Special education students: Which ones are prepared to receive a high school diploma?

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SPECIAL EDUCATION STUDENTS:
WHICH ONES ARE PREPARED
TO RECEIVE A HIGH
SCHOOL DIPLOMA?

by

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A dissertation submitted in partial fulfillment
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ABSTRACT

Special Education Students: Which Ones Are Prepared to Receive A High School Diploma?

by

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This study sought to determine whether statistically significant differences between students with disabilities who pass and those who fail the Nevada High School Proficiency Examination are accounted for by demographic variables alone, or if they can also be attributed to educational variables. To establish the basis for this study, legislation such as IDEA and Goals 2000 was examined, recent literature was reviewed, and court cases involving testing students with disabilities on standardized and minimum competency tests were studied.

The study follows 965 students with disabilities who were in the eleventh grade during the 1998-99 school year through five administrations of the proficiency examination to see which ones passed and which ones failed prior to graduation in June of 1999. Chi-square tests were performed on the demographic and educational variables.
The results showed that the variables which were statistically significant included ethnicity, number of high schools attended, cognitive skills index, parents’ occupation, number of credits taken, type of courses taken, and proficiency results in previous grades. In addition to the statistical analysis, observations were conducted at four high schools during one testing period, and surveys were sent to high school special education teachers asking their perception of why some students pass and others fail. The majority of teacher respondents thought student motivation and type of classes taken had the greatest influence over who will pass the test, while the nature of the students’ disabilities was of little importance in determining who will pass the test.

To help understand why these variables are significant further research should be conducted.
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CHAPTER ONE

INTRODUCTION

Over the past 20 years there has been extensive media coverage of plunging test scores as an indicator of the declining state of public education. This has led to growing societal concern about a lack of basic skills attained by students in public schools in the United States (Candor-Chandler, 1976; NASBE, 1977; Crosier, 1982; Vance and Fuller, 1983; and Mich, 1989). In response to this concern, state legislatures and school board members have begun to call for increased school accountability.

This has resulted in greater importance being placed on standardized test scores, which have long functioned as a vehicle for educational reform, as a gauge of school effectiveness (Linn, 1986). At the same time, changes are being made in the way special education students are being educated in the public schools. Recently these two trends have collided, resulting in controversy over whether to include or exclude students with disabilities in state and district accountability reports. Wilkinson and Matter (1986) posed three questions related to this issue. They were: 1) How should we include or exclude special education students in standardized testing to uphold the spirit and letter of the law? 2) How should their test results be reported? and 3) How can we be sure that scores reflect the schools' true achievement levels?
In 1990, then-Governor Clinton, along with then-President Bush and the National Education Goals Panel (NEGP), were leaders in helping develop six national education goals which were written to establish standards that called for high expectations of all students. The purpose of these goals was to improve our nation's economic competitiveness in the world market. When Clinton was elected president, he added two additional goals to the America 2000 legislation of the Bush administration. His legislation, known as Goals 2000, identified eight goals to be achieved by the year 2000. They were:

Goal 1: Ready to Learn - By the year 2000, all children in America will start school ready to learn.

Goal 2: School Completion - By the year 2000, the high school graduation rate will increase to at least 90 percent.

Goal 3: Student Achievement and Citizenship - By the year 2000, all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, art, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our Nation's modern economy.

Goal 4: Teacher Education and Professional Development - By the year 2000, the Nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to
acquire the knowledge and skills needed to instruct and prepare all American students for the next century.

Goal 5: Mathematics and Science - By the year 2000, United States students will be first in the world in mathematics and science achievement.

Goal 6: Adult Literacy and Lifelong Learning - By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Goal 7: Safe, Disciplined, and Alcohol- and Drug-free Schools - By the year 2000, every school in the United States will be free of drugs, violence, and unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning.

Goal 8: Parental Participation - By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children.

Goals 2000 promoted voluntary national standards and assessment of the goals, and selected the NEGP to act as a monitoring agency to chart the progress made by the states and the nation. Goals 2000 provided states and local school districts with more control in setting their own standards (Geenan and Thurlow, 1993). In studying the effect of Goals 2000 on students in special education, researchers for the National Center on Educational Outcomes (NCEO) reported that most state directors of special education believe the
goals will have a decided impact on the inclusion or exclusion of special education students in statewide reforms.

Geenan and Thurlow (1993), in a report for the NEGP, also noted that the most recent direction in education is toward examining measurable outcomes and results, rather than looking at the educational process. Not generally mentioned is the degree to which students with disabilities would be included in this system, even though the education goals refer to "all" students. The few reports which do address students with disabilities mainly stress the negative effects which might occur, such as lowering of standards if they are included in state and national testing. There have been two reports, the Senate version of Goals 2000 and the NEGP report, which recognize that students with disabilities are part of "all" students. Both reports called for a statement of how the standards are set and for the criteria for certifying the standards for students with disabilities.

In the report for the NEGP, Geenan et al. (1993) wrote of various disabilities, and they stated that students with all of these different disabilities are presently in our school systems. The report stated that with the increase of poverty, physical abuse, and drug abuse by parents, the number of students with disabilities is going to continue to rise. Knowing that including these children in testing will make it harder to define and evaluate standards of excellence, they still believe that it is important to set high standards for all children. Geenan et al. (1993) stated that it is wrong to hold some students accountable to high standards but not others, because there is no simple
formula for separating those who will do well on a national examination and those who will do poorly.

In the past, students with disabilities were generally excluded from state testing requirements. In 1990, according to a report put out by the National Assessment of Educational Progress (NAEP), 33 percent to 87 percent of students with disabilities, depending on the state, were excluded from testing. A national NAEP testing exclusion rate of student with disabilities of approximately 50 percent was reported.

Additionally, researchers at the National Center on Educational Outcomes (NCEO) reported that findings of surveys sent to state directors of special education in all 50 states in 1995 indicated that most of the state directors were unaware of the extent of participation and of reporting procedures for students with disabilities in statewide assessments. Nevertheless, most directors reported that their state was currently developing assessment systems to measure special education students' progress toward identified learner outcomes. The NCEO found that assessment results were used by states for three different reasons: 1) student accountability, such as promotion or graduation, 2) school accountability, and 3) instructional decision making. Of the 50 state directors surveyed, 15 knew the participation rate of special education students when the purpose of the assessment was for instructional decision making; 18 knew the participation rate when the purpose of the assessment was school accountability; and 10 state directors knew the participation rates when the assessment results were used for student accountability. Fifteen states (including Nevada) were listed as not having the
participation rates of students with disabilities available for any of the three assessment purposes.

The 1997 Individuals with Disabilities Act (IDEA) addressed state and district testing for students with disabilities. IDEA made it a requirement to include students with disabilities in large-scale testing programs. Specifically, the law states:

- As a condition of eligibility, states must have policies and procedures to ensure that children with disabilities are included in general state and districtwide assessment programs, with appropriate accommodations where necessary.

- Effective July 1, 1998, individualized education programs (IEPs) must include a statement of any individual modifications in the administration of state or districtwide assessments of student achievement that are needed in order for the child to participate in such assessments; and if the IEP team determines that the child will not participate in a particular state or districtwide assessment of student achievement (or part of such assessment), the IEP must include a statement of why that assessment is not appropriate for the child; and how the child will be assessed.

- For the students whose IEPs specify that they should be excluded from regular assessments, the state must ensure development of guidelines for their participation in alternate assessments, and develop and conduct alternate assessments no later than July 1, 2000.
States must have policies and procedures in place that ensure proper reporting of information regarding the performance of students with disabilities on large-scale assessments (ERIC/OSEP, Spring 1998).

Purpose of the Study

The purpose of this study was to determine if there are demographic differences and/or differences in the educational background between students in special education classes who pass the high school proficiency examination and receive a regular high school diploma, known as Option 1, and special education students who receive an Option 2 diploma, which is an adjusted diploma presented to special education students who achieve their goals as addressed by their Individual Education Plan (IEP), but who do not take or do not pass the Nevada High School Proficiency Examination. A second purpose was to identify program modifications that may enable more students with disabilities to receive Option 1 diplomas. The rationale for such research is that certain aspects of the special educational background may influence a student's success in obtaining a high school diploma.

Statement of the Problem

Some type of training or education beyond high school has become a requirement for getting an entry level job in today's society. As technology becomes more a part of our daily lives, adults without some postsecondary education will find it increasingly difficult to obtain work. As of 1997, the legislatures in 38 states had mandated some form of minimum competency test
(MCT) for high school students (National Association of State Boards of Education, 1997). Presently most other states are in the process of doing the same. Passing these high-stakes tests is required of all secondary students, including those with disabilities, before they can receive a high school diploma. If students with disabilities are to be afforded the same opportunities as their peers in general education classrooms to further their education or obtain skilled jobs, they need to pass the minimum competency test and receive a high school diploma, also. Martin, Oliphint, and Weisenstein (1994) report that not enough of the students with disabilities are successful once they leave school, and that their quality of life is often much lower than that of students in the general education population. Unfortunately, little research has been done to determine what variables are related to students with disabilities doing well on these tests, which may then help ensure a better quality of life.

Prior to the passage of the 1997 Amendments to IDEA, most of the literature related to testing students with disabilities dealt just with the social or legal implications of such testing. More recently researchers have been studying the participation and performance of students with disabilities on MCTs (Candor-Chandler, 1978; Serow and O'Brien, 1983; Hall et al., 1985). Other researchers have investigated the use of modifications allowed for these students (Halpin and Akers-Adams, 1985; Mich, 1989). Additionally, extensive position/opinion articles have been published concerning the necessity of requiring students with disabilities to pass MCTs (McCarthy, 1980; Vance and Fuller, 1983; Wildemuth, 1983; Ring, 1985; Viletto, 1988). While much of the present literature discusses the inclusion of special education students in state-
mandated testing, in general, little attention has been given to recognizing the commonalities among students with disabilities who pass the examinations and obtain a regular high school diploma.

Research Goals and Questions

The major goal of this study was to investigate the backgrounds of high school special education students to determine if the reasons some students with disabilities pass the high school proficiency examination while others do not pass can be accounted for by demographic variables alone, or if they can be attributed also to program differences. A secondary goal is to examine how high school special education teachers prepare their students for the high school proficiency examination. To meet these goals, data were gathered and analyzed specifically to answer the following questions:

1. Are there significant performance or achievement differences between the backgrounds of students with disabilities who pass the high school proficiency examination and those who take but never pass the high school proficiency examination which are accounted for by demographic variables alone, or can they be attributed also to educational program differences?

2. What do high school special education teachers perceive as the most and the least important reasons some students with disabilities pass the proficiency examination and other students with disabilities do not pass the proficiency examination?
Null and Research Hypotheses

The null hypothesis to be tested is that any significant differences between the students with disabilities who pass the high school proficiency examination and those who take but never pass the high school proficiency examination are accounted for by demographic variables only.

The research hypothesis is that the study will show that there are significant differences between the backgrounds of students with disabilities who pass the high school proficiency examination and those who take but never pass the high school proficiency examination which are attributable to demographic and programming differences.

Definition of Terms

The following terms are used in this study and their definitions are listed below. The numbers in parentheses represent the special education ability code and the six-digit numbers are the numbers of the Nevada Revised Statutes.

1. Autism (66) 388.028 "Autism" means a disability which:
   a. Significantly affects the verbal and nonverbal communication and social skills of a person and is often characterized by repetitive activities and stereotyped movements, resistance to changes in environment or daily routine and responding to sensory experiences in an unusual manner;
   b. Is usually apparent before the age of 3 years; and
c. Adversely affects the educational performance of a pupil, causing significant delays or irregular patterns in learning, or both.

2. **Demographic background** - student characteristics, including disability eligibility code, ethnicity, gender, IQ, and parents' occupation.

3. **Educational background** - student information, including schools attended, date of admission, number of credits earned, cumulative GPA, and past proficiency test results.

4. **Emotional Disturbance** (63) 388.105 "Serious emotional disturbance" means a severe emotional disorder that:
   a. Is exhibited by a person for at least 3 months;
   b. Adversely affects academic performance; and
   c. Includes one or more of the following:
      (1) An inability to learn which is not caused by an intellectual, sensory or health variable;
      (2) An inability to engage in or to maintain interpersonal relationships with peers and teachers;
      (3) Inappropriate behavior or feelings;
      (4) A general and pervasive mood of unhappiness or depression;
      (5) A physical symptom associated with a personal or academic problem; or
(6) The expression of fears regarding personal or academic problems.

5. **Health Impairment (82) 388.045** "Health" means the general physical condition of a person.

6. **Hearing Impairment (77) 388.047** "Hearing impairment" means an impairment of the hearing mechanism which affects sound integration and prevents or delays the normal development of speech and language.

7. **Learning Disability (61) 388.117** "Specific learning disability" means a chronic condition, characterized by a deficit in essential learning processes and a severe discrepancy between predicted and actual academic achievement, which is not primarily the result of a visual, hearing or motor impairment, mental retardation, serious emotional disturbance, or an environmental, cultural or economic disadvantage.

8. **Mental Retardation (70) 388.055** "Mental retardation" means a condition characterized by the possession of cognitive abilities which are significantly below average, with deficits in adaptive behavior and academic or developmental achievement.

9. **Minimum Competency Test** - a test which high school students must pass before receiving a diploma, that covers basic skills necessary for entering the work place or continuing education.

10. **Multiple Impairments (67) 388.065** "Multiple impairments" means the occurrence of mental retardation with another disability, the
combination of which causes severe educational problems for the pupil.

11. **Option 1 Diploma** - A regular diploma that is issued to all students who complete the required number of credits in the appropriate subjects and who pass all three areas of the Nevada High School Proficiency Examination.

12. **Option 2 Adjusted Diploma** - A diploma that is issued to special education students who have the required number of credits but who do not take or take but do not pass the Nevada High School Proficiency Examination.

13. **Orthopedic Impairment (82) 388.067** "Orthopedic impairment" means an impairment which adversely affects the ability of a person to benefit from or participate in an educational program without special education.

14. **Traumatic Brain Injury (83) 388.134** "Traumatic brain injury" means an injury to the brain caused by an external force that results in the total or partial functional disability or psychosocial impairment of a person, or both. The term applies to any injury to the brain which adversely affects educational performance including, without limitation, injuries affecting the:

   a. Cognitive abilities;
   b. Speech;
   c. Language;
   d. Information processing;
e. Memory;  
f. Attention;  
g. Reasoning;  
h. Abstract thinking;  
i. Judgment;  
j. Problem solving abilities;  
k. Sensory, perceptual and motor skill abilities;  
l. Psychosocial behavior; and  
m. Physical functions of a person. The term does not include injuries to the brain that are congenital or degenerative or which are induced by trauma during birth.

15. **Visual Impairment (75) 388.141** "Visual impairment" means an impairment which, despite correction, adversely affects or will adversely affect the ability of a pupil to benefit from or participate in an educational program without the assistance of special education.

**Significance of the Study**

Eiserman and Behl (1992) state that research can influence the development of policies and practices in special education if researchers and practitioners "address the most pertinent issues of the time in a collaborative manner" (p. 12). They further state that in order for the educational research to be meaningful to teachers, it must: (1) address current issues that recent
literature has neglected, (2) help clarify policy concerns, or (3) be of particular interest to teachers. This study meets all three of these criteria. First, a review of the literature failed to find any research which provided insight into the relationship of specific characteristics of students with disabilities and the likelihood of passing a minimum competency test and graduating from high school with a regular diploma. Second, with the passage of the Reauthorization of IDEA in 1997, effective July 1, 1998, students with disabilities were required to be included in state and districtwide assessment programs. Clear guidelines as to how these students are to participate and how their results will be reported to the public is of major concern to special educators, as well as general education teachers and school administrators. Third, the findings of this study will appeal to teachers and policy makers concerned with offering the best possible education for students with disabilities.

High school minimum competency testing in general is relatively new. That, coupled with the 1997 Reauthorization of IDEA requiring inclusion of special education students in statewide testing procedures, makes this research a very timely study. Previous literature has addressed personal opinions or the legality of testing special education students, but information on which variables play a role in determining which students with disabilities will do well on assessments has been missing. If these variables are identified, perhaps they can be replicated, in as much as they are educational variables rather than demographic, to help other students with disabilities on future tests.
REVIEW OF LITERATURE

Although extensive, much of the literature regarding students with disabilities discusses only the placement of these students in special education programs. The following sections will provide a brief historical perspective on special education programs, followed by a review of the literature which deals with the issue of including or excluding students with disabilities from standardized testing in which all students are required to participate. The legal as well as the social/emotional issues of testing these students will be reviewed.

History of Special Education

The roots of special education in the United States can be traced to the early nineteenth century (Phelps, 1993; N.D. Department of Public Instruction, 1996; Dorn, Fuchs, and Fuchs, 1996). Around this time state legislatures funded the building of institutions to segregate people with specific handicaps. Institutions were built for the deaf, blind, mentally ill and physically disabled. Thomas Gallaudet founded one of the first such institutions, the American Asylum for the Deaf, in Hartford, Connecticut, in 1817, and then a school for the blind was established in New York in 1832. These institutions were often built in rural settings away from the family, poverty, and urban life. It was during this time that the setting for people with disabilities became a focus of concern (Dorn et al., 1996). Samuel Howe, an activist from Massachusetts, criticized the institutions as being warehouses for people with disabilities. Howe founded the Perkins School for the Blind, which consisted of a group of cottages rather
than one large building. He felt that a family setting offered much better care than institutional care, which frequently resulted in the inhumane treatment of patients. The idea that place was an important feature in successful reform programs was no longer a consideration by the late 1800s. Social Darwinists of the time argued about whether the disadvantaged should even be helped. There are some critics of special education who still feel this way today in spite of research which shows that special education is effective for some students.

In the early 1900s, some groups of students with disabilities were in public schools, but students with severe disabilities were educated in residential facilities, or by tutors, or not at all. During the 1940s, college students were able to take classes to prepare them for teaching special education, and by the 1960s, universities were given federal financial support for training special education teachers (N. D. Department of Public Instruction, 1996).

In 1954 the Supreme Court abolished segregation of black and white school children in Brown v. Board of Education. This decision paved the way for antidiscrimination laws and the desegregation of students with disabilities in public schools. In 1959, Bank-Mikkelsen of Denmark first used the term "normalization" to indicate a normal life for people with disabilities. When Bengt Nirje, Executive Director of the Swedish Association for Retarded Citizens, came to the U.S. to speak on integration, he also used the term normalization, which ultimately became the legal term "least restrictive environment" (Phelps, 1993).
Special education became a constitutional right for children with disabilities with the passage of the Education of the Handicapped Act of 1975, later renamed Individuals with Disabilities Education Act. It ensured that students with disabilities receive a free, appropriate, public education (FAPE) in the least restrictive environment, with special education and related services, and that each student would have an individualized education program (IEP) which is regularly reviewed by parents and the school (Miranda, 1997).

In the 1980s, there was a push to do away with separate schools for individuals with disabilities. Supporters of this idea felt that students with disabilities should be integrated into the schools with general education students, and to do otherwise was socially and psychologically damaging (Schaltman and Benay, 1992). Even though IDEA or Section 504 of the Rehabilitation Act does not address inclusion, by the late 1980s, educators in many districts understood that students with disabilities were expected to be mainstreamed on regular education campuses. This was the beginning of a movement toward full inclusion or integration. This differed from the mainstreaming reform movement in that advocates thought all students should not only be in the same schools with general education students, but they should also receive their education in the same classrooms. The Learning Disabilities Association for America and the Council of Exceptional Children believe full inclusion violates IDEA in that it deprives individual students with disabilities of services they are entitled to (Gorman and Rose, 1993). Therefore, they do not endorse full inclusion.
Attorney Tom Gihool conducted a survey in Madison, Wisconsin, to determine the views on inclusion among district personnel. He found that those surveyed believe that inclusion can work if the school has adequate staff, and that staff has high expectations for all students, teaches positive attitudes, structures ways to integrate the students, and views students with disabilities as individuals (Bilkin, 1981). A more recent survey (Phelps, 1993) concluded that over half of the teachers in a Colorado school district found inclusion to be too much work. Although nearly three-fourths of the teachers felt that the regular education children would accept a student with disabilities, ninety-five percent of the principals surveyed felt that inclusion created tension at their school. Teachers stated that inservices should be conducted to offer training in how to successfully integrate students with disabilities into general education classrooms.

Schaltman and Benay (1992) found common characteristics among schools with successful inclusion practices. These characteristics include a broad mission statement that addresses the needs of all children, a team approach to problem solving which incorporates a positive home-school relationship, and a shared responsibility for decision making between the administrator and the team members. Inclusive education gives students with disabilities the chance to form social relationships with non-disabled peers and the access to the same quality education programs.

In reference to inclusion, Kauffman (1997), then editor of the journal Remedial and Special Education, states:
We still hear and read often about how samenesses are important and differences are unsubstantial or do not matter. The themes of all-inclusiveness and denial of difference are familiar, even generic, in the discourse of many educators, psychologists, and politicians. (p. 132.)

Until 1998, inclusion of students with disabilities in general classrooms meant that they should be included with general education students during classroom instruction, only. Many students with disabilities were still being left out of standardized testing and related accountability reports. Their IEPs were written with the statement "should not participate in standardized testing." But providing services to America's five million students with disabilities costs approximately $50 billion a year, with the federal government supplying about $3.3 billion to the states (Miranda, 1997). Because of this expense, many taxpayers began demanding that test results of students in special education be included in accountability reports for public schools. With the passage of the 1997 Amendments to IDEA, it became mandatory to include these students in testing, and to report their results, starting in July 1998.

Legal Issues

The use of test results for placing students in special programs is not new. According to Marlaire and Maynard (1990), this practice has a long history in public education. Two of the earliest federal laws that were important in providing legal protection for students and adults with disabilities were the Education of the Handicapped Act (EHA) of 1965, and Section 504 of the
Rehabilitation Act of 1973. The EHA entitles elementary and secondary students with disabilities to a free and appropriate education, includes protection for the students concerning program placement and eligibility testing, and requires periodic evaluation of the services provided (Pullen and Zirkel, 1987).

One of the first cases to explore the lack of appropriate assessment procedures for special education students was Frederick v. Thomas (1976). This case was brought against the Philadelphia School District, and it alleged that its referral system for identifying students with learning disabilities was based on teacher referrals only. Therefore, it was the disruptive students, rather than students with true learning problems, who were most likely to be referred. The court mandated that the school system include screening procedures, as well as teacher recommendation, to identify students with learning, visual, or auditory problems. This was a classic case of a school district using procedures that underidentified children rather than overidentifying them for special programs (Gallagan, 1985).

Racial and Cultural Discrimination Court Cases - Court cases have resulted from states' failure to meet the anti-discrimination stipulation of P.L. 94-142, which specifies that states "assure that testing and evaluation materials and procedures utilized for the purposes of evaluation and placement of handicapped children will be selected and administered so as not to be racially or culturally discriminatory" (20 USC Section 1415(5)(c)). These cases include Mattie T. v. Holladay (1970), Lora v. Board of Education (1978), the highly
publicized *Larry P. v. Riles* (1979), *Pase v. Hannon* (1980), and *Marshall v. McDaniel* (1984). These class action suits were all filed to fight evaluation procedures considered to be racially biased and leading to incorrect placement of Black students in special education classes. In Mississippi, *Mattie T. v. Holladay* found several school districts in violation of the EHA's nondiscriminatory testing procedures, and in *Lora v. Board of Education*, the court determined that Black students in New York City were disproportionately placed in emotionally disturbed classrooms based partly on the results of culturally and socioeconomically biased standardized tests.

The case of *Pase v. Hannon*, which contained the same allegations of discriminatory placement based on culturally biased IQ tests, but with a twist, involved Black students in the Chicago school system. In this case, however, the courts found little evidence of biased test questions on the standardized test used to identify students for placement in classes for the mentally retarded. In Georgia, in the case of *Marshall v. McDaniel*, the courts also ruled in favor of the school system, finding no evidence that the evaluation procedures resulted in inappropriate placement of students in Educably Mentally Retarded (EMR) classrooms.

**Postsecondary and Employment Related Court Cases** - Section 504 of the Rehabilitation Act of 1973 protects not only school-aged children, but also postsecondary students and employees and adults served by federal programs. Section 504 includes the statement:
No otherwise qualified handicapped individual in the U.S. shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

The testing requirement of Section 504 covers a much larger group than those protected by EHA. It includes individuals with a record of mental and physical impairment, as well as those who currently have an impairment. The provision of 504 that specifies nondiscriminatory practices states the following requirement of employers:

[An employer covered by the Act] may not make use of any employment test or other selection criterion that screens out or tends to screen out handicapped persons or any class of handicapped persons unless: (1) the test score is shown to be job-related for the position in question, and (2) alternative job-related tests or criteria that do not screen out as many handicapped persons are not shown to be available. . . . select and administer tests concerning employment to ensure that test results accurately reflect the applicant's or employee's job skills, aptitude, or other variables the test purports to measure, rather than reflecting the applicant's or employee's impaired sensory, manual, or speaking skills. . . .

In a case involving a licensed practical nurse with a severe hearing loss who was denied admission to a registered nursing program, the courts ruled in
favor of the institution, stating that institutions are required to make reasonable accommodations but are not required to lower their standards to meet the needs of handicapped students (Southeastern Community College v. Davis, 1979).

In Doe v. New York University (1981), the court supported the university in denying readmission to medical school to a former student diagnosed as "Borderline Personality" following bouts of self destruction and violent behavior.

In Wynne v. Tufts University School of Medicine (1987), Wynne alleged that Tufts University discriminated against him because he was learning disabled. Wynne was expelled because he continued to fail a class after being given multiple opportunities and accommodations. The court upheld Tufts' decision on the grounds that Wynne did not meet the qualifications of Section 504 of the Rehabilitation Act of 1973.

A final case involving Section 504 regulations is Guckenbera v. Boston University (1997), in which the court ruled that the university was not required to waive the graduation requirements in foreign language and mathematics for students with learning disabilities (Freedman, 1997).

According to Pulllin and Zirkel (1987), there have been numerous court cases that deal with employment testing and racial discrimination, but comparatively, there have not been many addressing employment testing and discrimination against handicapped workers. They state that, "Based on the developing state of legal doctrine, . . . the only safe prediction is that more lawsuits will be forthcoming" (p. 21).
Legal Issues Involving High School Competency Tests - Concern over IEP requirements conflicting with high school graduation requirements has also resulted in litigation by students with disabilities. One high profile case is Brookhart v. Illinois State Board of Education (1983). In this instance, an appeals court ruled that, although they failed the minimum competency test, eleven students with disabilities had been denied their due process rights because the district had not given them sufficient notice that passing a minimum competency test was one of the graduation requirements (Stinson, 1983). In other cases, it was determined that requiring students with disabilities to pass the minimum competency tests to obtain a diploma does not violate Section 504 if the necessary accommodations were made for the student.

Such was the case in Board of Education of Northport E. Northport v. Ambach (1982) in which the court found in favor of the Northport Board of Education, stating that if IEP goals do not meet diploma requirements, then a student who only completes the IEP goals would not qualify for a diploma. Additionally, the court found that three school years were sufficient notice for districts to prepare students with disabilities to pass the high school competency examination.

As of 1987, there had been at least three court decisions regarding special students and minimum competency testing. In these three decisions, the court found that it was neither unconstitutional nor a violation of federal statutes to require students with disabilities to pass a minimum competency test to receive a regular high school diploma. Similar findings were made in an Office of Civil Rights (OCR) case involving the Special School District of St.
Louis County (1989), which held that parents must be notified that completion of IEP goals alone will not result in a regular diploma. However, in a case against the Hawaii State Department of Education (1990), the court found the department discriminated against a student with a learning disability by failing to provide him with a reader on the comprehension and analysis sections of the high school competency examination.

In a case in Nevada, in 1996, the OCR judged in favor of the Nevada Department of Education in banning calculator use as an approved accommodation for students with disabilities on the proficiency examination. However, in the spring of 1999, the State Board of Trustees voted to allow students with disabilities (whose IEP currently stated that a calculator was an acceptable accommodation) to use one when taking the new high school proficiency examination.

Virtello (1988) researched three legal policies which some states have adopted regarding minimum competency tests and students with disabilities. The first policy option requires special education students to pass the standard minimum competency test to receive a high school diploma. He found that this policy does not violate procedural due process if the students are given adequate time to prepare for the test and if they have been given instruction covering the material on which they will be tested. Policy option 2 states that certain students with disabilities should be exempt from taking the minimum competency tests and should still be given a regular diploma based on attainment of their IEP goals. States are allowed to exempt certain students...
from testing, but debate exists with regard to whether the students should be
given a certificate of attendance or a regular diploma. In policy option 3, a
special competency test (SCT) would be developed for special students, and
those passing would receive a special diploma.

The OCR reports that, although all special education students are
eligible to receive a diploma (Letter to Runkel, 1996), whether the student is
issued a regular diploma depends on individual state and local laws.

TESTING STUDENTS WITH DISABILITIES

Mearig (1981) alleged that testing of special education students is
necessary to determine student progress; however, she believes that the
results of students with disabilities may be misinterpreted due to the varied
disabilities and levels of ability among these students.

The main record of annual progress for students with disabilities is
conducted in their special education classroom by the special education
teacher. Then, to be sure that the child is not inappropriately placed and to
determine if the student needs continued service, he/she is reevaluated by a
school psychologist at least every three years. No test is appropriate for every
child, but tests do play an important role in determining what interventions may
be necessary to meet the needs of the students.

Staff at the Office for the Education of Children with Handicapping
Conditions (OECHC) (1989) developed a framework for conducting the three-
year evaluations, known as "triennial evaluations," of students who receive
special education services. Besides reviewing the child's progress, a team of
professionals (known as the IEP team) must also review what diagnostic
evidence was used to place the student in special education. They must look at
the child's results from any statewide testing and determine if the child was
provided with appropriate accommodations when necessary. The special
education teacher must provide all information on all norm-referenced tests that
the student has taken during the three years.

Following the review of the student's special education progress and
program to date, the student must be reevaluated. Using the Alternative
Testing Techniques for Students with Handicapping Conditions, or a similar
measurement, the IEP team determines if the student needs alternative testing
techniques or modifications of the current assessment. The results of this
triennial evaluation should include not only a current list of services needed,
the student's present academic and social functioning, and adaptations needed
in materials or environment, but also an assessment of the student's ability to
meet test requirements and work toward a high school diploma.

Recently, public concern about assessing the results of the education of
general students has been extended to include students in special programs.
The public wants to know how these students are performing on standards of
achievement, also (Candor-Chandler, 1986). However, inclusion of students
with disabilities in standardized testing has been cause for controversy.

Cardenas and First (1985) reported on the findings of a report by the
National Coalition of Advocates for Students (NCAS) called "Barriers to
Excellence: Our Children at Risk." The report was based on a year-long, ten-
city study that examined discrimination in America's public schools. To prepare
the report, the NCAS held public hearings for 15 days in 1984, during which
time parents, educators, students, dropouts, and other citizens were
encouraged to voice their concerns about public schools in their communities.
The findings included evidence of racial, class, cultural, and sex discrimination,
as well as evidence describing problems related to testing students with
disabilities. Parents and educators expressed problems of restricted access to
services and inappropriate labeling of students in special education. They
found that often children without a disability end up in special education
classes, in part because of biased assessment and evaluation measures which
may contribute to incorrect placement.

Because of the dependence on test scores for making special education
referrals, the Board recommended careful inspection of:

1. the availability of additional resources to assist children who are
   labeled "failures" as the result of poor performance on tests;
2. the effects of testing on what is being taught and how it is being
   taught; and
3. the effects of tests on school exclusion rates.

In addition, the Board sought to "eliminate the use of inappropriate
testing practices which have far-reaching effects upon the futures of young
people."

Standardized tests may appear to discriminate against some groups of
children. Hilton (1991) stated that, in his opinion, standardized tests normed on
middle-class, white, English-speaking children cannot accurately assess all
children. He further suggested that cultural bias in testing exists for rural
children just as it does for ethnic or racially different children. He further stated that rural preschoolers have been denied entrance to kindergarten or are placed in special education based on results of tests which underestimate their true language ability.

The consideration over how to raise standards for all students while protecting the rights of students with disabilities is a real concern. Freedman (1997) reports that inclusion of students with disabilities in regular classes and in state and districtwide assessment has caused the need to answer the following questions:

How should teachers accommodate these students while maintaining regular course standards? How does the district meet the identified students’ right to a free appropriate public education (FAPE) in this context? What prior notice should districts provide identified students and their parents regarding grades, tests, report cards, modified report cards, diplomas, and transcripts? How much responsibility should a district take for the success or failure of its included student?

Testing of Students With Disabilities in Other Countries

To compare how students with disabilities are assessed and how their assessment results are reported in other countries, in 1995 staff at the National Center on Educational Outcomes (NCEO) reviewed five international comparative studies on education and assessment of students with disabilities. The countries involved in the studies included: Argentina, China, England,
France, Japan, Korea, the Netherlands, Sweden, and the United States. The NCEO reported that American students consistently rate near the bottom in international comparisons, so it is important to determine if other countries include students with disabilities in their assessments in a way that is similar to the way the United States includes them. Elliott (1995) stated in the NCEO report that the information obtained from the other countries was not consistent and that the information from the 1994 International Encyclopedia of Education may not reflect recent changes in educational practice. Following are the NCEO findings for each of the countries studied:

1. Argentina has no established nationwide assessment, does not report whether or not students with disabilities are included in any assessment procedures, and makes no reference to how those scores are reported.

2. Since schools in China are ranked based on the national assessment scores of their students, the inclusion of special education students in taking the tests may be seen as a liability to the school. The criteria for including or excluding special education students, and the reporting of such results, were not reported.

3. In England, the results of the special education students used to be segregated for recordkeeping purposes, but the current International Encyclopedia of Education does not report how England uses the special education results.
4. In France, special education students' results on standardized tests are included with regular students' results. The special education students are given more time to take tests, but it is not reported how it is determined which students will be included in national assessments or how their results are reported.

5. The National Institute for Educational Research in Japan is responsible for the nationwide scholastic achievement surveys which compare student achievement at the international level. Special education is under the jurisdiction of a different institute; therefore, these students are probably not involved in the assessments or reported in the results.

6. In Korea, no specific regulations exist for including or excluding special education students in the national assessments, and no agency explains how these results are reported.

7. In the Netherlands, students take the primary school-leaving examination at age 12 and are tracked into different schools based on their scholastic aptitude. There was no available information on special education student data being included or excluded, and the International Encyclopedia of Education does not state whether the results of special education students are included in the reports.

8. In Sweden, special education students are integrated in schools with regular education students, so it is not certain whether they
are included or excluded in large-scale assessment or how their results are reported, if they are included.

9. In the United States, the academic achievement of students in elementary, middle, and high schools is monitored by the National Assessment of Educational Progress (NAEP). According to the NAEP guidelines, a special education student may be excluded from taking standardized tests if the IEP team has determined the student to be incapable of taking such an assessment. State-level guidelines often indicate who should or should not participate, but these guidelines can be vague and implemented inconsistently.

The information obtained from the NCEO seems to indicate that other countries are also inconsistent or not clear in their application of assessment practices and reporting of results of students with disabilities. According to the NCEO report,

\[\ldots\ \text{separate assessment systems that allow exclusion of all students with disabilities from participation in accountability systems reinforce the notion that all educators are not responsible for all students. When the purpose of large-scale assessments is to describe the status of students in the education system, why would it make sense for some students to be excluded?} \ (1994, p. 44).\]
The IDEA Amendments of 1997

The IDEA Amendments of 1997 effected changes to current law in the education of children with disabilities. Section 612 states that, effective July 1, 1998, the state must establish goals for the performance of these children and performance indicators to assess progress toward meeting those goals. It further states that they must be included in general state and district assessments with appropriate accommodations, when necessary, and that participation of these students must be reported.

Many educators (special education teachers, general education teachers, and principals) have not looked favorably on this new legislation. Principals often do not want to include the test scores of special education students in their school's test results, because these scores receive such scrutiny in their community (Zlatos, 1994). General education teachers complain that the scores of their resource room students should not be included with those of the rest of their class. Special education teachers have done their own end-of-year testing in the past and fear being held accountable to a public who may misinterpret the results.

According to Thurlow, Elliott, and Ysseldyke (1998), there are six good reasons that teachers of special education students should be glad to have their students participate in assessments and to have an accountability system in place for these students. They are:

1. If students with disabilities are not included in the accountability system, then the public does not get a true picture of public education.
2. If they are left out of state and district assessments, then they may also be left out when reform decisions, based on testing data, are made.

3. To make accurate comparisons among states and districts, the participation of students with disabilities should be similar across the board. Based on a 1990 NAEP report, participation of special education students ranged from 33 percent to 87 percent. If all students were included in all assessments, then the comparisons would be more accurate.

4. When students with disabilities are excluded from assessments, it tends to increase the number of referrals to special education. General education teachers may refer or retain certain students just so they will not have to take the district or state assessments the following year.

5. Students with disabilities are now required by law to participate because legislation is recognizing the importance of having all students in the educational accountability system.

6. Teachers and parents say that they have the same high expectations for students with disabilities that apply to the rest of the students, but exclusion from testing does not reflect that opinion.

In January 1998, the NCEO held a conference at the request of the U.S. Department of Education's Office of Special Education and Rehabilitation Services and the Office of Special Education Programs to address the
challenges states face in implementing the 1997 Amendments to IDEA. The participants in the conference identified three general areas that affect its implementation. They include lack of consistency, assessment design and administration, and consequences. At the conference the members developed recommendations in five areas. The areas and recommendations as outlined in the NCEO Assessment Conference Report (April 1998) included:

1. Assessment Practices (AP)
2. Research and Development (R & D)
3. Technical Assistance (TA)
4. Professional Development (PD)
5. Monitoring (M)

The recommendations presented in the NCEO report provide the basis for action by numerous groups. Ideally, they will first be used by the U.S. Department of Education, to plan ways to ensure that the letter and intent of the new assessment provisions in the 1997 reauthorization of IDEA are met. Beyond this, the recommendations (and background issues) are useful to states, districts, and their constituencies (including administrators, teachers, parents, and the general community) as they think about what it takes to implement the new requirements (p. 36).

For a list of the recommendations in each area, see Appendix I.
Recent Studies Involving Testing Students With Disabilities on Standardized Tests

The inclusion of students with disabilities in state and districtwide testing has varied dramatically from state to state (McCarthy, 1980, Wilkinson and Matter, 1986, Zlatos, 1994). Staff at the National Center on Educational Outcomes (1993) showed that disparity in a study. They reported that in Michigan only two percent of students with disabilities were included in testing, while Delaware had 100 percent participation of its students with disabilities. Lauren Resnick, of the University of Pittsburgh, fears that if students with disabilities or second-language students are left out of group testing, they will also be left out of instruction in the classroom. Some districts say they excluded these students because of their cognitive abilities or inability to attend to a task for the length of most testing periods. Parent request was another reason given for not including these students in large-group assessments. So much pressure is put on schools to show high achievement that students with disabilities are often excluded because "some schools succumb to the temptation to make their scores look artificially good" (Zlatos, 1994).

Archer (1984) reported on a program that was established in Houston, Texas, in 1982 that was instituted as a measure of growth and progress for the district's students with disabilities. Prior to 1982, students with disabilities in Houston were tested at teacher discretion, and the type of testing was so varied that no real data on students' progress were available. This resulted in a collaborative effort between the research and special education departments of Houston to come up with the following recommendations: 1) create a criterion-
referenced test of the curriculum for students with disabilities, 2) locate norm-referenced tests that have the potential to show academic growth, and 3) find a way to determine which students with disabilities needed off-level or on-level testing. The group chose to use the *Comprehensive Tests of Basic Skills, Form U* (CTB/McGraw-Hill, 1979). Among other reasons, this test was chosen because it provided norm- and criterion-referenced information, special education students had been used in the norming sample, and locator and practice tests were available for off-level testing.

The tests were given to 13,401 students with disabilities in 240 schools. Workshops were given to test coordinators on how to administer and package the tests and how to interpret the results. The students with disabilities were given the practice tests. Based on those results, teachers administered the correct test level to each student. The results from the "individual objectives mastered" reports were used in writing the students' IEPs, and the objectives covered on the tests have been integrated into the curriculum for special education students. The tests were readministered at the end of year two to determine growth. At the time of this study, the program had been instituted for two years, and both educators and parents were relieved at being able to finally obtain valid test information on students with disabilities (Archer, 1984).

In 1986, Wilkinson and Matter attempted to answer three questions regarding inclusion of students with disabilities in standardized testing. The questions were: 1) should these students be included in standardized testing? 2) should their results be included in reporting? and 3) do test scores reflect the true achievement level of schools? To help answer these questions, they
looked at what the Austin Independent School District in Austin, Texas, did in regard to testing. Austin made a change in its testing regulations in 1982. Until that year, its students with disabilities could be excluded from testing if they received at least one hour of special education service per day for grades 1-6, and more than three hours of special education service per day for grades 7-12. The change instituted called for making the decision as to whether to include students on an individual basis. Each decision was made by the Admission, Review, and Dismissal (ARD) Committee. The decision could be made on a test-by-test and even a subtest-by-subtest basis. In addition, students with disabilities could be tested just for the "experience-only" of participating in testing.

The testing staff mistakenly anticipated that only a small number of students would make up the group taking the test for experience-only. However, there were differing opinions among ARD committees as to what experience-only testing meant. Therefore, this group continued to grow each year. If the decision was made by the ARD to test a student, his results were not reported with those of regular students if he received one or more hours of special education instruction per day.

At first the scores of the students who had taken the test for experience-only were not returned to the schools. However, special education staff and school staff started demanding to see the results, so ultimately they were returned to the schools as a separate report. Soon the experience-only testing became a way to exclude the scores of students who could have had valid test scores. In spite of trouble with experience-only testing, by 1984-85 fewer
special education students were excluded from testing than prior to the decision to have the ARD Committee make the decision on testing on an individual basis. To determine if the scores represented true achievement, only students with disabilities who took the tests under valid conditions were included with students in general education. Although a test can never show "true achievement," it can be assumed that the test scores of special education students who take the test under standardized conditions are just as valid as the scores of students in general education who take the test under standardized conditions (Wilkerson and Matter, 1986).

Fuchs and Douglas (1986) presented a paper at the annual meeting of the American Educational Research Association in which they investigated 27 commonly used aptitude and achievement tests to see if students with disabilities were included in the selection of test items and in the norming group. To do this, they contacted the publishers, analyzed the data, and determined interrater agreement for each of the 27 tests. They undertook this study after hearing concerns from parents and educators alike regarding norm-referenced tests. The concerns included discrimination against subgroups, biased testing procedures, inadequacy of the technical characteristics of some tests, the use of tests for placement, and the incompetence of some test administrators.

To determine which test to examine, they asked a sample of school psychologists to name eight tests they use most often in the areas of intelligence, achievement-general, and achievement-specific. The publishers were contacted and asked to provide the most recent user manuals and other
supplementary technical information about their products. The materials were
analyzed in regard to item development, internal validity, test-retest reliability,
predictive and concurrent validity, and norming procedures. A matrix of the 6
characteristics and 27 tests made up 162 cells. In each cell the researchers
recorded whether students with disabilities had been included in that
psychometric characteristic for that test. If there were no data to help determine
the answer, the cell was left blank. If students with disabilities had been
included, they wrote yes and the percentage of involvement (if that information
was available). A question mark was placed in a cell if the information
regarding the involvement of students with disabilities in the data was produced
by researchers rather than the test developers, and therefore did not
necessarily reveal useful data. Interrater agreement for the data entered in the
matrix was .84. When the analysis was complete, 63 of the cells were left blank
and 84 others had question marks, together representing 91 percent of the
matrix. These findings indicate that test developers were providing insufficient
data on the appropriate use of their tests for students with disabilities. The
authors state that tests that have not been validated on students with disabilities
should not be used for classification, placement, diagnosis, or evaluation of the
academic progress of students with disabilities.

With all the discussion and controversy, it is evident that there has been
no simple resolution to the issue of including special education students in
standardized tests. Many schools simply find a way to exclude their special
student population from these examinations (Kantrowitz and Springer, 1997).
Furthermore, lack of agreement exists regarding how to use the results when student with disabilities are included in the testing processes.

Students With Disabilities and Minimum Competency Testing

The 1997 reauthorization of IDEA has forever changed the way students with disabilities will be tested. The amendments to IDEA stated that as of July 1, 1998, students with disabilities are to be included in state and districtwide assessments, with appropriate accommodations when necessary. A small percentage of students who can not participate in these assessments must (by July 2000) be given alternative assessments.

Naturally, district personnel and parents are concerned as to whether requiring special education students to pass a high school proficiency test before being able to receive a diploma is a violation of IDEA. So far there has been no indication that such requirements are inappropriate (Freedman, 1998). As of 1999, districts in 38 states have, individually, mandated some form of minimum competency test which secondary students are required to pass before they are able to receive their high school diplomas. Consequently, there are differences among states in their demands for graduation. As Thurlow (1995) reported, minimum competency tests in some states cover only simple reading comprehension skills, while other state proficiency assessments cover multiple areas. Minimum competency tests serve three purposes. First, requiring students to pass them before being allowed to graduate helps prepare students to face the demands of the world of work. Second, it makes
local districts more accountable to the public that students are not graduating without having obtained basic skills. Lastly, minimum competency tests are used to help raise the standards of the high school curriculum (Thurlow, 1995). Minimum competency tests must cover objectives in which all students have had instruction, and remedial help must be made available to students who fail (Beard, 1986). Additionally, since failure on a minimum competency test results in the denial of a high school diploma, the testing program must meet or exceed the requirements set forth by the Standards of Educational and Psychological Testing (1985). To meet these standards the tests must have content, curricular, and instructional validity; be nonbiased; and reliably assign pass/fail categories. In addition, students must be made aware of any new standards for graduation, the passing score cannot change from one application to another, test security must be maintained, and the administration at all test sites must be standardized. To establish the instructional validity of a minimum competency test, most of the items should represent areas that are covered by all students being required to take the test (Schmidt et al., 1982). These criteria have resulted in heated social debate over who should and who should not be required to take the minimum competency tests. As Evans and Brown (1986) reported, there is also debate over whether students with disabilities should receive a regular high school diploma if the method of testing them or their passing score is altered in some way.

According to Hyeonsook Shin, a research assistant for Dr. Martha Thurlow (1999), participation of students with disabilities in minimum
competency testing varies from state to state. Following is her response to a request for information regarding testing in different states:

1. The requirements of each state for its students with disabilities who wish to receive a regular high school diploma, as well as identification of other types of diplomas that are available for these students. Students with disabilities can earn a regular high school diploma 1) by meeting the same graduation requirements as those for students without disabilities or 2) by meeting modified requirements.

a. For students with disabilities: Of the 27 states with credit requirements only, 22 allow their students with disabilities to meet modified graduation requirements through modified coursework, completion of IEP goals and objectives, or IEP team or LEA decision. Five states that do not allow modified requirements are Arkansas, Washington, D.C., Nebraska, Oregon, and Rhode Island.

b. Of the 19 states with both credit and exam requirements, 12 states allow one of the above modifications or exemption from their exam. Seven states that do not allow any changes in the graduation requirements are Alabama, Indiana, Louisiana, Nevada, North Carolina, South Carolina, and Virginia.

c. Minnesota has only the exam requirement that allows students with disabilities to receive a regular high school
diploma by completing IEPs (when exempted from the exam.)

d. Colorado and Missouri allow modified coursework to meet the credit requirements. California, Colorado, and Pennsylvania let IEP teams or LEAs decide whether students with disabilities are eligible for a regular high school diploma.

2. Several diplomas or certificates are available for students with disabilities who are not eligible for a regular high school diploma. In different states, they have different names. In general, IEP diplomas or adjusted diplomas are available for students with disabilities when they have not met all of the regular diploma requirements but have completed IEP goals and objectives. Certificates of attendance are available for these students when they have not met any of the graduation requirements and have not completed IEPs by the age of 22. In some states, occupational diplomas or work/study diplomas are available for students with disabilities. Again, these types of diplomas or certificates have different titles in different states. Different combinations of these types of diplomas are available in 39 states and in Washington, D.C.

The use of modified forms of tests for students with disabilities or the allowance of accommodations in the testing procedure is a major concern of those involved in testing programs (Diamond and Elmore, 1989). Most states
allow for certain modifications to be made in the administration of the minimum competency test to comply with the IEPs of the students with disabilities. It is, however, often left up to the local school districts to choose how they will comply with the regulations. Some generally accepted means for meeting the needs of their high school special education population include exempting the students with severe disabilities, using different graduation requirements, accepting lower passing scores, accommodating students with physical disabilities (such as offering a Braille version of the test to blind students or allowing a deaf student to take the test in sign language), extending the time limits, omitting certain items from the test, offering an alternative test, issuing certificates of attendance rather than diplomas, or, as some states do, allowing no modifications (Wildemuth, 1983). When districts are not monitored by the state, there can be inconsistencies in the way the evaluation standards are applied. Discrimination may also be charged if a special education student who does not pass a minimum competency test is denied remedial instruction which would be offered to a student in general education who did not pass the test.

McCarthy (1980) developed ten questions which, in her opinion, deserved careful thought before states began implementing a minimum competency test program. Her questions, which follow, concentrate on the impact of minimum competency tests on students with disabilities, but also could apply to students without disabilities.
1. If a school district uses a minimum competency test as a graduation requirement, should the same standards be used for all students?

2. Should some categories of students with disabilities be excused from taking minimum competency tests?

3. If students with disabilities achieve the standards specified in their IEPs, but fail a minimum competency test, should graduation exercises without a diploma be open to them?

4. If groups of students with disabilities receive certificates of completion rather than diplomas, will school districts be subject to litigation?

5. If a student with a disability does not take the minimum competency test but receives a high school diploma, is a district vulnerable to discrimination charges by regular students as well?

6. If minimum competency tests are tied to grade promotion, should students with disabilities be promoted if they fail, but achieve their IEP goals?

7. What technical issues (validity and reliability) should be addressed in applying minimum competency testing to students with disabilities?

8. How should the minimum competency test be adapted for students with disabilities so that the testing situation is as fair as possible?
9. What are appropriate qualifications for people who administer and interpret the minimum competency test given to students with disabilities?

10. If a requirement for all students to take a minimum competency test also mandates remedial programs for students who do not pass, how can the minimum competency test demands be reconciled with the objectives of the IEP?

Research Studies Involving Students With Disabilities And Minimum Competency Testing

Numerous studies have been conducted to better understand the role minimum competency testing has played in the education of students with disabilities.

Hall, Griffith, Cronin, and Thompson (1985) conducted a study that included 55 students with learning disabilities and a mean IQ of 77.5. These students, who are from three North Carolina high schools, had failed the reading and/or mathematics sections of the minimum competency test, but they passed both sections when they retook it the following spring. Variables that the authors explored included cognitive ability, affective characteristics of the students, and the type of remedial programs the students attended. The authors clearly stated that the purpose of their study was to determine if performance on the second competency test was related to the students' IQ score or score on the first competency test, if it was related to locus of control, and/or if it was related to the students' perception of positive support, and which
of these variables best predicts how the student will do on the second competency test. Using the Pearson correlation coefficient the authors found that reading performance on the first test and student perception of positive home support were both significantly correlated with overall performance on the second test. Then, doing backward stepwise multiple regression, they determined that only the reading score on the first test was a significant predictor of second competency test performance. The authors state that these results indicate that it may be too late to teach basic skills at the high school level. Their concern is that students with learning disabilities who are failing the first competency test should have been taking annual achievement tests to identify areas in need of remediation years before the test needed for graduation. They further state that parents of students with learning disabilities should be supportive and encourage their children in academic matters.

Serow and O'Brien (1983) compared students with disabilities and general education students who failed one or more sections on the North Carolina competency test on the first attempt. Data collected on the sample of 1,760 students included demographic information, test scores on the first competency test, amount of remedial help in reading and/or mathematics, and the type of remedial instruction (individual, small group, large group, etc.). Students were divided into high, medium, and low failing groups. In the high and medium groups the students with disabilities received more remedial reading help than did students without disabilities; however, there was no difference among help offered in the low failing groups. All groups received equal remedial help in mathematics. On the second attempt at passing the
minimum competency test both groups improved their scores in reading and mathematics by about 20 percent over their first try; however, the group with disabilities was still much farther from passing than the nondisabled group. By the third attempt 91.7 percent of the nondisabled students were eligible for a diploma and 4.9 percent had failed again and dropped out. Of the students with learning disabilities, 78.4 percent passed and 10.8 percent had withdrawn. In the group of students with mental retardation, only 10.7 percent had passed; 37.5 percent had failed a third time and withdrawn. These findings indicate that intense remediation may help students with learning disabilities pass the minimum competency test, but EMR students probably receive little benefit from participation in the minimum competency-testing program.

Providing Accommodations

The need for modifications and accommodations in testing procedures for special education students is an additional concern for states and districts (Diamond and Elmore, 1989). The types of adaptations that will have to be made will vary depending on the students' disabilities. Some may require special modifications, while others will not need any (Ragosta and Wendler, 1992). Thurlow (1998) states that few would suggest that people who wear glasses should not be allowed to wear them when taking a driver's license test, or that people with physical disabilities do not need modifications in their surroundings. The controversy ensues when the disabilities are mental or emotional, and therefore not visible. Most states allow for certain modifications to be made in test administration to comply with the IEPs of students with
disabilities. It is, however, often left to the local school districts to choose how they will comply with the regulation. In fact, as stated in a report by the NCEO, "for every instance that a state specifies that an accommodation is acceptable, another state may prohibit it" (p. 8).

Accommodations are not meant to give a student with disabilities any advantage over a general education student; rather, they are offered simply as a way to remove any biases caused by a student's disability (ERIC Research Connections, 1998). Accommodations or modifications in test administration can generally be made in the testing setting, test scheduling or timing, answer or response mode, or presentation format. The following is an example of six types of permissible accommodations for students with disabilities (Thurlow, Elliot, and Ysseldyke, 1998).

Examples of Six Types of Assessment Accommodations

1. Setting
   a. Study carrel
   b. Special lighting
   c. Separate room
   d. Individualized or small group

2. Timing
   a. Extended time
   b. Frequent breaks
   c. Unlimited time
3. Scheduling
   a. Specific time of day
   b. Subtests in different order

4. Presentation
   a. Repeat directions
   b. Larger bubbles on multiple-choice questions
   c. Sign-language presentation
   d. Magnification device

5. Response
   a. Mark answers in test booklet
   b. Use of reference materials (e.g., dictionary)
   c. Word process writing sample

6. Other
   a. Special test preparation techniques
   b. Out-of-level test

Butler and Stevens (1997) state that three important questions should be answered regarding the effectiveness of using accommodations in testing.

"Which populations of learners should be given which accommodations? To what extent do accommodation strategies improve student test performance? How is the validity of assessments affected by the use of accommodations?" (p. 8). Although Butler and Stevens were referring to accommodations for second-language students, the same questions could pertain to testing of students with disabilities.
Accommodations that students need may change as they gain skills. In addition, as students get older, they should take more responsibility in deciding what kinds of accommodations they need.

It is important to be sure the accommodations help, rather than undermine, the students' ability to perform on a test. To test this theory, Mick (1989) conducted a study to examine if modifications in the format of the minimum competency test would improve the results of students with learning disabilities (LD) and students who were educable mentally handicapped (EMH). The format changes included using larger print test booklets, unjustified lines in the reading texts, and allowing students to write in the booklets instead of on answer sheets. The participants for this study were 76 special education students in Virginia who were scheduled to take the Virginia minimum competency test. The odd-numbered test items were given to the students in the original format, and the even-numbered items were modified in the ways mentioned earlier. In the subtest areas, students who were both LD and EMH did significantly better on the nonmodified items. Mick stated that one reason the students did better on the nonmodified version could be that the students were used to a standard minimum competency test format from their past testing experiences. This study suggests that if modifications are to be provided for the benefit of students with disabilities, states must be careful to determine which ones are truly beneficial.

In regard to its policies on accommodations for students with disabilities, the Nevada Department of Education (NDE) has written a brochure for students, parents, and educators entitled, "Questions and Answers About
Accommodations for Students With Disabilities in Nevada's Statewide Assessment Program.* In this brochure, the NDE states that the only acceptable accommodations are those listed in the IEP. It further states that accommodation is permitted if:

1. it is based on the student's needs,
2. it doesn't give a student with a disability an advantage over other students, and
3. it doesn't change the nature of what is being tested.

SUMMARY

This study is divided into four chapters. Chapter One provides an introduction to the study, the purpose, a statement of the problem, the research questions, a description of terms, and the significance of the study. Additionally, it includes a brief history of special education in the United States, a review of court cases that have resulted from special education issues, and a review of the available literature on testing students with disabilities, including recent studies which dealt with testing these students on standardized tests and minimum competency examinations. Chapter Two contains a description of the research design, a description of the participants in the study, and the procedures for collecting and analyzing the data. Chapter Three gives detailed discussion of the results of chi-square tests on the data and also includes observation findings and survey results. Chapter Four consists of the conclusions drawn from the research and implications and suggestions for future research in the same field.
CHAPTER TWO

METHODOLOGY

Introduction

The purpose of Chapter Two was to describe the methods used in the study to answer the following research questions:

1. Are there significant differences between the backgrounds of students with disabilities who pass the high school proficiency examination and those who never take, or take but never pass, the high school proficiency examination which are accounted for by demographic variables alone, or can they be attributed also to educational program differences?

2. What do high school special education teachers perceive as the most and the least important reasons some students with disabilities pass the proficiency examination and other students with disabilities do not pass the proficiency examination?

Chapter Two was divided into six sections which address the following topics:

1. research design
2. participants and research setting
3. qualitative data collection
a. observations
b. surveys
4. quantitative measures
5. data analysis
6. summary

Research Design

According to Worthen and Sanders (1987),

*Research* is a systematic inquiry aimed at obtaining generalizable knowledge by testing claims about the relationship among variables, or by describing generalizable phenomena. The resulting knowledge, which may generate theoretical models, functional relationships, or descriptions, may be obtained by empirical or other systematic methods and may or may not have immediate application (p. 23).

The research for this study was designed to better understand the relationship between high school special education students' demographic and educational backgrounds and the likelihood of their passing the high school proficiency examination. This study is an example of applied research, because its purpose is to discover possible solutions to a problem in society. That problem is how to best prepare students with disabilities for passing the high school proficiency test so that they will receive a regular diploma and thereby have a better chance of obtaining gainful employment as adults. To accomplish this, both a qualitative and a quantitative research approach were
involved in the study. As Patton (1980) states, quantitative methods "require the use of standardized measures so that the varying perspectives and experiences of people can fit into a limited number of predetermined response categories to which numbers are assigned" (p. 14). For the purpose of this study, the statistical analyses of numerous quantitative measures, including past standardized test scores, high school proficiency results, grade point averages (GPAs), and number of high school course credits taken was necessary. However, it was also necessary to obtain qualitative insights into the students' educational programs and personal motivations. To do this, questionnaires were sent to all high school special education teachers. The questionnaires provided information about why some students apply for Option 1 diplomas and other students do not, from a teacher's perspective. In addition, observations were done in special education classrooms, and comments of some teachers and students were recorded to ascertain their views on taking the minimum competency tests. All data collected were analyzed with descriptive statistical techniques, followed by a discussion of the results.

Participants and Research Setting

The study was conducted with students from 37 area high schools. The high schools were located in all areas of Clark County. The participating students were attending 17 schools in Las Vegas or surrounding metropolitan areas, 5 rural schools, and 15 alternative or juvenile court schools. Additionally, four students were in homebound programs. The high schools varied in size from ones housing over 3,000 students to one which has less than 10 students.
Table 1

Schools Attended by Participants

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Participants</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS-A*</td>
<td>61</td>
<td>6.3</td>
</tr>
<tr>
<td>HS-B</td>
<td>75</td>
<td>7.8</td>
</tr>
<tr>
<td>HS-C</td>
<td>45</td>
<td>4.7</td>
</tr>
<tr>
<td>HS-D</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td>HS-E</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>HS-F</td>
<td>39</td>
<td>4.0</td>
</tr>
<tr>
<td>HS-G</td>
<td>43</td>
<td>4.5</td>
</tr>
<tr>
<td>HS-H</td>
<td>86</td>
<td>8.9</td>
</tr>
<tr>
<td>HS-I</td>
<td>53</td>
<td>5.5</td>
</tr>
<tr>
<td>HS-J</td>
<td>46</td>
<td>4.8</td>
</tr>
<tr>
<td>HS-K</td>
<td>52</td>
<td>5.4</td>
</tr>
<tr>
<td>HS-L</td>
<td>44</td>
<td>4.6</td>
</tr>
<tr>
<td>HS-M</td>
<td>39</td>
<td>4.0</td>
</tr>
<tr>
<td>HS-N</td>
<td>40</td>
<td>4.1</td>
</tr>
<tr>
<td>HS-O</td>
<td>29</td>
<td>3.0</td>
</tr>
<tr>
<td>HS-P</td>
<td>50</td>
<td>5.2</td>
</tr>
<tr>
<td>HS-Q</td>
<td>96</td>
<td>9.9</td>
</tr>
<tr>
<td>R-A*</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>R-B</td>
<td>10</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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Table 1  
Schools Attended by Participants (cont.)

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Participants</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-C</td>
<td>19</td>
<td>2.0</td>
</tr>
<tr>
<td>R-D</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>R-E</td>
<td>7</td>
<td>0.7</td>
</tr>
<tr>
<td>A-A*</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>A-B</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>A-C</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>A-D</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>A-E</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>A-F</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>A-G</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>A-H</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td>A-I</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>A-J</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>A-K</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>A-L</td>
<td>13</td>
<td>1.3</td>
</tr>
<tr>
<td>A-M</td>
<td>13</td>
<td>1.3</td>
</tr>
<tr>
<td>A-N</td>
<td>7</td>
<td>0.7</td>
</tr>
<tr>
<td>School</td>
<td>Number of Participants</td>
<td>Percent of Participants</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>A-O</td>
<td>14</td>
<td>1.5</td>
</tr>
<tr>
<td>HB-A*</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*HS - regular high school  *A - alternative high school  
*R - rural high school  *HB - homebound
The participants for the study were the 965 students with disabilities who attended the eleventh grade in Clark County, Nevada, during the 1997-98 school year. This student population included both males and females, although there were over twice as many males in special education classes.

Table 2

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>319</td>
<td>33.1</td>
</tr>
<tr>
<td>Female</td>
<td>646</td>
<td>66.9</td>
</tr>
<tr>
<td>Total</td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>
All ethnic groups (White, Black, Asian, American Indian, and Hispanic) were represented by the participants; however, the majority (63%) were white.

Table 3

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (A)</td>
<td>604</td>
<td>62.6</td>
</tr>
<tr>
<td>Black (B)</td>
<td>208</td>
<td>21.6</td>
</tr>
<tr>
<td>Asian (C)</td>
<td>25</td>
<td>2.6</td>
</tr>
<tr>
<td>American Indian (D)</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>Hispanic (E)</td>
<td>122</td>
<td>12.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>965</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The participants had a wide variety of disabilities ranging from those students with a simple speech impairment to students with traumatic brain injury; however, nearly three-fourths were coded learning disabled. Each disability is given an eligibility code, and the participants represented 11 of the 13 possible categories. The two disabilities which had no students included in the study were those with developmental delays and deaf/blind.
<table>
<thead>
<tr>
<th>Code</th>
<th>Disability</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>Speech/Language</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>59</td>
<td>Developmental Delay</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>61</td>
<td>Learning Disabled</td>
<td>703</td>
<td>72.8</td>
</tr>
<tr>
<td>63</td>
<td>Emotional Disturbance</td>
<td>85</td>
<td>8.8</td>
</tr>
<tr>
<td>66</td>
<td>Autism</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td>67</td>
<td>Multiple Impairments</td>
<td>8</td>
<td>0.8</td>
</tr>
<tr>
<td>70</td>
<td>Mental Retardation</td>
<td>88</td>
<td>9.1</td>
</tr>
<tr>
<td>75</td>
<td>Visual Impairment</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>77</td>
<td>Hearing Impairment</td>
<td>14</td>
<td>1.5</td>
</tr>
<tr>
<td>79</td>
<td>Deaf/Blind</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>81</td>
<td>Health Impairment</td>
<td>31</td>
<td>3.2</td>
</tr>
<tr>
<td>82</td>
<td>Orthopedic Impairment</td>
<td>7</td>
<td>0.7</td>
</tr>
<tr>
<td>83</td>
<td>Traumatic Brain Injury</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>
About six percent of the general eleventh grade student population is new to the district every year. Approximately that same percentage of students in special education were also new to the district, while many others (41%) have been here since kindergarten. The average length of time in the district for these students is 9 years.
Table 5

Participants' Starting Grade in District

<table>
<thead>
<tr>
<th>Started in District</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Kindergarten</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>391</td>
<td>40.6</td>
</tr>
<tr>
<td>First Grade</td>
<td>59</td>
<td>6.1</td>
</tr>
<tr>
<td>Second Grade</td>
<td>34</td>
<td>3.5</td>
</tr>
<tr>
<td>Third Grade</td>
<td>39</td>
<td>4.0</td>
</tr>
<tr>
<td>Fourth Grade</td>
<td>42</td>
<td>4.4</td>
</tr>
<tr>
<td>Fifth Grade</td>
<td>38</td>
<td>3.9</td>
</tr>
<tr>
<td>Sixth Grade</td>
<td>47</td>
<td>4.9</td>
</tr>
<tr>
<td>Seventh Grade</td>
<td>73</td>
<td>7.6</td>
</tr>
<tr>
<td>Eighth Grade</td>
<td>38</td>
<td>3.9</td>
</tr>
<tr>
<td>Ninth Grade</td>
<td>47</td>
<td>4.9</td>
</tr>
<tr>
<td>Tenth Grade</td>
<td>50</td>
<td>5.2</td>
</tr>
<tr>
<td>Eleventh Grade</td>
<td>55</td>
<td>5.7</td>
</tr>
<tr>
<td>Special School</td>
<td>47</td>
<td>4.8</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Over half (54.7%) of the participants have attended the same high school for all four years. However, 9.7 percent have attended four or more different high schools in Clark County (including summer school programs). One hundred twenty-nine of the students were temporarily enrolled in one or more alternative programs such as Juvenile Detention or Washington Opportunity school. In addition, 152 (or 15.8%) of the original 965 students dropped out, moved out of district, or withdrew before the end of their senior year. Seven more graduated, and three received adjusted diplomas before the end of the 1998-99 school year.

Table 6

<table>
<thead>
<tr>
<th>No. Different</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>528</td>
<td>54.7</td>
</tr>
<tr>
<td>2</td>
<td>220</td>
<td>22.8</td>
</tr>
<tr>
<td>3</td>
<td>123</td>
<td>12.7</td>
</tr>
<tr>
<td>4 or more</td>
<td>94</td>
<td>9.7</td>
</tr>
<tr>
<td>Total</td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most students in special education, by the very definition of learning disabilities and emotional disturbance, have average intelligence. Nevertheless, the cognitive skills index (CSI) for each child was examined.
Cognitive skills indices are similar to IQ scores, in that the average CSI for students is 100, with a standard deviation of 16. A CSI of 84 is low average and a CSI of 116 is high average, with anything below 84 being below average and any score above 116 considered above average. The cognitive skills index for the participants ranged from a low of 58, which was a score held by 30 of the participants, to a high of 138, which was the score of one student. The average CSI for this group of students was 80. The CSI was determined by the scores the students obtained when the students took the Test of Cognitive Skills/Second Edition (TCS/2) Level 4, in grade eight. About a third of the students (305) did not take this test, and therefore no CSI score is available for them.
Table 7

Cognitive Skills Index of Participants

<table>
<thead>
<tr>
<th>Cognitive Skills Index</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>58 - 60</td>
<td>39</td>
<td>5.9</td>
</tr>
<tr>
<td>61 - 65</td>
<td>70</td>
<td>10.5</td>
</tr>
<tr>
<td>66 - 70</td>
<td>83</td>
<td>12.6</td>
</tr>
<tr>
<td>71 - 75</td>
<td>92</td>
<td>14.0</td>
</tr>
<tr>
<td>76 - 80</td>
<td>92</td>
<td>13.9</td>
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<tr>
<td>81 - 83</td>
<td>71</td>
<td>10.8</td>
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<tr>
<td>84 - 90</td>
<td>61</td>
<td>9.2</td>
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<td>91 - 95</td>
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<td>7.5</td>
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<td>96 - 100</td>
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<td>6.8</td>
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<td>101-105</td>
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<td>111-116</td>
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<td>117-120</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>121-125</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>126-130</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>131-138</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>Missing</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>
To receive an Option 1 diploma, all students must have completed a specific number of credits (22.5) in certain subject areas. To earn a credit, the student must make at least a "D" in the course. The number of credits these students had earned by midsemester of their senior year ranged from fewer than 10 credits (less than 10% of the participants) to more than the required amount (11.7% of the participants). Students who do not have the designated number of credits will not receive an Option 1 diploma, even if they do pass all three sections of the Nevada High School Proficiency Examination.

Table 8

<table>
<thead>
<tr>
<th>Credits Earned</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>fewer than 10</td>
<td>93</td>
<td>9.6</td>
</tr>
<tr>
<td>10-15</td>
<td>128</td>
<td>13.3</td>
</tr>
<tr>
<td>15.25-20</td>
<td>344</td>
<td>35.6</td>
</tr>
<tr>
<td>20.25-22.50</td>
<td>292</td>
<td>30.3</td>
</tr>
<tr>
<td>more than 22.50</td>
<td>108</td>
<td>11.2</td>
</tr>
<tr>
<td>Total</td>
<td>965</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The cumulative grade point average (GPA) for the participants ranged from a low of 1.28 to a high of 4.0. The average GPA for the group was 2.68.

Table 9

<table>
<thead>
<tr>
<th>Cumulative GPA</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.28 - 1.99</td>
<td>106</td>
<td>11</td>
</tr>
<tr>
<td>2.00 - 2.99</td>
<td>577</td>
<td>60</td>
</tr>
<tr>
<td>3.00 - 4.00</td>
<td>278</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>961*</td>
<td>100</td>
</tr>
</tbody>
</table>

*4 missing

How well these students did on past proficiency tests was also examined. The students who were enrolled in CCSD in the third, sixth, and eighth grades took the Comprehensive Tests of Basic Skills for those grade levels. Additionally, the students took a writing assessment at grade eight. The students' results for reading, writing, and mathematics at grades three, six, and eight were recorded as proficient or nonproficient. Because many of the 965 students were not enrolled, or not tested, at those grade levels, the number of students reported at each grade is well below the total number of participants.
Table 10

**Past Reading Proficiency***

<table>
<thead>
<tr>
<th>Reading</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prof.</td>
<td>Nonprof.</td>
</tr>
<tr>
<td>3rd grade</td>
<td>77</td>
<td>110</td>
</tr>
<tr>
<td>6th grade</td>
<td>88</td>
<td>205</td>
</tr>
<tr>
<td>8th grade</td>
<td>145</td>
<td>370</td>
</tr>
</tbody>
</table>

*778 participants missing at third grade  
672 participants missing at sixth grade  
450 participants missing at eighth grade

Table 11

**Past Writing Proficiency***

<table>
<thead>
<tr>
<th>Writing</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prof.</td>
<td>Nonprof.</td>
</tr>
<tr>
<td>3rd grade</td>
<td>76</td>
<td>110</td>
</tr>
<tr>
<td>6th grade</td>
<td>86</td>
<td>194</td>
</tr>
<tr>
<td>8th grade</td>
<td>43</td>
<td>418</td>
</tr>
</tbody>
</table>

*779 participants missing at third grade  
685 participants missing at sixth grade  
504 participants missing at eighth grade
Table 12

Past Mathematics Proficiency*

<table>
<thead>
<tr>
<th>Math</th>
<th>Frequency</th>
<th></th>
<th>Valid Percent</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Prof.</td>
<td>Nonprof.</td>
<td>Prof.</td>
</tr>
<tr>
<td>3rd grade</td>
<td>91</td>
<td>98</td>
<td>48.1</td>
<td>51.9</td>
</tr>
<tr>
<td>6th grade</td>
<td>95</td>
<td>187</td>
<td>33.7</td>
<td>66.3</td>
</tr>
<tr>
<td>8th grade</td>
<td>174</td>
<td>339</td>
<td>33.9</td>
<td>66.1</td>
</tr>
</tbody>
</table>

*776 participants missing at third grade

683 participants missing at sixth grade

452 participants missing at eighth grade
The final variable that was collected for each student was their parents' occupation. Often no occupation was reported in the student's file, so there was no way of knowing whether the parents were unemployed or whether they chose not to report their occupation. If there was no occupation listed, that participant was recorded with those whose parents were listed as unemployed or whose parents held positions classified as unskilled, such as housekeeping or change person. Participants whose parents were employed in skilled positions, such as chef or mechanic, were grouped with those whose parents held professional positions (e.g., physician, engineer).

Table 13

<table>
<thead>
<tr>
<th>Parents' Occupation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed/Unskilled or Not Available</td>
<td>433</td>
<td>45</td>
</tr>
<tr>
<td>Skilled or Professional</td>
<td>532</td>
<td>55</td>
</tr>
</tbody>
</table>

The 965 participants representing 38 different high schools or high school programs were reexamined after each of the five administrations of the high school proficiency examination, beginning in April of 1998 and concluding in June of 1999.
Qualitative Data Collection

**Observations** - Although students in the study were from all area high schools, observation was conducted at only four of the regular high schools. First, these four schools were represented by the largest number of eleventh grade students with disabilities (a combined total of 308 participants). Second, two of the schools had the largest number of its students with disabilities passing the proficiency test the first time (a combined total of 17 of 136 students), and the other two schools had the smallest number of students with disabilities passing the proficiency tests on the first try (one out of a combined total of 172 participants). It was, therefore, determined that observing the test setting of students at these four schools, and talking with teachers at these schools, gave insight into how to prepare future juniors in special education for passing the proficiency examination.

Once the schools were selected, permission to observe was approved by the Office of Sponsored Programs at the University of Nevada, Las Vegas, (UNLV) and the Clark County School District's (CCSD) Cooperative Research Committee (see Appendix II). Letters were written to the principals of the four schools to set up observation dates (see Appendix III). It was requested that observations be scheduled on alternate dates for administering the proficiency examination in April or May, so that actual test administration could be observed. Once the principals returned the permission slips, a similar letter was sent to each of the special education teachers at the four selected high schools. Dates and times were established by phone with four teachers who agreed to have an observer in their classrooms.
Observations were based on the methods discussed by Patton (1980), which state that observational data must be in depth and in detail, and be descriptive enough that a reader has an understanding of what happened and how it happened.

Observations, rather than interviews with the special education teachers, were conducted because the observer can learn more through first-hand experience in the situation. As Patton (1980) reported, there are many advantages to observing the situation in a study. An observer can better understand the context of a situation or program if he is there to witness it first-hand. This prevents a researcher from having to rely on the conceptualization of the situation from another’s viewpoint. Additionally, the researcher may see things that might appear routine or unimportant, or even go unnoticed by someone who would be providing information to the observer. Observational approaches also allow the evaluator to hear things which might be considered too sensitive to discuss in an interview. Often participants are more willing to freely share their views of a situation in a casual observation setting than they would be in a formal interview. Additionally, observations provide the perceptions and reflections of the evaluator, which then become an important part of the data for analyzing the situation. Because observations were set to be conducted during testing, there was little opportunity for any verbal exchanges between the students and the researcher.

Surveys - In addition to the classroom observations, a survey was sent to all 288 high school special education teachers to ascertain their perceptions of why
certain of their students pass the high school proficiency examination and why
other students choose not to take the examination, but to apply for an Option 2
diploma instead. The survey was approved by the University of Nevada, Las
Vegas, Office of Sponsored Programs, and by CCSD's Cooperative Research
Committee. The following questions were asked on the survey (see Appendix IV)

1. What subject(s) do you teach?
   Are your students taught in self-contained or cooperative classes?
2. In general, what percent of your students receive an Option 1
diploma?
3. In general, what percent of your students attempt, but never pass
   the Nevada High School Proficiency Exam?
4. Do you think more or fewer of your students have tried for an
   Option 1 diploma since the new proficiency test went into effect
   last year? Why?
5. What are the determining variables that decide which students will
   try for an Option 1 diploma? (Please number the options from 1-8,
   with 1 being most important.)
   1. Grades
   2. Past standardized test scores
   3. Parent request
   4. Special education eligibility code
   5. IEP goals
   6. Classes taken in high school

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Quantitative Measures

The results of past standardized tests were examined for each of the 965 participants in the study. The standardized test that this group of students took was the *Comprehensive Tests of Basic Skills, Fourth Edition* (CTBS/4). In grade three they took Level 13, in grade 6 they took Level 16, and in grade eight they took Level 17/18. The CTBS/4 is a norm-referenced test series developed by CTB/McGraw-Hill (1988). It is designed to measure achievement in reading, vocabulary, and comprehension; language mechanics and expression; mathematics computation and concepts; and spelling. (In addition, it measures other areas of achievement, such as science, that were not required by the state of Nevada.) The test items were created by a staff of professional item writers, and all items were reviewed for content and accuracy. The tests were normed on a large national sample in the spring and fall of 1988.

Students in Clark County, Nevada, are given the test in October and are, therefore, compared with the fall norming group. In addition to the achievement tests, the students also took the Test of Cognitive Skills/Second Edition (TCS/2). The TCS/2 is a school ability test developed by CTB/McGraw-Hill (1991). It attempts to predict student achievement by measuring students' school ability. The TCS/2 is made up of four 20-item subtests. The first two subtests are 1) Sequences and 2) Patterns and Analogies. These two subtests make up the nonverbal section of the total score. The next subtest is Memory, which involves
remembering the meaning of 20 nonsense words a half hour after the teacher
tells the class the definitions of these words. The last subtest is Verbal
Reasoning. These two subtest scores, along with the nonverbal reasoning
score, provides a total test score. The students' scores are presented as a
national percentile score, a stanine score, and a CSI. The TCS/2 was normed
on a large national sample in 1991.

In grades 3 and 6, the results of the CTBS/4 were used to determine a
student's proficiency in reading, writing, and mathematics. Proficiency was
considered to be performance above the 23rd percentile. In eighth grade the
CTBS/4 was used to determine proficiency in the areas of reading and
mathematics. Writing proficiency is determined by a writing assessment that
students take in grade 8 as part of the Nevada Proficiency Examination
Program. The writing assessment consists of presenting one topic and then
requiring students to write a one-page descriptive response. The paper is then
read and scored by two readers. The student receives a score of 0-5 in each of
four writing traits: writing conventions, voice, organization, and ideas and
content. The scores of both readers are
averaged together for each trait, and students must receive at least three in
each trait to be considered proficient.

The last test which was analyzed for this research was the Nevada High
School Proficiency Examination. A new examination was administered in 1998,
the year in which the participants were in eleventh grade. The examination
attempts to determine if students demonstrate minimum competency in the
curriculum areas of reading and mathematics. For these students, the passing
scores, set by the Nevada State Board of Trustees, were a scale score of 61 in mathematics and a scale score of 70 in reading. Student proficiency in writing is determined by the students' score on a writing assessment. Students are given two topics (one descriptive and one persuasive) on which they must write for 30 minutes per topic. The students' papers are read by two experienced readers. Using a holistic rubric, the readers score the papers from 1-6, with 6 being the highest score. The scores of the two readers are added together and students must receive a total score of at least a 7 (of a possible 12 points) to pass the writing portion of the high school proficiency examination.

Special education students may be given permissible accommodations, including twice as much time, on the examinations. Only accommodations which are judged as not violating the nature, content, or integrity of the test are permissible. For example, the use of calculators or spell checkers are not permitted for special education students on the high school proficiency examination.

Each student may have a total of five opportunities to pass each section of the examination while s/he is a student in a Clark County high school. If a student still has not passed all sections of the examination after five attempts but has earned the required number of credits, s/he may take the examination through the Clark County School District's Adult Education Services.

The number of high school credits earned and the students' cumulative grade point averages also were gathered. Lastly, transcripts of all 965 students
were examined to determine if students who passed the high school proficiency examination had taken different coursework from those students who did not pass.

DATA ANALYSIS

Test data and survey results were collected and entered into a series of files using the Statistical Package for the Social Sciences (SPSS). Data were reported in frequency distributions (for example, the number of students in each ethnic group) and using descriptive statistics (such as the mean cognitive skills index). Simple chi-squares were used to compare the effects of two variables across two groups. For example, is the type of disability statistically significant in determining whether a student will pass the proficiency?

Finally, the significance of the variables for the students with disabilities who receive Option 1 diplomas was compared to the significance of the same variables for the general education students, to determine if there were similarities among these two groups of students.

SUMMARY

This chapter described the need for both qualitative and quantitative data for this research study. A description of the participants and the setting was reported in detail. Data gathering consisted of surveys, classroom observations, and statistical information on each student's gender, ethnicity, parents' occupation, student's cognitive skills index, special education eligibility code, number of schools attended, length of time in the district, number of
credits earned, past standardized tests results, cumulative GPA, and types of English and mathematics courses taken in high school.

Using SPSS, chi-squares were conducted to determine which of the variables were statistically significant in determining whether the students would pass or fail the proficiency examination.
RESULTS AND DISCUSSION

Chapter Three presented the qualitative and quantitative analyses of the study. The findings were organized into three sections:

section one: observations and comments

section two: survey results

section three: comparison of students with disabilities who passed the high school proficiency examination with students who took but did not pass the high school proficiency examination.

Observations and Comments

Based on the student results from the April 1998 administration of the proficiency test, four schools were chosen for observation, Schools B, M, P, and Q. School P had the second highest percentage of students with disabilities passing the examination on the first attempt (6 of 50 students or 12%) in the district. (The principal of the school with the highest percentage passing on the first attempt would not permit an observation during testing time.) In School B, none of the 75 students with disabilities passed the examination on the first attempt, so it was chosen for observation on that basis. Schools M and Q were representative of most of the other large high schools with five percent and four
percent of junior level students, respectively, of the special population passing
the examination on their first attempt.

Telephone contact was made with the principals, and the dates for
observing were set. April 12, 1999, was the observation date for School Q,
April 13, 1999, for School B, April 14, 1999, for School P, and April 15, 1999, for
School M. The high schools are given a four-day window of time during which
they are allowed to test. Administration of the mathematics and reading
portions can be scheduled by the principal for any day within that window. The
writing portion, however, must be administered at every school on the same day
to preclude the possibility of students at one high school telling the writing topic
to friends who attend a different high school.

The principals at each of the schools notified the teachers or facilitators
who would be administering the tests that there would be an observer during
testing. Each school requested that observation be done early in the morning
when students are most likely to do well on tests, so observation time was set at
7:30 a.m. for each school.

The test administration that was conducted during the observation dates
represented the students’ fourth, and presumed final, opportunity to pass the
examination prior to graduation. Students with disabilities and their teachers
were under the impression that students who did not pass on this attempt would
receive Option 2 diplomas.

The day after students took this examination, however, the Nevada State
Board of Trustees decided to allow students to have a fifth opportunity to pass
prior to graduation. This meant that students who failed would get another
chance to pass in May 1999. Additionally, the State Board decided that students with disabilities whose IEPs stated that the student could use a calculator during testing, could be given the option of using a calculator during the high school proficiency examination.

**School M** - School M is a relatively new high school, located on the edge of the city, serving over 3,000 students with middle to high socioeconomic status. Approximately one third of the students took the Scholastic Achievement Test (SAT), and approximately one fifth took the American College Test (ACT). The student results on both the SAT and ACT college entrance examinations at this school are above the district and national averages.

Observation began at 7:30 Monday morning. Students had started taking the proficiency examination at 7:15 and were, therefore, already engaged in testing. At the time of this fourth administration of the test, 14 of the original 39 students with disabilities at this school had passed all three sections of the test.

Ten students (5 boys and 5 girls) were taking the reading portion of the test in their small classroom with their special education teacher and a student teacher serving as a proctor. There were some desks and some small tables in the class. Two boys sat at one table and the other students sat by themselves at a desk or table. In addition to the students testing, there was one student eating a sandwich, several students sitting doing nothing, and one student reading a book. When the observer pulled up a chair near a male student, he sat there a moment, then picked up his desk and moved it to the other side of the room.
The students worked quietly for approximately one hour. Occasionally, a student would raise his/her hand and the student teacher would go over and answer a question about what the student should be doing. Other than having a few questions answered, none of the students received any type of acceptable accommodation during testing. While the students took the test, the teacher explained the capabilities of some of the students to the observer.

Josh*, Derrick, Sean, and Michael can't read at all, so I know they're not going to pass. Bill, Raoul, Christy, and Sherri could possibly make it at Community College if they tried. Carl is pretty bright, but he worries to the extreme! That'll probably keep him from passing. It's a wonder he doesn't have ulcers.

After an hour of testing, a bell rang and seven more students came in the room. A few of the students who were testing said that they were finished and turned in their test to the teacher and left. The teacher told the seven students who came in to sit in one section of the room and work quietly. About fifteen minutes later a boy who was taking the test yelled out, "Gees, would you please be quiet. You've been talking the whole time. Shut the (expletive) up!" No one, including the teacher or student teacher, said a word to this student. The teacher told the observer,

You should have been here before the test started. Two of the students were crying because they're afraid they're not going to pass it. These students use calculators and thesauruses all

*Not the students' real names
through school, then they don't get to use them on the test. It's not fair! It's not realistic. Some of them can't read, but when you read a passage to them and read them the question they go, 'Oh, is that what that means?' If I could read the test to them, they could pass. All of these students have passed the writing section, because I have them write it on a separate sheet and make them edit it before their final copy.

When 90 minutes were up, all but three students had completed the examination. The other three students would have an additional 90 minutes to finish the examination. One student who had finished did not want to leave to go to his other class and asked the teacher if he could stay in her class until the bell rang. She said, "Yes," so he put his head down.

Observation was completed at 9:00 a.m.

School B - School B is located in an older section of the town and houses over 2,500 students from mostly low income and minority families. Fewer than four percent of the students at this school take the SAT and approximately 16 percent take the ACT. Student results on these tests are well below district and national scores.

Observation began at 7:30 Tuesday morning. The observer met with the special education facilitator and a special education counselor and went to the library, where students would be tested on the mathematics portion of the examination. Students began wandering in about 7:45. The facilitator asked them if they were going for an Option 1 diploma or an Option 2 diploma. If they
answered, "Option 1 diploma," they were sent to a high school general-education student to pick up their answer sheets. Eleventh graders who hadn't yet passed were sent to one side of the library, and twelfth graders who had not passed were sent to the other. Only one or two students were allowed at each table. When the special education facilitator told a group of three boys who were sitting at one table to separate, they ignored her. She walked over to the table and said, "YOU move over there, and YOU move over there!" Two of them grudgingly got up and moved.

Twenty juniors and nine seniors showed up to take the test, which began at 8:00. By the fourth administration, there were still 71 of the original 75 students with disabilities at this school who had not passed one or more sections of the proficiency examination.

The special education facilitator and special education counselor read the directions to the groups, and they began the test. About 30 minutes into testing, the special education facilitator noticed that two of the students were bubbling in their mathematics answers on the reading section of the answer sheet. They erased their answers and started over. She also noticed that a student in a wheelchair who had already passed the examination was taking the test. She told him he had passed, so he left. While the students tested in silence, the special education facilitator commented on the students and the test.

Most of the students here choose Option 2 diplomas. It's already written in their IEPs that they're getting Option 2. It means they've got the right number of credits, but classes don't have to be
in the right academic areas. Some of them will try the proficiency anyway just to see if they can pass. Those that came in and said they're going for Option 2 could take it over and over and they're never going to pass it.

When I give it to the students for the first time in eleventh grade, I ask them if they know why they're taking a test. Most of them don't even know they have to pass this test in order to graduate.

One student was only on problem 3 after 40 minutes of testing. The facilitator said, "She's got ADD (attention deficit disorder) big time. I doubt she'll pass, because she can't stay focused."

The facilitator and counselor continued to monitor the students as they took the test. When the observer left at 9:15, none of the students had completed the mathematics section.

**School P** - School P is located in one of the more affluent sections of the valley. It houses over 3,000 students. Minority students make up about one fourth of the school population. Students at this school score above the district and national scores on the ACT and SAT college entrance examinations.

By this fourth administration of the proficiency examination, fourteen of the original fifty students with disabilities who took it the first time had passed all three sections of the examination. The students were already taking the examination when the observer entered at 7:20 a.m. Students were taking the test in one of the special education classrooms. There were thirteen students
(seven boys and six girls) seated individually at small tables. No student received any type of special accommodation for the test. They were all taking the mathematics section at that time.

The students worked quietly while a teacher's aide walked around making sure the students were bubbling in the answer sheet in the right section, and keeping the students on task. The aide said that she was one of a group of aides taking courses in the fast track system to become special education teachers.

The special education teacher later explained the circumstances of some of the students testing. "That girl has passed everything but the math. She already has a basketball scholarship to college, so I hope she passes it this time. I'm sure she will because she's been within a few points of passing it every time." (She did pass it.)

The teacher continued to point out various students and identify their disabilities. She told the observer which students had passed the different sections. She said that later in the day she would be giving the reading section to those students who still needed to pass that section.

The special education teacher next door said that she just heard that day that students would have one extra opportunity to take the test before graduation. "I told my students that before they started and they were relieved. It helped ease the pressure a little, I think."

"Those two girls write all their answers on a separate sheet of paper, then bubble them in on the answer sheet after they're finished. They think it helps them stay on track better." "Did you see the letter to the editor in today's paper?
It was about offering an alternative assessment to students with disabilities. The writer was saying that it's against the law, now, not to give the special education students an alternative assessment to graduate from high school. I bet we'll start getting a lot of parents call about that after they read the letter."

The students continued to work quietly. On several occasions a student came in the room and the teacher had to tell him/her that classes were cancelled for the day, while students who needed to take the test were tested.

"I told them yesterdary not to come to class, plus I've got a 'Class Cancelled' sign on the door, but they come anyway."

By 9:00 when the observer left, some of the students had finished and gone on to other classes, and some of the students were still testing.

School Q - School Q was the last school in which observation took place. It is located outside the metropolitan area and houses over 2,500 students. Although only fifteen percent take the SAT, the scores for these students are above district and national averages. Thirty percent of the students take the ACT, and the scores are comparable to district and national scores.

By the fourth testing opportunity, only fifteen of the 96 special education students had passed all three sections of the proficiency examination. At 7:30 students began taking the reading portion of the test. There were 25 students seated at desks in a very large classroom. One student was seated by himself on a couch at the back of the room. A general education counselor read the directions and a special education counselor and an assistant principal monitored the students to be sure they were on the right section of the answer
sheet. Of the 26 students, twelve were special education students, and the rest were general education students. One student was physically disabled. She had muscular dystrophy and was confined to a wheelchair. She had a personal aide who did the bubbling on the answer sheet. One student was deaf and had a signer who signed the directions as the counselor read them. When she was not signing, the aide sat beside the student and read a book while the student took the test.

The special education counselor was very interested in this study and asked to see a copy of the results when it was completed. Other than that request, the students and proctors worked in silence. A special education student came in at 9:00 and asked the special education counselor if she could go ahead and start the writing portion, because she wanted to get finished. While the counselor went to ask the principal, the student talked to the observer. She said, "The last time I had four hours to take the test, and I still didn't finish. I want it to be perfect, and then I don't finish. I do really bad on spelling." When asked why she doesn't just use words that she knows how to spell, she replied, "I do, then I reread it and get nervous and change them from being spelled right to wrong."

When the counselor returned to tell her she would have to wait until everyone else started the test, the student went off in a huff. The counselor explained to the observer that four hours was the amount of time allowed and giving this student more than four hours would not help her pass.
Once during the observation, students were given a stretch break, but were not allowed to leave the room. As students finished the test, they put their heads on their desks until the designated time was up.

Another Teacher Comment - A special education teacher who teaches at the school which had the highest percentage of students passing the examination on the first attempt gave this explanation for how she prepares her students:

I tell them, when they're juniors, that they have five chances to pass the exam, so they should concentrate on trying to pass only one section of the exam at a time. I tell them to just put all their effort into one section and pass that. It relieves the stress a little if they don't think they've got to try to pass everything at once.

Discussion of Observations

The researcher found consistencies in actions among teachers and students with disabilities in the four schools in which observations were conducted. At each of the schools, the teachers or testing administrators seemed to have preconceived notions as to who would and who would not pass the proficiency examination. It appeared that some teachers did not have high expectations or offer encouragement to some of their students. Additionally, teachers (or facilitators or counselors) all were concerned that expecting the students with disabilities to pass the high school competency test without some type of assistance (such as calculators or spell checkers) is unfair to students with disabilities.
Some students at each of the four schools did not appear to take the test seriously. They came to the test setting late, would put their head down during the test, or would attempt to answer questions or problems without reading the passage or working the mathematics problems on scratch paper. The fact that some students did not even know that passing the test was essential to graduating with an Option 1 diploma caused the researcher to believe that teachers have not done enough to prepare students for this reality, or that students have not fully understood the reason for taking the examination. Many students at one of the schools seemed to be willing to take the test on the off chance that they would pass it. The fact that they know they can still receive an Option 2 diploma if they fail the proficiency examination may keep them from truly trying their best.

Survey Results

Surveys were mailed to the 288 high school teachers who teach in resource rooms or self-contained special education programs. A total of 35*, or 12 percent, of the surveys were returned. Twenty-six respondents indicated that they teach resource or cooperative classes, and the remaining nine teach in self-contained special education programs.

The percent of students in these classes who receive an Option 1 diploma ranged from ten or less, as indicated by nine respondents, to 90

*All responses do not add up to 35 because not every teacher responded to every question.
percent or greater, as indicated by four respondents. Thirteen teachers stated that fewer of their students tried to pass the new proficiency examination than tried to pass the old examination. Thirteen other teachers reported that there was no change in the number of students taking the test since the new examination went into effect.

Respondents were given a list of seven possible variables that might play a role in determining which students try for an Option 1 diploma. Teachers were asked to number the variables in order of importance, with answer choices 1, 2, and 3 indicating "of great importance," answers 4 and 5 indicating "of some importance," and 6 and 7 indicating "of little importance." Table 14 shows how the respondents identified the variables.
Table 14

Variables That Influence Option 1 Decision

<table>
<thead>
<tr>
<th></th>
<th>Of Great Importance</th>
<th>Of Some Importance</th>
<th>Of Little Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades</td>
<td>17</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Past standardized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test scores</td>
<td>14</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Parent request</td>
<td>14</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Disability</td>
<td>4</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>IEP goals</td>
<td>10</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Classes taken in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high school</td>
<td>20</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Student motivation</td>
<td>21</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

Respondents indicated other determining variables include the students' present reading comprehension or mathematics level, teacher assistance, pride, desire to go into military, credits, having already passed one or two sections of the examination, and whether or not the student is on medication.

Students With Disabilities Who Passed or Failed the Nevada High School Proficiency Examination

This section of the study dealt with the significance of the demographic backgrounds and educational programs of those students with disabilities who
passed and those who failed the proficiency examination after five attempts.

Table 15 shows the number and percent of students who passed or failed.

Table 15

Participants in the Administration of the Nevada High School Proficiency Examination

<table>
<thead>
<tr>
<th></th>
<th>N-Failed</th>
<th>N-Passed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>519</td>
<td>233</td>
<td>752</td>
</tr>
<tr>
<td></td>
<td>69%</td>
<td>31%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Of the 965 students with disabilities who were in the eleventh grade in the 1998-99 school year, 213 did not attempt the proficiency examination. Of the 752 students who did take the examination, only 31 percent had passed it by the end of their senior year.

To determine whether the relationship between the variables was statistically significant, simple 2 x 2 chi-square tests were conducted. Phi coefficients were computed to show the degree of the relationship between the two variables. The results of the chi-square tests are shown in Tables 16 through 32. A chi-square value larger than 3.8 with one degree of freedom is significant at the 0.05 level (Bruning and Kintz, 1997). Therefore, that was the level used to indicate statistical significance for this study.
Table 16

Participants in the Administration of the Nevada High School Proficiency Examination by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>174</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>Male</td>
<td>345</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>68%</td>
<td>32%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>0.03</td>
<td>0.346</td>
</tr>
</tbody>
</table>

Although over twice as many male students with disabilities took the proficiency examination, approximately the same percentage (29% of females and 32% of males) passed the test. The gender of the students with disabilities is not a significant variable in determining whether a student with disabilities will pass the examination.
Table 17

Participants in the Administration of the Nevada High School Proficiency Examination by Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>298</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>Minority</td>
<td>221</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Statistic Value Significance

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>-0.18</td>
<td>0.000</td>
</tr>
</tbody>
</table>

There were 475 white students who took the examination and 277 minority students. The percent of white students who passed was greater than the percent of minority students who passed (37% and 20%, respectively). The relationship between ethnicity and passing the examination is statistically significant. When comparing white with Hispanic students only, the likelihood of passing the examination was still statistically significant. However, the relationship between ethnicity and passing was not significant when comparing black with Hispanic students.
While there were many more students who had learning disabilities (596) than those who had other disabilities (156) who attempted the examination, the nature of the disability was not a statistically significant variable in determining who will pass. When students with emotional disturbances were compared with students with other disabilities who were tested, there was still no significant relationship between disability and passing the examination. Additionally, none of the eight students with multiple impairments were tested, and only 21 of the 88 students with mental retardation were tested. None of them passed the proficiency examination.
Table 19

Participants in the Administration of the Nevada High School Proficiency Examination by Length of Time in the District

<table>
<thead>
<tr>
<th>Time in District</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Started in elementary school</td>
<td>327</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>Started after elementary school</td>
<td>175</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>74%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Statistic Value Significance

- Phi 0.08 0.075

Over twice as many of the students with disabilities who attempted the examination had started in the district during their elementary school years. However, the length of time the students have been in the Clark County School District does not show a statistically significant relationship with passing the examination.
Table 20

Participants in the Administration of the Nevada High School Proficiency Examination by Number of High Schools Attended

<table>
<thead>
<tr>
<th>High Schools Attended</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same high school all 4 years</td>
<td>271</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>More than 1 high school in 4 years</td>
<td>248</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>75%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Statistic Value Significance

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>0.12</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Over sixty percent of the students with disabilities who took the examination had attended the same high school for all four years. The other students had gone to two or more high schools in Clark County. Attending only one high school and passing the examination are significantly related. When comparing students who had attended two high schools to those who had attended three or more the results were still statistically significant. Therefore, students attending only one or two high schools were much more likely to pass than students who were more transient.
Table 21

Participants in the Administration of the Nevada High School Proficiency Examination by Cognitive Skills Index (IQ)

<table>
<thead>
<tr>
<th>CSI</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ at or above 80</td>
<td>116</td>
<td>141</td>
</tr>
<tr>
<td></td>
<td>45%</td>
<td>55%</td>
</tr>
<tr>
<td>IQ below 80</td>
<td>249</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>82%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Statistic          Value  Significance
Phi                -0.39   0.000

The mean cognitive skills index for the students with disabilities who took the examination was 80, while in the general population the mean CSI is 100, with a standard deviation of 16 and a range of 84-116. Over half of the students whose scholastic ability was above the mean passed the examination, while fewer than 20 percent of those with a scholastic ability below the mean passed. Scholastic ability and passing the examination are significantly related.
Table 22

**Participants in the Administration of the Nevada High School Proficiency Examination by Number of Credits Taken (by Mid-Semester Senior Year)**

<table>
<thead>
<tr>
<th>Credits Taken</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.5 or more credits</td>
<td>287</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>fewer than 18.5 credits</td>
<td>231</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>85%</td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>0.26</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Students must have 22.5 credits by the time they are ready to graduate. If students have 18.5 credits by mid-semester of their senior year, they should be able to have the required number by graduation. This table was based on the number of credits they had at mid-semester. Those who were on track to have enough credits by graduation time were more likely to pass than those who had not received enough credits. The number of credits taken is statistically significant in determining who will pass.
Table 23

Participants in the Administration of the Nevada High School Proficiency Examination by Cumulative Grade Point Average (GPA) (by Mid-Semester Senior Year)

<table>
<thead>
<tr>
<th>Credits Taken</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.68 or higher</td>
<td>106</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>Below 2.68</td>
<td>143</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>59%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Statistic                  Value  Significance
Phi                        -0.04  0.453

The cumulative GPA was also based on the students' GPA at mid-semester of their senior year. Approximately the same number of students who had a GPA higher than the average passed as did the students with a lower than average GPA. The cumulative GPA is not statistically significant.
Table 24

Participants in the Administration of the Nevada High School Proficiency Examination by Type of Courses Taken

<table>
<thead>
<tr>
<th>Courses Taken</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly or all special education classes</td>
<td>341</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>73%</td>
<td>27%</td>
</tr>
<tr>
<td>All remedial or general education classes</td>
<td>46</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>34%</td>
<td>66%</td>
</tr>
</tbody>
</table>

Statistic  
Phi  
Value  
0.35  
Significance  
0.000

Students with disabilities who were enrolled in general education or remedial classes were much more likely to pass the examination than students who took few or no classes other than special education classes (66% and 27%, respectively). The type of courses taken and passing the examination are significantly related.
Table 25

Participants in the Administration of the Nevada High School Proficiency Examination by Third-Grade Proficiency Results

<table>
<thead>
<tr>
<th>Results</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficient in third grade</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Nonproficient in third grade</td>
<td>83</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>65%</td>
<td>35%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>0.22</td>
<td>0.004</td>
</tr>
</tbody>
</table>
Table 26

Participants in the Administration of the Nevada High School Proficiency Examination by Third-Grade Mathematics Subtest Results

<table>
<thead>
<tr>
<th>Results</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficient in third-grade math</td>
<td>35</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Nonproficient in third-grade math</td>
<td>64</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>84%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Statistic | Value | Significance |
----------|-------|--------------|
Phi       | 0.31  | 0.000        |

Only 167 of the students who took the high school proficiency examination also took the third-grade proficiency examination. Passing all three sections (reading, writing, and mathematics) of the third-grade proficiency examination is significantly related to passing the high school proficiency examination. However, passing the mathematics section is most highly correlated with passing the proficiency examination in high school.
Table 27

Participants in the Administration of the Nevada High School Proficiency Examination by Sixth-Grade Proficiency Results

<table>
<thead>
<tr>
<th>Results</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficient in sixth grade</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Nonproficient in sixth grade</td>
<td>154</td>
<td>89</td>
</tr>
</tbody>
</table>

Statistic Value Significance

- Phi: 0.27, 0.000

Passing all three sections of the sixth-grade proficiency examination is significantly related to passing the high school proficiency examination. Reading, writing, and mathematics subtests were all comparably correlated with passing the examination.
Table 28

Participants in the Administration of the Nevada High School Proficiency Examination by Eighth-Grade Proficiency Results

<table>
<thead>
<tr>
<th>Results</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficient in eighth grade</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>6%</td>
<td>94%</td>
</tr>
<tr>
<td>Nonproficient in eighth grade</td>
<td>298</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>65%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Statistic       Value   Significance
---             ---       ---
Phi             0.24     0.000
Table 29

Participants in the Administration of the Nevada High School Proficiency Examination by Eighth-Grade Mathematics Subtest Results

<table>
<thead>
<tr>
<th>Results</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficient in eighth-grade math</td>
<td>63</td>
<td>94</td>
</tr>
<tr>
<td>Nonproficient in eighth-grade math</td>
<td>214</td>
<td>74</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>0.34</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Passing all three sections of the eighth-grade proficiency examination is significantly related to passing the high school proficiency examination. However, passing the mathematics section at grade eight is more highly correlated with passing the high school examination than was passing writing or reading at grade eight.

The results indicated in Tables 25-29 suggest that proficiency on examinations at previous grade levels, particularly in the area of mathematics, is significantly related to subsequent success on the high school proficiency examination.
Table 30

Participants in the Administration of the Nevada High School Proficiency Examination by Parents' Occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed, unskilled, or not available</td>
<td>239</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>Skilled or professional</td>
<td>276</td>
<td>159</td>
</tr>
<tr>
<td></td>
<td>63%</td>
<td>37%</td>
</tr>
</tbody>
</table>

Statistic Value Significance

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi</td>
<td>0.14</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Fewer than one fourth of the students whose parents were unemployed or held jobs requiring no skills passed the proficiency examination, while over one-third of students whose parents held skilled or professional jobs passed the examination. Parents' occupation and passing the examination are significantly related. However, some occupations could not be determined, because the only information available for some parents was the name of their employers (for example, MGM). If the position title was not available, these were classified with the unemployed or unskilled group.
Discussion of Results

Eleven demographic and educational variables were tested to determine if they were significantly related to success in whether students with disabilities passed all three sections of the Nevada High School Proficiency Examination. Demographic variables tested included gender, ethnicity, type of disability, length of time in the district, number of high schools attended, cognitive skills index, and parents' occupation. Educational variables studied included the number of credits students had earned, students' cumulative grade point average, the results of the proficiency examinations in third, sixth, and eighth grades, and the type of courses (special education, remedial, and general education classes) students took during their four years in high school.

Table 31 lists the variables and shows whether each was statistically significant in determining whether students with disabilities passed or failed the proficiency examination.
Table 31

Participants in the Administration of the Nevada High School Proficiency Examination: Demographic and Educational Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistically Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
</tr>
<tr>
<td>1. Gender</td>
<td>1. No</td>
</tr>
<tr>
<td>2. Ethnicity</td>
<td>2. Yes</td>
</tr>
<tr>
<td>3. Type of disability</td>
<td>3. No</td>
</tr>
<tr>
<td>4. Length of time in CCSD</td>
<td>4. No</td>
</tr>
<tr>
<td>5. Number of high schools attended</td>
<td>5. Yes</td>
</tr>
<tr>
<td>6. Cognitive skills index</td>
<td>6. Yes</td>
</tr>
<tr>
<td>7. Parents' occupation</td>
<td>7. Yes</td>
</tr>
<tr>
<td><strong>Educational</strong></td>
<td></td>
</tr>
<tr>
<td>1. Number of credits</td>
<td>1. Yes</td>
</tr>
<tr>
<td>2. Cumulative GPA</td>
<td>2. No</td>
</tr>
<tr>
<td>3. Past proficiency results</td>
<td>3. Yes</td>
</tr>
<tr>
<td>a. Third grade</td>
<td>a. Yes</td>
</tr>
<tr>
<td>b. Sixth grade</td>
<td>b. Yes</td>
</tr>
<tr>
<td>c. Eighth grade</td>
<td>c. Yes</td>
</tr>
<tr>
<td>4. Type of classes taken</td>
<td>4. Yes</td>
</tr>
</tbody>
</table>

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Results indicate that both educational variables and demographic variables were significantly related to passing the proficiency examination; therefore, the null hypothesis can be rejected and the research hypothesis can be accepted: there are significant differences between the backgrounds of students with disabilities who pass the high school proficiency examination and those who fail the examination which are affected by both demographic and educational variables.

A Comparison of General Education Students And Students With Disabilities

Six of the eleven variables which were reported for students with disabilities were also studied for the general education population. Table 32 shows the number and percent of the general education students who passed and failed the proficiency examination after five attempts by each of the six variables. Note that both the cognitive skills index and grade point average dividing points cited for the general education students are different from those for students with disabilities due to scoring differences between the two groups.

There were many similarities between general education students and students with disabilities who passed the proficiency examination. In both groups, gender was not a significant variable in determining who would pass. Additionally, in both groups ethnicity, cognitive skills index, and number of credits earned were significantly related to examination results. However, there were two variables which were statistically significant variables in determining
which students in the general education population would pass, which were not statistically significant for students with disabilities. The two variables which differed were length of time in the district and cumulative grade point average.
Table 32

Participants in the Administration of the Nevada High School Proficiency Examination: General Population (Excluding Students With Disabilities)

<table>
<thead>
<tr>
<th></th>
<th>N-Failed</th>
<th>N-Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>575</td>
<td>3860</td>
</tr>
<tr>
<td>Female</td>
<td>486</td>
<td>3645</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>305</td>
<td>4965</td>
</tr>
<tr>
<td>Minority</td>
<td>756</td>
<td>2540</td>
</tr>
<tr>
<td><strong>Time in District</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Started in ES</td>
<td>445</td>
<td>4689</td>
</tr>
<tr>
<td>Started after ES</td>
<td>616</td>
<td>2816</td>
</tr>
<tr>
<td><strong>Cognitive Skills Index</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IQ above 102</td>
<td>33</td>
<td>3327</td>
</tr>
<tr>
<td>IQ below 102</td>
<td>1028</td>
<td>4178</td>
</tr>
<tr>
<td><strong>Credits Earned</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.5 or more</td>
<td>634</td>
<td>6910</td>
</tr>
<tr>
<td>fewer than 18.5</td>
<td>427</td>
<td>595</td>
</tr>
<tr>
<td>Cumulative GPA</td>
<td>N-Failed</td>
<td>N-Passed</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>2.67 or higher</td>
<td>174</td>
<td>4%</td>
</tr>
<tr>
<td>below 2.67</td>
<td>887</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Phi</td>
<td>0.02</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Phi</td>
<td>0.25</td>
</tr>
<tr>
<td>Time in CCSD</td>
<td>Phi</td>
<td>-0.14</td>
</tr>
<tr>
<td>Cognitive Skills Index</td>
<td>Phi</td>
<td>0.28</td>
</tr>
<tr>
<td>Credits Earned</td>
<td>Phi</td>
<td>0.33</td>
</tr>
<tr>
<td>Cumulative GPA</td>
<td>Phi</td>
<td>0.26</td>
</tr>
</tbody>
</table>
SUMMARY

This chapter discussed the results of the qualitative and quantitative data in the study. Qualitative data were drawn from observations of the testing setting in four high schools and from the information gathered through surveys of high school special education teachers. The observations indicated that high schools are adhering to the rules and regulations for administering the high school proficiency examination, but that some teachers have preconceived notions concerning their students' chance of passing or failing the examination. These values may negatively affect the teachers' relative encouragement of their students' subsequent examination performance. Survey results indicated that most respondents felt that type of classes taken (special education or general education classes) was the variable which most greatly influenced whether a student attempted to pass the proficiency examination, followed by the grades they have received. Most respondents thought that the students' disabilities were of little importance in determining who took the examination.

The quantitative data were derived from an analysis of demographic and educational backgrounds of the participants. Simple 2 x 2 chi-square tests were conducted to determine which variables were significantly related to passing the proficiency examination. Gender, type of disability, length of time in CCSD, and GPA were not significant variables. Ethnicity, number of high schools attended, cognitive skills index, parents' occupation, number of credits earned, past proficiency results, and type of classes taken were all significant considerations in determining who will pass the examination. Some of the
variables studied for students with disabilities were not available for general education students. However, significant variables which were common to both groups included ethnicity, cognitive skills index, and number of credits earned before the examination.
CHAPTER FOUR

SUMMARY AND CONCLUSIONS

Overview of the Study

**Statement of the Problem** - As a result of public concern over the lack of basic skills that many high school graduates exhibit, some or all districts in 38 states now require that high school students take and pass a minimum competency test before they can receive a diploma. If students with disabilities want to be competitive in the job market, they, too, need to pass this test. A study by Wagner and Blackorly (1996) found that 30 percent of students with disabilities dropped out of high school, and that only 37 percent of students with disabilities planned to further their education, while 78 percent of students in the general population planned to attend a post secondary school. Additionally, Parish, Penrod, and Rupp (1992) found that high school students with disabilities could not read well enough to fill out a job application. These trends need to change, because as technology becomes more a part of our society, there will be fewer and fewer unskilled jobs available for students with no diploma.

Although numerous researchers (Candor-Chandler, 1978; Serow and O'Brien, 1983; Hall et al., 1985; Halpin and Akers-Adams, 1985; and Mick, 1989) have studied the effects of inclusion of students with disabilities, little research has been conducted on why some students with disabilities do well on
tests and others do not. The purpose of this study was to determine if there are statistically significant differences between the students with disabilities who pass and those who fail the Nevada High School Proficiency Examination which are accounted for by demographic variables only, or if they must be attributed also to educational variables.

Significance of the Study - With the passage of the 1997 Amendments to the Individuals with Disabilities Education Act, effective July 1998, students with disabilities were required to be included in all state and district assessment programs. That legislation, in addition to the increasing number of states requiring high school competency tests, made this a timely study. If the results of this study indicate that there are educational variables which are statistically significant in determining who will pass or fail a high school competency test, then parents, teachers, and policy makers can make or suggest changes in the educational programming of students with disabilities to help maximize their chances of successfully graduating from high school with a regular diploma.

Participants and Procedures - The participants in this study were all 965 Clark County School District students in special education who were in the eleventh grade in the 1997-98 school year. The students were from all area high schools, including the homebound program. They represented all ethnic groups and all but two disability categories. There were no students in eleventh grade who were classified as deaf/blind or developmentally delayed. The students came from all parts of the socioeconomic status spectrum, ranging
from homes in which parents were unemployed or unskilled to homes in which parents were skilled laborers or professionals. The average length of time they had been in this district was nine years. Approximately half of them had attended the same high school all four years, but others had attended as many as seven different high schools (including summer schools). The average cognitive skills index for these students is 80 (on a scale from 58 to 141 with a mean of 100 and a standard deviation of 16), and the average GPA is 2.68. Some participants had taken more than the required number of credits to graduate (22.5), while others had accrued fewer than 10 credits.

To examine which, if any, of these demographic and educational variables were statistically significant in determining whether students would pass or fail the proficiency examination, simple 2 x 2 chi-square tests were performed on each of the variables.

These students were given their first of five opportunities to pass the high school proficiency test in April of their junior year. The study follows their progress on all five chances, through May of their senior year, to determine which ones passed and which ones failed the test. All students must pass this test in order to receive an Option I (regular) high school diploma.

Of the original 965 participants, 152 dropped out, left the district, or withdrew before the study was completed in June of 1999. Seven others graduated early, and three students received adjusted diplomas before the end of their senior year.

The testing in four of the high schools was observed to determine if the test settings were standardized, and to record teachers' and test administrators'
comments on testing students with disabilities. Additionally, surveys were sent to 288 high school special education teachers, asking them to identify the areas that they felt were important in determining which of their students will pass the examination and receive an Option I diploma.

**Observation and Survey Results** - The observations of the testing setting revealed that teachers and test administrators are adhering to the regulations for administering the Nevada High School Proficiency Examination. Comments to the observer by a few teachers suggested that they have preconceived opinions of their students' chance of obtaining Option I diplomas; however, no negative comments were made directly to the students. In addition, some students did not appear to take the test seriously because they did not remain on task, came to the test late, and/or answered mathematics items without working the problems on scratch paper.

Thirty-five teachers returned the surveys. They were asked to identify seven variables as "of great importance," "of some importance," or "of little importance," in determining which of their students try for an Option I diploma. The majority of the respondents felt that classes taken in high school and the students' motivation were of great importance. Seventeen teachers also stated that grades were of great importance, followed in importance by past test scores and parents' concerns. The majority of the teachers (21) thought that the type of disability a student has was of little importance in determining who will try for an Option I diploma.
Analysis of Test Results and Conclusions - Of the original 965 students, 752 took the examination, and 213 were never tested. Of those tested, 31 percent (233) passed during one of the five attempts, and 69 percent (519) had not passed the examination. Thirteen variables were tested with simple 2 x 2 chi-square tests for the existence of a statistically significant relationship between each of the variables and passing the examination. Six of the thirteen variables were reviewed for the general education population, as well. Results revealed that the following demographic variables were statistically related to passing the examination: ethnicity, number of high schools attended, cognitive skills index, and parents' occupation. The educational variables which were statistically significant were number of credits taken, results on proficiency examinations in previous grades (third, sixth, and eighth) and the type of classes taken (special education or general education). At grades 3 and 8 students' proficiency on the mathematics sections of the test showed the highest relationship with passing the high school proficiency. This should be of great concern to parents and teachers, because the mathematics section of the high school proficiency examination is the section that the greatest number of students fail. The results indicate that both demographic and educational variables are related to passing the competency examination. Obviously, educators cannot alter the demographic variables of the students with disabilities, but with this information, they may be able to work in partnership with parents (as required by goal 8 of Goals 2000) to influence the number of credits and type of classes that these students take, to help enhance their chances of receiving a regular high school diploma.
Two variables which were significantly related to passing the examination by general education students, but were not significantly related for the students with disabilities, included grade point average (GPA) and length of time in CCSD. Special education teachers may grade differently from general education teachers, because the average GPA of the special education population was higher than the average GPA for the general education population, yet GPA and passing the examination did not have a statistically significant relationship for students with disabilities. Approximately 91 percent of the general education students who had been in CCSD since elementary school passed the examination, while only 82 percent of those who started in CCSD after elementary school passed. For students with disabilities, however, only 34 percent of those who started here in elementary school passed, and 26 percent of those who started in later years passed the examination.

Since results on proficiency tests taken in previous years were significantly related to passing the high school proficiency examination, then all students with disabilities should be encouraged to participate in proficiency testing at the younger grades, with intensive remediation provided to those who don't pass.

Recommendations for Further Inquiry

Although this study found that some demographic and some educational variables are significantly related to passing the high school proficiency test, it did not address the type of program changes that might be made to help future
senior students with disabilities pass the examination. The following recommendations have emerged that should be addressed in future research:

1. Observations in high schools should be more extensive. A one-time planned observation may not give a true picture of what takes place during proficiency testing.

2. Teachers who receive surveys should be given a follow-up notice to encourage a greater number of respondents.

3. The study could be expanded to include later attempts by these students to pass, now that the State Board of Trustees is allowing numerous opportunities to test, rather than a limit of five opportunities as it was for these students at the beginning of the study.

4. Further research should be conducted to determine why the type of disability is not significantly related to passing the test.

5. Although students in general education who have been in the district since elementary school are more likely to pass than students who are newer to the district, this was not a significant variable for students with disabilities. A future study should be done to examine the type of special education background the students with disabilities have had. When were they referred to special education, and how many different teachers have they had? Another area of concern is whether their teachers may have been substitutes, long-term substitutes, or even teachers without special education qualifications.
6. Nearly half of the participants in this study had attended more than one high school. A future study should compare the students with disabilities who have attended alternative education programs (such as juvenile court schools) with those who have been in only regular high school programs.

7. Although GPA was not significantly related to passing the examination for students with disabilities, it was significant for students of general education. Why this difference exists should be investigated.

8. Since students with disabilities who took general education classes were more likely to pass than the students who took mostly or only special education classes, more studies on the effects of inclusion may be warranted.

In summary, this study provides information regarding which variables are related to passing the examination, but further studies need to be conducted to address why these variables are significant.
I Assessment Practices (AP)

AP-1 Develop clear definitions and guidelines
AP-2 Establish expert panel
AP-3 Collect test data by age, not grade
AP-4 Track consequences of 1997 IDEA assessment provisions
AP-5 Hold forum to promote participation during assessment development
AP-6 Describe workable accountability system
AP-7 Enlist public support for new requirements
AP-8 Promote state leadership

II Research and Development (RD)

RD-1 Develop collaborative research efforts
RD-2 Develop model demonstration projects for alternate assessments
RD-3 Conduct research on accommodations, alternate assessments, and related topics

III Technical Assistance (TA)

TA-1 Create a technical assistance planning team
TA-2 Document and evaluate current assessment efforts
TA-3 Develop technical assistance materials
TA-4 Create a forum of information dissemination
TA-5 Establish state teams and provide training on alternate assessment

TA-6 Establish a single point of contact for alternate assessment information

TA-7 Provide a cadre of experts to provide startup technical assistance to states

IV Professional Development (PD)

PD-1 Require competencies in large-scale assessments

PD-2 Develop core training materials that allow for adaptations

PD-3 Develop a coordinated professional development team

PD-4 Target IEP teams for immediate training

PD-5 Increase OSERS voice on the U.S. Department of Education's initiative team for Goal Five on well-trained teachers

PD-6 Develop and disseminate information for staffing parent organizations

PD-7 Establish a federal priority for funding alternate assessments

V Monitoring (M)

M-1 Redefine the purpose of monitoring

M-2 Integrate NASDE and NCEO models to guide monitoring efforts

M-3 Monitor for consistency, comprehensiveness, and progress on state improvement plans
M-4 Use a standard formula to analyze participation
M-5 Change the consequences of monitoring
M-6 Involve stakeholders in monitoring process
M-7 Monitor goal alignment for students taking the alternate assessment.
DATE: March 23, 1999

TO: Rhoton T. Hudson
   Department of Special Education
   M/S 3014

FROM: Dr. William E. Schulze, Director
      Office of Sponsored Programs (X1357)

RE: Status of Human Subject Protocol Entitled:
    "High School Special Education Students: Which
    Ones Are Best Prepared to Pass the High School
    Proficiency Exam"

OSP #305s0399-242

The protocol for the project referenced above has been
reviewed by the Institutional Review Board Secretary in the
Office of Sponsored Programs and it has been determined that
it meets the criteria for approval under the Multiple
Assurance Agreement for the UNLV Human Subjects
Institutional Review Board. This protocol is approved for
a period of one year from the date of this notification and
work on the project may proceed.

Should the use of human subjects described in this protocol
continue beyond a year from the date of this notification,
it will be necessary to request an extension.

If you have any questions regarding this approval, please
contact Marsha Green in the Office of Sponsored Programs at
895-1357.

cc: J. Kelly (SED-3014)
    OSP File

Office of Sponsored Programs
4505 Maryland Parkway • Box 451037 • Las Vegas, Nevada 89154-1037
(702) 895-1357 • FAX (702) 895-4242

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MEMORANDUM

TO: High School Principals

FROM: Rho Hudson, TOSA in Dept. of Testing and Evaluation

DATE: March 23, 1999

SUBJECT: NV High School Proficiency Exam

I am working toward my Ed.D. in Special Education from UNLV. For my doctoral dissertation study, I am attempting to determine if there are common characteristics among high school special education students who earn Option 1 diplomas, and the differences between that group and the students who choose Option 2 diplomas. The participants in the study are 839 special education students who were in the 11th grade when the new high school proficiency exam went into effect in 1997/98. In the study, I would like to include some teachers’ perceptions of what motivates certain students to take the high school proficiency exam. To do this I am asking your permission to observe in the special education classrooms at your school for approximately one hour each on a day prior to the “Last Chance Testing” dates, to see how the teachers prepare their students for testing. Any reference to your school, teacher, or students in the study will be kept anonymous and participation is voluntary. If you approve, please sign below and fax back to me at 799-2855 so we can set up a date and time.

I have obtained permission to conduct this study through the Office of Sponsored Programs at UNLV (895-1357) and the CCSD Cooperative Research Committee at CCSD (799-5403). Thank you for your willingness to assist me in this matter.

Rho Hudson

________________________________________
Signature
MEMORANDUM

DATE: March 23, 1999

TO: High School Special Education Teachers at 4 area high schools

FROM: Rho Hudson, TOSA in Dept. of Testing and Evaluation

SUBJECT: NV High School Proficiency Exam

I am working toward my Ed.D. in Special Education from UNLV. For my doctoral dissertation study, I am attempting to determine if there are common characteristics among high school special education students who earn Option 1 diplomas, and the differences between that group and the students who choose Option 2 diplomas. The participants in the study are 839 special education students who were in the 11th grade when the new high school proficiency exam went into effect in 1997/98. In the study, I would like to include some teachers' perceptions of what motivates certain students to take the high school proficiency exam. To do this I am asking your permission to observe in your special education classroom for approximately one hour on a day prior to the "Last Chance Testing" dates, to see the students prepare for testing. Any reference to you, your school, or your students in the study will be kept anonymous and participation is voluntary. If you approve, please sign below and fax back to me at 799-2855 so we can set up a date and time.

I have obtained permission to conduct this study through the Office of Sponsored Programs at UNLV (895-1357), the CCSD Cooperative Research Committee at CCSD (799-5403) and from your principal. Thank you for your willingness to assist me in this matter.

Rho Hudson

Signature
APPENDIX IV

SURVEYS

137
MEMORANDUM

TO: High School Special Education Teachers          DATE: May 20, 1999
FROM: Rho Hudson, TOSA in Dept. of Testing and Evaluation
SUBJECT: NV High School Proficiency Exam

I am working toward my Ed.D. in Special Education from UNLV. For my doctoral dissertation study, I am attempting to determine if there are common characteristics among high school special education students who earn Option 1 diplomas, and the differences between that group and the students who choose Option 2 diplomas. The participants in the study are 965 special education students who were in the 11th grade when the new high school proficiency exam went into effect in 1997/98. In the study, I would like to include some teachers' perceptions of what motivates certain students to take the high school proficiency exam. To do this, I am asking if you would please take a few minutes out of your busy schedule to answer the following questions on the attached survey. Please do not sign your name. Your response will be used in conjunction with everyone else's. If you have any questions about the study, please feel free to call me at 799-1005. I have obtained permission to distribute this survey from the Office of Sponsored Programs at UNLV (895-1357) and the Cooperative Research Committee at CCSD (799-5403).
HIGH SCHOOL SPECIAL EDUCATION TEACHERS’ SURVEY

1. Which subject(s) do you teach? ____________________________________________

Are your students taught in self contained or cooperative classes? ______________

2. In general, what percent of your students receive an Option 1 diploma? __________

3. In general what percent of your students attempt, but never pass, the Nevada High
   School Proficiency Exam? ____________________________________________

4. Do you think more or fewer of your students have tried for an Option 1 diploma since
   the new proficiency test went into effect last year? ____________________________

   Why? ____________________________________________________________________

5. What are the determining factors that decide which students will try for an Option 1
   diploma? (Please number the options from 1-8, with 1 being most important.)

   _____ 1. grades               _____ 2. past standardized test scores
   _____ 3. parent request       _____ 4. special education code
   _____ 5. IEP goals            _____ 6. classes taken in high school
   _____ 7. student motivation   _____ 8. other (please explain)

Please comment on your views regarding testing students with disabilities vis-a-vis the
new high school proficiency exam.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

Return via school mail to Rho Hudson at the Department of Testing and Evaluation.

Thank you for your input.
BIBLIOGRAPHY


Erickson, R., et al. (1994). *State special education outcomes: A report on how states are assessing educational outcomes for students with disabilities*. National Center on Educational Outcomes, Minneapolis, MN.


NCEO Core Staff (1995). *Executive Summary*. Minneapolis, MN.


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VITA

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Dissertation Title: Special Education Students: Which Ones Are Prepared to Receive A High School Diploma?

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Committee Member, Dr. Susan Miller, Ph. D.
Graduate Faculty Representative, Dr. Carl Steinhoff, Ed. D.