ability and skills to practice self-advocacy. Wendy M. Wood and David W. Test were project co-directors and they defined “self-determination [as] taking control of one’s life [in order to provide] full and complete special education services.” The concluding theme of their study was that “while much has been written about the subject, very little of the literature describes the efficacy of self-determination interventions” (p. 2). There is little research on how to help students make this step nor is there significant information regarding diversity across disability groups and potential implications.

Section 2 and 3 of the ADA indicate that postsecondary schools “are required by law to provide any reasonable accommodation that may be necessary for those persons with an identified disability to have equal access to the educational opportunities and services available to non-disabled peers” (Stodden, Jones & Chang, 2002, p.24). Self-identification is the student’s duty. He/she must notify school representatives of the disability, give certification of the disability and recommend viable alternatives for meeting the unique adaptations specific to their disability (Izzo

& Lamb, 2002; Lamb, 2002; Stodden et al., 2002). This means that for students with disabilities, in order to become part of, take part in and perform successfully in postsecondary education they must be personally skilled and responsible for acquiring and linking any accommodations they may require in their course of study (Stodden, 2000). Therefore, self-advocacy is an important skill for SLD to acquire before attempting postsecondary education (Battle et al., 1998; Benz, Doren, & Yovanoff, 1998; Izzo & Lamb, 2002; Rusch & Chadsey, 1998; Skinner, 1998; Stodden et al., 2002; Wehmeyer & Schawartz, 1998).

Accommodations

Perhaps the most difficult part for college instructors is modifying classroom practices or procedures for SWD. NCLB at the high school level shifted focus directly to SWD and required revision of IEP components (NCLB, 2001). One of the new features included in the IEP was a transition component that encompassed life after high school. The high school IEP team and the SWD must discuss future options and one of those options is college. A part of this transition component is self-advocacy at the postsecondary level. This training is supposed to take place for students prior to their graduation from high school because in order for the student to receive services, he/she must advocate for self at the postsecondary level as part of ADA requirements.

Unfortunately there is little funding to provide training to college instructors on this requirement and they are ill equipped in the methodology of accommodations. The complexity is in the need to foresee what the student needs and be organized in advance. The tangible modifications themselves are hardly ever substantive or costly.

Some examples are rescheduling classes to an accessible location; early enrollment options for students with disabilities to allow time to arrange accommodations; substitution of specific courses required for completion of degree requirements; allowing service animals in the classroom; providing students with disabilities with a syllabus prior to the beginning of class; clearly communicating course requirements, assignments, due dates, grading criteria both orally and in written form; providing written outlines or summaries of class lectures, or integrating this information into comments at the beginning and end of class; and allowing students to use note takers or tape record lectures. Modifications will always vary based on the individual student's needs. Modifications of policies and practices are not required when it would fundamentally alter the nature of the service, program, or activity.

(Heath Resource Center, 2011, para. 4)

Regardless, the 2004 legislation and NCLB focused on access to the general curriculum and this access may be found at the community college with trade skills, job skills, or continued education. Heiman and Precel (2003)

compared 191 college students with learning disabilities (LD) and 190 students without LD in four main areas: academic difficulties, learning strategies, functioning during examinations, and students' perception of factors that help or impede their academic success. Analysis of the personal data of students with and without LD revealed no significant differences between groups on grade point average, number of courses taken, and family

status, but students with LD reported having more difficulties in humanities, social sciences, and foreign language than students without LD. (n.p.)

However, the SLD group preferred oral or visual explanations and the students without a learning disability preferred written examples. Finn studied 33 college students with learning disabilities from five Midwest colleges and universities. The five most beneficial learning disability support services and accommodations, included support groups and tutors. Also important were note takers, books on tape and having papers proofread. Other results from the study emphasized the importance of self-esteem training for students with SLD, publicity and student awareness of LD services. (Finn, 1997, p. 9). Results from Lancaster, S., Mellard, D. & Hoffman, L. (2001) supported these findings. They administered questionnaires to 61 SLD and found the most frequent accommodations and services mentioned were note takers, extended testing time, quiet testing rooms and tutors.

Johnson et al. (2008) indicated an increasing number of students with learning disabilities are attending college. The numbers of persons with disabilities enrolling in postsecondary institutions has continued to increase since the 1970s but have this group of students been successful in the college environment? A national survey of college freshmen at public and private institutions of higher learning found that 9% of all college freshmen reported having a disability in 1999-2000 compared to 2.7% of freshmen who reported a disability in 1978 (NCES, 2003). Horn and Berkold (1999) investigated questions that encompassed representation of SLD in postsecondary education. These questions included which high school SLD are admitted into college. Do SLD graduate. What are the early labor outcomes for this group of

students. Their discussion indicates employment rates and salaries of postsecondary education and SLD are comparable to those of college graduates without disabilities. Stodden and Conway (2003) propose postsecondary educational services, supports, and programs available to students with disabilities:

1. vary extensively across states as well as from campus to campus;
2. are generally not well developed or linked programmatically to instruction; and
3. tend to lean toward advocacy, informational services, or remediation of content rather than support in the compensation areas necessary for independent learning and self-reliance (Gajar, 1998; Izzo & Lamb, 2002; National Center for the Study of Postsecondary Educational Supports, 2000; Stodden et al., 2001).

Kurth and Mellard (2006) focused on ineffective and inappropriate accommodations resulting from an accommodation selection process that focuses on disability type rather than students' contextual and functional needs. This research on the perceptions of the accommodation process of disabled students in postsecondary education found that the accommodations provided may meet the requirements of the law but do not always provide an inclusive environment thus contributing to the isolation of SLD. Another issue is

sometimes individual instructors are not familiar with the requirements of ADA or Section 504 or the purpose of accommodating students with disabilities. It is not unusual to encounter instructors who feel classroom or testing accommodations give students with disabilities an unfair advantage

over other students. It is a school's responsibility, however, to educate its faculty about the purpose of accommodations and the legal obligations, and to assist them with the logistics of providing accommodations. Many postsecondary schools have an Office of Services for Students with Disabilities that serves as a liaison between students and faculty, and can advocate for reasonable accommodations. (Heath Resource Center, 2011, para. 2)

Stodden et al. (2001) indicated that most of the nation's 3000 postsecondary institutions do provide education supports and services for students with disability; however, they vary in quality. As mentioned earlier, there is lack of funding to provide consistent training on accommodations for this high-risk population. Vogel et al (1999) in Skinner's (2007) study found

although expressing a high degree of willingness to provide exam and instructional accommodations as a group...a variety of factors influenced faculty willingness to provide accommodations to students with learning disabilities. These included age, discipline, teaching experience, highest degree earned and rank. Results from this study also indicated a positive association between faculty training on learning disability issues and willingness to provide accommodations. (p. 33)

SLD Graduation Rates

Several studies explored the relationship of length of enrollment in college to graduation from two-year colleges. Jorgensen, Fichten, Havel, Lamb, James, and Barile (2005) participated in a twelve-year longitudinal study that indicated students

with and without learning disabilities had similar grades and graduation rates. The data indicated SWD took approximately a semester longer to graduate. The findings of Vogel and Adelman (1990) revealed SLD academic performance was inferior to their non-SLD peers, but they graduated at the same rate within the same time frame.

A group of 110 SLD college students were compared to a random stratified sample of 153 peers attending the same moderately selective college between 1980 and 1988. The SLD students received comprehensive, highly coordinated support services for at least one semester. The groups were matched on gender, college experience, semester, and year of entry to the college. Although the LD students' high school records, ACT scores, and college performance were inferior to that of the RSS group, they graduated at the same rate and within the same time frame. Neither was there any significant difference in the academic failure rate. Closer examination of the LD graduates and academic failures' performance showed that in spite of the similarities in intellectual abilities, academic achievement, and aptitude-achievement discrepancy, two factors differentiated between the LD graduates and non-graduates: oral language abilities and motivation and attitude toward the teaching- learning process. These two factors accounted for 60 percent of the variance in graduation status. (Vogel & Adelman, 1990, p. 134)

Similarly, "the academic outcomes of students with ($n = 653$) and without disabilities ($n = 41,357$) were compared over a 12-year period at a large Quebec College. Results showed that students with and without disabilities, including learning disabilities, had virtually identical grades and graduation outcomes" (Jorgensen, S., Fichten, C.,

Havel, A., Lamb, D., James, C., and Barile, M., 2005, p. 115). Based on these results, they concluded high school counselors should promote higher education to SWD. Along this vein, Wessel, Jones, Markel, and Westfall (2009) presented data on annual retention and graduation rates of SWD who attended colleges or universities. They included examples of interventions for disability services offered to facilitate student success among SWD. These interventions included such strategies as extended testing time, modified assignments, and note taking services. These interventions were taken from student records and not from interviews. They found the mean number of years required to graduate were similar for all students. The data and the data collection method are relevant to this research; however, there was no interaction with the students to determine why they chose to advocate for identification as SLD. Notwithstanding increased enrollment, DaPeppo, L. (2009) pointed out “outcomes such as grade point average, persistence, and graduation rates for college students with learning disabilities continue to lag behind those of their nondisabled peers (p. 122).

Johnson et al. (2008) reviewed junior college experience, and students with learning disabilities, and implications for success at the four-year university. This study is an example of ex-post-facto research designed to answer the question, “Does the student with a learning disability who attends a community college have greater success than the student without the junior college experience when attending a four-year institution?” They measured success by indicator rates of graduation and GPA, and found that students who attended a community college demonstrated higher graduation rates at four-year institutions. Implications from their research are directly

related to this proposal in effectively covering topics included on SWD and graduation rates. What it did not address was any form of qualitative research such as interviews or observations; however, it was current material and described factors that contributed to success at two-year community colleges.

Greenbaum, B., Graham, S., William, S. (1995) interviewed forty-nine adults with learning disabilities about their college experience.

Approximately 90% of the participants graduated from college in approximately 5.5 years. In addition, students typically attended more than one college or university and pursued a variety of majors. Obtaining a college education represents an important accomplishment for students with learning disabilities (LD), particularly in terms of their ultimate success in the workplace. (Greenbaum, Graham, & William, 1995)

In a study by Bursuck, Rose, Cowen, and Yahaya (1989), the average graduation rate for SLD was only 30%; the national average was 50%. Vogel and Adelman (1990) reported a slightly increased graduation percentage (37%) for 110 students with SLD attending a tiny Midwestern college (Barat College) that provided quality support services and special academic advisors. They compared a randomly selected group of students attending the same college, and the two groups graduated at the same rate, in approximately the same amount of time. In addition, the academic failure rates of the two groups of students were comparable. In a follow-up study (Vogel & Adelman, 1992), pointed out students with SLD had higher grades, a lower academic failure rate, and took fewer courses each semester, the two groups had a similar graduation rate. Even though students with SLD took almost a year longer to graduate

than the matched sample, this difference was not large enough to be statistically significant (Greenbaum, Graham, & William, 1995). Selig (1987) determined once a student has been appraised and is prepared to put forth the energy and time to help himself/herself; it is then the function of the support services program to provide direct services to meet the needs of the SLD student.

The key components to a successful program include:

1. Establishing an open and honest advocacy relationship between the service provider and the student.
2. Focusing on specific instructional practices that further acquisition and generalization.
3. Ensuring that all pre-requisite skills have been mastered before proceeding with new material.
4. Providing sufficient practice and review of new concepts, principles, and information.
5. Designing and practicing appropriate learning strategies.
6. Designing and practicing appropriate learning strategies.
7. Encouraging participation in counseling sessions to deal with social/emotional concerns. (Selig, 1987, p. 9)

In the fall of 2004, Knapp, Kelly-Reid, Whitmore, Miller, National Center for Education Statistics (ED), W. C., & Research Triangle Institute, D. C. (2006) reported “13 million students enrolled in public institutions, 3 million were enrolled in private not-for-profit institutions, and 1 million students were enrolled in private for-profit institutions” (p.3). In this report the overall graduation rates at 4-year

institutions were somewhat higher than at 2-year institutions (55 percent and 33 percent respectively); however, graduation rates were highest at less-than-2-year institutions (66 percent) (p. 10). [Also] considering graduation rates by racial/ethnic group for 4-year and 2-year institutions, Asian/Pacific Islanders had the highest graduation rates, 65 percent at 4-year Institutions and 36 percent at 2-year institutions. American Indians/Alaska Natives had the lowest graduation rate (37 percent) at 4-year institutions, whereas Black, non-Hispanics had the lowest graduation rate (27 percent) at 2-year institutions (p. 13).

Knapp, et al. (2005) follow up report indicated “graduation rates data were collected on a cohort of first-time, full- time degree/certificate seeking undergraduates who were enrolled at 4- year institutions as of October 15, 1997...or who were enrolled during the period of September 1, 1997 and August 31, 1998” (p. 12). Taken as a whole graduation rates at 4-year institutions (54.3 percent) were higher than at less-than-4-year institutions (42 percent). The goal of the report by Bailey, Calcagno, Jenkins, Kienzl, Leinbach, & Columbia Univ., N. E. (2005) was “to measure the institutional characteristics that affect the success of community college students, particularly low-income and minority students. While there is a growing literature on this topic for baccalaureate institutions, few researchers have attempted to address the issue for community colleges” (p. 1). Education, gender, ethnicity, and patterns of enrollment were reviewed for how they have impacted student outcomes, and

the most consistent finding across all these analyses is that institution size and the proportion of minority students (Black, Hispanic, and Native American)

are both associated with lower graduation rates. Students complete at higher rates in smaller colleges, perhaps because such institutions can provide a more personalized environment. (p.33)

Summary of Research

Three federal statutes safeguard against discrimination to students with disabilities. The Individuals with Disabilities Education Act mandates and provides funding for certain special education services. Section 504 and the ADA are civil rights statutes that offer protection from discrimination and accommodations to individuals with disabilities. Over the course of time, the legal rights of SWD have been addressed in a continuum of legislation from *Brown v Board of Education of Topeka, Kansas* to Public Law 94-142 in 1975 to NCLB. No longer can SWD be ignored or banished to separate classrooms. IDEA forced public schools to address the education of students with special needs. This included compulsory attendance, equal access to education and, most recently, improvement in academic results for SWD. The review of the literature indicates the number of SLD students attending postsecondary institutions has increased over the last three decades due to federal support through ADA accessibility laws, disability advocacy groups, and high school transition plans required by IDEA as well the implementation of NCLB. This study will attempt to determine how well the community colleges in North Carolina have served this group of students in terms of graduation compared to their non-disabled peers.

The definition of SLD includes processes involved in understanding or in using language, spoken or written. This definition has remained steady and is still

applied today. At the postsecondary level students must self-determine before receiving services. According to the Office of Civil Rights:

A postsecondary student with a disability who is in need of auxiliary aids is obligated to provide notice of the nature of the disabling condition to the college and to assist it in identifying appropriate and effective auxiliary aids. [In] postsecondary schools, the students themselves must identify the need for an auxiliary aid and give adequate notice to the representative of the college who depending on the nature and scope of the request could be the school's Section 504 coordinator, an appropriate dean, etc. Unlike elementary or secondary schools, colleges may ask the student, in response to a request for auxiliary aids, to provide supporting diagnostic test results and professional prescriptions for auxiliary aids. (RA, 1973, n.p.)

Research indicates there are more male SWD than females and the average age of the SWD attending college is 26. Pingry states older students graduate at a greater percentage than their younger peers. She also found a connection between demographics, accommodations, and graduation of all disability types. The implementation of NCLB generated a revision in the IEP transition component which may be related to the increased numbers of SWD attending college. However, there is little literature on the relevancy of self-determination interventions once SWD reach college. Due to the amplified numbers of SLD attending two-year community colleges, this population increase has required postsecondary institutions to consider the supports that are currently in place for this group of students. Significantly, the students must advocate for identification in order to receive assistance and the

accommodations for SLD range from state to state, campus to campus. Also, there is negligible information regarding diversity across disability groups. There is little similarity in what states require colleges to do for SWD students and accommodation type and quality vary depending on campus location. There is little focus on independent learning and self-reliance; instead the focus of ADA compliance is a provision of accommodations. Research indicates the methods of collecting data to determine if SLD success includes graduation rates, GPA, accommodations offered and the process of self-determination. Currently, in North Carolina, there is no statewide systemic collection of demographic data from two-year community colleges. Further study is needed to comprehend the degree to which accommodations offered by disability offices influence SLD graduation rates and if there is any impact upon specific demographic groups. The differences between high school and university disability services include applicable laws, required documentation, identification of disability, parental role, instruction, grading, transportation, and conduct. The most important difference is IDEA is about success and is mandatory and free whereas, ADA is about access and at the postsecondary level is voluntary and the student is responsible for the cost.

Stern (2002) presented information to assist students with learning disabilities (LD), counselors, and employers in building a bridge between community college and employment. “It argues that students must learn to articulate how their LD affects them in a variety of situations, especially those requiring learning and performing work related tasks” (p. 3). Information is then provided on:

1. what students with LD need to know about themselves;

2. questions that can aid teachers, counselors, and parents in identifying the functional impact of a learning disability;
3. a three-step process for determining the need for and type of accommodations a student may require in the type of work he or she is interested in seeking;
4. the importance of disability laws and requirements under the Americans with Disabilities Act; ...
5. tips for employers;
6. types of questions students should ask in preparing for a job interview;
7. questions students should ask in identifying barriers and accommodations early in employment situations;
8. deciding whether to disclose a disability;
9. interview tips for students with LD;
10. legal and illegal interview questions;
11. fact-finding questions students should ask of the employer during a job interview;
12. job retention for students with LD

There is much work to be done on the part of all stakeholders involved in the process of educating SLD who attend college in order to contribute to the success of this population of students. High schools operate under IDEA with a required IEP for the student and the school provides evaluation at regular prescribed intervals at no cost to the student. The student is identified by the school and is supported by parents and teachers. Also, the school shoulders primary responsibility for arranging

accommodations. The student's parent has access to student records, advocates for the student and can participate in the accommodation process. Furthermore, teachers in high school may modify the curriculum and accept disruptive conduct from SWD. At the postsecondary level the applicable law is ADA and Section 504, Rehabilitation Act of 1973. The required documentation depends on the disability, and the student must provide current documentation from a licensed professional at his/her own expense. Additionally, students must self identify to the office of disability services and the parent does not have access to student records without student's written consent. In terms of instruction, professors are not required to modify curriculum design and grades reflect the quality of the work submitted. In summing up the differences between high school and college, IDEA is about success. It is mandatory and it is free. ADA is about access and at the postsecondary level is voluntary.

Chapter Three: Research Design and Methodology

Introduction

Many students graduate from high school and look forward to the next phase of life. Regardless if a student has a learning disability or not, the access provided should be comparable to their non-disabled peers. Students with disabilities (SWD) do not attend college at the same rate as students without disabilities. In order to assess SLD graduation rates from a two-year community college, this research will rely on data included from the records of SLD at four community colleges in North Carolina.

The first two-year community college studied in the research is located in an urban area of North Carolina. The college is located in a county with a total population of 790,007 people (Census, 2000) and the college student population during the three years of study ranged from 17,000 curriculum students to 21,000 students. Its SLD population was less than 3 % of the curriculum students during the three years of the study (NCES, 2010). The second two-year community college in the study is also located in an urban area of North Carolina. The college is located in a county with a total population of 150,000 people (Census, 2000) and the student population during the three years of the study ranged from 4500 curriculum students to 4700 students. Its SLD population was less than 3 % of the curriculum students during the three years of the study (NCES, 2010). The third community college that participated in the study is located in an urban county with a total population of 150,000 people (Census, 2000) and the student population during the three years of the study ranged from 8700 curriculum students to 10,000 students. Its SLD

population was less than 3 % of the curriculum students during the three years of the study (NCES, 2010). The fourth school that participated in the study was located in a rural county with a total population of 45,000 people (Census, 2000) and the student population during the three years of the study ranged from 1500 curriculum students to 1800 students. Its SLD population was less than 3 % of the curriculum students during the three years of the study (NCES, 2010).

The information to be collected includes demographic data, the number of SLD, accommodations and graduation status of SLD from community college. The results will be organized in a ranked scaffold to generate a representation that incorporates the set of student features and disability accommodations that best estimate graduation among students who accept assistance from the disability division of the community college. This study will explore the potential for correlated factors that assist graduation rates for college SLD. The purpose of this study is to establish demographic traits and accommodations of students receiving disability assistance at a public, two-year community college to ascertain if a specific set of student characteristics predict student graduation for SLD and determine the graduation rate of students registered at the disability office of a public, two-year community college.

Review of Research Questions and Null Hypotheses

Due to changes in the special education law and the implementation of special education at the public school level, more SLD are attending college. The objective of this study was to determine if the numbers of SLD who attend two-year community colleges are graduating at the same rates as their non-disabled peers.

The subsequent research questions directed this study:

1. What set of demographics (i.e., gender, ethnicity, and age) of SLD receiving disability assistance provided by public, community colleges predict student graduation?
2. What set of accommodations or disability-related services provided by public, community colleges predict student graduation? Accommodations include adjustments made in course materials or instructional methodology which do not change the essential nature or academic and technical standards of the course. If a SLD student receives a specific accommodation or service does this accommodation impact graduation of this population?
3. What is the graduation rate of SLD registered with the disability offices at community colleges? What is the graduation rate of their non-disabled peers over the equivalent time frame?

The following null hypotheses were developed with respect to the key variables under study:

Null Hypothesis 1: There is no statistical relationship between the gender, ethnicity, and age (demographics) of Students with Learning Disabilities and the graduation rates of this population from a public, two-year community college. Demographics of the SLD population do not affect their graduation rates.

Null Hypothesis 2: There is no statistical relationship between the types of accommodations and disability related services offered to Students with Learning Disabilities attending a community college and their graduation rates. If a SLD

student receives accommodations or disability related services their graduation rates are not affected.

Null Hypothesis 3: There is no statistical relationship between the mean graduation rate of Students with Learning Disabilities registered with disability offices at community colleges and the mean graduation rate of their non-disabled peers over the equivalent time frame.

Theoretical Construct

The theoretical concept for this analysis began with Stodden and Conway's work *Supporting Individuals with Disabilities in Postsecondary Education* (2003). They divided their paper into two components. The first factor was a review of the most current information regarding SWD attending college and the second factor was a personal perspective from author Megan A. Conway. At the time she was a deaf-blind doctoral student and she supplied a personal perspective to the challenges faced by SWD. The major issues identified were:

1. The nature of postsecondary educational support provision.
2. Aligning type/level of disability with type/intensity of support provision.
3. The role of technology as a support in postsecondary education.
4. The role of vocational rehabilitation as a support in postsecondary education.

The first two issues were of interest to this research. The authors revisited Gajar's (1998) and Stodden et al. (2002) point that IDEA and ADA are considerably different for the student and thus the role the student plays from high school to

college is significantly different. The services provided to SWD are different across the spectrum and are normally not connected to curriculum. The accommodations have a propensity to slant toward support, and informational assistance instead of help that focuses on skills for autonomous learning and independence. (Gajar, 1998; Izzo & Lamb, 2002; Lamb, 2002; National Center for the Study of Postsecondary Educational Supports, 2000; Stodden et al., 2001 in Stodden & Conway, 2003).

The researcher wanted to develop a study that incorporated SLD, self-determination, accommodations, demographics, and graduation rates. While there are studies that include pieces of each of these categories, there are few studies that include them all. Battle et al., 1998; Benz, Doren & Yovanoff, 1998; Izzo & Lamb, 2002; Lamb, 2002; Rusch & Chadsey, 1998; Stodden et al., 2002; Skinner, 1998; and Wehmeyer & Schawartz (1998) have researched self identification and the role of the student while Johnson, Zascavag, and Gerber, (2008) reviewed the function of GPA. Astin (1977) described information regarding student abilities and characteristics in the framework of demographics and Jorgensen et al. (2005) participated in a twelve-year longitudinal study that indicated students with and without learning disabilities had similar grades and graduation rates but there have not been many studies that combined all of these.

Pingry (2007) conducted a study on predictors for graduation of SWD at four-year colleges with differences in the areas of disability type and instrument. Pingry's work was the most similar to the research components in this investigation. Pingry's research utilized Astin's tool for measuring the impact of the environment on the SWD and their subsequent performance in college. Pingry found there are

connections between disability type, accommodation received, and graduation. It is the researcher's intent to narrow the disability type from several to one, and explore the connections between demographics, accommodations, and graduation. One major focus of the research is to determine if any of the variables are related to one another and therefore have a potential impact on the student's graduation success.

Research Design

This design of this study is a combination of correlation and comparative designs. This research attempts to identify a relationship between disability type, accommodation used, demographics, and graduation. The study seeks to identify associations among variables that already exist among the SLD population. The intent is to compare varying factors to determine if there is a connecting feature. The researcher cannot randomly assign subjects to different conditions; therefore, ex-post-facto research will be employed. The study will examine records of community college students who received disability services ex-post-facto via information contained in the records of said students receiving accommodations through the disability division of the community college. The review of records will span three years of educational records. All files of SLD who attended the college for the years 2006-2007, 2007-2008, and 2008-2009 will be reviewed. The researcher will review each file and record the specific information on the disability record form (see Appendix A) in the presence of either the special population's coordinator or a college teaching assistant at the community college. No records will be duplicated.

Description of Participants and Setting

School 1

The first two-year community college studied in the research is located in an urban area of North Carolina. The college is located in a county with a total population of 790,007 people (Census, 2000) and the college student population during the three years of study ranged from 17,000 students to 21,000 students. The total SLD population for all three years was less than 3% of the college population.

School 2

The second two-year community college in the study is located in an urban area of North Carolina. The college is located in a county with a total population of 150,000 people (Census, 2000) and the student population during the three years of the study ranged from 4500 students to 4700 students. The total SLD population for all three years was less than 3% of the college population.

School 3

The third community college that participated in the study is located in an urban county with a total population of 150,000 people (Census, 2000) and the student population during the three years of the study ranged from 8700 students to 10,000 students. The total SLD population for all three years was less than 3% of the college population.

School 4

The fourth school that participated in the study was located in a rural county with a total population of 45,000 people (Census, 2000) and the student population during the three years of the study ranged from 1500 students to 1800

students. The total SLD population for all three years was less than 3% of the college population.

The study will examine the records of students from four community colleges. These students received disability services. An ex-post-facto method of information contained in the records of the SLD students who receive accommodations through the disability division of the community college will be gathered. The record review will encompass three years of educational records. The files of SLD who attended the college for the years 2006-2007, 2007-2008, and 2008-2009 will be reviewed. No records will be duplicated.

There will be no students recruited for this study. A non-probability purposive sample of inactive student files will be reviewed. Records of students who are no longer attending the community college will be reviewed for three school years ex post facto i.e., (2006-2007, 2007-2008, and 2008-2009). There will be complete anonymity of students and the college's Institutional Review Board (IRB) will be contacted to waive consent of the students whose files will be reviewed. After consent is received from the IRB at each community college, the researcher will contact the special population coordinators at each institution to schedule a time for record review. The special population's coordinator will be asked to provide a list of SLD who have graduated during the three indicated years. The researcher will travel to the college and in the presence of either the special population's coordinator or a college teaching assistant, will review each record.

The researcher will record this data on the disability review record form in the presence of either the special population's coordinator or a college teaching assistant

at the community college. This form is a checklist that was modified from Pingry's (2007) questionnaire. For each school year, each student will be assigned a number to ensure confidentiality and information including gender, disability type, ethnicity, year of attendance, year the file became inactive, graduation date, and disability accommodations will be recorded. Accommodations on the form will include extended testing time, modified tests or assignments, closed captioning, descriptive video, telecommunications relay system, classroom assistant, interpreting services, study skills assistance, note taking service, and support groups.

Instrumentation

The study will examine the records of SLD students at one of four community colleges in North Carolina who received disability services (i.e., accommodations) through the disability division of that prospective two-year community college. The Student Development Services of the NC Community College System approved the collection of this data (see Appendix C). The community colleges involved waived consent due to the anonymity involved in the research. The instrument to be used is a disability record review form developed by the researcher. It was not validated because it is not a survey. It is merely a form on which to record previously collected data (see Appendix A). Various student demographic data, graduation status, and accommodations received will be recorded on the disability review form. The demographic data will include primary disability, ethnicity, student status (first year, etc.), gender, support services received and age. This data will be the independent variable. The accommodation used to predict academic success may include one or more of the following: extended testing time, modified tests or assignments, closed

captioning, descriptive video, telecommunications relay system, classroom assistant, interpreting services, study skills assistance, note taking service, physical therapy, and support groups. Graduation will be the measured dependent variable.

Sampling Procedures

The community college's IRB will be contacted and a waiver for consent of anonymity will be requested. The director of the special population's program will be contacted via telephone for consent of participation. The researcher will travel to each participating community college and will analyze each file and record the demographic data, disability accommodations, and graduation status. This process will be performed in the presence of either the special population's coordinator or a college teaching assistant. Files of students receiving disability services will be reviewed for the past three school years (2006-2007, 2007-2008, and 2008-2009). Each file will be numbered for anonymity purposes. No names will be recorded on the disability review record form.

Data Analysis Procedures

Student demographic data will be recorded as well as the accommodation the student receives. Graduation or lack of graduation will also be included for each student. The student demographics are the independent variables. The type of accommodation will be recorded as "received or not." Graduation will be formed as "yes" or "no." All data will be transferred into the Statistical Package for the Social Sciences (SPSS) Edition 18. All records will be recorded in one large Excel file and entered into SPSS. Utilizing model statistics, the results will be analyzed and organized in a ranked scaffold to generate a representation that incorporates the set of

student features and disability accommodations that best estimate graduation among students who accept assistance from the disability division of the community college. In order to establish if a set of characteristics predict graduation for SLD, a hierarchical logistic regression analysis will be used with student characteristics, and disability services. An independent-samples t-test was used to compare the mean scores of the graduation rates of SLD in the four community colleges and the graduation rates of their regular education peers over a similar time frame. In both cases, the researcher was comparing the values on the continuous variable of graduation for two different groups.

Multiple regression can ascertain that a set of independent variables describes a ratio of the difference in a dependent variable at a considerable point (through a significance test of R square), and can confirm the comparative predictive importance of the independent variables (by comparing beta weights). One can see how most variance in the dependent can be explained by one or a set of new independent variables, over and above that explained by an earlier set using hierarchical regression. The estimates (b coefficients and constant) can be used to create a prediction equation and formulate predicted scores on a variable for additional examination. Multiple regression is a flexible method of data analysis that may be appropriate whenever a quantitative variable (the dependent or criterion variable) is to be examined in relationship to any other factors (expressed as independent or predictor variables). Relationships may be nonlinear, independent variables may be quantitative or qualitative, and one can examine the effects of a single variable or

multiple variables with or without the effects of other variables taken into account (Cohen, Cohen, West, & Aiken, 2003).

To determine the combination of independent variables that will indicate which specific accommodations impact graduation, logistic regression will be used. A regression equation will be produced (from individual student characteristics and disability accommodations) to predict the probability that an individual will fall into a specific category (Mertler & Vennatta, 2005). The characteristics that will be studied include ethnicity, sex, age, accommodations, and graduation rate. Two factors will be input in the regression which includes individual student characteristics and accommodations. The outcomes will be explored to establish the group of student characteristics and student disability services that project graduation for SLD receiving postsecondary disability services.

Logistic regression will allow for independent variables that predict membership in a group and the regression equation will predict probability if an individual will fall into a category of “graduate” or “not.” A regression equation will be produced from individual student characteristics and disability accommodations to predict the probability that an individual will fall into a category of ethnicity, sex, accommodation type, and graduation. Logistic regression will also allow the use of categorical or continuous independent variables and requires use of a binary categorical dependent variable. The value predicted is a probability. The continuation variable will be graduation from a two-year community college and the two or more continuous variables will be sex, ethnicity, age, and accommodations. For this study, two sets of predicting factors will be entered into the regression in a

hierarchical manner to determine if the student graduated or not. “Multiple regression tells you how much of the variance in your dependent variable can be explained by your independent variables. It also gives you an indication of the relative contribution of each independent variable” (Pallant, 2005, p. 145). For the analysis of all complete records, variables will be entered, and the following statistics determined: -2 log-likelihood, correlations between variables, coefficient (B), standard error of B, estimated odds ratio $\exp(B)$, and confidence interval for exponent (B). R-Square, also known as the Coefficient of Determination is a commonly used statistic to evaluate model fit. In multiple regressions, R can assume values between 0 and 1. To interpret the direction of the relationship between variables, the researcher will look at the signs (plus or minus) of the regression or B coefficients. If a B coefficient is positive, then the connection of this variable with the dependent variable is positive; if the B coefficient is negative then the relationship is negative. Of course, if the B coefficient is equal to 0 then there is no relationship between the variables. “If the Significant value is less than 0.05 then the variable is making a significant contribution to the prediction of the dependent variable. If greater than 0.05, then one can conclude that the variable is not making a significant unique contribution to the prediction of [the] dependent variable” (Pallant, 2005, 154).

The dependent variable— graduation— will be dichotomous and age, gender, and ethnicity will be categorical. The key intangible restriction of all regression techniques is that relationships are ascertained, but the researcher may never be sure about underlying causal mechanism. Astin’s (1977) work explored information about

demographics and student success rate. Although he included the environmental impact and this research does not, he examined disability, demographic and accommodation type to determine a relationship with graduation from college which is the intent of this study. This study will research SLD sex, ethnicity, age, and type of accommodation received and graduation rate.

Ethical Considerations

NCLB accentuated that children with disabilities be included in and progress in the general curriculum and be held to high achievement standards. As a result, more students in high school are accessing the general curriculum and transitioning to college. This study on graduation of SLD from two-year public community college focused on several factors including sex, ethnicity, age, accommodations, self identification and graduation rates. To be included in the study the student had to be eligible for SLD categorization, therefore, a wide range of disabilities was not included. However, the purpose of these limitations was to keep the variables as constant as possible. An ethical consideration is to determine if the graduation rates of students with other disabilities are more negatively impacted by demographics or accommodations.

The ethical deliberations for this review were restricted. The investigator kept the privacy prerequisites of each two-year community college, as well as, the conditions and practices of Liberty University and the Institutional Review Board. The two-year community colleges that contributed remained unidentified as contributors of the study. The researcher performed all research with the maximum ethical care.

Summary of Methodology

In conclusion, this study utilizes ex-post-facto data and the data will be analyzed in a logistic regression analysis. The data will include student disabilities, accommodations, other demographic information such as ethnicity, sex, age, and graduation of the SLD at the four participating community colleges. The instrument is a data collection form. The research questions will be answered when the data is examined and arranged in a ranked scaffold to produce an illustration that includes the set of student features and disability accommodations that best assess graduation among students who accept assistance from the disability division of the community college. A hierarchical logistic regression analysis with student characteristics and disability services will be compared in order to establish if a set of characteristics predict graduation for an SLD and a logistic regression equation will be used to determine the combination of independent variables that will indicate which specific accommodations impact graduation. The regression equation will be produced (from individual student characteristics and disability accommodations) to predict the probability that an individual will fall into a specific category. An independent-samples t-test was utilized to compare the means of the graduation variable for SLD and their non-disabled peers over the same time frame. In Chapter four, an examination of the data will be used to answer the three research questions and the analyses of all the data collected in congruence with corresponding descriptions are presented.

Chapter Four: Results

Introduction

This dissertation begins with discussion which establishes the need to determine the set of student demographics and accommodations that predict graduation rates for SLD students who attend two-year community colleges. The research concentrated on literature related to the legal history of students with special needs, the definition of SLD (Students with Learning Disabilities), the role of self-determination of SLD students at two-year community colleges and the types of accommodations utilized by SLD at two-year community colleges. The method and procedures used to determine which set of demographics and accommodations best predicts graduation rates of SLD students from two-year community colleges in North Carolina were described in chapter three. Chapter four describes the sample of students registered with the disability offices at four of the fifty-eight community colleges in North Carolina and imparts the outcomes of hierarchical logistic regression analyses that show which combination of student demographics and accommodations predict graduation of SLD students from two-year community colleges in North Carolina. The results of the t-test design described the mean values of graduation of SLD and their non-disabled peers.

The purpose of this study was to determine if a relationship exists between SLD, accommodations received, demographic data, and graduation rates at two-year public community colleges in North Carolina. The following research questions and null hypotheses guided this study:

1. What set of demographics (i.e., gender, ethnicity, and age) of SLD receiving disability assistance provided by public, community colleges predict student graduation?

The Null Hypothesis related to Question 1: There is no statistical relationship between the gender, ethnicity, and age (demographics) of Students with Learning Disabilities and the graduation rates of this population from a public, two-year community college. Demographics of the SLD population do not affect their graduation rates.

2. What set of accommodations or disability-related services provided by public, community colleges predict student graduation? Accommodations include adjustments made in course materials or instructional methodology which do not change the essential nature or academic and technical standards of the course. If a SLD student receives a specific accommodation or service does this accommodation impact graduation of this population?

The Null Hypothesis related to Question 2: There is no statistical relationship between the types of accommodations and disability related services offered to Students with Learning Disabilities attending a community college and their graduation rates. If a SLD student receives accommodations or disability related services their graduation rates are not be affected.

3. What is the graduation rate of SLD registered with the disability offices at community colleges? What is the graduation rate of their non-disabled peers over the equivalent time frame?

The Null Hypothesis related to Question 3: There is no statistical relationship between the mean graduation rate of Students with Learning Disabilities registered with disability offices at community colleges and the mean graduation rate of their non-disabled peers over the equivalent time frame.

Demographics and Descriptive Data

The sample included within this study is representative of SLD students who attend two-year community colleges in North Carolina. After receiving permission to move forward with the research, four community colleges of the fifty eight in North Carolina agreed to participate. Three of the community colleges are located in urban areas with populations ranging from 150,000 to 750,000 people and curriculum students enrolled ranging from 4500 to 21,000 during the three years of data collection. The fourth community college is located in a rural area with approximately 45000 people and 1500 to 1800 curriculum students enrolled during the time frame of the study. All four schools had a SLD population that was less than 3% of the college's population.

Two of the school's data were not utilized in the research data summary. The data (238 records) at two of the schools were incomplete and not reliable enough to compute for comparison. The records of school 1 and school 4 had data that included all requirements of the study. Schools 2 and 3 had records that were incomplete and were missing age, ethnicity, sex, accommodations, and/or graduation status. The only records included for this study were those that included all of the required components.

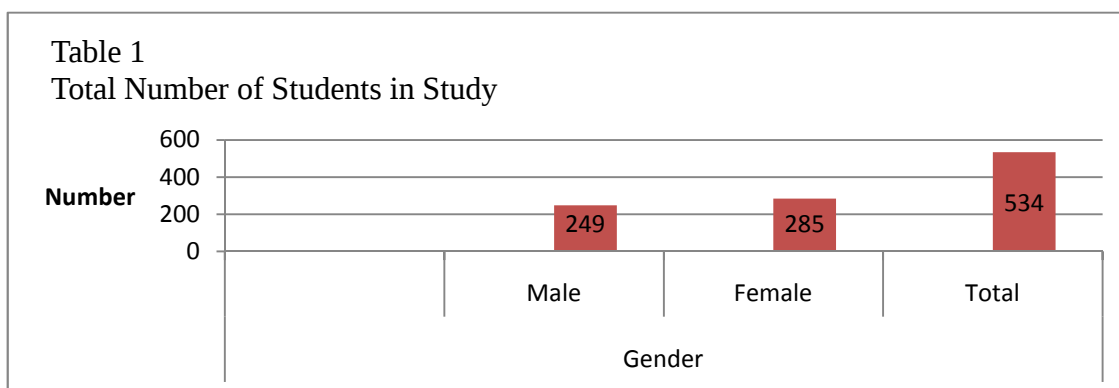
Data Disaggregated by Hypothesis

The test for statistical analyses was logistic regression. Hierarchical logistic regression was performed to establish if gender, ethnicity, age, or accommodations received predict graduation for the 534 SLD students in the sample. Graduation was the dependent variable with a binary response (0=No, and 1=Yes). The predictors entered into the regression equation in hierarchical manner were student demographics in the order of gender, ethnicity, and age. Accommodations were entered last.

Research Hypothesis 1

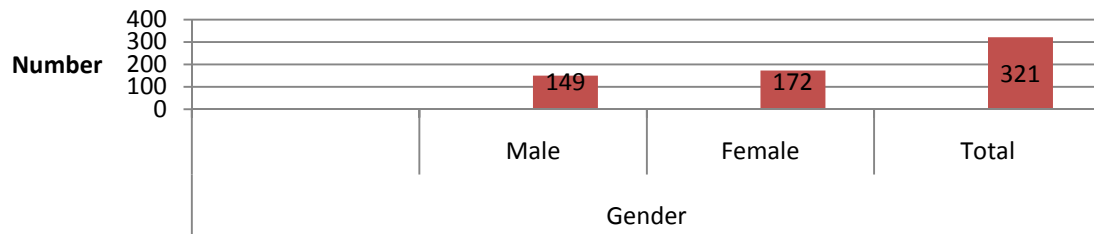
Gender and Ethnicity and Age

There were 772 records reviewed at the four institutions. There were 238 records missing two or more pieces of data; therefore, these records were not included in the results. The complete records included 249 (46.6%) male students with SLD, and 285 female (53.4%) students with SLD (see Table 1).



Of these 534 students, 149 males graduated and 172 females graduated for a total of 321 (see Table 2).

Table 2
Number of Graduating SLD Students in Study



Of the 534 students, 299 (55.8%) were White, 228 (42.5%) were Black, and 7 (1.3%) of the students were other (see Table 3).

Table 3
Ethnic Population in Study

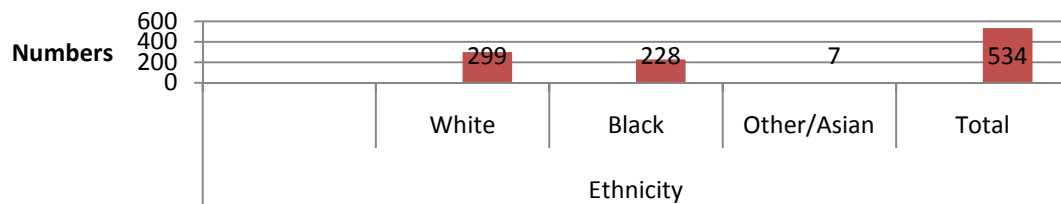
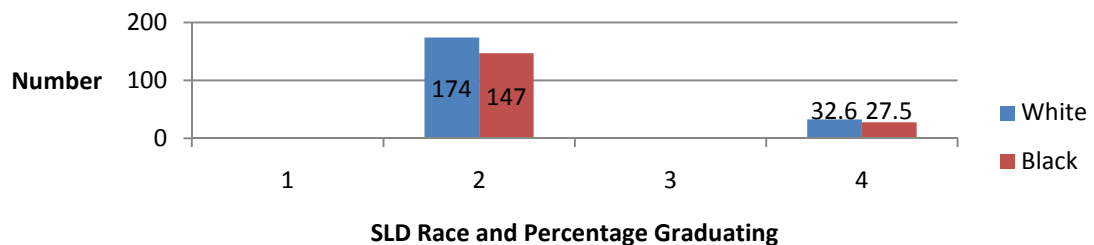


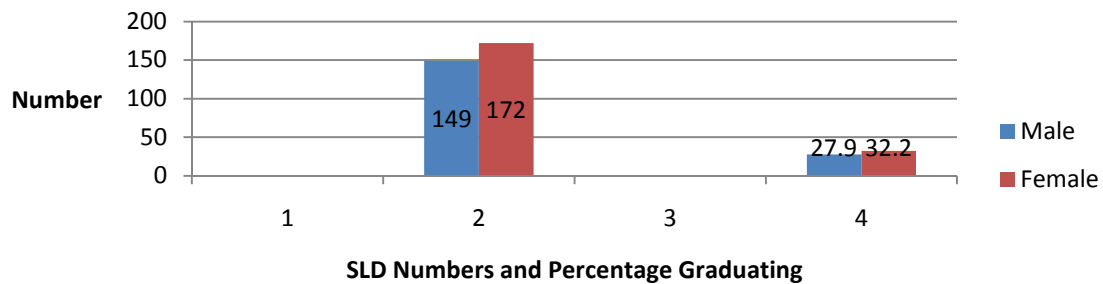
Table 4 demonstrates 174 (32.6%) SLD graduates were White, 147 (27.5%) graduates were Black, and 0% were 'other'.

Table 4
SLD Race and Graduation Percentage



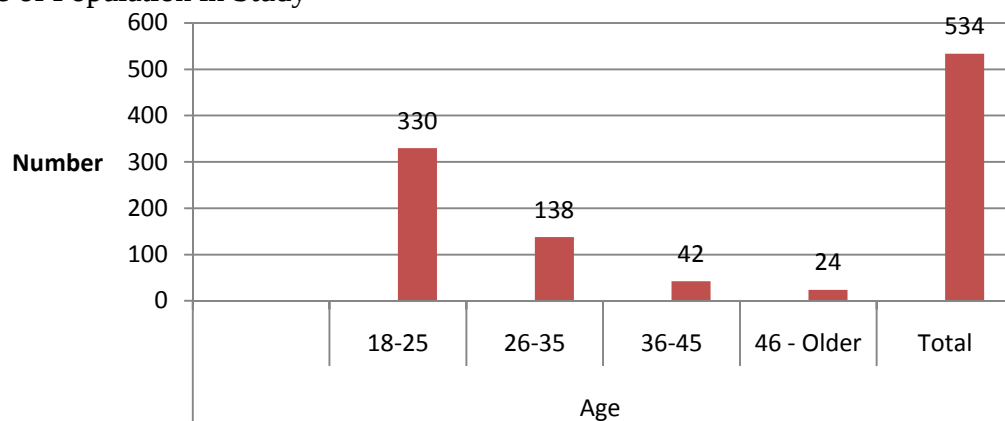
There were 149 (27.9%) males, and 172 (32.2%) females that graduated (see Table 5).

Table 5
SLD Gender and Graduation Percentage

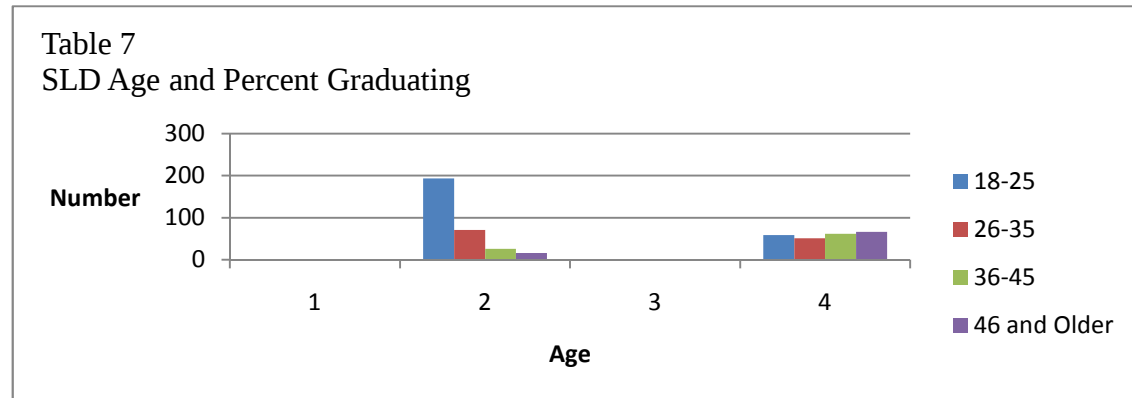


The age of the SLD students was ascertained based on the birth date. Artificial categories were utilized to assess if a specific age group would correlate to graduation. Age was broken into four categories as follows: 18-25, 26-35, 36-45, and 46 and older (see Table 6). There were 330 SLD students age 18-25 (61.8%), 138 (25.8%) of the SLD students were age 26-35, 42 (7.8 %) of the SLD students were age 36-45 and 24 (4.5%) of the SLD students were age 46 and older.

Table 6
Age of Population in Study



Students age 46 and older graduated at a higher percentage than other students (see Table 7). However, of the 321 SLD graduates, only 16 were ages 46 and older.



In summary, Table 8 indicates a breakdown of the demographics. There were 534 complete SLD records examined and of this number 321 SLD students (59.9%) graduated and 213 (39.9%) did not graduate. Of the 321 SLD that graduated, 174 (32.6%) were White, 147 (27.5%) were Black, and 0% were 'other'.

Table 8 Demographics		n	%
Gender	Male	249	46.6
	Female	285	53.4
	Total	534	100
Ethnicity	White	299	55.8
	Black	228	42.5
	Asian	7	1.3
	Total	534	99.6
Age	18-25	330	61.8
	26-35	138	25.8
	36-45	42	7.8
	46 and Older	24	4.5
	Total	534	99.9
Note: n = number. % = percentage.			

Table 9 breaks down SLD students' graduation rates. Females graduated at a greater rate than males. Whites graduated at a greater number than Blacks or Other and even though the graduation percentage (66.7%) was higher for age 46 and older there were only 16 of this age group whereas 63 % of age 18-15 graduated and there were 208 SLD members in this group. There were 534 (n=534) complete SLD records and 60% of these students graduated.

Table 9 SLD Students' Graduation Rate			
		(n)	(%)
Gender			
	Male	149	27.9
	Female	172	32.2
	Total	321	60.1
Ethnicity			
	White	174	32.6
	Black	147	27.5
	Other	0	0
	Total	321	60.1
Age			
	18-25	208	63
	26-35	71	51.4
	36-45	26	61.9
	46 and Older	16	66.7
	Total	321	
Total			
	Graduated		
	Yes	321	60.1
	No	213	39.9
n=number. %=percentage.			

When gender was added to the graduation equation, it demonstrated a -2 Log Likelihood of 11.993 (df=2; p=0.995) (see Table 10). The -2 Log Likelihood for ethnicity was 14.903 (df=3; p=0.955). Neither ethnicity nor gender demonstrated a significant correlation to graduation.

Table 10					
Hierarchical Multiple Regression Analyses Predicting SLD Graduation with Demographics					
Predictor	n	ΔR^2	β	LR	Sig
Step 1				11.93	.955
Male	249	0	0.99		
Female	285				
Total	534				
Step 2				14.903	.927
White	299	0.0001	0.932		
Black	228		0.823		
Other	7				
Total	534				
Step 3				126.953	.997
Age					
18-25		0.105	3.86		
26-35			2.76		
36-45			3.44		
46 and older			2.95		
Total					
Total R ²		0.1051			
Note. N=534. B=Beta. n=number in category.					
LR = -2 log likelihood ratio. R ² = Multiple Correlation Squared.					
*p = < 0.05. ** p = <0.01. *** p = < 0.001.					

There were 330 SLD students age 18-25 (61.8%), 138 (25.8%) of the SLD students were age 26-35, 42 (7.8 %) of the SLD students were age 36-45 and 24 (4.5%) of the SLD students were age 46 and older. Students age 46 and older

graduated at a higher percentage than other students. The -2 Log Likelihood for age was 126.953 (df=4; p=0.997). Also, for ages 18-25 (df=4; p=0.997), for ages 26-35 (df=4, p=0.997), for ages 36-45 (df=4; p=0.997), for ages 46 and older (df=4; p=0.997). Table 10 indicates a breakdown of age added to graduation. The odds ratio for ages 18-25 was the highest, therefore, indicating this group of SLD was 3.86 times more likely to graduate than other SLD students.

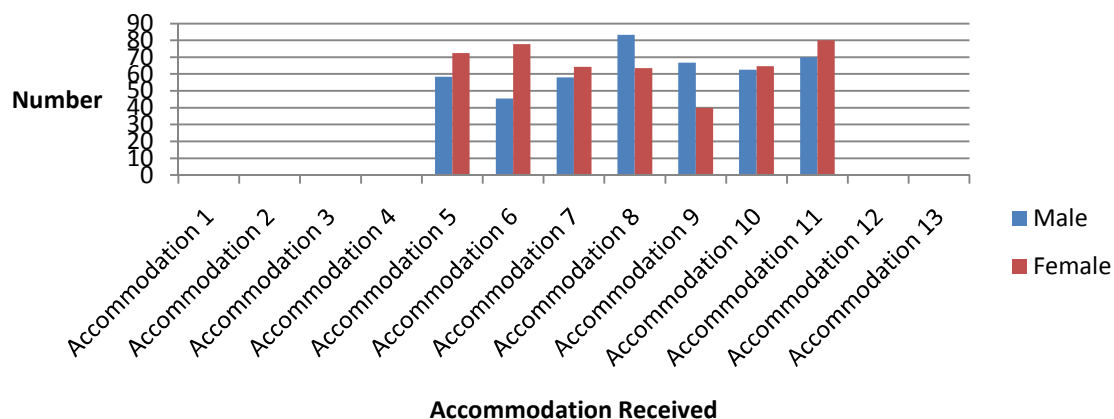
Research Hypothesis 2

Accommodations

Of the 534 records reviewed, thirteen different accommodations were recorded. Such accommodations were: accessible classrooms, alternative format test or assignments, assistive technology, classroom assistants, course waivers or course substitutes, distraction reduced testing, extended test time, flexibility in assignment and test dates, interpreter services, learning strategies, and study skills assistance, note taking services, support groups, and transportation services. The accommodation used by 404 students was extended test time. Learning strategies and study skills assistance was utilized 65 times and distraction reduced testing was used 46 times.

Table 11 displays White SLD accommodations received. White Male students used Accommodation 8 (Flexibility in assignments /Test Dates) most often followed by Accommodation 11 (Note Taking Services) and White female students used Accommodation 11 (Note Taking Services) most often followed by Accommodation Distraction Reduced Testing).

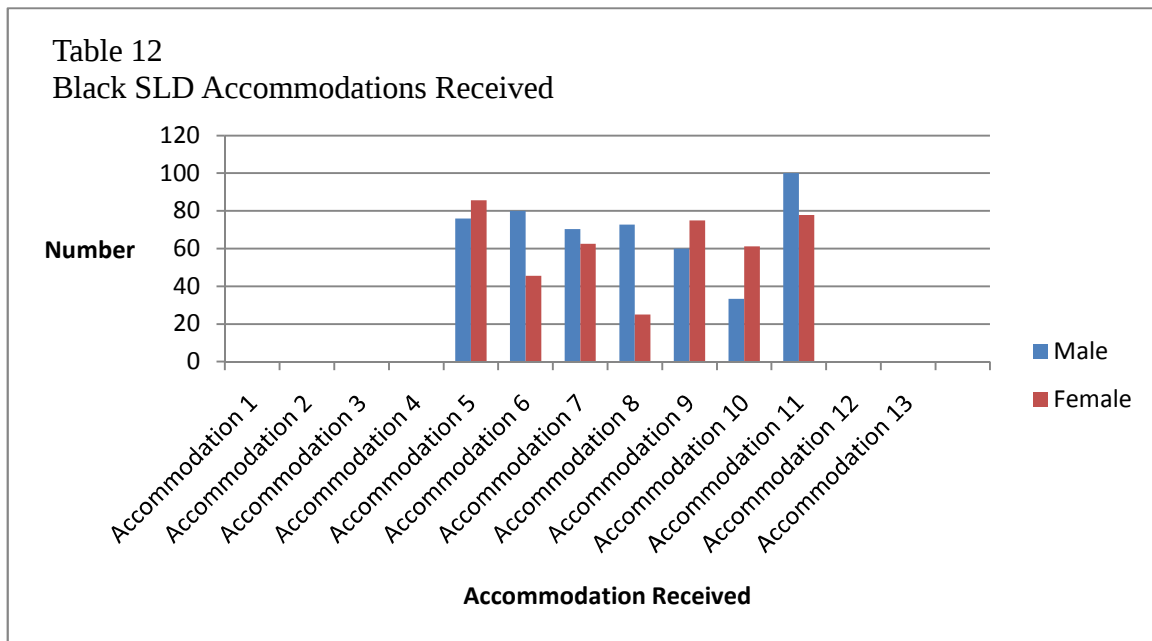
Table 11
White SLD Accommodations Received



List of Accommodations for Table 11

- Accommodation 1: Accessible Classrooms
- Accommodation 2: Alternative Format Tests or Assignments
- Accommodation 3: Assistive Technology
- Accommodation 4: Classroom Assistants
- Accommodation 5: Course Waivers/Course Substitutes
- Accommodation 6: Distraction Reduced Testing
- Accommodation 7: Extended Test Time
- Accommodation 8: Flexibility in Assignments/Test Dates
- Accommodation 9: Interpreter Services
- Accommodation 10: Learning Strategies/Study Skills Assistance
- Accommodation 11: NoteTaking Services
- Accommodation 12: Support Groups
- Accommodation 13: Transportation Services

Black male students used Accommodation 11 most often followed by accommodation 6 (the same as White females) and Black females used Accommodation 5 (Course waivers/Course substitutes) most often followed by Accommodation 11 (Note Taking Services) (see Table 12).



List of Accommodations for Table 12

- Accommodation 1: Accessible Classrooms
- Accommodation 2: Alternative Format Tests or Assignments
- Accommodation 3: Assistive Technology
- Accommodation 4: Classroom Assistants
- Accommodation 5: Course Waivers/Course Substitutes
- Accommodation 6: Distraction Reduced Testing
- Accommodation 7: Extended Test Time
- Accommodation 8: Flexibility in Assignments/Test Dates
- Accommodation 9: Interpreter Services
- Accommodation 10: Learning Strategies/Study Skills Assistance
- Accommodation 11: NoteTaking Services
- Accommodation 12: Support Groups
- Accommodation 13: Transportation Services

When reviewing SLD students with accommodations and computing which accommodations had the highest graduation numbers the results broke down as follows (see Table 13). Four hundred and four students used Accommodation 7 (Extended Test Time) and 63.3% of these students graduated. Forty eight students

used Accommodation 5 (Course waivers and Course substitutes) and 72.9% of this group graduated.

Table 13 SLD Students with Accommodations N=534		n	%	Graduation
Accommodation 1	Accessible Classrooms	0		
Accommodation 2	Alternative Format Test or Assignments	0		
Accommodation 3	Assistive Technology	0		
Accommodation 4	Classroom Assistants	0		
Accommodation 5	Course waivers/Course Substitutes	48	35	72.9
Accommodation 6	Distraction Reduced Testing	46	28	60.9
Accommodation 7	Extended Test Time	404	255	63.3
Accommodation 8	Flexibility in assignments/Test Dates	40	23	57.5
Accommodation 9	Interpreter Services	27	0	0
Accommodation 10	Learning Strategies/Study Skills Assistance	65	40	61.5
Accommodation 11	Note Taking Services	32		
Accommodation 12	Support Groups	3		
Accommodation 13	Transportation Services	0		
Total		665		
n=number. %=percentage				

After accommodations were tested for their strength of relationship to graduation the following -2 Log Likelihood results were recorded (see Table 14).

Table 14
Hierarchical Multiple Regression Analyses Predicting SLD Graduation with Accommodations

	R ²	β	2 LL	Sig
Accommodation 1				
Accommodation 2				
Accommodation 3				
Accommodation 4				
Accommodation 5	0.261	0.371	14.57	0
Accommodation 6	0.062	0.643	6.435	0.139
Accommodation 7	0.092	0.580	35.13	0
Accommodation 8	0.030	0.739	5.034	0.345
Accommodation 9	0.087	0.500	29.68	0
Accommodation 10	0.07	0.700	8.072	0
Accommodation 11	0.268	0.369	14.30	0
Accommodation 12				
Accommodation 13			113.23	
Total LL				
Total R ²	0.870			
Note: n= number. B=Beta				
LR = -2 log likelihood ratio. R ² = multiple correlation squared.				
*p = < 0.05. ** p = < 0.01. *** p = < 0.001				

In reviewing the numbers the following -2 Log Likelihoods were recorded:

Accommodation 5: course waivers or substitutes=14.571

Accommodation 6: distraction reduced testing=6.435

Accommodation 7: extended test time=35.132

Accommodation 8: flexibility in assignment and test dates=5.034

Accommodation 9: interpreter service=28.685

Accommodation 10: learning strategies and study skills assistance=8.072

Accommodation 11: note taking services=14.303

Accessible classrooms, alternative format test or assignments, assistive technology, classroom assistants, support groups, and transportation services did not demonstrate enough cases to warrant significant results. Table 14 indicates a

breakdown of the accommodations strength when added to graduation and Table 15 represents the regression of demographics (gender, ethnicity, and age) to graduation. When accommodations were added to all demographics (gender, ethnicity, and age), Accommodation 7 (extended test time) had a -2 Log Likelihood of 24.883 (df=13; $p=0.416$) and Accommodation 6 (distraction reduced testing) had a -2 Log Likelihood of 17.047 (df=13; $p=0.287$). SLD students who received the accommodation of extended test time were 0.580 times more likely to graduate and SLD students who received the accommodation of course waiver or course substitute (Accommodation 5) were 0.371 times more likely to graduate.

Accommodations added to the graduation model, gender, ethnicity, and age produced results that were statistically consistent (see Table 15). Table 15 designates the relationship between gender, ethnicity, and accommodations to graduation. The -2 Log Likelihood for demographics and accommodations changed in the following manner. Course waivers or substitutes decreased, distraction reduced testing increased, extended test time decreased, flexibility in assignment and test dates increased, interpreter service decreased, learning strategies, and study skills assistance increased and note taking services decreased. The total -2 Log Likelihood for accommodations contributing to graduation was 113.23 (df=13) and the -2 Log Likelihood for accommodations added to the graduation model, gender, ethnicity, and age was 95.028 (df=13). The results indicated that accommodations did not predict SLD student graduation. The results indicated that when accommodations were added to demographics, this combination did not predict graduation of the SLD population.

Table 15

Hierarchical Multiple Regression Analyses Predicting SLD Graduation with Demographics and Accommodations

	R ²	β	2 LL	Sig
Accommodation 1				
Accommodation 2				
Accommodation 3				
Accommodation 4				
Accommodation 5	0.064	0.334	11.009	0.551
Accommodation 6	0.078	0.643	17.047	0.287
Accommodation 7	0.003	0.718	24.883	0.416
Accommodation 8	0.242	0.936	10.438	0.019
Accommodation 9	0.027	0.708	10.325	0.292
Accommodation 10	0.044	17.642	13.263	0.542
Accommodation 11	0.057	18.948	8.063	0.753
Accommodation 12				
Accommodation 13				
Total LL			95.028	
Total R ²	0.515			

Note. n= number. B=Beta

LR = -2 log likelihood ratio. R² = multiple correlation squared. *p = <0.05. ** p = < 0.01.

*** p = < 0.001

Table 15 presents the accommodations breakdown by ethnicity and gender. More SLD students that received Accommodation 7 (Extended Test Time) indicated a larger -2 Log Likelihood besides Accommodation 6 (Distraction Reduced Testing). However, the numbers of SLD students utilizing this accommodation were significantly lower for the note taking accommodation. Accommodation 11 (note taking services) proved to be the accommodation related to graduation. All subgroups that used this accommodation graduated at a percentage of 70% or higher.

Table 16
SLD Accommodations and Graduation Percentages

	%White Male	Female	%Black Male	Female	Total Graduates
Accommodation 1					
Accommodation 2					
Accommodation 3					
Accommodation 4					
Accommodation 5	58.3	72.4	75.9	85.6	72.9
Accommodation 6	45.5	77.8	80	45.5	60.9
Accommodation 7	58	64.3	70.4	62.6	63.3
Accommodation 8	83.3	63.6	72.7	25	57.5
Accommodation 9	66.7	40	60	75	63
Accommodation 10	62.5	64.7	33.3	61.1	61.5
Accommodation 11	70	80	100	77.8	78.1
Accommodation 12					
Accommodation 13					

%=percentage

Research Hypothesis 3

Graduation Rates

During the years 2006-2007, 2007-2008, and 2008-2009, graduation rates for regular education peers at the four community colleges were 71%. Graduation rates for the SLD sample population during this time frame was 60%. Non-disabled students graduated from two-year community college at a 10% greater rate than the SLD students. Table 17 indicates the results of the t-test. The independent-samples t-test was conducted to compare the graduation rates for SLD and their non-disabled peers. There was no statistically significant difference in scores for non disabled

students (Mean = 62.5, Standard Deviation = 10.61) and SLD (Mean= 60.1, Standard Deviation = 0.00; $t = 0.32$, $p = 0.78$).

Table 17 Independent-Samples Test of Graduation					
	Mean	Sig.	t	95% CI	
				L	U
Graduation Non-disabled Students	62.5	0.78	0.32	-29.87	34.67
Graduation SLD	60.1				

Sig.=Significance. CI=Confidence Interval. L=Lower. U=Upper.
p=0.005

Summary of Results

This study utilized a combination of correlation and comparative designs. This chapter communicated the results of the hierarchical logistic regression equation analyses of gender, ethnicity, age, or accommodations received by SLD students who attend a two-year community college to determine if any accommodations predict graduation. In addition, an independent-samples t-test was conducted to compare the graduation rates for SLD and their non-disabled peers. The primary tool used within this research was a document (see Appendix A). This document is a checklist that was modified from Pingry's 2007 questionnaire. The researcher reviewed individual records and recorded sex, ethnicity, age, graduation, and accommodations received. There were 249 male and 258 female SLD student records examined. Of these records, 299 SLD students were White, 228 SLD students were Black, and 7 students were other. Of these 534 students, 149 (27.9%) males graduated compared to 172

(32%) females. Of the total sample size 175 (33%) White students graduated, 147 (28%) Black students graduated, and 0% 'other' students graduated. Some 330 (62%) SLD students fell in the age range of 18-25, and 138 (26%) SLD students were 26-35; and 42 (7.8%) SLD students were age 36-45.

An analysis of the data indicates there is no statistically significant relationship between the demographics, gender, and ethnicity, and no statistical relationship between age and graduation from a two-year community college. Although more females and Whites graduated, there was not a strong statistical relationship; therefore, the researcher failed to reject Null Hypothesis 1. Also, although more students graduated when they utilized the accommodations of extended test time and course waivers or course substitutes, there is no statistical relationship between the demographics of SLD students and graduation rates from a public, two-year community college. As a result, the researcher failed to reject Null Hypothesis 2. There is no statistical relationship between the types of accommodations and disability related services offered to SLD students attending a community college and their graduation rates. Finally, there is no statistical relationship between mean graduation rates of SLD students registered with disability offices at a two-year community college and their non-disabled peers over the equivalent time frame of 2006-2007, 2007-2008, and 2008-2009; as a result, the researcher failed to reject Null Hypothesis 3.

Chapter Five: Summary and Conclusions

Introduction

The objective of this chapter is to submit a summary of both the study and its conclusions while presenting the results of statistical analyses of the dataset. This chapter is organized into sections relating to the research hypotheses. The results of statistical analyses of the data are presented in summary form in the conclusion. It will further describe the processes undertaken and the obstacles encountered. Chapter Five reviews the rationale and purpose of this study, the research findings, and discussion of the results of the study and concludes with recommendations for action and further study.

Purpose

The intent of the research was to identify types of accommodations provided for SLD students at two-year community colleges, as well as graduation rates of SLD students at this level. It was difficult to collect the data required for this study because each institution had their own individual processes for putting their information together. There did not appear to be a great emphasis on knowing if SLD graduated or not.

This research also sought to examine whether or not a relationship existed between graduation rates of SLD students and their accommodations or demographics. Due to ADA, there is an obligation of the college to provide services to SWD. There is a need for investigation at the postsecondary level that deliberates outcomes of SLD, including disability support or accommodations, grade point average, demographics, and graduation rates because there are studies that research

one or two of these components combined but very few studies that explore all elements together. This information would be useful in monitoring different SLD subgroups. For example, the data indicated more females self-determine than male thereby indicating the public schools in these service areas need to do a better job explaining the process to the male students.

The number of full time students with disabilities going to colleges and universities tripled over fourteen years from 2.6 percent to 9.2 percent (Henderson, 1999; Leahman et al., 2000; National Council on Disability, 2000; Vogel et al., 1999) and according to Gajar (1998) the number had raised to 10.5 percent of the postsecondary student population by 1998. Due to the fact that more SWD are attending postsecondary institutions, continued inquiries must be performed in order to determine if their success rate equals their non-disabled peers. In fairness to the SLD population, this point remains and should be continually monitored. An SWD should not be given a degree but a learning disability should not hold a student back either.

Research Questions

This study was designed to answer the following research questions. Research question one was what set of student demographics of SLD receiving disability assistance provided by public, community colleges predict student graduation?

The Null Hypothesis as related to question 1 is there is no statistical relationship between the gender, ethnicity, and age (demographics) of Students with Learning Disabilities and the graduation rates of this population from a public, two-

year community college. Results of the analyzed data did not indicate age, gender, or ethnicity was statistically related to the graduation rates of SLD students attending 2-year community colleges. Therefore, since demographics of the SLD population do not affect their graduation rates the data fails to reject the Null Hypothesis.

The second research question was what set of accommodations or disability-related services provided by public, community colleges predict student graduation? Accommodations include adjustments made in course materials or instructional methodology which do not change the essential nature or academic and technical standards of the course. If a SLD student receives a specific accommodation or service does this accommodation impact graduation of this population?

The Null Hypothesis as related to research question 2 was there is no statistical relationship between the types of accommodations and disability related services offered to Students with Learning Disabilities attending a community college and their graduation rates. If a SLD student receives accommodations or disability related services their graduation rates are not affected. The conclusions of the evaluated data did not indicate any of the thirteen accommodations were statistically related to the graduation rates of SLD students attending 2-year community colleges. The data fails to reject the Null Hypothesis.

The 3rd question was what is the graduation rate of SLD registered with the disability offices at community colleges? What is the graduation rate of their non-disabled peers over the equivalent time frame?

The Null Hypothesis as related to research question three was there is no relationship between the mean graduation rate of Students with Learning Disabilities

registered with disability offices at community colleges and the mean graduation rate of their non-disabled peers over the equivalent time frame. The data fails to reject the Null Hypothesis.

In light of research, a review of the literature revealed that changes in the law have positively impacted the education of SWD per IDEA and public education. An abundance of research exists on varied topics and SLD including demographics, accommodations, and graduation rates. However, there was limited research regarding predicting factors that contribute to SLD student graduation from two-year community colleges. Astin's (1977) work dealt with demographics, accommodations, and graduation rates of SWD but he included environmental factors and their impact upon graduation. There is very little actual research that compares SLD students, demographics, accommodations received, and graduation rates from two-year community colleges.

The concept of self-determination of SWD at the postsecondary level has significant implications. Algozzine et al. (2001), Battle et al., (1998), Benz, et al. (1998), Izzo & Lamb (2002), Rusch & Chadsey (1998), Skinner (1998), Stodden et al.(2002), and Wehmeyer & Schwartz (1998) conducted significant research on this topic and, based upon the review of the literature, the skill of self-determination is important in order for SWD to be successful at the postsecondary level. Wood and Test (2001) and Stodden and Conway (2003) indicate that the nature and quality of accommodations varies from campus to campus. Through this research, the data advance the body of knowledge concerning this concept. It was found to be accurate that each of the four colleges had their own forms, and processes. There was little

continuity. Also, Jorgensen et al. (2005), Vogel and Adelman (1990), and Wessel et al. (2009) present data on annual retention and graduation rates of SWD who attend colleges or universities. Their research indicated students with learning disabilities graduate at the same rates as their non-disabled peers, with perhaps an extra semester added and a weaker academic record. These findings are of particular importance because this study looked at graduation rates of SLD students from two-year community colleges compared to their non-disabled peers and found them comparable. Self-determination processes were not established in this study but, in order for a student to be identified as SLD, the student would have had to initiate this course of action to be served in the special populations program. The results of this research study found that SLD graduated at a 10.9% decrease over a three-year time frame compared to their non-disabled peers.

While literature supports research in varying areas of SWD and postsecondary education, there is little research that links demographics and accommodations to graduation rates. It is interesting to note that an area of substantial research is accommodations of SWD but it is surprising to note that this topic has not been studied in relationship to graduation rates. In this study, a relationship is noted between accommodations which work better with specific ethnicities; however, the data did not indicate a statistically significant relationship. The data did not coincide with Pingry's (2007) results which indicated there were correlations between demographics, accommodations and graduation but Pingry's research involved a four-year institution and multiple disabilities.

The results highlighted a very important concept in the area of legal importance and the role of ADA at the college level. While ADA does indicate SLD students have options for accommodations, it is imperative to recognize that IDEA has specific requirements for data collection and program implementation that ADA does not. The data collection process varies from state to state and, in North Carolina, there is no standard for collection at the community college level. Furthermore, there is no requirement for data collection at all. As noted earlier in the study, there were large numbers of incomplete records at two of the four community colleges that participated.

Additionally, the researcher recognizes there are political implications at the state level. As previously stated, IDEA has strict implementation regulations and ADA does not, thus providing an opportunity for policy visitation at the national and state level in terms of data collection requirements. IDEA mandates this yet ADA does not.

Participants

The study examined the records of students from four community colleges who received disability services. The method of information collection was ex post facto. The data was collected from records of the SLD students who received accommodations through the disability division at two-year community colleges. The record review encompassed three years (2006-2007, 2007-2008, and 2008-2009) of educational records. There were no students recruited for this study. The researcher traveled to the college and reviewed each record. Each student record was recorded numerically, thereby ensuring complete anonymity.

Methods

This research was a combination of correlation and comparative designs. It was a quantitative study utilizing a researcher-developed form (see Appendix A). The form was a checklist and the following information was collected ex post facto from each student record: student demographic data, accommodations, age, and graduation. Student demographics were the independent variable and the type of accommodation was recorded as “received or not.” Graduation was formed as a binary response of “yes” or “no.” All data was transferred into SPSS, Edition 18 and analyzed using model statistics. One large file of all 534 records was generated. Multiple regression was utilized in order to establish if a set of characteristics predict graduation for SLD students. A hierarchical logistic regression analysis was used with student characteristics and disability services in order to determine the combination of independent variables that predicted which specific accommodations impact graduation. A regression equation was produced to predict the probability that an individual will fall into a specific category which included ethnicity, sex, age, accommodations, and graduation rate. An independent-samples t-test was used to compare the mean scores of SLD and their non-disabled peers over the same time frame.

Results

The researcher found evidence that community colleges in North Carolina utilize varying processes for monitoring SWD data. Five hundred thirty four (N=534) records were totally complete. These records included 249 male SLD, and 285 female SLD with 299 White, 228 Black, and 7 identified as ‘other.’ Of the 534

complete SLD records examined 321 SLD students graduated and 213 did not graduate. Of the 321 SLD that graduated 174 were White, 147 were Black and 0 were other. There were 149 males and 172 females that graduated.

There were 238 records that were incomplete inasmuch as varying pieces of demographic data and accommodations data were missing. As a result, these forms were not included in the statistical analysis. Major points include:

1. There were 534 complete records and this analyzed data revealed approximately 60% of the SLD students graduated.
2. The average graduation rate of SLD was 60% compared to 71% graduation rate of their non-disabled peers.
3. There were more SLD females than males in the data sample.
4. There were more female SLD students than male students who graduated.
5. The data indicated there were more Whites than Blacks or other Ethnicities that practiced self-determination skills.
6. There were more SLD Whites than Black or other ethnicities that graduated.
7. The 18-25 age group was the largest group of SLD that self identified. Age 46 and older was the smallest SLD group. Aged 46 and older was the greatest percentage of SLD graduates.
8. Accommodation 11 (Note Taking Services) had 79.1 % SLD students graduate.
9. Accommodation 5 had 72.9% SLD students graduate.

10. SLD Whites who utilized accommodations 5 (Course Waivers or Course Substitutes), 6 (Distraction Reduced Testing), and 8 (Flexibility in Assignment and Test Dates) graduated at a rate of 70% or higher.
11. SLD Blacks who utilized accommodations 5 (Course Waivers or Course Substitutes), 6 (Distraction Reduced Testing), and 9 (Interpreter Services) graduated at a rate of 75% or higher.

Discussion

The average graduation rate (over the three years studied) of the four community colleges was 71% (NCES, IPEDS, 2010). This is higher than the graduation rate of the SLD students in this study which was 60%. The United States Department of Education (2000) indicated the SWD who attend postsecondary establishments all over the United States have a 53% graduation rate. The graduation rate of SLD in this study was not consistent with Bursuck, Rose, Cowen, and Yahaya (1989) who stated the average graduation rate for people with LD was only 30%; the national average was 50%. Nor was it consistent with Vogel and Adelman (1990) who reported a graduation percentage (37%) for 110 students with SLD. In addition, the academic outcomes of students with ($n = 653$) and without disabilities ($n = 41,357$) were compared over a 12-year period at a large Quebec College. Results showed that students with and without disabilities, including learning disabilities, had virtually identical grades and graduation outcomes. The graduation rates of SLD in this study were not identical to their nondisabled peers. They were slightly lower.

The larger numbers of females attending two-year community college is consistent with the literature from the National Center of Education Statistics (NCES, 2003). Of the students in the study, 61.8% were age 18-25. This number was not consistent with the research on SWD who attend postsecondary education which indicates the average age to be 31 years (NCES, 2003). Age was important to graduation in this study as students age 18-25 were less likely to graduate than students 46 and older; however, age 46 and older was the smallest group of SLD students in the sample. This is congruent with research by Flowers (1999) that suggests older students are more likely to graduate. A point of consideration is that this study focused on students who attend two-year community colleges versus a four-year college and the average age of students attending community colleges is older than their four-year college counterparts.

When accommodations were added to the regression model, the graduation data remained consistent with age, gender, and ethnicity. Female, White students who received the accommodation of course waivers or substitutes and distraction reduced testing graduated at a higher percentage than White males and Black males. White males performed best with the accommodation flexibility in assignments. Black males demonstrated an 80% graduation rate if they received the accommodation of distraction reduced testing and a 75.6% graduation rate if they received course waivers. Furthermore, Black females performed best with the accommodation course waivers or substitutes. Larger numbers of SLD students who received the accommodations of extended testing time and study skills graduated at a higher percentage thus indicating that this accommodation correlates to SLD student

success. However, this data was not statistically significant. This supports Getzel et al. (2004) findings that learning strategies are effective in assisting students. This is also consistent with Skinner's (1999) results that course substitutions are predictors of graduation. Six accommodations were not recorded as utilized at all by the sample population. Learning strategies and study skills assistance, distraction reduced testing, and flexibility in assignments and test dates were found to have been used by 65, 46, and 40 SLD students, respectively. The students who received these types of assistance graduated at rates comparable to the other accommodations even though their overall numbers were small.

Pingry (2007) found that nearly three-fourths of the 1,289 students studied graduated and there were slightly more males than females whereas there were more SLD females than males in this researcher's data sample. Furthermore, there were 534 complete records and approximately 60% of the SLD students graduated compared to 71% of their nondisabled peers. Pingry did not report a large amount of information regarding gender, ethnicity, and age while this study revealed there were more female SLD students than male students who graduated and the data indicated there were more Whites than Blacks or other ethnicities that practiced self-determination skills. Additionally, age was a significant predictor in Pingry's study with students older than 23 years of age more likely to graduate than younger students. This compared to the 18-25 age group that was the largest group of SLD that self identified and age 46 and older was the smallest SLD group yet the greatest percentage of SLD graduates. Overall, the data from this research concurred with Heiman and Precel (2003) who indicated an analysis of the personal data of students

with and without LD revealed no significant differences between SLD groups and their nondisabled peers.

There were thirteen accommodations utilized by students in this study. Pingry demonstrated the sample group typically received the accommodations extended test time, note taking, and distraction reduced testing and on average were 26 years of age. Pingry also denoted distraction reduced testing to be a significant predictor of graduation in the sample. This is compared to accommodation 11 (Note Taking Services) with 79.1 % SLD students graduate, and accommodation 5 (Course Waivers or Course Substitutes) yielding 72.9% SLD students graduate. Extended test time was used by 404 students and learning strategies and study skills assistance was utilized 65 times while distraction reduced testing was used 46 times. Lancaster, Mellard & Hoffman, (2001) found the most useful accommodations were note takers, extended testing time, quiet testing rooms and tutors. In this review, the accommodation extended test time was the only area that concurred with their research. Finn (1997) stated support groups and tutors, note takers, books on tape and proofreading were beneficial learning accommodations. These results were not comparable with the results from the study. Pingry did not disclose information on demographics while this study revealed SLD Whites who utilized accommodations 5 (Course Waivers or Course Substitutes), 6 (Distraction Reduced Testing), and 8 (Flexibility in Assignment and Test Dates) graduated at a rate of 70% or higher. Additionally, SLD Blacks who utilized accommodations 5 (Course Waivers or Course Substitutes), 6 (Distraction Reduced Testing), and 9 (Interpreter Services) graduated at a rate of 75% or higher. Students must self advocate by law in order to

receive disability services at the post secondary level. This study inferred based on sample numbers that more females and whites self advocated.

Knapp et al. (2006) found graduation rates at less than 2 year institutions to be 66%. This was 6% higher than the graduation mean in this study but more consistent with the 70% graduation rate of nondisabled students in North Carolina. The aforementioned study and the study by Bailey et. al (2005) also indicated Black, and non-Hispanic students had the lowest graduation rate (27 percent) at 2-year institutions. This was in line with the 27.5 % graduation rate of Black students in this study.

Vogel and Adelman (1990) intimated that SLD academic performance was inferior to their non-disabled peers but both groups of students graduated within the same time frame. This was consistent with the results found in this review. Over the three years reviewed, SLD graduation rate was 60 % compared to the 70% graduation rate their non-disabled counterparts. Cohen and Brawer (2007) pointed out SWD are twice as likely to not complete their education but those numbers did not signify in this study. However, the lack of consistency in the data collection process across the four campuses was consistent with Stodden and Conway's (2003) assertion that special population services were different across states and campuses.

A lack of organization and consistency in program perspective was noted by Stodden and Conway (2003) as well as Hicks-Coolick (1996) who stated that the services offered at different colleges was varied. These insights were confirmed in this study. All four institutions collected and organized data in a manner unique to the institution.

Conclusions

This chapter presented the results of the regression equation and the independent-samples t-test. The statistical analyses were intended to determine the extent to which the SLD demographic factors of age, ethnicity, and gender, and accommodations received predict graduation rates of SLD students at two-year community colleges. The main purpose of this study was to investigate and provide information concerning three research questions. Based on the resulting data, the following findings were established.

Research question 1 was what set of student demographics of SLD receiving disability assistance provided by public, community colleges predict student graduation? Are there demographics of gender, ethnicity, and/or age related to graduation? The Null Hypothesis as related to research question 1 stated: there is no statistical relationship between the gender, ethnicity, and age (demographics) of Students with Learning Disabilities and the graduation rates of this population from a public, two-year community college. Demographics of the SLD population do not affect their graduation rates. An analysis of the data indicates there is no statistically significant relationship between the demographics, gender, and ethnicity, and no statistical relationship between age and graduation from a two-year community college. The data supports the Null Hypothesis. There were more female SLD students in the study and correspondingly more female SLD students that graduated. However, gender was not statistically significant for graduation. There were more Whites than Blacks or others in the study and more Whites graduated than Blacks or others but there was not a strong statistical relationship between ethnicity and

graduation. The age group 46 and older and 36 - 45 graduated at a greater percentage than ages 18 – 35 but there was not a statistically significant relationship between age and graduation. These three components thus verified Null Hypothesis 1.

Research question 2 was what set of accommodations or disability-related services provided by public, community colleges predict student graduation?

Accommodations include adjustments made in course materials or instructional methodology which do not change the essential nature or academic and technical standards of the course. If a SLD student receives a specific accommodation or service does this accommodation impact graduation of this population? The Null Hypothesis as related to research question 2 stated there is no statistical relationship between the types of accommodations and disability related services offered to Students with Learning Disabilities attending a community college and their graduation rates. If a SLD student receives accommodations or disability related services their graduation rates are not affected. An analysis of the data indicates there is no statistically significant relationship between disability related services offered to SLD and no statistical relationship between accommodations received and graduation from a two-year community college. The data does not disprove the Null Hypothesis. The data revealed students were more successful with different accommodations. SLD students that received course waivers or substitutions, distraction reduced testing, and learning strategies/study skills graduated at greater percentages than SLD students that received other accommodations. This indicates there is a relationship between accommodations, demographics and graduation but the connection is not statistically strong thus substantiating Null Hypothesis 2.

Research question 3 was what is the mean graduation rate of SLD registered with the disability offices at community colleges? What is the mean graduation rate of their non-disabled peers over the equivalent time frame? The Null Hypothesis as related to research question three states there is no relationship between the mean graduation rate of Students with Learning Disabilities registered with disability offices at community colleges and the mean graduation rate of their non-disabled peers over the equivalent time frame. A review of the data indicates there is no statistical relationship between the graduation rates of SLD and their non-disabled peer's graduation from a two-year community college. The number of SLD graduating is less than their non-disabled peers. The data does not disprove Null Hypothesis 3.

Limitations of the Study

The findings of this study suggest the following recommendations be considered for further study. A larger sample size might be studied. This proved problematic for this study as many inactive student records were incomplete. Data was collected from four community colleges and the records at two of the institutions were missing either demographic, accommodation, or graduation information and they were excluded from the statistical analysis. Currently in the state of North Carolina there is no standardized data collection process for SWD at the fifty-eight community colleges. There was little continuity in the data collection procedures at the four different community colleges. Each college collected data but the manner was inconsistent and there were missing pieces of information on student data sheets resulting in exclusion from the study. While the sample size was too small to produce

substantial inferential results, it did produce solutions to the research questions established. The size of the sample is small when compared to the numbers of SWD who attend college in North Carolina; however, a random sample of urban and rural community colleges was realized.

This study utilized one disability type. It did not include mental or physical disabilities. The researcher focused on SLD exclusively excluded students with other disability types. Utilizing other disability types would have increased the sample size.

Implications for Practice

While this study reveals the great need for further study in factors that predict graduation for SLD students attending a two-year community college, the current body of literature is saturated with information regarding various components of the study but not all components of the study combined (i.e., graduation rates, demographics, and accommodations have been investigated separately but not as a group). There is continued need for study to determine if differing categories might predict graduation as this has the potential to directly influence programming and student performance.

Furthermore, instructors in college have a legal responsibility to work with appropriately identified SLD students and attention in this area is both a lawful responsibility and an ethical charge in order to best meet the needs of the SLD students in college. Colleges may need to consider in-service to all instructors and provide a yearly orientation for new faculty members.

The results of this study can provide insight for policy makers at the state and federal levels. If it is not mandated that this population be monitored, there is every reason to draw the conclusion they will not be supervised uniformly and consistently. Notwithstanding any progress made, the Report of the President's Commission on Excellence in Special Education (2002) states that “students with disabilities who elect to continue their education at the postsecondary level face significant barriers to achieving their goals” (p. 48). Participation in college and graduation rates does not approach those for students without disabilities. In particular, the U.S. Department of Education (2000) recounts that SWD students “who enroll in a two-year program with the intention of transferring to a four-year school do not, and students with disabilities are less likely to persist in earning a postsecondary degree or credential than peers without disabilities” (p. 16). If President Bush's New Freedom Initiative (Bush, 2001) to increase educational opportunities and enhance the capacity of people with disabilities to integrate into the work force and live autonomous, independent lives is to become a reality, access to postsecondary education and strategies to augment graduation rates from postsecondary education for students with disabilities must take precedence. State policy makers can utilize this process as a lesson learned concerning data collection of SLD across institutions. The researcher found that there is no consistent data collection process for SWD or SLD in North Carolina's Community College System. Each institution is responsible for implementing ADA and the preference for this varies across institutions. Educational practitioners can use the data to potentially guide program decisions for SLD students that will affect

graduation rates. Finally, related research might be conducted to continue to draw connections that impact local practices, state policies, and national policy.

This study, with regards to SLD, represented an opportunity to research if students graduate from a two-year community college and if the graduation rates are connected to either demographics or accommodations. There is opportunity for research in the area of SLD and continued consideration has the potential to impact legislation that might positively change how SLD students are viewed at the college level.

Recommendations for Further Research

There is insufficient documentation on what if any training is available for either high school or post-secondary students in self-determination. This is an area of little research but of great importance as students must practice self-determination skills in order to be served at the postsecondary level. College personnel do not actively recruit this group of students and, if a student does not self-identify he/she does not receive services. Public schools/high schools must train students in self-determination before students graduate and enter the world of postsecondary education.

A similar study could be conducted at a four-year college. Four-year institutions often have larger numbers of students and a more diverse population of disabilities. As population size increases at colleges, there are more SWD who attend and therefore broaden the scope of potential research in the area of special populations.

This study could be performed utilizing a different disability category. This paper focused on cognitive ability but physical and mental disabilities could be included. This investigation focused on SLD, however further analysis could be performed utilizing a combination of varying disabilities or all types of disabilities.

There is a gender issue to be considered as more females than males' self-determined and graduated from two-year community colleges in this study. A point of further study would be to compare the numbers of SLD who attend public/high schools to ascertain if there is data to indicate if more females than males are identified.

Training for faculty on ADA, SLD, and accommodations is an area for future study. There is little research on the training procedures of faculty and staff and there appears to be little continuity in these processes across states and college campuses. Indeed, there is little to suggest that most faculty members understand the varying types of cognitive disabilities. Further research might include studies to determine if colleges provide faculty and staff training on ADA regulations or provide staff development on improved methodology in teaching the SLD student. In terms of accommodations, future consideration might include what they are and the best practices for implementation.

Although there was research regarding federal transition requirements from high school to college there were no significant studies tracking SLD from secondary to postsecondary education that focused on the freedom and responsibility this group is exposed to once it attend college. As increased numbers of SWD attend

postsecondary institutions, improved transition processes might be a potential area of exploration.

A study of institutional leadership's training in the area of ADA, and accommodations might be a future consideration. These are the people who can effect real change and make it happen at the instructor level. In order to ensure instructors are effectively utilizing proper accommodations school presidents, and instructional leaders must have a well-rounded knowledge in this area. Grass-roots reform efforts can begin in any classroom but, for consistency sake, it must be preached from the top levels of administration. A final opportunity for further contemplation is to perform a qualitative study. This could be conducted by interviewing SWD and discerning the reasoning behind self disclosure and obstacles faced during the process.

Summary

This chapter has reinforced the problem that prompted the researcher to study predicting factors of SLD graduation rates. The recommendations for local, state, and federal policy change and professional development are viable and reasonable. Continued research should be conducted to further substantiate this field of research and support the SLD college population.

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Appendix A: Disability Record Document

Disability Record Form

Student Number: _____ Enrollment Date: _____

1. Primary Disability
 _____ SLD

2. Ethnicity
 _____ Male
 _____ Female

3. Ethnicity
 _____ Hispanic
 _____ American Indian/Alaskan Native
 _____ White/Non-Hispanic
 _____ Black/Non-Hispanic
 _____ Other

4. Student Status
 _____ Undergraduate

5. Support Services Received
 _____ Accessible Classrooms
 _____ Alternative Format Test or Assignments
 _____ Assistive Technology
 _____ Classrooms Assistants
 _____ Course Waivers or Course Substitutes
 _____ Distraction Reduced Testing
 _____ Extended Test Time
 _____ Flexibility in assignment and Test Dates
 _____ Interpreter Services
 _____ Learning Strategies and Study Skills Assistance
 _____ Note Taking Services
 _____ Support Groups
 _____ Transportation Services

6. Year the file was deemed inactive
 _____ 2006-2007(Fall 2006, Spring 2007, Summer 2007)
 _____ 2007-2008(Fall 2007, Spring 2008, Summer 2008)
 _____ 2008-2009(Fall 2008, Spring 2009, Summer 2009)

7. Did the student graduate? _____ Yes _____ No

8. Age _____ (Birth date) _____

Appendix B: Liberty University Institutional Review Board Approval

IRB Approval 838.041210: Determining factors that contribute to graduation for SWD in community colleges

IRB Approval 838



Institution Review Board

Sent: Monday, May 31, 2010 7:14 AM

To: M
Ange, Crystal; Beam, Andrea; Garzon, Fernando L.

Cc: M
Institution Review Board

Attachments: Annual Review Form.doc (29 KB)[Open as Web Page]; Change in Protocol.doc (25 KB)[Open as Web Page]



Dear Crystal,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. Attached you'll find the forms for those cases.

Thank you for your cooperation with the IRB and we wish you well with your research project. We will be glad to send you a written memo from the Liberty IRB, as needed, upon request.

Sincerely,

Fernando Garzon, Psy.D.
IRB Chair, Liberty University
Center for Counseling and Family Studies Liberty University
1971 University Boulevard
Lynchburg, VA 24502-2269
(434) 592-4054
Fax: (434) 522-0477

Appendix C: Approval North Carolina College System

>>> Karen Yerby 8/25/2009 11:05 AM >>>

Crystal...Here are the names of the people who responded that they would assist you with tracking information on students with disabilities. I will e-mail them again and tell them to expect contact from you. Let me know if I can be of further assistance.

Hope all is well at [REDACTED]

...Karen

[REDACTED]
[REDACTED] 5000
[REDACTED]
[REDACTED] 53
[REDACTED]

Karen Yerby
Associate Director
Student Development Services
NC Community College System
[REDACTED]

E-mail and correspondence to and from this address may be subject to North Carolina Public Records Law and shall be disclosed to third parties when required by the statutes. (NCGS.Ch. 132)
