

USING CAREER EDUCATION TO ENHANCE SCHOOL SUCCESS
AND REDUCE THE DROPOUT RATE

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Cindy L. Martin

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USING CAREER EDUCATION TO ENHANCE SCHOOL SUCCESS AND REDUCE
THE DROPOUT RATE

by Cindy L Martin

APPROVED:

COMMITTEE CHAIR

Karen L. Parker, Ed.D.

COMMITTEE MEMBERS

Christopher K. Shon, Ph.D.

Thomas W. Bell, Ph.D.

CHAIR, GRADUATE STUDIES

Scott B. Watson, Ph.D.

ABSTRACT

Cindy L Martin. USING CAREER EDUCATION TO ENHANCE SCHOOL SUCCESS AND REDUCE THE DROPOUT RATE. (Under the direction of Dr. Karen Parker) School of Education, April, 2008.

The new career education program was developed to help over-aged and under achieving 9th graders who are one or more years behind in earning their high school diplomas. This program was designed to reduce the dropout rate and provide every student with a South Carolina State Diploma and a marketable skill upon entering the workforce. This study determined if the program reduced the dropout rate and if students participating in the career education program would show an improvement in factors established as dropout indicators. The students who met the programs qualifications began in the fall of 2006 and were studied over a one year period. Improvements in factors associated with dropping out were measured. These factors were Grade Point Ratio (GPR), Measure of Academic Progress (MAP) scores, Carnegie Units, and attendance. At the conclusion of the program the students who participated had higher MAP scores, GPR, Carnegie units earned and improved attendance than pre-program scores. Also, no student dropped out of school that entered this program in the fall of 2006. These results demonstrate that this career education program enabled the student to become a high school graduate by improving their MAP scores, Grade Point Ratios and Carnegie units and attendance. To determine if these students remain in school and the impact this program had on the students, further study is encouraged.

Acknowledgement

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Chapter 1

Introduction to the Study

Every nine seconds, a student drops out of high school in the United States (Children's Defense Fund, 2001). For survival in the 21st century, such a statistic is unacceptable because a high school diploma is needed to access additional education, training, and entrance into the workforce. According to the National Center for Educational Statistics, a high school dropout is more likely to be unemployed or earn less money than high school completers (U.S. Department of Education, 2005). The *No Child Left Behind Act of 2001* (NCLB) insures that all children have a fair and equal opportunity to obtain a high-quality education and reach, at least the minimum, proficiency on state academic achievement standards and assessments (NCLB, 2001).

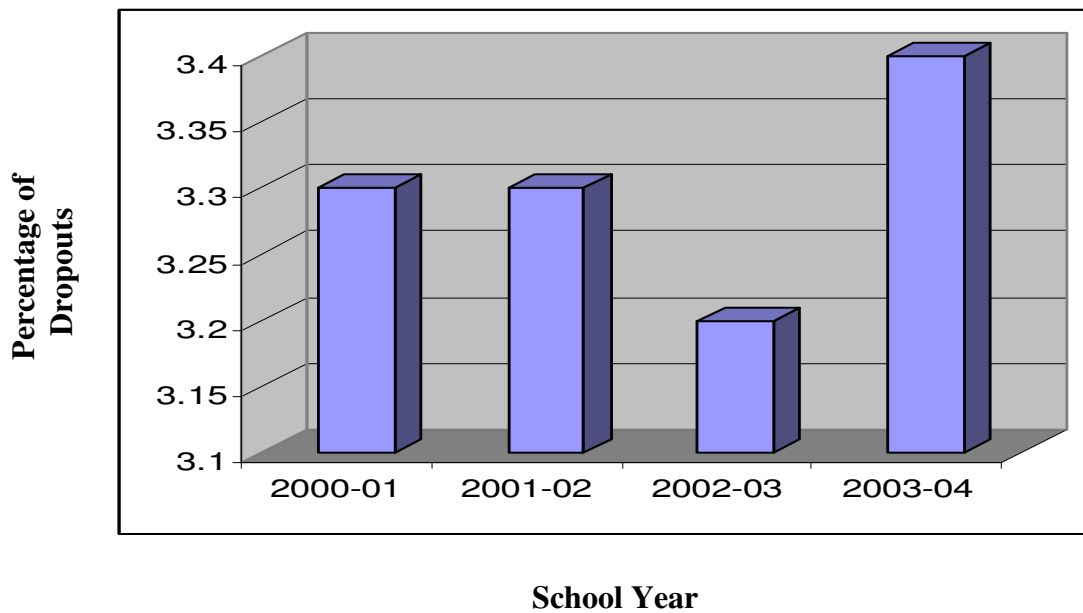
The career education program was developed, by a school district located in the Northeastern South Carolina, to help over-aged and under achieving 9th graders who are one or more years behind in earning their high school diplomas. This program was designed to reduce the dropout rate and provide each student with a South Carolina State Diploma and a marketable skill upon entering the workforce.

In 1971, the South Carolina Department of Education began collecting and analyzing data on school dropouts. *Report on Student Dropout Rates: 2003-04*, (South Carolina Department of Education, 2006) provides an assessment of the progress made by the state in its effort to reduce the number of student dropouts and increase the graduation rate. The latest statistics released by the South Carolina Department of Education (Figure 1) shows the dropout rate for grades 9 through 12 for the state of South Carolina from 2000 to 2004. During the school years of 2000-

01 and 2001-02 the dropout rate remained the same at 3.3 percent. This percentage declined in the 2002-03 school year to 3.2 percent but then increased by 0.2 percent during the 2003-04 academic year (South Carolina Department of Education, 2006).

Figure 1

**Total Dropout as a Percentage of the Total Enrollment
for Grades 9-12 in South Carolina**



The statistics were based on information submitted by each school district and compiled into a state report. These statistics are reported by the state yearly in order to comply with the No Child Left Behind Act. The percentages released by South Carolina Department of Education are not vast, if looking at the percentage for the entire state. Taking into consideration the percentage represents numerous students who dropped out of school, the loss is staggering. The state of South Carolina for the school years 2000-2004, on average, lost 6,172 students per year in all districts statewide. The district in which this study was conducted lost, on average, 756

students per year over the same four-year period. During this period a total of 3,024 students, 12% of the state's yearly total, became a dropout static. Table 1 shows the percent graduation reported to the state by the school district for the last three years. About one out of every four students would not graduate from high school in this district.

Table 1

Percent Graduation

| 2004 | 2005 | 2006 | 3yr Average |
|------|------|------|-------------|
| 79.3 | 74.6 | 75.2 | 76.4 |

(South Carolina Department of Education)

Based on these numbers the school district's objective was to improve on the graduation rate and the number of students who were issued a high school diploma. Focusing on the commitment to reduce the student dropout rate, the district designed and implemented a career education program to begin in the 2006-07 school year.

Background of the Study

Since the 1970's there has been a growing effort to improve high school graduation rates. The United States educational standard had fallen behind other major industrialized countries according to the National Commission of Excellence in Education (National Commission on Excellence in Education, 1983). The Commission called for a reform of the nation's educational system in fundamental ways and a renewal of their commitment to high quality education. Though these issues received increased attention following the commission's call, little research had been devoted to the student dropout rate or the risk factors that got students to

that point. Nearly forty years have gone by since the first attempt at improving the high school graduation rate. During this time extensive studies backed by years of compiled statistics show the percentages of dropouts per year has improved very little. The most current data (Table 2) shows the states with the worst graduation rates and those with the highest. South Carolina has the lowest on time graduation rate of 51 percent and New Jersey has the highest with 86 percent. The on-time graduation rate is based on the number of freshman who begins their high school career in the 9th grade, of a particular year and graduate four years later with a state issued diploma (Haney, W., Madaus, G., Abrams, L., Wheelock, A., Miao, J., & Gruia, I., 2004).

Table 2

Dropout Prevention: A National Issue

State Graduation Rates - 2000-01

(Using 9th Grade enrollment as base)

| Worst Graduation Rate | | Highest Graduation Rates | |
|-----------------------|-----|--------------------------|-----|
| • South Carolina | 51% | ◆ New Jersey | 86% |
| • Florida | 52% | ◆ North Dakota | 84% |
| • Georgia | 57% | ◆ Iowa | 83% |
| • Mississippi | 57% | ◆ Utah | 83% |
| • Tennessee | 57% | ◆ Minnesota | 82% |

(Haney, W., Madaus, G., Abrams, L., Wheelock, A., Miao, J., & Gruia, I., (2004).

This study sought to determine if the newly developed career education program helped keep students in school and reduce this county’s dropout rate. Also, this study analyzed the relationship of the following indicators, grade point ratio, standardized

test scores, attendance and number of credits acquired, from previously reported scores and those obtained while participating in the dropout program.

Statement of the Problem

This chapter explains the methodology used to determine if the career education program would reduce the number of students who dropout of high school and to ascertain if improvement in factors established as dropout indicators occurred. This study is a causal-comparative study utilizing a one-group pretest-posttest design. The independent variable in this research is the students' participation in the career education program and the dependent variable is the number of participates who completed year one of the program. Also, data was collected before students initiated the program and at the conclusion of the first year of the program. The specific areas included Grade Point Ratio (GPR), Measure of Academic Progress scores (MAP), Carnegie units, and Attendance. To determine the effectiveness of the newly developed program, the students Grade Point Ratio was determined for the student's eighth grade school year, using the uniform grading policy for South Carolina, and comparing this score to the students' ninth grade GPR. To further determine the effectiveness of the career education program, the students Measure of Academic Progress (MAP) scores at the beginning of the program was compared to the students' scores at the end of the first year. To determine the effectiveness of the career education program, the students Carnegie Units was compared (the total number of units the student attempted was compared to the total number of units the student completed), and to determine the effectiveness of the career education program the students' attendance was compared to the uniform attendance policy for

South Carolina. The dropout rate was determined by the total number of students who began the program in August of 2006 compared to the number of students who did not complete the first year of the program in June of 2007.

Research Questions:

1. Will students who participate in the career education program show a reduction in the percentage of dropouts from schools in a Northeastern county of South Carolina?
2. Students who participate in the career education will have increased attendance.

Hypotheses:

Hypothesis #1 – Students participating in the career education program will have a positive effect on:

- 2a. Grade Point Ratio (GPR)
- 2b. Measure of Academic Progress (MAP)
- 2c. Carnegie Unit

for students involved in this study.

Conversely, the null hypothesis is that students participating in the career education program will show no improvement in factors related to the dropout rate nor will there be a reduction in the dropout rate, therefore any improvement is a result of chance.

Professional Significance of the Study

This study would determine whether the career education program changed the proportion of students who remained in school. Also, this study will determine

how well each student has developed academically through the career education program and would show if an improvement had occurred from the beginning year score and ending year score. Also, each student's attendance would illustrate if the career education program facilitates a positive attitude toward school by increasing the student's attendance.

Overview of Methodology

The investigator analyzed data collected from state mandated tests, student attendance and transcripts to determine the effectiveness of this newly developed career education program on keeping students in school and the advancement of these students while enrolled in the program. Parameters and restrictions set-forth by the district determined the availability of data that could be analyzed in this study.

The type of data used was quantitative and collected from the student's yearly attendance based on the 180-day cycle beginning on August 27, 2006 and ending on June 6, 2007, cumulative Grade Point Ratio (GPR); Carnegie units determined from student transcripts and Measure of Academic Progress (MAP) test given in August of 2006 and May of 2007.

In order to determine if a statistical relationship existed between pre- and post-data paired *t*-tests were performed between the independent and dependent variables. A series of charts and tables was generated to display the information.

Definition of Terms

Carnegie Unit or Carnegie hours are the number of hours per unit in which a course is taught. They are always calculated on an 18-week semester format, regardless of the length of course term. Carnegie Units are strictly time-based

references for measuring educational attainment used by American universities and colleges; the Carnegie Unit assesses secondary school attainment, and the Student Hour, derived from the Carnegie Unit, assesses collegiate attainment.

Completer to be a completer and receive credit for courses taken in a yearlong class, the student can have more than 10 days unexcused absence within a 180-day school year. To be a completer and receive credit for courses taken in a semester length class, no student can have more than 5 days unexcused absences within a 90-day course. All excused absences (medical, death in the family, court, school activity or guidance) do not count against the student and will not factor into these numbers.

Dropout is a student who leaves school for any reason, other than death, before graduation or completion of a program of studies and without transferring to another school or institution.

Dropout cycle: a nine-month collection that begins the first day of school and ends the last day of school.

Enrollment, days: this enrollment count begins the first day a student enters the program and ends the last day of the school year. For this study the 180-day count begins on August 27, 2006 and ends on June 6, 2007.

Event Dropout Rate: is the percentage of students who were enrolled in grades 9-12 during a given school year, were not enrolled in school during the following school year, and had not earned a high school diploma or completed a state or district-approved education program (US Department of Education, 2006).

Grade Point Ratio (GPR): GPR is used in the High School Transcripts. Points are assigned to each letter grade as follows: A=4 points; B=3 points; C=2 points; D=1 point; F= 0 points. The points are weighted by the number of Carnegie credits earned, so that a course with 120 hours of instruction counts twice as much as one with 60 hours. The average points earned for all the courses taken is the grade point ratio. Courses in which a graduate did not receive a grade, such as pass/fail and audited courses, did not factor into the GPR calculation.

Measure of Academic Progress (MAP) are tests in reading, mathematics, and language used to measure growth. These tests are aligned to each state's measurement scales and content standards, and are used as an indicator of preparedness for state assessments.

On-time graduation rate: is based on the number of freshman who begins their high school career in 9th grade and graduate three or four years later with a state issued diploma.

Chapter 2

Literature Review

To obtain a full understanding of the local, state and national dropout epidemic and the programs implemented to reduce those numbers, an extensive review of documentation (studies and surveys), implemented legislature and curriculum development was researched and studied. However, from the seventies to today the high school completion rate remains about 70% for whites, around 50% for blacks and 25% for Hispanics in the United States (U.S. Department of Education, 2004).

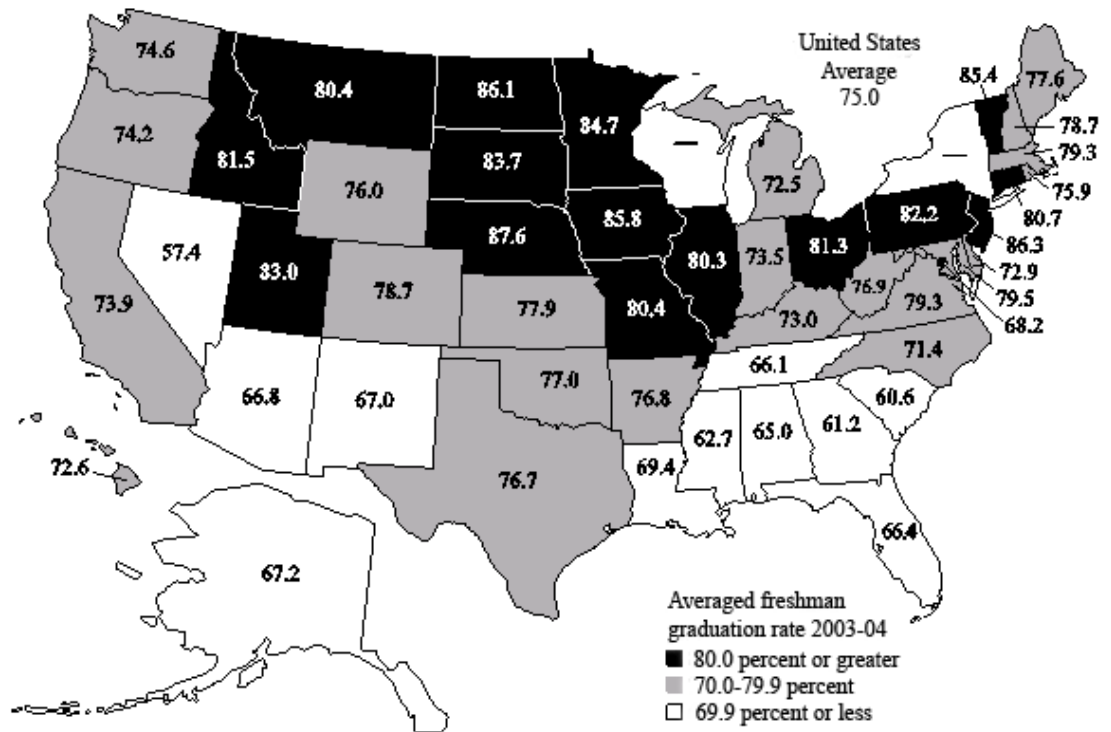
Historical Review

Despite several decades of intensive efforts to improve educational outcomes, the U.S. graduation rate has not reached above 70 percent in decades, and some states appear to be losing ground. On-time graduation rates hover between only 50 percent and 55 percent for African Americans and Hispanic young people (Steinberg, Johnson, & Pennington, 2006).

Data gathered by the National Center for Educational Statistics during 2003-04 (Figure 2) calculated the freshman graduation rate for each state. This percentage represents a student who is on-track in the 9th grade and graduates within three or four years. South Carolina, the target state for which this career education program is being studied, has one of the lowest, on-time graduation rates at 60.6 percent of any state within the United States. Nevada has the lowest at 57.4 percent (US Department of Education, 2006).

Figure 2

Average Freshman Graduation Rate 2003-04



(Education Commission of the States and EPE Research Center, 2006).

In a report from the National Board on Educational Testing and Public Policy the authors examined the United States educational system over a 30-year period from 1970 to 2000 and presented their findings based on analysis of data on grade enrollment and graduation. Most state reported dropout statistics are often unreliable due to the fact that the majority of the states do not report grade retention data, students who were held back at any grade level, as part of their statistical data. To get a clearer picture of the educational system within the United States the study

examined data on grade enrollment and graduation to determine the rate of student progress through elementary-secondary education. By analyzing enrollment and graduation statistics a more reliable conclusion could be drawn on the dropout rate.

The data used in this study was collected from the *Digest of Education Statistics* (DES), a report issued by the National Center for Education Statistics (NCES) and the Common Core of Data (CCD). The purpose of the study was to show how the graduation rates, both nationally and for the states, have changed in the last three decades.

On the national level high school graduation rates, defined in terms of grade eight to graduation four years later, climbed in the early 1980s but dipped slightly during the late 1980s. In the early 1990s, however, the graduation rates fell quite steadily, from 78.4% in 1991-92 to 74.4% in 2000-01. Based on a per-student basis the difference over the decade saw 871,000 students enrolled in 8th grade who did not graduate in 2000-01. Just fourteen states (WI, NJ, IA, MN, ND, UT, NE, MD, VA, MT, CT, MA, VT and ID) had graduation rates over 80% by 2000-01. At the other end of the spectrum thirteen states had graduation rates of 70% or less (DE, NM, ME, OR, NC, LA, GA, AZ, AL, FL, TN, SC, and MS). Of these, ten states had graduation rates of 60% or less and two states were approaching 50%-SC with 51% and FL with 52%. To calculate graduation rates the number of graduates was divided by the number of students enrolled in grade 9 three and one-half years earlier.

According to the report one contribution to this declining number was the grade 9 to graduation rate and the increasing “bulge” in grade 9 enrollments. This bulge indicated that the transition rates from grade 9 to grade 10 had changed and

large numbers of students were being retained in the 9th grade. According to the authors an increase in retention coincided with three major events in education. These events were: the competency testing movement in the 70's, the release of *A Nation at Risk* in the 80's and in the 90's the standards based reform (Haney, Madaus, Abrams, Wheelock, Miao, and Gruia, 2004).

It may or may not be evident that all states are not alike when it comes to curriculum, testing, graduation requirements or even the age at which a student can legally leave school. In a 2006 report which showed state by state graduation policies Lloyd stated:

“While policymakers continue to look for ways to increase graduation rates, there's also recognition that a high school diploma should reflect mastery of knowledge and skills that prepare students for life after high school. As a result, state course taking requirements are receiving additional scrutiny” (Lloyd (2006). High school graduation requirements have been brought to the forefront in recent years because of efforts to better prepare students for postsecondary education and the workplace.

According to data collected by the Educational Research Center in 2005-06, students were expected to earn, on average, 20.5 credits to earn a standard state diploma. Required coursework is expressed in Carnegie units, with one unit reflecting one year of coursework. State requirements ranged from 13 total credits in California, Wisconsin, and Wyoming to a high of 24 credits in Alabama, Florida, South Carolina and West Virginia. Some states left the decision about course credit up to the local school districts and Nebraska and North Dakota did not define any

expectations for credits in particular subjects but did specify the total number of course credits required for a student to graduate. As seen in Figure 3 the total credits required for a standard diploma in each state differed greatly (Education Commission of the States, 2007).

The number of required credits in core academic courses varied from state to state. The ECS followed the states' requirements for the four core academic courses of English/language arts, mathematics, science and social studies. Though the requirements for these course credits were not uniform across the states, English/language arts had the least variation of any of the other core courses. To receive standard diploma students were required to complete at least four credits in English/language arts in thirty-seven states. Three credits were required in six states, California, Illinois, Missouri, Oregon, Utah, and Washington. Each state usually mandated fewer credits in math, science and social studies. States with higher graduation requirements required at least three credits in each of these core areas (ECS, 2007).

States varied in the types of diplomas a student could earn upon successfully completing high school. Seventeen states offered only a single diploma, twenty-four states offered students who worked beyond the standard core accomplishments an honors diploma. If the student attended an alternative high school he/she could receive, along with a high school diploma, a certification in a major area such as business or technical courses. Also, for qualifying students, dual credit could be obtained for high school credit and college usually in core credit subjects (ECS, 2007).

In recent years, the number of states requiring students to pass a state exit exam increased from 17 in 2002 to 23 in 2006. A slight majority (12 of 23) of these states required the student to pass only English/language arts (including writing) and math to receive a state diploma; the other states required the student to pass tests in all four-core subject areas (ECS, 2007).

The Education Commission of the States provides standard high school graduation requirements for all fifty states, along with state reports on a variety of measures. ECS also offers resources on what states are doing regarding graduation rates and requirements.

Figure 3

Total Credits Required per State for a Standard Diploma



(Education Commission of the States and EPE Research Center, 2006)

It is important to understand what the high school dropout rate is and who are included in these numbers. As research was conducted for this study it became evident that criteria used to identify this group of high school student within various studies and reports differed. These different findings largely reflect diverse databases and methods in which students are counted. The greatest bias, in the usual reporting techniques, came from a failure to exclude recent immigrants. The exclusion of recent immigrants from the calculations had little impact on black or white completion rates, but an enormous effect for Hispanics (Bracey, 2006). The variation in statistics on dropouts outlines a fundamental problem, nationally; there is still little agreement on just who is a “dropout,” because states are allowed to define dropout rates and graduation rates in different ways. In order to maintain the most up to date, accurate statistics on the national dropout rate, the National Governors’ Association proposed during the 1996 National Educational Summit, a standard formula and a uniform reporting policy when calculating and reporting graduation rates (Samuels, 2007).

In 2001 the No Child Left Behind Act authorized the Dropout Prevention Program (DPP) and stipulated the method to be used in calculating the high school dropout rate. The provision states that,

“For purposes of calculating an annual school dropout rate under this subpart, a school shall use the annual event school dropout rate for students leaving a school in a single year determined in accordance with the National Center for Educational Statistics (NCES) Common Core of Data (CCD), (NCLB, Section 1829)

The Education Sciences Reform Act of 2002 (ESRA) reauthorized the NCES with collecting, compiling, and publishing statistics on secondary school completion, among other data. The NCES high school completion rate is based on Current Population Surveys. This data represents the percentage of 18 through 24-year-olds who are not enrolled in high school and who have earned a high school diploma or equivalent including a General Educational Development (US Department of Education, 2006).

Legislation

Nearly forty years ago President Lyndon B. Johnson enacted the Elementary and Secondary Education Act (ESEA). The ESEA was the first and largest comprehensive federal education law that provided monetary funds for kindergarten through twelfth grade education. As mandated in the act, the funds were authorized for an educator's professional development, instructional materials, and resources to support educational programs, and parental involvement promotion. According to the National Education Association (NEA), "the ESEA is [the] government's single largest investment in elementary and secondary education" (NEA, 2002). The act was originally authorized through 1970; however, the government has reauthorized the ESEA every five years since its enactment. As a result of the reauthorizations, the act has undergone numerous name changes and presidencies. However, the basic premise of the law still stands today; it "provides targeted resources to help ensure that disadvantaged students have access to a quality public education" (NEA, 2002).

The Improving America's Schools Act (IASA) of 1994 was a major part of the Clinton administration's efforts to reform education. It reauthorized the Elementary

and Secondary Education Act of 1965. This Law contains several provisions pertaining to the issue of high school graduation, completion and dropping out. Specifically addressing dropouts, Part D-Prevention and Intervention Programs for Children and Youth stated:

- (1) A large percentage of youth in the juvenile justice system have poor academic achievement, are a year or more behind grade level, and have dropped out of school.
- (2) There is a strong correlation between academic failure and involvement in delinquent activities.
- (3) Preventing students from dropping out of local schools and addressing the educational needs of delinquent youth can help reduce the dropout rate and involvement in delinquent activities at the same time.
- (6) A continuing need exists for activities and programs to reduce the incidence of youth dropping out of school.
- (7) Federal dropout prevention programs have demonstrated effectiveness in keeping children and youth in school.
- (8) Pregnant and parenting teens are a high at-risk group for dropping out of school and should be targeted by dropout prevention programs.
- (9) Such youth need a strong dropout prevention program, which provides such youth with high level skills and which provides supports to youth returning from correctional facilities in order to keep such youth in school.

The purpose of this part of the newly revised law was:

“ to prevent at-risk youth from dropping out of school and to provide dropouts

and youth returning from institutions with a support system to ensure there continued education” (IASA, P.L. 103-382).

The Goals 2000: Educate America Act (P.L. 103-227) was signed into law on March 31, 1994. The Act provides resources to states and communities to ensure that all students reach their full potential. Goals 2000 established a framework in which to identify academic standards, to measure student progress, and to provide the support that students may need to meet the standards.

In reference to the school completion within the United States, SEC. 102 of the National Education Goals states:

(A) By the year 2000, the high school graduation rate will increase to at least 90 percent.

(B) The objectives for this goal are that:

- (i) the Nation must dramatically reduce its school dropout rate, and 75 percent of the students who do drop out will successfully complete a high school degree or its equivalent; and
- (ii) the gap in high school graduation rates between American students from minority backgrounds and their non-minority counterparts will be eliminated.

The No Child Left Behind Act of 2001 (NCLB, P.L. 107-110) contains several provisions pertaining to the issue of high school graduation, completion, and dropping out. The law authorizes several program and activities intended to prevent students from dropping out and to encourage non-completers to reenter school or enroll in high school equivalency programs. The law also contains requirements for

state and local education agencies that stipulate how graduation, completion, and dropout rates are to be calculated and to whom they must be reported. Graduation rates are among the indicators states must report under the NCLB Adequate Yearly Progress (AYP) provisions. Dropout rates must be reported by states as a condition of their participation in the Dropout Prevention Programs (DPP) and the Neglected and Delinquent program (N&D). Prior to the No Child Left Behind Act the measurement of high school outcomes was not addressed. Section 403(b) of the National Education Statistics Act of 1994, enacted along with the Improving American's Schools Act, simply required the Education Department with implementing: "a definition and data collection process for school dropouts in elementary and secondary schools" (IASA, P.L. 103-382). Section 403(b) would provide better reporting methods so data collected by the United States Department of Education would be more reliable.

In 2007, the Graduation Promise Act was introduced and highlighted during a hearing of the Senate Health, Education, Labor, and Pensions Committee on high school reform on Tuesday, April 24, 2007. The Graduation Promise Act was designed to improve high schools and reduce dropout rates by:

- 1) Creating a federal-state-local secondary school reform partnership focused on transforming the nation's lowest performing high schools;
- 2) Building capacity for high school improvement and provide resources to ensure high school educators and students facing the highest challenges receive the support they need to succeed;

- 3) Strengthening state systems to identify, differentiate among, and target the level of reform and resources necessary to improve low performing high schools and ensure transparency and accountability for that process;
- 4) Advancing the research and development needed to ensure a robust supply of highly effective secondary school models for those most at risk of being left behind, and identify the most effective reforms;
- 5) Supporting states to align their policies and systems to meet the goal of college and career-ready graduation for all students (Center for American Progress, 2007).

Who Is At Risk of Dropping Out

According to figures from the Children's Defense Fund, one out of every eight (12.5%) school children would not graduate (The States of America's Children Yearbook 2000, 2001). The school enrollment projections showed there were 53,445,000 children in school in the year 2000. If an individual is defined as "at-risk of dropping out of school," this means there currently may be as many as 6,680,625 children in the school systems who are technically, legally and educationally at-risk (U.S. Census Report, 1999).

High school dropout rates have been an issue in the United States for many decades with many studies and programs being completed to illustrate this fact. Career education program provided intensive services to those students deemed most likely to drop out within a school or district. To identify these students, the program staff members use "risk" factors, student characteristics or measures of past school

performance which are thought to be associated with future dropping out (Gleason & Dynarski, 2002a). How well a student is identified or which “risk” factors used to identify a student would also determine who is correctly identified and placed in the appropriate program (Wills, Miller and Clanton, 1999).

In a separate study, Gleason and Dynarski (2002) examined the relationship between dropping out and five types of variables:

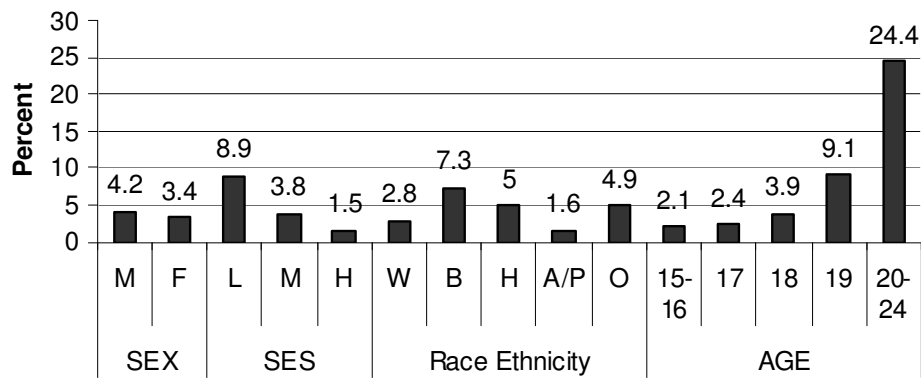
1. Demographic characteristics and family background.
2. Past school performance.
3. Personal/psychological characteristics.
4. Adult responsibilities.
5. School or neighborhood characteristics.

The National Center for Education Statistic data correlates the findings of Gleason and Dynarski in 2004 with the release of the *Dropout Rates in the United States: 2001 Report* (Laird, J., DeBell, M., Kienzl, G., & Chapman, C. (2007). This report shows the percentages of 15 through 24-year-olds who dropped out of grades 10-12 in the past year. According to this 2001 report, white, non-Hispanic dropout rate was 4.1 % compared to black, non-Hispanic at 6.3%, and Hispanic at 8.8%. A *Report on Student Dropout Rates: 2003-04*, (South Carolina Department of Education, 2006) went even further and defined dropouts by grade level, ethnicity and gender. This study also concluded that nonwhite males continue to dropout at the highest rate, and males in general dropped out at a higher rate than females. Another aspect of the study showed that approximately 37% of all dropouts occurred in the ninth grade, and cumulatively, 65 percent of the dropouts occurred by the tenth grade.

High School Dropout, Race-Ethnicity, and Social Background from the 1970's to the 1990's (Hauser, Simmons, and Pager, 2002) is another study which concluded the same finding based on gender and race-ethnicity but also included statistics based on social background from a report on the *Student Dropout Rates: 2003-04*.

According to this study, a higher dropout rate was found in central cities compared to the suburbs that surrounded these cities. Other factors researched to determine their effect on the dropout rate were trends within the household. Hauser, Simmon, & Pager (2000) concluded that students from inner city schools were at a higher risk of dropping out than suburban students. Ethnicity and school location, combined, produced an even more staggering result. Other factors investigated in this study proved that students from families with higher numbers of children, low paying jobs or no jobs, type of occupation of the family head and families headed by females had a higher percentage of dropouts than “traditional” families. Combining one or more of these factors greatly increased the students’ chances of dropping out.

Figure 4
Percent of Demographic Groups Who Dropped Out of School



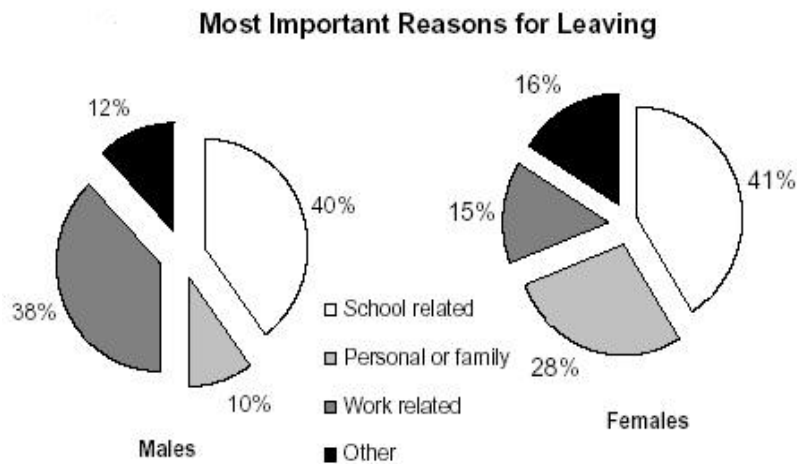
(Source: National Center for Educational Statistics, 2005)

The latest data (Figure 4) from the National Center for Educational Statistics shows four out of every 100 students enrolled in high school in the United States between October 2004 and October 2005 left school without receiving a high school diploma or its equivalent. Who are these students? The two background characteristics that are most strongly related to dropping out are socioeconomic status (SES) and race/ethnicity. Students of lower socioeconomic status have been consistently shown to have higher dropout rates than high socioeconomic status students. In 2005, the dropout rate for students living in low-income families was approximately six times greater than the rate of their peers from high-income families. Between October 2004 and October 2005, Black and Hispanic high school students were more likely to drop out than were White and Asian/Pacific Islander students. The dropout rates for Blacks and Hispanics were 7.3 percent and 5.0 percent, respectively, compared with rates of 2.8 percent for Whites and 1.6 percent for Asians/Pacific Islanders. Students who indicated more than one race had an event dropout rate of 4.9 percent, which was not measurably different from the rates for the other racial/ethnic groups. There was no significant difference in the number of male to females who dropped out of high school. This same phenomenon has been observed over the last three decades with no significant change in one gender being more likely to dropout than the other, although in earlier years dropout rates tended to be higher for males than for females. Students who pursue a high school education past the typical high school age are at higher risk than others of becoming an event dropout. The 2005 event dropout rates for students in the typical age range for fall high school enrollment (ages 15 through 17) were lower than those for older students

(ages 19 through 24). Specifically, 2.1 percent of 15–through 16–year–olds and 2.4 percent of 17–year–olds dropped out in the 1–year reference period, compared with 9.1 percent of 19–year–olds, and 24.4 percent of 20– through 24–year–olds. (NCES, 2005).

Why Students Drop Out

Identifying the root causes of dropping out is not an easy task. The factors that influence a person's decision to drop out are complex, interrelated and may have been in play for many years before a person drops out of school. At times the effects of combined factors are cumulative and one cause cannot be identified as the sole cause. For example, early academic failure may be accompanied by feelings of low self-esteem or stigmatization, leading to continued failure and ultimately to disengagement from school. Also, a factor such as the incidence of low grades may be related to dropping out, but both may have another unidentified root cause. For example, low income may be a good predictor of dropping out, but the mechanism may be that the poor diet accompanying low incomes is what limits a young person's ability to succeed in school. Without understanding the mechanism, it is difficult to intervene effectively to reduce the incidence of dropping out. Finally, there is no typical dropout (Janosz, 1994).

Figure 5

The reasons that young people give for dropping out are often related either to their perception that school "pushes" them out, or that work reasons or personal or family related reasons "pull" them out (Figure 5). Four in ten male and female dropouts cite school-related reasons for dropping out. Of the remainder, males and females give very different reasons for leaving school. Forty percent of males drop out for work related reasons (preferring work to school, or having to work/financial reasons), compared to only 15 percent of young women. However, three in ten young women drop out for personal and family reasons, primarily pregnancy and marriage, but also because of drug and alcohol problems, problems at home and medical conditions. This suggests that males and females disengage from school in very different ways. Some cited both school problems and personal factors as reasons for dropping out:

- Didn't like school in general or the school they were attending.
- Were failing, getting poor grades, or couldn't keep up with schoolwork.

- Didn't get along with teachers and/or students.
- Had disciplinary problems, were suspended, or expelled.
- Didn't feel safe in school.
- Got a job, had a family to support, or had trouble managing both school and work.
- Got married, pregnant, or became a parent.
- Had a drug or alcohol problem.

Even so, a significant proportion of both male and female dropouts seem to have been in a position where they were too overloaded with work or family responsibilities to succeed in school (National Center for Education Statistics, 2006).

Retention

Retention in the early grades may reflect a lack of school readiness or signal a more serious problem with a student's learning ability. Youths whose last grade retention occurred in their early elementary grades are less at risk of dropping out than those retained in the later grades. Lower dropout rates among those held back in elementary school may reflect the positive effect of additional time for mastery of fundamental academic and age appropriate social skills, or possibly the benefit from special services targeted for students perceived to be at risk of school failure. However, youths who were retained in the early grades are more likely to drop out than their peers who were never retained. Students whose last school retention occurred in the middle (4-8) or secondary (9-12) grades were more likely to drop out than those retained in the early elementary grades. Higher dropout rates among students retained later in their school careers may be due to a number of factors,

including problems in progressing from one grade level to the next, unhappiness and dissatisfaction with their school experience, the decision to avoid the stigma associated with being held back in school, the decision to start a family, or the decision to seek employment. A small proportion of students retained last in the upper grades were also retained at an earlier grade and these repeated retentions may further their risk of dropping out (National Center for Education Statistics, 2006).

Students who struggle with reading and mathematics at an early age and are retained to aid them in continuing on through school have a higher rate of dropping out of school (Roderick, Bryk, Jacob, Easton, & Allensworth, 1999). In several studies, students who were retained in school were more likely to drop out of school compared to similar low-performing students who were not retained. Students who are retained tend to continue their low academic performance, dislike school, and be older than their classmates. Together, these factors may alienate students and lead to school dropout (Alexander, Entwisle, & Dauber; Shepard, & Smith; and Holmes).

Studies examining the relationship between grade retention and dropping out of high school have consistently demonstrated that students who are retained are more likely to drop out of school before graduation than students who are not retained (Bachman, 1971; Ensminger, 1992; Pallas, 1986; & Roderick, 1994). In 1990, Shepard and Smith reported that, "Dropouts are five times more likely to have repeated a grade than are high school graduates" (p. 86). Of these studies, most researchers established whether or not the students who dropped out of school had been retained by looking backward at their school history as opposed to following a student forward from kindergarten through high school.

Shane Jimerson in 1999 published a 21-year, longitudinal study, which followed three groups of students from birth through high school graduation. This study focused on 190 children from the Minnesota Mother-Child Interaction Project. The participants were selected from enrolled women receiving prenatal care at the Maternal and Infant Care Clinic of Minneapolis Health Department. The demographics of the participants showed they ranged in age from 12-37 years at the time of the baby's birth. Sixty percent of these mothers were single and 86% of the pregnancies were not planned. Their educational status ranged from junior high to post-college level. Of these participants 40% had graduated high school at the time of the baby's birth. Of these mothers 80% were White, 14% were Black, and 6% were Native American or Hispanic. Of the infants born, 15% were of mixed racial background.

The study grouped the children into one of three categories: Retained, Low-Achieving, Promoted and Control. In order to meet the criterion for the retained group, students must have been held back in either kindergarten (9), first (9), second (7) or third grade (4). Participants were selected for the comparison group from low-achieving but promoted students based on their academic achievement. The comparison group was identified using the Peabody Individual Achievement Test (PIAT) by who fell within the bottom quartile at more than one grade level during their first, second or third grade years. A total of 50 students were selected for this group. The control group was selected from remaining subjects, who were not in either the retained or low-achieving groups. These students exhibited higher academic achievement and scored higher on the PIAT. Of these students 25 were

assigned to each grade kindergarten through third yielding a total of 100 control students.

The results presented in this study (Table 3) suggest that there is a greater probability, 69%, of students who were retained dropping out of high school by the age of 19 compared to the low achieving promoted students, 46%. Also, the retained groups, by the age of 20, were less likely to receive a diploma or GED, 41%, compared to the low-achieving but promoted group which had 72% obtain a diploma or GED. Of those who received a diploma or GED only 23% went on to a post-secondary school compared to 41% of the comparison group.

Table 3: Educational Outcomes: 11th Grade, Age 19 and 20

| Variable | Group 1 Retained | Group 2 Comparison | Group 3 Control |
|---------------------------------------|-------------------------|---------------------------|------------------------|
| Dropped out of H.S. age 19 | 69% (20/29) | 46% (23/49) | 29% 30/98 |
| Certificate of H.S. completion age 20 | 42% (11/26) | 72% (33/46) | 88% (84/95) |
| Postsecondary enrollment age 20 | 23% (6/26) | 41% (19/46) | 56% (53/95) |

It is also relevant to note that the retained group (74%) had significantly more males than the comparison (56%) as well as the percentages of minorities (35%). High school achievement, which includes grade point ratio, number of credits obtained and attendance was significantly lower for the retained group in comparison to the low-achieving promoted group and the control groups (Jimerson, 1999).

The positive associations between early intervention programs and achievement have been found in many studies (Barnett, 1995; Barnett, Young,

Schweinhart, 1998; Bryant & Maxwell, 1997; Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001). Findings have suggested that such programs are effective in increasing the probability that a child completes high school (Oden, Schweinhart, & Weikart, 2000; Reynolds, et al., 2001). In addition, results from several of these model programs have shown positive long term effects with significant associations between the program participations and outcomes such as: higher reading and mathematic achievement test scores, fewer grade retentions, more years of education, and greater likelihood to attend a 4-year college. Findings from the Chicago Child-Parent Center (CPC) Preschool Program, a large-scale publicly funded program, indicated significant associations between program participation and higher school achievement, a lower rate of grade retention at age 15, and a lower dropout rate and a higher high school completion rate at age 20 (Reynolds, 2000). It can then be concluded through research that retention in the early elementary grades generally does not have long-term benefits for students and may have unintended negative consequences.

A report by the Kindergarten Readiness Issues Group of the Partners in Research Forum from the University of North Carolina highlighted trends in retention in kindergarten through third grade and suggested alternative practices to retention and/or social passing. Interventions reported in recent literature and tested by local school districts to help low-achieving students succeed were effective in keeping retention rates low and student achievement high. North Carolina's retention rates had more than doubled since 1991-92. For kindergarten through third grade, the retention

rate increased from 2.7% to 5.5% in 2001-02. Districts within North Carolina implemented as alternatives to retaining the following interventions:

- **Interventions start early.** Successful districts use the K–2 Assessment and other instructional assessments to identify children who need extra support as soon as possible so that interventions are in place early, usually within the first quarter of the school year. To paraphrase one instructional coordinator, we work to put effective interventions in place and then have very little need for retention.
- **Interventions occur in the context of the regular classroom setting.** Successful districts create teams of regular education teachers, special education teachers, and other specialists to develop interventions that work in the child’s regular classroom. Team members use the child’s Personalized Education Plans [P.E.P.] to guide and coordinate his/her work.
- **Coordination is key.** Successful districts have established procedures for regular communication among team members and in some instances have a staff person dedicated to coordinating regular and special education staff to support student achievement. Coordination does not happen by itself. Planning and resources are required for effective coordination.
- **Parents are involved.** Successful districts work closely with parents, telling them as soon as problems are identified. Parents are actively involved in designing the child’s P.E.P., especially in identifying strategies that they can implement at home. Many schools have family nights that focus on reading

and math strategies that can be used at home. A variety of strategies are used to communicate with parents who have different schedules and needs.

- **After school support is offered.** Successful districts offer extra support to low-achieving students after the regular school day by using volunteers as well as regular school personnel.
- **Enriched summer experiences are offered.** Many successful districts offer summer school as a way for students to catch up and have concentrated instruction in a smaller setting. A key to successful summer programs is presenting material in new ways to maintain student interest and meet the needs of children with various learning styles.
- **Literacy is emphasized.** Successful districts provide intensive early literacy experiences for all children, with a special emphasis on those who begin school with few literacy experiences.
- **Professional Development is critical.** Successful districts recognize the importance of educating all staff members about interventions for low-achieving students. Schools often provide intensive training on a particular intervention, such as Reading Recovery or Math Grade Strategies. Districts reported choosing intervention packages because they present information in a way that is different from the approach used in the regular classroom.
- **Connections are made with community resources.** Successful districts use resources available from area community colleges and universities to help them support low-achieving students. When volunteers from the community

are involved, they are trained so that they approach instruction in a way that is consistent with the philosophy of the school.

- **Staff has a “can-do” attitude.** Successful districts view their mission as trying to do everything possible to avoid student failure. Staff members never give up on children who are struggling to succeed (Kindergarten Readiness Issues Group, 2003).

Grade Point Ratio

A study conducted by Suh, Suh and Houston (2007) affirmed the research conducted in early intervention programs and school competency studies which stated that Grade Point Ratio (GPR) was one of the major factors leading to dropping out of school (Rumberger, 1983; Suh, 2001; Velez, 1989). The purpose of this study was to identify and compare different factors that contributed to school dropout rates among three groups of at-risk students in order to facilitate and implement effective dropout prevention strategies. The three at-risk categories, identified in past studies, as strong predictors for school dropouts were, low socioeconomic status (SES), poor academic achievement, and suspension from school. The researchers attempted to identify the most significant factors for the increasing national dropout rate by categorizing students to a particular at-risk group. They used three approaches. First, the importance of 20 frequently referenced predictors, including GPA, suspension, and low SES, were tested. Secondly, the differences and commonalities in predictors between at-risk and non-at-risk students were compared. Finally, the differences in predictors among the three at-risk groups were studied.

The data, from the three at-risk groups, were obtained from the National Longitudinal Survey of Youth 1997 (NLSY97). The survey consisted of approximately 9,000 youths between 12-16 years of age on or before December 31, 1996. The data collected only involved youth who had enrolled in high school and graduated (completers) or who had not enrolled in high school (dropouts) in 2000. Of the 9000 initial students 4,327 qualified for that study based on the criterion established by that study's outline. Of the total number of students involved in the study 1,054 were considered dropouts and 3,272 had graduated with a diploma or had received their GED.

The NLSY97, based on several other studies, identified 135 variables as possible factors to dropping out of school. Twenty of these variables represented personal, behavioral, familial, and school-related characteristics of the study subjects.

The twenty variables are as follows:

1. low grade point ratio in the eighth grade (GPR)
2. suspended students (SUSPD)
3. low socioeconomic status (SES)
4. number of days late to school without excuse (LATE)
5. number of days absent from school (ABSENT)
6. positive perception of teacher (TEACHR)
7. number of household members (HHSIZE)
8. highest education attainment of mother was high school or less (HGCPRM)
9. the student lived with both biological parents as of 1996 (BIO)

10. gender of youth (GENDER)
11. threat of being hurt in school (THREAT)
12. number of fights at school (FIGHT)
13. behavioral and emotional problems (BEHAV)
14. total number of schools attended (SCHATT)
15. use of school teacher/counselor versus family members as resource for personal problems (PROB1)
16. use of school friends versus family members as resource for personal problems (PROB2)
17. percentage of peers planning to go to college (PCOLL)
18. mother's permissiveness (MPERM)
19. first sexual experience occurred at age 15 or below (SEX)
20. optimistic about future (OPTIM)

A code value of 1 was given if the statement was true or present and 0 if it was not present, except for gender, where 1 = male and 0 = female. Also, GPA was assigned a code of 1 if the student had a low GPA (half C's and D's or below) or a 0 for a medium to high GPA.

The results from the National Longitudinal Survey of Youth, 1997 showed that of the twenty measured independent variables 14 showed a positive correlation with dropping out and six did not. The six predictors, 6, 13, 15, 16, 17 and 20 showed a negative correlation and the likelihood of dropping out of school decreased if these were true for the surveyed student. Of the remaining 14 variables with positive coefficients, the highest correlation existed between dropping out and low

GPA ($r = .355$). Additionally SUSPD, BIO, SES, SCHATT, PCOLL, SEX and OPTIM showed a stronger relationship with dropping out than with other predictors. The correlation of one variable was typically influenced by other variables. The greatest being GPA which was closely related to both LATE and ABSENT making them a good indicator for dropping out.

The study concluded that low GPA was not the only major factor leading to dropping out. Of the low-GPA students studied, 43% successfully completed high school. When low-GPA was combined with high absenteeism or a pessimistic outlook the drop factor increased. Students who were suspended were affected by 16 factors that were considered substantial. Of these, fighting was the greatest indicator combined with SUSP to indicate the student would eventually drop out of school. Like the suspended variable, the low-SES variable greatly affected by as many as 15 variables determined if the student would remain in school. From the data this variable needed more intervention than the other two at-risk groups. When combined with low educational attainment for the parent, frequent school changes and having sex early were significant and increased the likelihood the student would drop out of school.

Carnegie Units

A study conducted by Allensworth and Easton in 2005 indicated a relationship between the number of course credits that students accrue each school year and the students high school status. This indicator identified students as on-track at the end of freshman year if both of the following criteria were met:

- The student accumulated five full course credits, the number needed to be

promoted to tenth grade according to Chicago Public School policy.

- The student had no more than one semester F (that is, one-half of a full credit) in a core subject (English, math, social studies, or science).

In terms of measurement, the criteria differed in two ways:

1) course failures were counted only for core courses, while credit accumulation includes all credit-bearing classes; and 2) failures were counted by semester, while credit accumulation was measured in terms of full-year credits, with half credits given for each semester course (Allensworth and Easton, 2005).

The authors based their study on 23,734 true freshmen in the Chicago Public School system whose high school careers began in the fall of 1999 and continued through the spring graduation in 2003. The study concluded that earned course credits were a more accurate predictor of graduation than students' previous achievement test scores or their background characteristics. Perhaps the most important finding from this report was that failures during the first year of high school make a student much less likely to graduate. Based on their findings, the authors believe that parents and teachers should carefully monitor students' grades, especially in the first semester of freshman year, when there are still many opportunities to improve grades. Helping students make a successful transition to high school during the first semester could make them more likely to graduate. The report also found that on-track students were not necessarily the students with the highest achievement test scores. Many students with strong achievement fail to graduate, and many students who had demonstrated weaker achievement succeed in graduating. Finally, the report concluded that the particular school a student attends played a large role in whether

the student was on-track. While it was expected that all schools would have students with differing levels of preparation for high school, differences in the number of students on-track for each school remained even when the authors controlled for students' eighth-grade test scores and socioeconomic status. This suggested that school climate and structure played a significant role in whether the students succeed in high school. Schools could use the on-track indicator, which makes use of readily available data on course credits and failures, to understand what aspects of the school may be leading students to drop out (Allensworth and Easton, 2005).

A similar study completed in 2006 used data drawn from high school transcripts collected in 2005 as part of the follow up to the National Center for Education Statistics Education Longitudinal Study of 2002. This study compared the course credits accrual and cumulative course credits earned between students who dropped out at any point from the spring of 2002 to August of 2004 and those who graduated on time (within four years of starting high school). Upon analysis of the data it was shown that high school dropouts earn fewer credits than on-time graduates for each academic year. Also, the gap in course credits accrued between dropouts and on-time graduates increased across academic years. It was noted that selected subjects, mathematics, science and English observed differences in the course credit accrual of dropouts and on-time graduates. Of these, English was the least earned Carnegie unit by those who dropout of school. Lastly, between on-time graduates and dropouts the cumulative number of course credits accrued became more prominent over time, which was most evident in the final academic year in which they earned any course credits (Planty, Bozick and Ingels, 2006).

Absenteeism

Absenteeism is another indicator that has been clearly identified as one of the early warning signs that youth are headed for potential delinquent activity, social isolation, and/or educational failure. One study addressed truancy during a student's elementary school career as a predictor of becoming a high school dropout. It was determined:

“Students who are at risk of dropping out of school can be identified retrospectively as early as third grade on the basis of attendance patterns, academic performance and behavior” (Lehr, Sinclair, and Christenson, 2004).

Studies have established a lack of commitment to school as a risk factor for substance abuse, delinquency, teen pregnancy, and dropping out of school (Bell, Rosen, and Dynlacht, 1994; Dryfoos, 1990). Absenteeism is detrimental to students' achievement, promotion, graduation, self-esteem, and employment potential. Clearly, students who miss school fall behind their peers in the classroom. This, in turn, leads to low self-esteem and increases the likelihood that at-risk students would drop out of school.

The Cost of Dropping Out

The world has entered a new era—the knowledge economy—in which education would be more important than ever. Today, a high school diploma is absolutely essential for anyone who wants an opportunity to succeed. The jobs of today and tomorrow require new skills and technologies that must be obtained after high school. Moreover, dropping out is associated with numerous deleterious outcomes, including fewer employment opportunities, substance abuse and arrests

(Cairns, 1994; Catterall, 1987; Center, 1994; McDill, 1986 and Steinberg, 1984). For the student who drops out, what is the cost of not graduating?

Income

Dropping out of high school is related to a number of negative outcomes. For example, the average income of persons aged 18 through 65 who had not completed high school was roughly \$20,100 in 2005. By comparison, the average income of persons aged 18 through 65 who completed their education with a high school credential, including a General Educational Development (GED) certificate, was nearly \$29,700 (U.S. Census Bureau, 2006). Dropouts were also less likely to be in the labor force than those with a high school credential or higher and were more likely to be unemployed if they were in the labor force (U.S. Department of Labor, 2006). Over a lifetime, an 18-year-old who does not complete high school earns about \$260,000 less than an individual with a high school diploma, and contributes about \$60,000 less in federal and state income taxes. The combined income and tax losses amassed over one group of 18-year-olds who did not complete high school was about 192 billion, or 1.6 percent of the gross domestic product (U.S. Department of Labor, 2006).

Health

In terms of health, dropouts older than age 24 tend to report being in worse health than adults who are not dropouts, regardless of income (U.S. Department of Education, 2004). Individuals with a high school diploma live longer, have better indicators of general health, and are less likely to use publicly financed health-programs than high school dropouts. If the 600,000 18-year-olds who failed to

graduate in 2004 had advanced one grade, it would have saved about \$2.3 billion in publicly financed medical care, collected over a lifetime (Columbia University Symposium, 2007).

Also, adults who lack a high school diploma are at greater risk of being on public assistance. If all individuals receiving assistance who are high school dropouts actually had a high school diploma, the results would be a total cost savings for federal welfare spending, food stamps, and public housing of \$7.9 billion to \$10.8 billion a year. The economic and social consequences of not completing high school are steadily intensifying. Dropouts today are twice as likely to be unemployed, and for those who work, pay is low, advancement is limited, and health insurance is less available

Imprisonment

Estimates indicate that approximately 30 percent of federal inmates, 40 percent of state prison inmates, and 50 percent of persons on death row are high school dropouts (U.S. Department of Justice 2000, 2002). The cumulative costs to the public from the nation's dropouts are in the billions, for both lost taxes and spending on social programs. High school dropouts are far more likely to commit crimes and be incarcerated than those with more education. A one percent increase in the high school completion rate of men ages 20 to 60 would save the United States as much as 1.4 billion a year in reduced costs from crime incurred by victims and society at large (U.S. Department of Education, 2005).

Pettit and Western (2002) studied the likelihood of imprisonment by race, stature at birth, and educational background using life table techniques. This allowed

them to estimate cumulative risks of imprisonment among black and white men from teenage years through their early thirties. Among other things they concluded:

“Incarceration rates and cumulative risks of incarceration are, on average, 6 to 8 times higher for young black men compared to young whites. Levels of imprisonments for young high school dropouts are 2 to 4 times higher than for those who have completed high school. The likelihood of going to prison is extremely high for young black male high school dropouts. Around 60 percent of those born 1965–69 had served time in prison by their early thirties. These findings help sharpen the claim that shifts in criminal justice policy have disproportionately burdened low-education minority men. There is strong evidence that the penal system is a ubiquitous presence in the lives of low-skill black men. Still, the relative risk of black imprisonment did not significantly change. Large black-white disparities that characterized the penal system in the 1970s persisted, but did not increase in the 1990s. Instead, risks of imprisonment are becoming more sharply drawn along the lines of education, rather than race.” (Pettit & Western, 2002, p. 23)

Based on the results from this study, a student’s failure to graduate from high school would dramatically increase the odds, especially of black males, of ending up in prison at least once, if not more than once.

Since the No Child Left Behind Act (NCLB) became a federal law in January 2002, high school graduation rates have become increasingly important. It is a known fact that students who do not complete high school today face enormous odds in the workforce with many needing public assistance to live. School districts and

communities must do whatever it takes to keep students in school and engaged.

Efforts to address the problem of dropouts by facilitating student engagement as a means of promoting successful school completion must begin as early as possible.

The demand is high for data-based approaches to address the dropout statistics facing this nation and promoting school completion. Can the career education program, depicted through this research study, be effectively applied as a dropout prevention model?

Chapter 3

Methodology

This chapter explains the methodology used to determine if the career education program would reduce the number of students who dropout of high school and to ascertain if improvement in factors established as dropout indicators occurred. This study is a causal-comparative study utilizing a one-group pretest-posttest design. The independent variable in this research is the students' participation in the career education program and the dependent variable is the number of participates who completed year one of the program. Also, data was collected before students initiated the program and at the conclusion of the first year of the program. The specific areas included Grade Point Ratio (GPR), Measure of Academic Progress scores (MAP), Carnegie units, and Attendance. To determine the effectiveness of the newly developed program, the students Grade Point Ratio was determined for the student's eighth grade school year, using the uniform grading policy for South Carolina, and comparing this score to the students' ninth grade GPR. To further determine the effectiveness of the career education program, the students Measure of Academic Progress (MAP) scores at the beginning of the program was compared to the students' scores at the end of the first year. To determine the effectiveness of the career education program, the students Carnegie Units was compared (the total number of units the student attempted was compared to the total number of units the student completed), and to determine the effectiveness of the career education program the students' attendance was compared to the uniform attendance policy for South Carolina. The dropout rate was determined by the total number of students

who began the program in August of 2006 compared to the number of students who did not complete the first year of the program in June of 2007.

Context:

The district utilizing the career education program is located in the eastern section of South Carolina. It is bordered by the Atlantic Ocean and North Carolina. The countywide school district serves more than 34,000 students making it the third largest among South Carolina's school districts. The district serves students from nine attendance areas that cover the coastal Grand Strand and inland communities.

Students enrolled in this career education program were housed at the “Academy”. This facility was a newly designed, technology-enhanced school, which opened in August of 2005. It was centrally located within the district so that it was easily accessible to all students. The school offered an integrated academic and career major curriculum to help students become more self-directed learners and provide a pathway to higher more advanced education or career. Students who were enrolled in the career education program had the opportunity to become part of the Career Majors Program currently offered at the Academy.

The mission of this career education program was to create an environment, by fostering attitudes and habits within students to elicit a positive and rewarding consequence. The guiding philosophy of the program was to establish for all students a set of expectations, personal obligations, and academic challenges, which encouraged positive and productive behaviors.

This career education program is associated with the TeachFirst network and follows a developed plan for incorporating literacy across the curriculum. Also, the

career education program is associated with the National Drop Out Prevention Center whose purpose is to collaborate on research, program initiatives, and information distribution. The newly developed career education program is affiliated with The South Carolina Advanced Technologies Education (SCATE). A relationship with these programs would allow the students and faculty to become involved with the community through field trips, Global Market Courses and communication and information sharing.

Research Questions:

1. Will students who participate in the career education program show a reduction in the percentage of dropouts from schools in a Northeastern county of South Carolina?
2. Students who participate in the career education will have increased attendance.

Hypotheses:

Students participating in the career education program will have a positive effect on:

- 2a. Grade Point Ratio (GPR)
- 2b. Measure of Academic Progress (MAP)
- 2c. Carnegie Unit

for students involved in this study.

Subjects

A newly developed career education program was implemented in August of 2006 to help reduce the district's yearly dropout rate. An introductory letter explaining the program and its goals was mailed out to prospective program

candidates and their parent(s) or guardian(s) in August of 2006. The mailing list included all students who had not completed the 8th grade and who had dropped out of school within the last two years and all students who had been promoted into the 8th grade who were one to two years behind their peers. These students were targeted because of their age. A student could be no more than eighteen when they began the program because they would need at least three years to complete the required credits to graduate with a state diploma. The age restrictions in the state of South Carolina allows a student to attend public school until the age of twenty-one. When the student becomes a legal adult they must transfer to adult education. Also, incorporated in this information packet was an application for the student to enroll in the program and an open house schedule. The open house was organized to allow both the student and his or her parents/guardians to tour the facility in which the student would be attending and to answer any questions they might have about the program and its goals.

The subjects in this study included 114 students who were enrolled and attended at least one school day. The selected students were labeled at “risk” because of their current grade level and age. Student selection criteria was based upon being an over-aged (birth-date before September 1, 1991) 8th grader eligible of receiving a regular South Carolina high school diploma and enrolled in a regular classroom setting. No student in a self-contained classroom could be considered for this career education program at this time. To receive a South Carolina high school diploma, students must complete the required number of courses and pass the High School

Assessment Program (HSAP) assessment. The demographic breakdown of the students enrolled within the study can be seen below.

Table 4

Student Demographics

| Age | | | Gender | | Ethnicity | | |
|-----|----|----|--------|--------|-----------|-------|----------|
| 15 | 16 | 17 | Male | Female | White | Black | Hispanic |
| 8 | 67 | 39 | 75 | 39 | 65 | 49 | 2 |

Procedures for Data Collection:

Data was collected over a 180-day school cycle that began on August 27, 2006 and concluded on June 6, 2007. Participants who enrolled and attended at least one school day were included in the total student count. Students who enrolled but did not attend at least one day of school were not counted and dropped from the study.

To determine if participation in the career education program reduced the dropout rate, the percentage of students enrolled at the beginning of the year would be compared to the total number of students completing the first year of the program in June 2007. A student was considered a dropout if they did not complete a 180-day program in a school calendar year. If a student left the career program and enrolled into another program within the district, transferred to another school district, was placed in a detention center, rehabilitation center or died, this student was not considered a dropout. For students who did not remain in the first year of the program, an explanation would be given for his or her current standing within the educational system.

Research and studies established in chapter two, discussed factors that could be used as dropout indicators. The presence of these factors increased the likelihood a student would leave school before graduating with a state issued diploma. The factors chosen for this study was available to the researcher through transcripts and attendance records. While other factors, established through research, may have proven to be better indicators of students dropping out, this counties privacy policy excluded this information's availability to this researcher or the study. In order to establish a baseline for comparison, the student's attendance, transcript, and standardized test scores would be used for data collection on the four factors identified as dropout indicators. These factors were

1. Grade Point Ratio (GPR)
2. Measure of Academic Progress (MAP)
3. Carnegie Units
4. Attendance

Grade Point Ratio

In South Carolina 8th grade students do not have a calculated GPR, so each student's 8th grade year-end scores, in all subjects, would be calculated using the uniform grading policy for South Carolina high schools when calculating 9th - 12th grade point ratios to obtain the students beginning grade point ratio. This formula is used uniformly in South Carolina to ensure that all high schools calculate GPR in the same manner. Using a standardized GPR calculation method was important, especially for in-state student transfers and scholarship recipient determination.

The formula for calculating Grade Point Ratios (GPR) is

GPR – Sum (quality points x units attempted)

Sum of units attempted

The conversion chart (Table 5) assigns “quality points” to each numerical grade depending on the grade earned and the category of weight assigned to the course taken. College Prep and Tech Prep courses earn the base weight. Honors, dual credit, and pre-IB (International Baccalaureate) courses earn a one-half quality point more, and Advanced Placement and International Baccalaureate courses earn a full quality point more than the base weight. (For example, a student who earns a 100 in a Tech Prep/College Prep course receives 4.87 quality points whereas a student with a 100 in an Honors course receives 5.37 quality points and a student who receives a 100 in an Advanced Placement/International Baccalaureate course receives 5.87 quality points.)

Table 5
**Quality Points Conversion Chart for
 Calculating High School Grade Point Ratio
 In South Carolina**

| Average | Grade | College Prep & Tech Prep | Honors & Dual Enrollment | Advanced Placement & IB International Baccalaureate |
|---------|-------|--------------------------|--------------------------|---|
| 100 | A | 4.87 | 5.37 | 5.87 |
| 99 | A | 4.75 | 5.25 | 5.75 |
| 98 | A | 4.62 | 5.12 | 5.62 |
| 97 | A | 4.50 | 5.00 | 5.50 |
| 96 | A | 4.37 | 4.87 | 5.37 |
| 95 | A | 4.25 | 4.75 | 5.25 |
| 94 | A | 4.12 | 4.62 | 5.12 |
| 93 | A | 4.00 | 4.50 | 5.00 |
| 92 | B | 3.87 | 4.37 | 4.87 |
| 91 | B | 3.75 | 4.25 | 4.75 |
| 90 | B | 3.62 | 4.12 | 4.62 |
| 89 | B | 3.50 | 4.00 | 4.50 |

| | | | | |
|------|---|------|------|------|
| 88 | B | 3.37 | 3.87 | 4.37 |
| 87 | B | 3.25 | 3.75 | 4.25 |
| 86 | B | 3.12 | 3.62 | 4.12 |
| 85 | B | 3.00 | 3.50 | 4.00 |
| 84 | C | 2.87 | 3.37 | 3.87 |
| 83 | C | 2.75 | 3.25 | 3.75 |
| 82 | C | 2.62 | 3.12 | 3.62 |
| 81 | C | 2.50 | 3.00 | 3.50 |
| 80 | C | 2.37 | 2.87 | 3.37 |
| 79 | C | 2.25 | 2.75 | 3.25 |
| 78 | C | 2.12 | 2.62 | 3.12 |
| 77 | C | 2.00 | 2.50 | 3.00 |
| 76 | D | 1.87 | 2.36 | 2.86 |
| 75 | D | 1.72 | 2.22 | 2.72 |
| 74 | D | 1.57 | 2.07 | 2.57 |
| 73 | D | 1.43 | 1.93 | 2.43 |
| 72 | D | 1.29 | 1.79 | 2.29 |
| 71 | D | 1.14 | 1.64 | 2.14 |
| 70 | D | 1.00 | 1.50 | 2.00 |
| 69 | F | .87 | 1.37 | 1.87 |
| 68 | F | .75 | 1.25 | 1.75 |
| 67 | F | .62 | 1.12 | 1.62 |
| 66 | F | .50 | 1.00 | 1.50 |
| 65 | F | .37 | .87 | 1.37 |
| 64 | F | .25 | .75 | 1.25 |
| 63 | F | .12 | .62 | 1.12 |
| 0-62 | F | 0.00 | 0.00 | 0.00 |

(Source: South Carolina Department of Education, 2006)

Students in grades nine through twelve may retake a course at the same level of difficulty if they have earned a D or an F in that course. The student may retake the course either during the current school year or during the next school year but no later than the second year. In addition, the student must retake the course before he or she has enrolled in the next sequential course (unless the student is granted approval by school administration to do so). The student's record and calculated Grade Point Ratio would reflect all courses he or she attempts and the grades earned in each course.

Measure of Academic Progress

Measure of Academic Progress test scores would determine the growth at which the students in the career education program have advanced in reading, language usage and mathematics. The beginning score in August would be compared to the final score in May to determine if the student has advanced during the first year of this new program. Also, these scores would help in determining how successful the student would be when taking the South Carolina Exit Exam. Students in grade 10 take the High School Assessment Program (HSAP) in English/Language Arts and mathematics. Students must achieve Level 2 (Table 6) performance on the HSAP to graduate from high school in South Carolina and receive a regular high school diploma.

**Table 6
Recommended RIT Scores for HSAP Passage
In South Carolina**

| MAP Mathematics | | | |
|------------------------|----------------|---------|---------|
| Level 1 | Level 2 | Level 3 | Level 4 |
| <=222 | 223-236 | 237-249 | >=250 |

| MAP Language Usage | | | |
|---------------------------|----------------|---------|---------|
| Level 1 | Level 2 | Level 3 | Level 4 |
| <=209 | 210-220 | 221-229 | >=230 |

| MAP Reading | | | |
|--------------------|----------------|---------|---------|
| Level 1 | Level 2 | Level 3 | Level 4 |
| <=208 | 209-223 | 224-233 | >=234 |

The Northwestern Evaluation Association (NWEA) organized in 1977 developed a national, longitudinal growth research database that enables its

researchers to study a host of questions across educational settings. These include the effects of varying distinct characteristics and instructional programs on academic growth, and standards-related work. In addition to its research work, NWEA provides testing tools (Northwestern Evaluation Association, 2007).

One of the instruments designed by the NWEA was the Measure of Academic Progress (MAP). This instrument measured the student's growth in reading, mathematics, and language usage over a period of time. More than 3000 school districts and educational partners across the United States use MAP mathematics, reading, and language usage tests to help students learn. These tests are adaptive, in that they adjust to each student's performance level. As a student answers a test question on a computer, the program immediately analyzes the student's response, and based on how well the student has answered previous questions, selects a question of appropriate difficulty to display next. Administering these tests throughout the year allows educators to closely monitor the progress of each student. The test results are maintained test after test, so teachers can monitor the growth of individual students.

The career education program being tested used MAP tests to:

- Identify the skills and concepts individual students have learned.
- Diagnose instructional needs of individual students.
- Monitor academic growth over time.

MAP scores are reported on a scale called the RIT scale. RIT stands for *Rasch UnIT*, a measurement scale developed to simplify the interpretation of test scores.

This scale is used to measure student achievement and student growth. The scale is an

equal-interval scale, like a yardstick in inches, so that a change of one unit indicates the same change in growth, regardless of the actual numerical values. RIT scores range from about 150 to 300. These scores make it possible to follow a student's educational growth from year to year (South Carolina Department of Education, 2007).

It is useful to understand the content of specific RIT Score Range. Ten-point RIT ranges break down subjects. The student's RIT range indicates skills and concepts currently being learned and the student has mastered about 50% of the skills/concepts listed in the range. Going down a level displays skills and concepts that have been 80% - 100% mastered by the student.

Carnegie Units

To earn a Carnegie Unit for each of the eight classes taken during a school year, a student must maintain a grade of 70 or more in that class. The state of South Carolina does not mandate a student maintain a certain grade point ratio to graduate. To obtain a high school diploma in South Carolina a student must successfully complete 24 Carnegie Units. If eight Carnegie units are not obtained during the regular school year the student may elect to attend summer school in which he/she can receive two Carnegie units. The promotion standards currently used by the state of South Carolina are:

- Grade 9 to 10: Five Carnegie units of which one must be English and one must be math.
- Grade 10 to 11: Eleven Carnegie units of which two must be math and two must be English.

- Grade 11 to 12: Sixteen Carnegie units of which three must be math, three must be English, two must be science, and two must be social studies.

Also, all students must meet attendance requirements in order to receive credit for courses each year. Course credit is awarded upon achievement of standards. These standards are determined by the state of South Carolina for each course and can be found on-line at the South Carolina Department of Education.

Students must earn 24 required Carnegie units (Table 7) and pass High School Assessment Program (HSAP) to receive a South Carolina high school diploma. If at the end of the senior year a student has earned the required units but has not passed both parts of HSAP, he/she may enroll in Adult Education to receive further academic assistance and re-take the HSAP. Students under the age of 21 may remain in high school and continue to get assistance until they pass the HSAP and receive a diploma. After age 21, students may enter Adult Education but may not re-enroll in high school.

Table 7
**Course Credit Requirements
 for Graduation in South Carolina**

| Subjects | Units Required |
|-------------------------------|-----------------------|
| English/Language Arts | 4.0 |
| Mathematics | 4.0 |
| Science | 3.0 |
| U.S. History and Constitution | 1.0 |
| Economics | 0.5 |
| U.S. Government | 0.5 |
| Other Social Studies | 1.0 |
| Physical Education or Junior | 1.0 |

| | |
|---|-----------|
| ROTC | |
| Computer Science (Incl. keyboarding) | 1.0 |
| Foreign Language or Career and Technology Education* | 1.0 |
| Electives | 7.0 |
| Total ‡ | 24 |
| <p>• At least 50 percent of the instructional time in English I, II, III, and IV and in any other course used to meet the language arts requirement for graduation must be devoted to the teaching of composition and grammar.</p> <p>• If a student counts one unit of computer science toward the math requirement, one additional unit of computer science must be earned.</p> <p>• Students who earn one unit in science and six or more units in a specific occupational service area will meet the science requirements for a state high school diploma.</p> <p>Vocational programs operating on a 3-2-1 structure may count prevocational education as one of the six required units.</p> <p>• Students who otherwise meet the requirements for a state high school diploma must demonstrate proficiency in keyboarding and computer literacy as a condition for the receipt of a high school diploma.</p> <p>• At least one time during the four years of grades 9 through 12, each student will receive a program of instruction in comprehensive health to include the specified curriculum and minutes of instruction as outlined in the Comprehensive Health Education Act of 1988 and the regulations of the SC Board of Education.</p> <p>‡ Must pass HSAP.</p> | |

(Source: South Carolina Department of Education, 2008)

The electives can be in a career major or academics. If academic credit is to be awarded as an elective, the credit must be above the basic required number of courses.

The Education Accountability Act of 1998 requires the development of end-of-course examinations in gateway or benchmark courses. The program is called End-of-Course-Examination Program (EOCEP). The examinations, which count 20 percent of the student's final grade in each gateway or benchmark course, currently, include Algebra I or Math for the Technologies 2, English 1, and Physical Science.

To graduate in three years each student would need to gain eight Carnegie units per year and pass the End of Course (EOC) in English I, Physical science and Algebra 1 or Math for the Technologies 2 in addition to passing the High School Assessment Program.

Depending on the requirements met by the student, he/she may receive an Honor Diploma, South Carolina State High School Diploma, HCS Occupational Diploma, or South Carolina State High School Certificate. Below is an explanation of the requirements for each of these diplomas:

Honors Diploma: A student must surpass the minimum requirement for graduation and meet the additional following criteria.

- A Grade Point Ratio of 4.0 or higher and a composite SAT score of 1000 or higher (Critical Reading & Math) or a composite ACT score of 22 or higher.
- Five (5) or more math courses and four (4) or more credit-bearing courses in science

- Three (3) or more courses at the Advanced Placement (AP), International Baccalaureate (IB), or Dual Credit level. Two (2) of three (3) must be at the AP or IB level.
- At least three (3) courses of the same foreign language or four (4) courses in two (2) different foreign languages.
- At least 28 high school units, meet requirements for a State high school diploma, or participate in Scholars Academy.
- Show evidence of participation in at least one school sponsored organization during grades 10-12, or complete 50 hours of approved community service during high school.

State High School Diploma:

A student must earn 24 required units and pass all parts of the HSAP.

Occupational Diploma:

- Grade level equivalency of 6.0 or above in reading and writing or a minimum score on the HSAP as set by the District, or demonstrated annual growth in English language arts shown through diagnostic testing;
- Grade level equivalency of 6.0 or above in math or a minimum score on HSAP as set by the District, or demonstrated annual growth in math shown through diagnostic testing;
- Completion of an internship, apprenticeship, or job experience earning 360 or more hours with the same employer;
- Ability to show work, personal, interpersonal, and self management skills;
- Understand how to use public transportation and know how to get a driver's license;

- Understand how to use the computer to find, process, and publish information.

South Carolina High School Certificate:

Students who complete required units for graduation and do not pass one or more tests on HSAP may receive a South Carolina High School Certificate. Additional opportunities to take HSAP are available to students if enrolled in Adult Education.

Attendance

Attendance is an important part of the learning cycle. Missing school means the student has missed valuable instruction. To be a completer and receive credit for courses taken in a yearlong class, the student can have more than 10 days unexcused absences within a 180-day school year. To be a completer and receive credit for courses taken in a semester length class, no student can have more than 5 days unexcused absences within a 90-day course. All excused absences (medical, death in the family, court, school activity or guidance) do not count against the student and would not factor into these numbers. The students' attendance during the 2006-07 school year would be compared to attendance from their last school year.

Data Analysis:

At the conclusion of the 2007 school year, student attendance records and transcripts were utilized in the collection of data to determine the effectiveness of the career education program in terms of retention, attendance, Grade Point Ratio (GPR), Measure of Academic Progress (MAP), and Carnegie Units. Retention and attendance would be reported using descriptive information. The other factors would be reported using statistical results for comparison. The quantitative data derived from student's records was Grade Point Ratio (GPR) and Carnegie units, Measure of

Academic Progress (MAP) test scores and attendance for the 2006-07 school year were assembled. All collected data was organized on spreadsheets and which was used as a master list. The compiled data was illustrated by tables for comparison and analysis. All students were assigned a code number to retain their anonymity.

In order to determine if an increase occurred between pre and post data, paired *t*-tests were performed. The *t*-tests would determine if a relationship existed between the independent variable (career education program) and dependent variables (Grade Point Ratio, Measure of Academic Progress, and Carnegie units). The dropout rate and attendance would be determined by percentages. A series of charts and tables were generated to display the information.

This chapter has explained the information that would be collected in this study and how computations of the data will be conducted to determine if the newly developed career education program would help reduce this county's dropout rate. The next chapter would present the findings obtained using the methods described in this chapter.

Chapter 4

Results of the Study

The purpose of this study was to determine if the newly designed career education program would reduce the number of students who dropout of high school and to ascertain if improvement in factors established as dropout indicators occurred during participation in this program. To determine if students participating in the career education program (independent variable) remained in school (dependent variable) and showed an improvement in factors (dependent variables) established as dropout indicators, the data collected was compiled at the end of the first year of this pilot program and analyzed. Each hypothesis distinguished in this chapter, pre and post relationships were examined using t-tests. Dropout rates and attendance for the program were illustrated in graphic form.

Research Questions:

1. Will students who participate in the career education program show a reduction in the percentage of dropouts from schools in a Northeastern county of South Carolina?
2. Students who participate in the career education will have increased attendance.

Hypotheses:

Students participating in the career education program will have a positive effect on:

- 1a. Grade Point Ratio (GPR)

1b. Measure of Academic Progress (MAP)

1c. Carnegie Unit

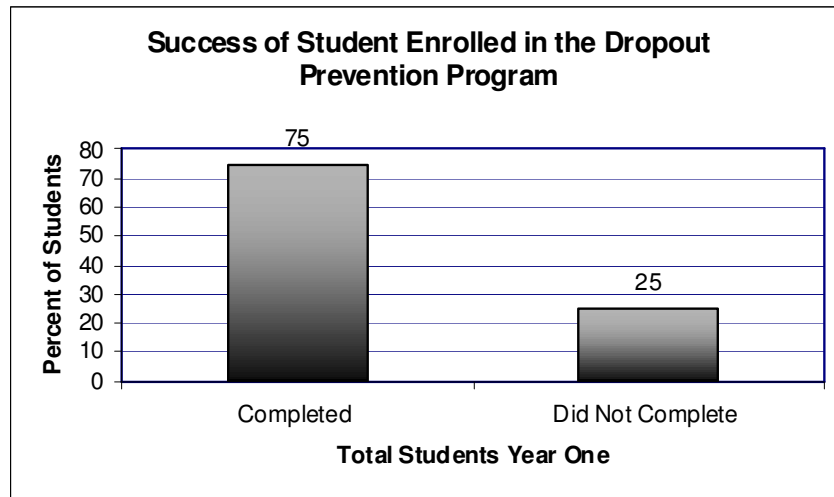
for students involved in this study.

Research Question #1.

Will students who participate in the career education program show a reduction in the percentage of dropouts from schools in a Northeastern county of South Carolina?

A total of 114 students enrolled in the career education program in August of 2006. Figure 6 represents the breakdown of students in the first year of the program, which ended on June 06, 2007. Of the students who entered the program seventy-five percent completed the first year of the program and twenty-five percent did not. Of the twenty-five percent who did not remain in the first year of the program, no student dropped out of high school. These students transferred back to their base high schools, transferred to other schools within the district, or transferred out of the district. Three students were assigned to alternative school and one student withdrew from school and enrolled in Adult Education. Of the original 114 students who entered the program, 85 completed year one. When examining the data, the number of students who began the program in August of 2006 and the number of students who dropped out of school by June of 2007 was zero, thus rejecting the null hypothesis.

Figure 6



The second research question was concerned with factors established as dropout indicators and was collected at the end of the first year of the program on completers. Data collected from the fall of 2006 was used as pretests and compared to data collected in spring of 2007 used as posttest data. Paired *t*-tests were performed to determine if a significant difference was found between the mean scores of the pretest and posttest. Use of the paired samples *t* tests will determine if the means of the two sample distributions will differ significantly from one another. The two-tailed test examines whether the mean of one distribution has a significant difference from the mean of the other distribution, regardless of the direction of the difference (positive or negative). Results were shown to be significant at the 0.05 level.

Students participating in the career education program will have a positive effect on:

1a. Grade Point Ratio (GPR)

1b. Measure of Academic Progress (MAP)

1c. Carnegie Unit

for students involved in this study.

Grade Point Ratio

Using data obtained from students' middle school transcripts, the GPR was calculated for the 8th grade. In order to determine if gains occurred during the first year of this program it was necessary to calculate a starting point. The GPR calculated from the students' 8th grade transcripts were used for this base point and compared to their 9th grade GPR obtained from their high school transcripts at the end of year one. An independent sample *t*-test was conducted to determine significant differences in the academic performance (as measured by GPR) between students who participated in the career education program. The results of the independent sample *t*-test suggested that there was a statistically significant difference between these two groups regarding GPR for 2006 fall and spring 2007. The outcome of the GPR comparison of the two cohorts was $t(85) = 0.012$. Results were shown to be significant at the 0.05 level.

Table 8: Summary of Paired *t*-Test Results for Grade Point Ratio scores

| Variable | n | M | SD | t | p |
|----------|----|--------|--------|---------|-------|
| 8th GPR | 85 | 218.64 | 14.108 | | |
| | | | | 2.30043 | 0.012 |
| 9th GPR | 85 | 222.19 | 14.514 | | |

Measure of Academic Progress

The Measure of Academic Progress (MAP) is a standardized criterion-referenced instrument covering mathematics, language arts and reading. These tests were taken in the fall of 2006 as a baseline and compared to the test scores taken in the spring of 2007 to determine if student progress had occurred. When comparing the pre/post means for each of these tests,

An independent sample *t*-test was conducted to determine significant differences in the Measure of Academic Progress (MAP) between students who participated in the career education program. The results of the independent sample *t*-test (Table 9) suggested that there was a statistically significant difference between these two groups regarding MAP in Math for 2006 fall and spring 2007. The outcome of the MAP comparison of the two cohorts was $t(85) = 0.001$. Results were shown to be significant at the 0.05 level.

Table 9: Summary of Paired *t*-Test Results for Math MAP scores

| Variable | n | M | SD | t | p |
|-------------|----|--------|--------|--------|-------|
| Fall Math | 85 | 222.07 | 14.308 | | |
| | | | | 0.3699 | 0.001 |
| Spring Math | 85 | 223.10 | 15.88 | | |

An independent sample *t*-test was conducted to determine significant differences in the Measure of Academic Progress (MAP) between students who participated in the career education program. The results of the independent sample *t*-test (Table 10) suggested that there was a statistically significant difference between these two groups regarding

MAP in Language for 2006 fall and spring 2007. The outcome of the MAP comparison of the two cohorts was $t(85) = 0.27$. Results were shown to be significant at the 0.05 level.

Table 10: Summary of Paired *t*-Test Results for Language MAP scores

| Variable | n | M | SD | t | p |
|-------------|----|-------|-------|--------|-------|
| Fall Math | 85 | 210.5 | 10.82 | | |
| | | | | 0.5764 | 0.027 |
| Spring Math | 85 | 211.7 | 13.22 | | |

An independent sample *t*-test was conducted to determine significant differences in the Measure of Academic Progress (MAP) between students who participated in the career education program. The results of the independent sample *t*-test (Table 11) suggested that there was not a statistically significant difference between these two groups regarding MAP in Reading for 2006 fall and spring 2007. The outcome of the MAP comparison of the two cohorts was $t(85) = 0.472$. Results were shown to be significant at the 0.05 level.

Table 11: Summary of Paired *t*-Test Results for Reading MAP scores

| Variable | n | M | SD | t | p |
|----------------|----|-----|------|------|-------|
| Fall Reading | 85 | 217 | 14.6 | | |
| | | | | 0.09 | 0.472 |
| Spring Reading | 85 | 218 | 12.6 | | |

Carnegie Unit

An independent sample *t*-test was conducted to determine significant differences in the Carnegie Units earned between students who participated in the career education program. The results of the independent sample *t*-test (Table 12) suggested that there was a statistically significant difference between these two groups regarding earned Carnegie Units during the 2006-07. The outcome of the Carnegie units comparison of the two cohorts was $t(85) = 0.000$. Results were shown to be significant at the 0.05 level.

Table 12: Summary of Paired *t*-Test Results for Carnegie Units

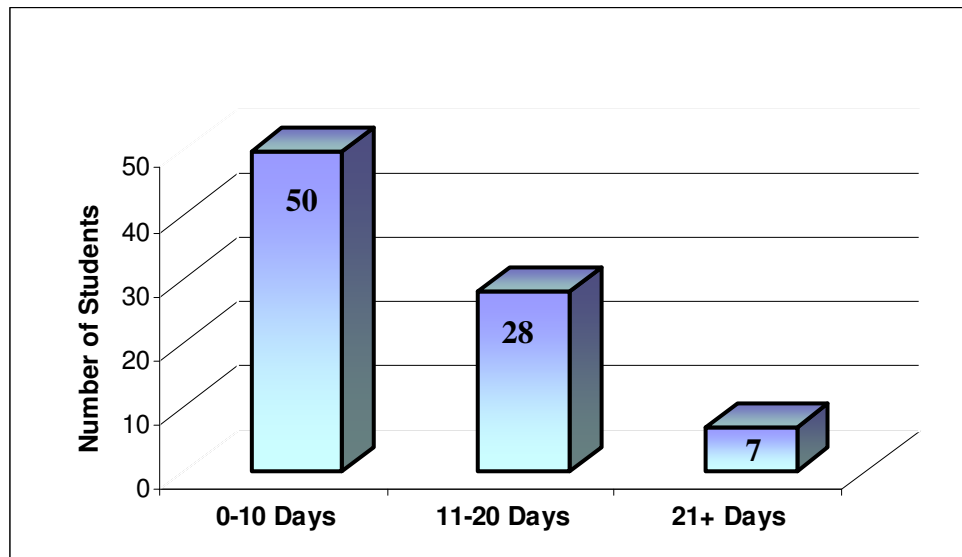
| Variable | n | M | SD | t | p |
|-----------------|----|--------|--------|--------|-------|
| Attempted Units | 85 | 8.13 | 1.14 | | |
| Earned Units | 85 | 7.1964 | 1.3563 | 05.617 | 0.000 |

Attendance

Unlike a transcript, accurate attendance records proved to be a challenge in obtaining. Of the eighty-five students remaining in the program, only five-attendance records could be retrieved which were thought to be reliable. Due to frequent transfers of some students, moving in from another district or state or the unwillingness of the middle school to provide information, an attendance record could not be acquired; therefore, a baseline could not be established. Since data was not collected until after the first year was completed, this loss of data was not foreseen. To determine if the career education program had an effect on student attendance, collected data was grouped in three categories (figure 7). Group One

contained students with ten or fewer days absent, Group Two contained students with 11-20 days absent and Group Three contained students with more than 21+ days absent. The number ten was used because a student could not be absent more than ten unexcused days and receive credit for a class, according to the South Carolina Department of Education. Group One students, with ten or less days would receive credit for the class in which they were enrolled. Also, a student could not make up more than ten unexcused absences during attendance make-up according to school district policy. Therefore, Group Two students could attend after-school attendance and restore up to ten unexcused absences bringing his/her total number of unexcused day down to ten. This allowed the student to receive credit for the class. Any student who missed more than 20 unexcused absences in a year must repeat the class during summer school or the following school year. A student could only make up ten or less unexcused absences during after-school attendance for the year. This time frame did not permit the student to make up the time needed to receive credit for the class.

Figure 7 Attendance of Students participating in the Career Education Program



Of the eighty-five students completing year one, fifty (59%) of students were absent ten or less unexcused days and received credit for the course. Twenty-eight (33%) of the students had twenty or less unexcused absences. By attending after school make-up, these students could reduce the number of unexcused days to ten and receive credit for the course. Of the eighty-five students completing year one, only seven (8%) missed 21 or more days and did not received credit for the class. However, these student could attend summer school and regain lost credits.

Attendance is an important factor and an excellent predictor for students dropping out of school. The data illustrated in figure 7 indicated that 92 % of the students had a successful year and received credit for their courses based on attendance.

In conclusion, the results presented in this chapter clearly indicate that students participating in the career education program would remain in school and improvement in factors established as dropout indicators was established. A more detailed summary and discussion of the findings are presented in the next chapter.

Chapter 5

Summary and Discussion

Introduction

The career education program was developed to help struggling over-aged, under achieving students who were one or more years behind, earn a high school degree. This study was completed to determine if students participating in the career education program remained in school and showed improvements in factors related to the dropout rate as a result of this program. The program began in the summer of 2006 when letters were sent to potential students for the initial year which began in the fall of 2006. This study tracked the progress of these students over a one-year period. This chapter reviewed the methods used in the study, summarized the results and discussed their impact.

Overview of the Study:

Based on factors established as indicators associated with students dropping out of school, this study was designed to determine if the career education program would reduce the number of students who dropout of high school and to ascertain if improvement in factors established as dropout indicators occurred. The independent variable in this research was the students' participation in the career education program and the dependent variable was the number of participants who completed year one of the program. Also, data was collected before students initiated the program and at the conclusion of the first year of the program. The specific areas included Grade Point Ratio (GPR), Measure of Academic Progress scores (MAP), Carnegie units, and Attendance. To determine the effectiveness of the newly

developed program, the students Grade Point Ratio were determined for the student's eighth grade school year, using the uniform grading policy for South Carolina, and comparing this score to the students' ninth grade GPR. To further determine the effectiveness of the career education program, the students Measure of Academic Progress (MAP) scores at the beginning of the program were compared to the students' scores at the end of the first year. To determine the effectiveness of the career education program, the students Carnegie Units were compared (the total number of units the student attempted were compared to the total number of units the student completed), and to determine the effectiveness of the career education program the students' attendance were compared to the uniform attendance policy for South Carolina. The dropout rate was determined by the total number of students who began the program in August of 2006 compared to the number of students who did not complete the first year of the program in June of 2007.

Review of Methodology

The *No Child Left Behind Act of 2001* (NCLB) was enacted to insure that all children have a fair and equal opportunity to obtain a high-quality education and reach, at least the minimum, proficiency on state academic achievement standards and assessments (NCLB, 2001). However, statistics indicated the number of students graduating from high school with a state high school diploma had fluctuated very little over the last 30 years. The number of high school dropouts had remained near the twenty-five percent rate for this school district in South Carolina, and with the development of this prevention program the school district hoped to reduce this stagnate number.

Upon the conclusion of the 2007 school year, student attendance records and transcripts were utilized in the collection of data for comparison and calculations found in this study. The quantitative data derived from student's records was Grade Point Ratio (GPR) and Carnegie units, Measure of Academic Progress (MAP) test scores and yearly attendance. All collected data was organized on spreadsheets and used as a master list. The compiled data was illustrated by tables for comparison and analysis. All students were assigned a code number to retain their anonymity.

The type of data used was quantitative and collected from the students yearly attendance based on the 180-day cycle beginning on August 27, 2006 to June 6, 2007, cumulative Grade Point Ratio (GPR) and Carnegie units collected from determined students 8th and 9th grades transcripts, and Measure of Academic Progress (MAP) test given in August of 2006 and May of 2007.

In order to determine if a statistical relationship existed between pre and post data, a statistical analysis was used. Paired *t*-tests were performed to determine if a statistical relationship existed between the independent and dependent variables. A series of charts and tables was generated to display the information.

Summary of Results

A commitment was made by one district in the state of South Carolina to reduce the dropout rate by implementing a career education program that did just that. There were five main factors associated with this newly developed career education program. The following discussion of the findings addressed the results regarding these factors.

Dropout rate: Students who participated in the newly developed career education program made gains in the number of students who remained in school compared to the number who dropped out. The number of students, who qualified for the program that began in the fall of 2006, totaled 114. In June of 2007, a total of 114 students remained in school. At the end of year one, there were eighty-five students from the original set of 114 who completed the programs first year. Twenty-nine students who did not remain in the program transferred from the career education program into another school program. No students who began the program were lost. This is phenomenal due to the fact that the longer a student stays in school the less likely they are to dropout (US Department of Education, 2006). In line with this study is the 2007 Graduation Promise Act that calls for advancing research and development of highly effective secondary school models for those most at risk of being left behind (Center for American Progress, 2007). The effectiveness of a dropout prevention program would rely on appropriate placement of students into the program. This is compatible with Wills (1999) who identified and used “risk” factors for the purpose of correct identification and placement of a student in the appropriate program.

Grade Point Ratio: Students who participated in the newly developed career education program that there were statistically significant differences in Grade Point Ratios when comparing their eighth and ninth grade years according to the results of independent *t*-test.

A study conducted by Suh, Suh and Houston published in 2007 affirmed the research conducted in early intervention programs and school competency studies which stated that Grade Point Ratio (GPR) was one of the major factors leading to

dropping out of school (Rumberger, 1983; Suh, 2001; Velez, 1989). Also, this was compatible with Janosz 1994 who found that the incidence of low grades was related to students dropping out. In South Carolina eighth grade students do not have a calculated GPR, so each student's eighth grade year-end scores, in all subjects, were calculated using the uniform grading policy for South Carolina high schools when calculating 9th - 12th grade point ratios. The students who enrolled and completed the first year of the model program showed gains in their Grade Point Ratio from the previous year. All students attempting the required eight Carnegie Units were successful during the school year or during summer school. This was a great accomplishment for students who had not achieved the required scores in core subjects to exit eighth grade at the same time as their peers.

Measure of Academic Progress (MAP): Students who participated in the newly developed career education program made significant gains in their Measure of Academic Progress when comparing their pre and post scores in math and language arts but not in their reading.

Research indicates that results from several model programs have shown positive long term effects with significant associations between the program participations and outcomes such as: higher reading and mathematic achievement test scores, fewer grade retentions, more years of education, and greater likelihood to attend a 4-year college. (See, for example, Barnett, 1995; Barnett, Young, Schweinhart, 1998; Bryant & Maxwell, 1997; Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001). Also, Roderick et al (1999) showed that students who struggle with reading and mathematics at an early age were at a greater risk of

dropping out. Students in the career education program showed increases in their math and language arts scores. These scores offered teachers and administration an insight to the student's progress throughout the year and if they may need additional help in an area before they will take the exit exam for graduation. The students did not show a significant improvement in reading scores while participating in the career education program.

Carnegie Units: Students who participated in the newly developed career education program made significant gains in the number of Carnegie units when comparing the number of units attempted and those they achieved. Student who participated in the career education program achieved enough credits to move into the tenth grade year which is phenomenal with a group of students on the verge of dropping out. This is confirmed by Alexander et al (2003) whose study affirmed that retained students and those with lower qualified units of study are more likely to dropout then students with higher numbers of Carnegie units earned.

Research by Allensworth and Easton in 2005 indicates there is a relationship between the numbers of course credits that students accrue each school year and the student's high school status. This indicator identified students as on-track at the end of freshman year if the student accumulated five full course credits, the number needed to be promoted to tenth grade according to Chicago Public School policy.

To earn a Carnegie Unit for each of the eight classes taken during a school year, a student must maintain a grade of 70 or more in that class. The state of South Carolina does not mandate a student maintain a certain grade point ratio to graduate. To obtain a high school diploma in South Carolina a student must successfully

complete 24 Carnegie Units. Also, students must meet attendance requirements in order to receive credit for courses each year. Students participating in the program earned an average of 7.9 of the eight required courses needed to graduate in three years. Based on these numbers ninety-eight percent of the students enrolled in the pilot program successfully completed the eight required courses needed in the first year to successfully graduate within three years. The student's who did not attain the needed courses at the end of year one, enrolled in summer school and 100 percent of these students earned their missing credits. In South Carolina a student must attain five Carnegie units of which one must be English and one must be math to be promoted to the 10th grade.

Attendance: Students who participated in the newly developed career education program made gains in their attendance.

Attendance is an important part of the learning cycle. Missing school means the student has missed valuable instruction. Students who were at risk of dropping out can be predicted based on their attendance patterns, academic performance and behavior. Many studies addressed this issue and showed how absenteeism was an early warning sign that youth were headed for potential delinquent activity, social isolation, and/or educational failure. (See for example, Bell, Rosen, & Dynlacht, 1994; Dryfoos, 1990; Lehr, Sinclair, & Christenson, 2004).

Due to frequent transfers of some students, moving in from another district or state or the unwillingness of the middle school, an attendance record could not be acquired and therefore a baseline could not be established. The studies participants were divided into three groups. Group One contained students with ten or fewer days

absent, Group Two contained students with 11-20 days absent and Group Three contained students with more than 21+ days absent. Of the total number of students only eight percent missed more than twenty-one days. Findings from this study showed that the majority of the students missed less than ten days out of the 180-day cycle. If a student does not attend school they will fall behind and receive less Carnegie Units and eventually will drop out. This is affirmed by Lehr et al (2004) that students who do not attend school will become an educational failure. Also, Bell et al (2004) and Dryfoos (1990) showed that absenteeism was detrimental to student's achievement.

Students who began the career education program attended school on a more regular rate. Attendance by these students allowed them to receive credit for courses they were enrolled in and also allowed them to be promoted to the tenth grade. Only eight percent of these students missed enough days that would require them to attend summer school to receive their Carnegie Units

Discussion of the Results:

On the basis of the study, students who were 1-2 years behind their peers or had dropped out of school and participated in this program had a successful year.

Research showed the state of South Carolina has the lowest on-time graduation rate of any other state in the nation. South Carolina also has one of the highest requirements to obtain a state issued diploma (NCES, 2005). Not only does the state require a student to obtain 24 Carnegie Units, but they specify the subjects. Also, currently a student must pass end-of-course tests in three specified academic courses and an exit exam, the HSAP. This exam is based on a tenth grade

reading level. The MAP tests are indicators used to determine the students' reading, writing and math scores. This provided information on how well a student would perform on the HSAP during their tenth grade year. The mean pre/post MAP tests confirm that the program had a positive influence on student scores. The largest advancement was seen in math and language arts, while a lower mean score was found in reading.

In 2007 the Graduation Promise Act was introduced as a way to improve high schools and reduce dropout. This study's design aligns its policies and systems with many found in the Graduation Promise Act. Also, the results reiterate the finding found by other researchers when testing for factors labeled as indicators of a student dropping out.

Significance of the Study:

By successfully developing and implementing a career education program that can be attended by students who are behind their peers in school would be highly beneficial to everyone. By helping a student obtain a state issued diploma, that student can then enter college and earn a degree or enter the work force fully prepared. If the education system fails this student, it would cost more in the long run. Students who drop out of school cost society through lost taxes, welfare, and prison.

This study advanced the research in the area of career education as a dropout preventative by providing data on Grade Point Ratios, Carnegie Units and standardized test scores along with student attendance. This study proved its

usefulness in academic performance, reducing student retention, and improving student dropout rates.

The most important factor and what must be elaborated on and celebrated was that 85 students, who were on the verge of dropping out, remained in school, received credit for all of their courses in which they were enrolled and increased their standardized test scores. This exciting trend could continue with new students that enroll in this program. Although this was the first year of the program, improvements were made and student's succeeded. The career education program should be implemented into each career based center within the district. At this time there are two centers located within the district.

Finally, determining the effectiveness of this program for students who have been retained due to lack of skills or attendance would increase the graduation rate and provide students with a high school diploma. Mostly this program would provide students with a sense of accomplishment and the knowledge they need to succeed. With success come a higher self-esteem and more opportunities. The results of this study provided student data that can be used in future planning and that should assist the administrative staff in developing appropriate programs for new students.

Limitation of the Study:

It was critical to understand the limits of this study which was being completed. These limits were centered on subjects as well as the retrieval of data. First, the subjects within this study were obtained from applications that were filled out and returned to the program's coordinator. The ratio of gender and ethnicity could not be controlled because only students who met the criteria reported in

Chapter One of the study could be considered for the program. No student who met the requirements was turned down. Also, the number of students in the study was limited to the students who attended the first day of school. Students were not required to attend the program even if they met the criterion.

Since this career education program is unique to the district in which it was being conducted the findings may not be generalized to other institutions or compared to other studies. Also, the study is limited to examining the differences and relationships of dropouts and factors established as dropout indicators due to parameters set by the school district.

Recommendation for Further Research and Opportunities

This study created opportunities for further research. The study could be expanded to include other sites created within the district. Also, it would be beneficial to complete a longitudinal study to determine the dropout rate and degree of students' improvements over the course of the three year program. What happened to the students after high school, how many attended higher education facilities and how many graduated from these institutions are also future opportunities to expand the research determined through this study. With this being the initial year of the program all errors in curriculum and instruction can be address for the next years freshman and continuing completers.

If the career education program is to continue to have positive outcomes such as those found in this study, then facilitators should be specially selected from faculty and professional staff members at the high school or college who are genuinely

interested in the welfare of students. These facilitators should receive in-depth training on the career education program.

A better method of enticing student into the program needs to be conducted. The application method may or may not be received by all students that could qualify. As many of these students are mobile and change addressed frequently their invitation may not be received and a dropout is lost. Elementary and middle school personnel should be trained to recognize the signs of a future dropout and extra steps should be taken to save the student.

References

- Alexander, K., Entwisle, D., & Dauber, S. (2003). *On the success of failure: A reassessment of the effects of retention in the primary school grades* (2nd Edition). Bambridge, United Kingdom: Cambridge University Press.
- Allensworth, E.M., & Easton, J.Q. (2005). *The On-Track Indicator as a Predictor of High School Graduation*. Chicago: Consortium on Chicago School Research. Retrieved September 8, 2006, from <http://ccsr.uchicago.edu/content/publications>
- Barnett, W.S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *Future of Children*, 5(3), 25-50.
- Bachman, J., Green, S. & Wirtanen, I., (1971). *Dropping out: Problem or symptom?* Institute for Social Research, Ann Arbor, MI.
- Bell, A.J., Rosen, L.A., & Dynlacht, D. (1994). Truancy intervention. *The Journal of Research and Development in Education* 57(3):203–211.
- Bracey, G.W. (2006). Bryant, D. M., Maxwell, K. (1996). Early intervention. *Current Opinion in Psychiatry*. 9, (317-321).
- Cairns, R., Cairns, B. & Neckerman, H. (1989). Early school dropout: Configurations and determinants. *Child Development* 60(6) 1437-1452.
- Campbell, F.A., Pungelo, E. P., Miller-Johnson, S., Burchinal, M., & Ramey, C. T. (2001). The development of cognitive and academic abilities: growth curves from an early childhood educational experiment. *Developmental Psychology*, 37(2), 231-242.

- Catterall, J. (1987). On the social costs of dropping out of school. *High School Journal*, 71, 19-30.
- Center for American Progress. (2007). *A promise for our students*. Retrieved on September 22, 2007 from <http://www.americanprogress.org/issues/2007/04/gpa.html>
- Center for the Study of Social Policy, (1994). *Kids count data: State profiles of child well-being*. U.S. Government Printing Office, Washington, DC.
- Columbia University Symposium (2007). *Equal educational opportunity: What now?* Retrieved on September 28, 2007 from <http://www.tc.edu/centers/EquitySymposium/symposium07/symposium.asp>
- Demos, G.D. (1986). Demos D (Dropout) Scale. Western Psychological Services.
- Dropping in on Dropouts. (2005). *Phi Delta Kappan*, 87(10), 798.
- Dryfoos, J.G. (1990). *Adolescents at Risk: Prevalence and Prevention*. New York, NY: Oxford University Press.
- Education Commission of the States. (2007). Retrieved on February 9, 2008 from <http://www.ecs.org>
- Ensminger, M & Slusarick, A. (2002). Paths to high school graduation or dropout: A longitudinal study of a first grade cohort. *Sociology of Education* 65 2, pp. 95-113.
- Gleason, P, & Dynarski, M. (2002a). How can we help? What we have learned from recent federal dropout prevention evaluations. *Journal of Education for Students Placed At Risk*, 7(1), 43-69.
- Gleason, P, & Dynarski, M. (2002b). Do we know whom to serve? Issues in using

risk factors to identify dropouts. *Journal of Education for Students Placed At Risk*, 7(1), 25-41.

Haney, W., Madaus, G., Abrams, L., Wheelock, A., Miao, J., & Gruia, I., (2004) *The education Pipeline in the United States 1970-2000*. Retrieved February 9, 2008, from <http://www.bc.edu/research/nbetpp/statements/nbr3.pdf>

Hauser, R., Simmon, S., & Pager, D. (2000). *High school dropout, race-ethnicity, and social background from the 1970s to the 1990s* (CDE Working Paper No. 2000 12). Madison, WI: Center for Demography and Ecology.

Holmes, C. T.(1989). Grade level retention effects: A meta-analysis of research studies. *Flunking grades: Research and policies on retention* pp. 16-33. London: Falmer Press.

Janosz, M, Blanc, M., Boulerice, B., & Tremblay, R.E. (1994): Predicting Different Types of School Dropouts: A Typological Approach on Two Longitudinal Samples. School of Psychoeducation, University of Montreal.

Jimerson, S., (1999). On the failure of failure examining the association between early grade retention and education and employment outcomes during late adolescence. *Journal of School Psychology*. 37(3), Autumn, 243-272.

Kindergarten Readiness Issues Group, partners in Research Forum. (2003). *North Carolina early grade retention in the age of accountability*. Chapel Hill: The University of North Carolina, FPG Child Development Institute.

Laird, J., DeBell, M., Kienzl, G., & Chapman, C. (2007). *Dropout Rates in the United*

States: 2005 (NCES 2007-059). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved March 29, 2008 from <http://nces.ed.gov/pubsearch>.

Lehr, C., Sinclair, M., & Christenson, S., (2004). Addressing student engagement and truancy prevention during the elementary school years: A replication study of the check & connect model. *Journal of Education for Students Placed at Risk*, 9(3) 279-301.

Lloyd, S., (2006) A road map to state graduation policies. Retrieved online February 9, 2008 from <http://www.edweek.org>

McDill, E., Natriello, G. & Pallas, A., (1986). A population at risk: Potential consequences of tougher school standards for student dropouts. *American Journal of Education*. 94, 135-181.

National Center for Education Statistics. (2006). *Dropout rates in the United States: 2005* (NCES 2007). Washington, D.C.: U.S. Department of Education.

National Commission on Excellence in Education, (1983). *A nation at risk*. Retrieved on March 28, 2008 at <http://www.ed.gov/pubs/NatAtRisk/index.html>

National Dropout Prevention Center and Network, Clemson, S.C. Retrieved on February 9, 2008 at <http://www.dropoutprevention.org>

National Educational Association, (2002). *No child left behind/ESEA: It's time for a change*. Retrieved September 22, 2007 from <http://www.nea.org/lac/esea/index.html>

No Child Left Behind Act of 2001, P.L. 107-110, 115 Stat. 1425 (2002)

- Oden, S., Schweinhart, L.J., & Weikart, D.P. (2000). *Into adulthood: A study of the effects of head start*. Ypsilanti, MI: High/Scope Press.
- Pallas, A. (1986). *The condition of education: Statistical report from the center for educational statistics*. U.S. Government Printing Office, Washington, DC, pp. 158-174.
- Pettit, B. & Western, B. (2002). Inequality in lifetime risks of imprisonment. Retrieved February 9, 2008, from http://www.jcpr.org/povsem/western_seminar.pdf
- Price Waterhouse, Qualitative research related to the school leaver's questionnaire, Final report, October 25, 1990.
- Reynolds, A.J. (2000). *Success in early intervention: The Chicago Child-Parent Centers*. Lincoln: University of Nebraska Press.
- Reynolds, J.J., Temple, J.A., Robertson, D.L., Mann, E.A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, May 9; 258(18), 2339-46.
- Roderick, M., Bryk, A. S., Jacob, B. A., Easton, J.Q., & Allensworth E. (1999). *Ending social promotion: Results from the first two years*. Retrieved February 3, 2008 from http://ccsr.uchicago.edu/content/publications.php?pub_id=56
- Roderick, M., (1994). Grade retention and school dropout: Investigating the Association. *American Educational Research Journal* 31, pp. 729-759.
- Rumberger, R. U. (1983). Dropping out of high school: The influence of race, sex,

and family background. *American Educational Research Journal*, 20, 199-220.

Samuels, C.A., (2007). Lack of Research, data hurts dropout efforts, experts say. *Educational Week*, 26(36), 8.

Schugurensky, D., (2002). History of education: Selected moments of the 20th century. Retrieved September 22, 2007 from http://fcis.oise.utoronto.ca/~daniel_schugurensky/assignment1/index.html

Shepard, L.A. & Smith, M.L. (1990). Synthesis of research on grade retention. *Educational Leadership* 47, pp.84-88

Shepard, L., & Smith, M. (1987). Effects of kindergarten retention at the end of the first grade. *Psychology in the Schools*, 24, 356-357.

Steinberg, A., Johnson, C & Pennington, H. (2006). *Addressing America's dropout challenge: State efforts to boost graduation rates require federal support*. Center for American Progress. Retrieved September 22, 2007 from <http://www.americanprogress.org/>

Steinberg, L., Blinde, P. & Chan, K. (1984). Dropping out among language minority youth. *Review of Educational Research* 54, 113-132.

South Carolina Department of Education. (2006). *Report on student dropout rates 2003- 04*. Columbia, SC.

Suh, S. (2001). *Korean American adolescents' perceptions of contributors to school dropout risk*. Unpublished doctoral dissertation, University of Alabama, Tuscaloosa.

Suh, J., Suh, S. & Houston, I., (2007). Predictors of categorical at-risk high school

dropouts. *Journal of Counseling and Development*. 85(2) 196+.

The State of America's Children Yearbook (2000). Washington, DC: Children's Defense Fund, 2000.

U.S. Department of Education, National Center for Education Statistics. (2006). Dropout rates in the united states; 2004. Washington, D.C.

U.S. Department of Education, National Center for Education Statistics. (2006). Dropout rates in the united states: 2005 (NCES 2007). Washington, D.C.: U.S. Department of Education.

U.S. Department of Education, National Center for Education Statistics. (2004). The condition of education 2004 (NCES 2004-077). Washington, DC: U.S. Government Printing Office.

U.S. Department of Education, National Center for Education Statistics. (2006). State nonfiscal survey public elementary/secondary education survey. Washington, DC: U.S. Government Printing Office.

United States Government 1999 Census Report. Washington, DC: US Government Printing Office, 1999.

Velez, W. (1989). High school attrition among Hispanic and non-Hispanic White youths. *Sociology of Education*, 62, 119-133.

Weaver, R., (2007). Disappearing capital. *NEA Today*, 25(7), 7.

Wells, D., Miller, M. & Clanton, R (1999). School counselors' accuracy in Identification of adolescences at risk for dropping out. *Adolescence*, 34(135), 457.