

Preparing Special Education Students to Enter into a  
Nursing Assistant Certification Training Program, Using Direct Instruction

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A Special Project

Presented to

Dr. Robert Kraig

Heritage University

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In Partial Fulfillment  
of the Requirement for the Degree of  
Master of Education

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Linda J Hupka

May 1, 2009

FACULTY APPROVAL

Preparing Special Education Students to Enter into a  
Nursing Assistant Certification Training Program, Using Direct Instruction

Approved for the Faculty

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## ABSTRACT

### Preparing Special Education Students to Enter into a Nursing Assistant Certification Training Program, Using Direct Instruction

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Chair Advisory Committee: Robert P. Kraig

The purpose of this study was to determine if special needs students would demonstrate increased entrance proficiency toward qualifying for program entry into a State required Certified Nursing Assistant training program, through a Direct Instruction format. Special Needs students would experience a high rate of success and be prepared to meet the industry certification standards if they received a direct instruction format prior to enrolling in the Nursing Assistant Training program. Based upon the findings, conclusions were made. It was concluded that by enrolling Special Education students in a preparatory Nursing Assistant Certification program using a Direct Instruction format and given additional time, students would demonstrate an increased proficiency in the job

specific skills, however they would demonstrate little to no increase in proficiency in Math, Comprehension, and Vocabulary.

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## CHAPTER 1

### Introduction

#### Background for the Project

The need to reform the Elementary and Secondary Education Act (ESEA), was the driving force behind the No Child Left Behind, (NCLB) legislation passed in 2002. The goals of the NCLB legislation were to insure accountability and to close the achievement gap between high performing and under performing students, specifically between, minority and non-minority, as well as, special needs students.

The Individuals with Disabilities Education Act, 2004 (IDEA) is legislation that drives special education services in America's schools and demonstrates the commitment of legislators to tear down remaining barriers to equality that faces Americans with disabilities today. The NCLB legislation requires that special needs students be provided with vocational training while in school, in addition to the development of a transition plan that will outline their plans once they leave high school. In prior years, Special Education students who enrolled in the Bremerton School District's only accelerated one year Nursing Assistant Certification (NAC) program have not been successful in meeting certification standards. In its attempts to solve this problem, the Bremerton School District

developed an additional class designed to prepare Special Education and under-served student populations for entry into a Nursing Assistant Certification program.

### Statement of the Problem

There has been a decrease in the number of special needs and under-served students who have been accepted into the advanced Nursing Assistant Certification (NAC) program available to students in the Bremerton School District.

Historically, special education students enrolled in this program have been unsuccessful at meeting Washington State certification standards for Nursing Assistants in the areas of math, problem solving and decision-making. The guidelines as set forth by the Federal Government's Individual's with Disabilities Education Act, 2004 (IDEA), specifically requires that special needs students be provided with occupational training.

Bremerton High School's Special Needs students demonstrated an interest in the NAC program, but they were discouraged from enrolling in the existing one year program because of the rigorous curriculum. It was determined that these students needed some additional preparation prior to enrollment. In order to do this, Bremerton High School developed an additional step to assist students toward meeting the requirements of the Nursing Assistant program. This was a a class that

would specifically target the skills necessary, such as math, nursing assistant skills vocabulary and reading comprehension delivered through a direct instruction format.

### Purpose of the Study

The purpose of this study was to determine if special needs students would demonstrate increased entrance proficiency toward qualifying for program entry into a State mandated Certified Nursing Assistant training program, through a Direct Instruction format.

Special Needs students would experience a high rate of success and be prepared to meet the industry certification standards if they received a direct instruction format prior to enrolling in the Nursing Assistant Training program.

### Delimitations

This project was delimited to one teacher, instructional assistant and ten grade 10-12 special needs students during the 2008-2009 school year at Bremerton High School in Bremerton, Washington. Bremerton High School is located in the heart of Bremerton, Washington and according to the October, 2008 enrollment count, has a total student population of 1,414. One of the major problems facing Bremerton High School is that the poverty level is at least 60% of the entire school population. This has been identified as an area of improvement

for Adequate Yearly Progress (AYP) in math in that there has been a positive correlation between income level and the math scores. An additional area of improvement identified is the achievement of special needs students on existing statewide standardized tests.

### Assumptions

For the purpose of this study, the following assumptions were presumed:

All students would participate and try their best in the pre- and post-assessment.

All students would try their best to make progress in the preparatory Certified Nursing course curriculum.

Varying skills and abilities of individual special needs students would cause some differences in results.

The group of students who participated in this program would experience an increased level of success.

Students honestly took all Certified Nursing written assessments and practical assessments on their own without the assistance of instructors.

### Hypothesis

Special education students who participate in a one year basic entry Nursing Assistant (NAC) preparatory program, would demonstrate increased entrance proficiency toward qualifying for program entry into a Washington State required Certified Nursing Assistant training program.

### Null Hypothesis

The preparedness of special education students entering into a Washington

State required Certified Nursing Assistant training program would show little or no change when participating in a preparatory Nursing Assistant training program, given additional time and through a Direct Instruction format.

### Significance of the Project

The purpose of this study was to provide a factual basis that would determine if special needs students would demonstrate increased entrance proficiency toward qualifying for program entry into a Washington State Certified Nursing Assistant training program, when learning in an environment where they were provided with individualized instruction and given additional time to complete tasks.

### Procedure

For the purpose of this project, the following procedures were implemented:

1. A review of selected data was conducted at Bremerton High School (BHS). Selected articles were reviewed via the World Wide Web.
2. Permission to gather student data from the Nursing Assistant Certification (NAC) program at BHS for the 2008-2009 school year, was received from Aaron Leavell, BHS Principal. (Appendix A)

3. Special needs students who indicated a strong interest in becoming employed in the medical field, specifically NAC, were enrolled in a preparatory NAC program at BHS.
4. A Certified Nursing Assistant pre-assessment was administered to 10 BHS special needs students on October 16, 2008. The assessment was administered to seven female and three male students.
5. Data was subjected to a t test.
6. Following the NAC pre-assessment, BHS students were introduced to the NAC curriculum which was delivered through a direct instruction format. (Appendix D)
7. A Certified Nursing Assistant post-assessment was administered to BHS special needs students on February 20, 2009. The assessment was administered to seven female and three male students.
8. Data was subjected to a t test.
9. Results from the Certified Nursing Assistant pre- and post-assessment were compiled and compared. (Appendix B)
10. Summary, conclusions and recommendations concluded this study.

### Definition of Terms

For the purpose of this study, the following words are defined:

Nursing Assistant Certification (NAC): Training in all client care aspects that are necessary to obtain certification as a Washington State Nursing assistant (NAC). The NAC works in hospitals, nursing homes with patients and provides assistance with daily living tasks such as dressing, bathing, feeding, toileting, vital signs, catheter care, bed making, etc

No Child Left Behind (NCLB): A congressional educational act signed by the Bush presidential administration in 2001 to close the achievement gap of students with emphasis on accountability, flexibility, and choice.

Individuals with Disabilities in Education Act, 2004 (IDEA):

The reauthorized *Individuals with Disabilities Education Act (IDEA)* was signed into law on Dec. 3, 2004, by President George W. Bush. The provisions of the act became effective on July 1, 2005, with the exception of some of the elements pertaining to the definition of a “highly qualified teacher” that took effect upon the signing of the act. The IDEA is a federal law that mandates states and public agencies to provide early intervention, special education, and related services to children with disabilities between the age of birth and 21. The IDEA is considered to be a civil rights law.

Adequate Yearly Progress (AYP): Adequate Yearly Progress (AYP) is a

statewide accountability system mandated by the No Child Left Behind Act of 2001 which requires each state to ensure that all schools and districts make AYP. This accountability system measures the yearly progress of different groups of students at the school, district, and state levels against yearly targets in reading/language arts and mathematics. Title I schools and districts are especially affected if they do not make AYP and the results must be publicly reported.

**Elementary and Secondary Education Act (ESEA):**

In 1965, Lyndon Johnson's Elementary and Secondary Education Act (ESEA), established goals that everyone supports: high standards and accountability for the learning of all children. This ESEA was reauthorized on January 8, 2002 by President George Bush as the No Child Left Behind Act (NCLB). The NCLB amended the 1965 ESEA in order to close the achievement gap of students with an emphasis on accountability, flexibility, and choice. Although there have been some problems with the amended ESEA, the major idea behind it was to provide all children with a fair and equitable high quality education that provides them considerable opportunity toward obtaining a quality education.

**Career & Technical Education (CTE):** Career & Technical Education (CTE) provides the skills necessary for students to go to work and/or post-secondary

education/training following high school graduation. It is believed that completion of a CTE course of study generates significant gains in academic achievement and post high school earnings and provides for the preparation of a skilled workforce.

Nine Characteristics of Highly Effective Schools: In 2002, the Office of Superintendent of Public Instruction (OSPI) in Washington /State reviewed 20 recent research studies that examined some of the common characteristics of high-performing schools. Most of these studies focused on elementary schools in large urban settings. Some common themes became evident throughout these studies and were identified as the Nine Characteristics of High-Performing Schools. These characteristics were:

1. A clear and shared focus.
2. High standards and expectations for all students.
3. Effective school leadership.
4. High levels of collaboration and communication.
5. Curriculum, instruction and assessments aligned with state standards.
6. Frequent monitoring of learning and teaching.
7. Focused professional development.
8. A supportive learning environment.
9. High levels of parent and community involvement.

Direct Instruction (DI): Developed by Siegfried Engelmann and Wesley C. Becker of the University of Oregon, Direct Instruction (DI) is a teaching methodology designed to increase the performance of disadvantaged elementary school students.

Acronym

<u>NAC:</u>	Nursing Assistant Certification
<u>DI:</u>	Direct Instruction
<u>NCLB:</u>	No Child Left Behind
<u>IDEA:</u>	Individuals with Disabilities in Education Act
<u>ESEA:</u>	Elementary and Secondary Education Act
<u>CTE:</u>	Career & Technical Education
<u>BHS:</u>	Bremerton High School
<u>OSPI:</u>	Office of the Superintendent of Public Instruction

## CHAPTER 2

### Review of Selected Literature

#### Introduction

This chapter has been organized around the following topics: (a) Career & Technical Education, (b) Nursing Assistant Certification, (c) Direct Instruction, (e) Special Education, (f) Nine Characteristics of Highly Effective Schools, (g) summary. The categories explored the background and effectiveness of Career & Technical Education and the important role CTE can play in the education of Special needs students. The research addressed the strategy of using Direct Instruction when working with students to ensure future success in gaining entry into an advance level Nursing Assistant Certification program.

#### Career & Technical Education

Career & Technical Education has come a long way since the days of “Vocational Education” when all of the under-achieving and un-motivated students were deposited into vocational “dummy” classes to keep them out of trouble. Historically, vocational education was designed to prepare students for work and help them enter the workforce shortly after high school. This was geared toward those students who were unable to make significant strides in academic achievement and those who had a low probability of being successful in post-

secondary education. This has changed dramatically over the last 10 – 20 years since “vocational education” has become Career & Technical Education” and CTE courses have become more rigorous and relevant. In addition to preparing students for a post-high school workforce, Career & Technical programs also serve to prepare students for post-secondary educational attainment. This occurs, once again through a rigorous curriculum and through programs such as Tech Prep, which provides students in previously identified CTE courses to earn college credit in addition to high school credit.

Terry Bergeson, Office of Superintendent of Public Instruction (OSPI) described the benefits of Career & Technical Education as follows, “CTE prepares students for the full range of post-secondary education options, including community and technical colleges, baccalaureate institutions and apprenticeships. In short, CTE provides students with high quality education, and prepares them to be in high demand in their 13th year. While it’s based on industry standards, CTE coursework also prepares students to meet state graduation requirements and state post-secondary education entry requirements,” (Pg. 1).

A study performed by the Conference Board, Corporate Voices for Working Families, Partnership for 21<sup>st</sup> Century Skills, and the Society for Human

Resource Management, determined that the employers believe the current and future workforce is, “woefully ill-prepared for the demands of today’s and tomorrow’s workplace,” (Pg. 9). According to this study, 400 employers were surveyed and they determined that, Professionalism/Work Ethic, Oral and Written Communications, Teamwork/Collaboration and Critical Thinking/Problem Solving are the skills that will ensure future success for employees. “The findings indicate that applied skills on all educational levels trump basic knowledge and skills, such as *Reading Comprehension* and *Mathematics*. In other words, while the “three Rs” are still fundamental to any new workforce entrant’s ability to do the job, employers emphasize that applied skills like *Teamwork/Collaboration* and *Critical Thinking* are “very important” to success at work. (NRCCTE)

In order to be competitive in the global economy, it is imperative that students are prepared for future success and it is believed that Career & Technical Education can do this.

In 2005-06, 17,000 of Washington State’s Career & Technical students earned over 100,000 Community and Technical College credits while simultaneously earning high school credit through Tech Prep programs. Families saved over \$6 million in college tuition, specifically, Tech Prep high school students averaged six college credits each. (Students in High Demand, Sept. 2008.

OSPI)

A major emphasis of school reform has been to focus on three components: increase student engagement (reducing dropout rates), increased level of rigor in the curriculum (strengthening achievement), and transition (from high school to work, postsecondary, and or apprenticeships) Recent research demonstrated that Career & Technical Education can be a viable option for those students who need “hands-on” activities to increase student achievement and graduation rates. The National Research Center for Career & Technical Education (NRCCTE) stated, “In our view, CTE contributes directly to student engagement, achievement, and transition in a program systematically characterized by rigor, relevance, and relationships. Indeed, we believe that engagement, achievement, and transition provide a mechanism to operationalize rigor, relevance, and relationships in a structured educational system,” (Pg 2)

Many studies have been performed to ascertain whether or not career & technical education can help prevent students from dropping out of school. For the most part these studies were inconclusive, however, Kulik (1998), reviewed a variety of research instruments that range in dates from 1960 – 1990’s. “After considering simple descriptive studies and also studies with experimental designs and/or statistical controls, he concluded that participation in vocational programs

increased the likelihood that non-college-bound youth would complete high school. Specifically, he estimated that participation (as a dichotomous, yes–no proposition) decreased the dropout rate of such youngsters by about 6%,” (National Research Center for Career & Technical Education).

According to results of the study, *Dropping out of High School and the Place of Career & Technical Education*, the National Longitudinal Study of Youth, 1997 provided data that was used to analyze the relationship between CTE and academic courses in terms of how they relate to high school drop out rates.

“Descriptive statistics are presented for 1,628 individuals born in 1980. Transcript and survey data are then used in estimating non-proportional hazards models with time-varying covariates for a subsample of 846 youth. The research found a highly significant curvilinear effect of the course-taking ratio on the likelihood of dropping out for youth who were less than 15 years old upon entering 9th grade. For them, a CTE: academic course ratio of 1:2 was beneficial. For youth who were 15 or older upon high school entry, factors other than course-taking predicted their high rates of dropping out,” (Pg. vii). This research took into account a blend of academic and CTE courses rather than one or the other. Because the reasons for dropping out of school cannot be attributed to one definitive reason or event, it was important to look at dropping out as a, “culminating event in a process of

disengagement from education,” (Pg. 1). (Alexander, Entwisle, & Kabbani, 2001; Finn, 1989). There are also many environmental reasons that a student might choose dropping out as an acceptable alternative for them.

### Nursing Assistant Certification

Certified Nursing Assistant is a health care worker who assists professional nursing personnel in a medical facility. According to the World Health Organization (WHO), there is a shortage of Health care workers across the globe, most of which is in the Sub Saharan African nation. However, the United States is not immune from this shortage. Low pay and difficult working conditions are just a couple of the reasons for this shortage. “Health workers are all people whose main activities are aimed at enhancing health. They include the people who provide health services -- such as doctors, nurses, pharmacists, laboratory technicians -- and management and support workers such as financial officers, cooks, drivers and cleaners. Worldwide, there are 59.8 million health workers. About two-thirds of them (39.5 million) provide health services; the other one-third (19.8 million) are management and support workers. Without them, prevention and treatment of disease and advances in health care cannot reach those in need.” WHO.

In order to undertake this problem, it is necessary to invest in training and

support of health care workers, increase the number of people going into the health field which means that it needs to be more attractive. The WHO makes it clear that the use of the existing health workforce needs to be used more efficiently and health care workers must be treated more equitably.

In Washington state, the shortage is concerning to the health care industry and those training facilities that might serve future health care workers.

“Washington state is facing a growing public health crisis because of a shortage of health care workers. The general public appears unaware of this critical situation even though it has the potential to devastate access to quality health care throughout the state,” (Health Workforce Institute, 2006).

Results from a 2006-2007 survey taken by the Health Workforce Institute (HWFI), indicated that there were major vacancies in nearly 20% of the health care occupations which includes a 40% vacancy rate in the nursing field. While the statistics did not specifically address Certified Nursing Assistants, it is clear that the entire medical profession is facing desperate times as the vacancy rates grow. It was noted that there is an increasing need for bilingual and culturally competent health care professionals. The 2006-2007 survey revealed, “Washington State is facing significant and severe staffing challenges that will worsen over time and

severely impact the entire health care safety net. With a projected shortage of 24,000 registered nurses in Washington State by 2020 and 96,000 physicians nationally. A report by the Academy of Family Physicians, found that there will need to be a 39% increase in the number of family physicians by 2020 in order to meet the growing health care needs in America.

Recruitment and increased access to low cost health care training programs are among the solutions that may help to alleviate the crisis facing Washington state and the entire global community.

### Direct Instruction

“Direct Instruction (DI) is a model for teaching that emphasizes well-developed and carefully planned lessons designed around small learning increments and clearly defined and prescribed teaching tasks. It is based on the theory that clear instruction eliminating misinterpretations can greatly improve and accelerate learning,” (Pg. 1) National Institute for Direct Instruction (NIDI). DI was created by Siegfried Engelmann and Wesley C. Becker of the University of Oregon who believe that when DI is done well, it can improve academic performance. In order for DI to be effective, the teacher must commit to making strategic changes in their teaching style. DI instruction requires a very prescribed instructional practice including consistent daily schedules, a set curriculum,

grouping and management procedures and a timeline for implementation and often the entire school is asked to make some changes operationally. Furthermore, “it is crucial that all concerned adopt and internalize the belief that all students, if properly taught, can learn,” (Pg. 2) NIDI.

Jeffrey Lindsay, in his article *Direct Instruction Works* states, “Education in many schools is simply failing. While many mainstream leaders in public education demand more funding for their failed programs, their explanations for their failure to teach our children rings hollow.” (Pg 1). A report from the Wisconsin Policy Research Institute found that Direct Instruction has a strong research base, confirming its positive effects on student learning. “The supporting evidence arises from well-controlled experimental studies that validate the principles and theory underlying Direct Instruction.” Upon a deeper scrutiny of Wisconsin’s report, Alan J. Borsuk found that fourth grade students, “who scored proficient or better in reading on the state's standardized tests rose from 22% in 1997-'98 to 57% in 1999-2000. In math, the proficient or better score rose from 11% to 48% over the same period. In social studies, the increase was from 13% to 61%. Those are amazing gains.” In fact, this Wisconsin school district is moving toward becoming a charter school so that they will have more ownership over the curriculum and instructional methods in order to be more consistent in the delivery

of Direct Instruction.

### Special Education

Federal and State legislation has mandated through the Individuals with Disabilities Act (IDEA), that schools provide services to children with disabilities by way of early intervention, special education and related services. One outcome of IDEA was to ensure that Special Education high school students are provided with a plan to ensure a smooth transition from high school. Under IDEA, districts are required to develop a transition plan. The term “transition services” means a coordinated set of activities for a child with a disability that will focus on the student’s movement from school to post-school activities. This plan will include postsecondary education, career and technical education, employment, continuing adult education, independent living and/or community participation. The transition plan needs to take into account individual needs and abilities of the student and the student’s personal interests and strengths must be considered and for some that will include training in daily living skills. This transition plan is designed to help the student reach these long term goals for their future success.

No Child Left Behind has set the ambitious goal that all students will meet a 100% proficiency level by the year 2014. A major goal of this law was to specifically target special education, minorities and under-served children, “NCLB is working

The 2005 Nation's Report Card Long Term Trend Report found, "steady academic growth and gains nationwide, particularly among younger and minority students," Department of Education (2008). "The Bipartisan NCLB law is making sure schools are held accountable for the academic progress of every child."

### Nine Characteristics of Highly Effective Schools

In 2002, the Office of Superintendent of Public Instruction (OSPI) in Washington State reviewed 20 research studies that examined some of the common characteristics of high-performing schools. Most of these studies focused on elementary schools in large urban settings. Some common themes became evident throughout these studies and were identified as the Nine Characteristics of High-Performing Schools. These characteristics were:

1. A clear and shared focus.
2. High standards and expectations for all students.
3. Effective school leadership.
4. High levels of collaboration and communication.
5. Curriculum, instruction and assessments aligned with state standards.
6. Frequent monitoring of learning and teaching.
7. Focused professional development.
8. A supportive learning environment.
9. High levels of parent and community involvement.

The Nine Characteristics can be broken into three categories, “goals and aspirations, processes and actions, and supports and capacity building.” The Nine Characteristics of High-Performing Schools has been recognized nationally and is

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being used throughout the country. Each of the studies that were used to develop the Nine Characteristics was found to have at least five of the same characteristics in common some had as many as all nine.

These Nine Characteristics were found to be in line with the charge of school reform under NCLB and were believed to meet the ambitious goal that “all students can learn.” At risk youth is a concern that faces America’s schools more so now than ever before. “By the year 2020, the majority of students in America’s public schools will be living in circumstances traditionally regarded as placing them at risk of educational failure,” Natriello and McDill (1990). “Many will be poorly housed, undernourished, subject to the effects of others’ abuse of drugs, and provided with few positive adult role models. A greater number of young people will be neglected or abused by those adults who enter their lives, and—because misunderstandings, insufficient resources, or a lack of regard for individual differences and capabilities—treated harshly by the very institutions that ostensibly were created to help them,” Montgomery and Rossi (1994). Special education students qualify under the description of at risk students. They are certainly more at

risk of failing and/or dropping out of schools in comparison to other students.

“When young people do not succeed in school, the economic consequences to individuals and to the country are staggering,” Ed Reform and Students at Risk.

### Summary

The focus of this chapter was to address the available evidence to the topics of (a) Career & Technical Education, (b) Nursing Assistant Certification, (c) Direct Instruction, (e) Special Education, (f) Nine Characteristics of Highly Effective Schools. After reviewing the research topics, it was evident that by providing a direct instruction format and additional time to Special Education Students through a career training program, it was possible to slightly increase the success rate of students who were seeking to become certified in the Nursing Assistant field. These students would be better prepared to enter into the state required Nursing Assistant preparation program.

## CHAPTER 3

### Methodology and Treatment of the Data

#### Introduction

This chapter has been organized around the following topics: (a) methodology, (b) Participants, (c) Instruments, (d) Design, (e) Procedure, (f) Treatment of Data, (g) Summary. In conducting this research, a number of processes and procedures were used. First, permission to conduct research at Bremerton High School was requested and authorized. Next a thorough background of the problem was reviewed in order to better understand the various aspects of the issue. Finally, the timeline and assessment tool used for the research was determined, as well as the statistical action to be taken after collecting the data on the sample population

#### Methodology

The events that lent significance to this project were researched on the subject of using Direct Instruction techniques and extra time for completion of a preparatory Nursing Assistant program. In having looked at the problem, the

researcher decided to see if providing Direct Instruction and extra time would mark an increase in the proficiency of Special Education students toward entry into a state Nursing Assistant Certification program. More research was conducted on the

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various topics related to the study: Career & Technical Education, Nursing Assistant Certification, Direct Instruction, Special Education, and the Nine Characteristics of Highly Effective Schools. The assessment tool used in the study was developed by an outside contractor who trained Nursing Assistants for a private long term care facility. The assessment tool was made up of questions that included: specific certified nursing skills, math and reading comprehension. The timeframe for the study was determined to be from the initial pre-assessment that collected data in October, 2008 through February, 2009 when the post-assessment was administered. Between October and February the Nursing Assistant students received Direct Instruction methodology in math, certified nursing skills, and anatomy and physiology. The data from each testing period was collected and the amount of growth was tabulated. The researcher used experimental research methods and the data was subjected to statistical analysis, a t test, to determine if there was significance for the project.

### Participants

The sample population for this study was a convenient sample, which included 10 Special Education students ranging in age from 16-18 years old who

were enrolled in the Nursing Assistant preparation program at Bremerton High School for the 2008-2009 school year. Of these 10 students, seven were female and

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3 were male. All of these students remained in the program throughout the period of the study. The background of these students that was taken in to consideration was their ability level as special education students, in that they were not the lowest functioning students available in the school. Each of these students had their own unique obstacles to overcome in their quest to become prepared to enter into a state qualifying Nursing Assistant program.

### Instruments

One instrument was used in completion of this research. The instrument used was the mini Certified Nursing Assistant pre- and post-assessment. The assessment tool had been developed by an outside contractor who trained Nursing Assistants for a private long term care facility. Due to the small range of difference between the data from the assessment tool for this research and in class performance, the researcher has considered this instrument to be reliable.

### Design

The method of research used in this study was based on action research methods. Action research was used to explore the effectiveness of providing Special Education students with Direct Instruction methodology and additional

time to gain skills and increase the potential for academic achievement. Pre- and post-assessments were used. Experimental research methods were also used to

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determine if providing additional time and using Direct Instruction strategies would increase student achievement and provide them with the skills to successfully enter into a state qualifying Nursing Assistant Certification program.

### Procedure

Ten special education students, who demonstrated an interest in the health care field, were enrolled in the preparatory Nursing Assistant program. This class is held for three periods per day (55 min per period) which allowed them additional time for the intensive instructional methodology. The students were administered a pre-assessment in October that was developed by an outside contractor who trained Nursing Assistants for a private long term care facility. The data that was tabulated from the assessment was broken down into three categories: math, nursing assistant skills, and reading comprehension. This data was inserted into a spreadsheet format. From October to February, 2009 students were given the Nursing Assistant, Anatomy and physiology and math curriculum through a Direct Instruction format. After four months of instruction, students who had taken the pre-assessment were administered a post-assessment. The data that was tabulated from the post-assessment was inserted into a spreadsheet format where the amount of growth from October to February was determined. For those results, a statistical

analysis of the data using a t-test for all three categories: math, nursing assistant skills, and reading comprehension was calculated where significance was determined.

### Treatment of Data

The data collected from the Nursing Assistant assessment administered in October for each of the students during the 2008-2009 school year, was compared to the data collected in February using the same assessment. The amount of growth that each child experienced was determined. Using the Statpak online statistical analysis tool, the statistical t-test was used to compare the growth of students between October, 2008 and February, 2009 in the categories of: math, nursing assistant skills, and reading comprehension and to see if there was a significant difference.

### Summary

This chapter was designed to review the methodology and treatment of data related to the problem to see if students who participated in a preparatory Certified Nursing Assistant program through a Direct Instruction format and given additional time would demonstrate an increase in student achievement. The analysis of data and findings from this study are reported in Chapter 4.

## CHAPTER 4

## Analysis of the Data

Introduction

Chapter 4 has been organized around the following topics: (a) description of environment, (b) hypothesis, (c) results of the study, (d) findings, and (e) summary. There has been a decrease in the number of special needs and under-served students who have been accepted into the advanced Nursing Assistant Certification (NAC) program available to students in the Bremerton School District. Historically, special education students enrolled in this program have been unsuccessful at meeting Washington State certification standards for Nursing Assistants in the areas of math, nursing assistant skills, vocabulary and comprehension. The guidelines as set forth by the Federal Government's Individual's with Disabilities Education Act, 2004 (IDEA), specifically requires that special needs students be provided with occupational training.

Bremerton High School's Special Needs students demonstrated an interest in the NAC program, but they were discouraged from enrolling in the existing one year program because of the rigorous curriculum. It was determined that these

students needed some additional preparation prior to enrollment. In order to do this, Bremerton High School developed an additional step to assist students toward

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meeting the requirements of the Nursing Assistant program. This was a class that would specifically target the skills necessary, such as math, nursing assistant, and reading comprehension delivered through a direct instruction format and given additional time.

#### Description of the Environment

This project was delimited to one teacher, instructional assistant and ten grade 10-12 special needs students during the 2008-2009 school year at Bremerton High School in Bremerton, Washington. Bremerton High School is located in the heart of Bremerton, Washington and according to the October, 2008 enrollment count, has a total student population of 1,414. One of the major problems facing Bremerton High School is that the poverty level is at least 60% of the entire school population. This has been identified as an area of improvement for Adequate Yearly Progress (AYP) in math in that there has been a positive correlation between income level and the math scores. An additional area of improvement identified is the achievement of special needs students on existing statewide standardized tests.

Under the IDEA legislation, schools are required to provide students with the skills necessary to secure a job and/or continue on to postsecondary training or education. This Federal law mandates schools to develop a transition plan for the

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special education students. Bremerton High School responded to this requirement by increasing the opportunities for Special Education students in Career & Technical Education. This Nursing Assistant Certification training program met the districts need for additional Career & Technical Education for Special Education students.

#### Hypothesis

Special education students who participate in a one year basic entry Nursing Assistant (NAC) preparatory program, would demonstrate increased entrance proficiency toward qualifying for program entry into a Washington State required Certified Nursing Assistant training program.

#### Null Hypothesis

The preparedness of special education students entering into a Washington State required Certified Nursing Assistant training program would show little or no change when participating in a preparatory Nursing Assistant training program, given additional time and through a Direct Instruction format.

#### Results of the Study

In order to test this hypothesis, a mini Certified Nursing Assistant assessment tool was used as a pre- and post-assessment with results tabulated for growth over a four month period in each of the specified areas: math, NAC skills,

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comprehension & Vocabulary. The assessment tool had been developed by an outside contractor who trained Nursing Assistants for a private long term care facility. Of the ten special education students enrolled in the Nursing Assistant program, seven were female and three were male (See Figure 1).

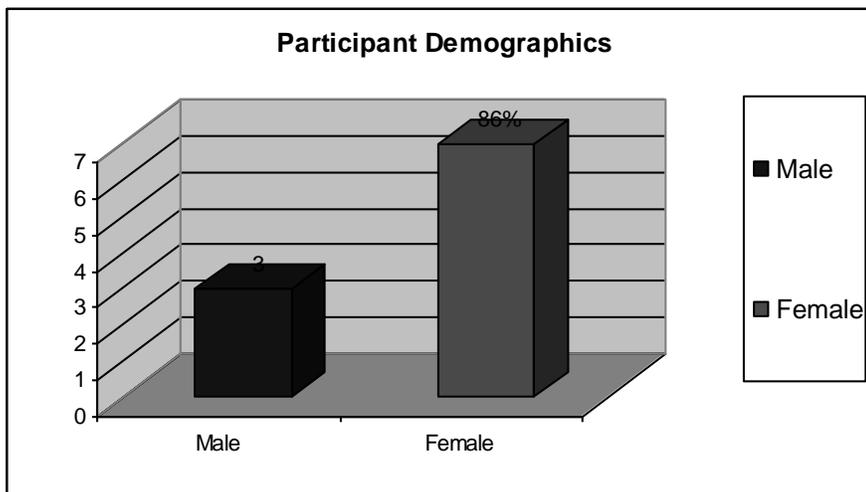


Figure 1: Breakdown of males and females participating in the study

The data that was collected and aggregated from the mini-Certified Nursing Assistant pre- and post-assessment tool was tabulated and put into a table for each of the categories tested: Math, NAC Skills, Comprehension and Vocabulary. Each student was classified by a letter and their October pre-assessment score as well as

their February post-assessment score. The scores represent the amount of growth achieved by each student over a four month period in each of the curriculum areas: NAC Skills (Table 1), Math (Table 2), Vocabulary (Table 3), and Comprehension

(Table 4). The amount of growth from the pre-assessment to the post-assessment on the mini-Certified Nursing Assistant pre- and post-assessment tool was entered into Statpak, where the t score was determined for each of the four categories: Math, NAC Skills, Comprehension, and Vocabulary.

	<b>Nursing Assistant Certification Skills</b>		
	Pre-Test	Post-Test	Difference
Student			
A	2	4	2
B	2	6	4
C	4	6	2
D	4	5	1
E	4	5	1
F	4	5	1
G	2	2	0
H	3	5	2
I	3	6	3

Table 1: Nursing Assistant Certification Skills

The analysis revealed that the t score for NAC Skills was 1.479 and the p-value was 2.262. The level of significance for the study conducted on the Special Education students in the Certified Nursing Assistant class for the Nursing Assistant mini-assessment was enough to determine that we accept the null hypothesis and conclude that post-test scores were not significantly higher than pre-test scores in Nursing Assistant Certification Skills.

Conversely, the same was evident for the remaining three sections tested. The scores for the remaining three revealed that there was insufficient evidence to conclude that the average difference between pre-and post assessments

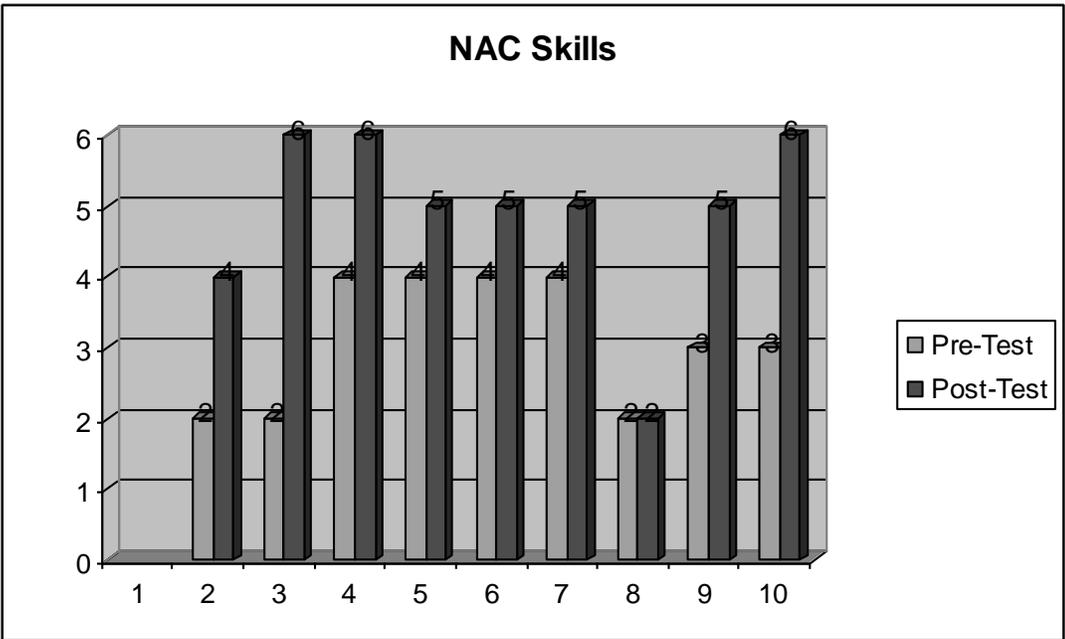


Figure 2: Nursing Assistant Certification Skills

was significant at  $p > .1$  which caused us to conclude that we should accept the Null Hypothesis.

The t-scores for Math were 0.94868 and the p-value was 2.306, the t-scores for Vocabulary was 1.0954, the p-value was 2.365 which determined that we accept the Null Hypothesis. (See Table 2)

	<b>Math Pre- and Post-Assessment</b>		
	Pre-Test	Post-Test	Difference
<b>Student</b>			
A	4	7	3
B	3	5	2
C	12	12	0
D	14	14	0
E	15	15	0
F	12	14	2
G	6	9	3
H	6	5	-1
I	12	15	3
J	10	13	3

Table 2: Math Pre- and Post-Assessment

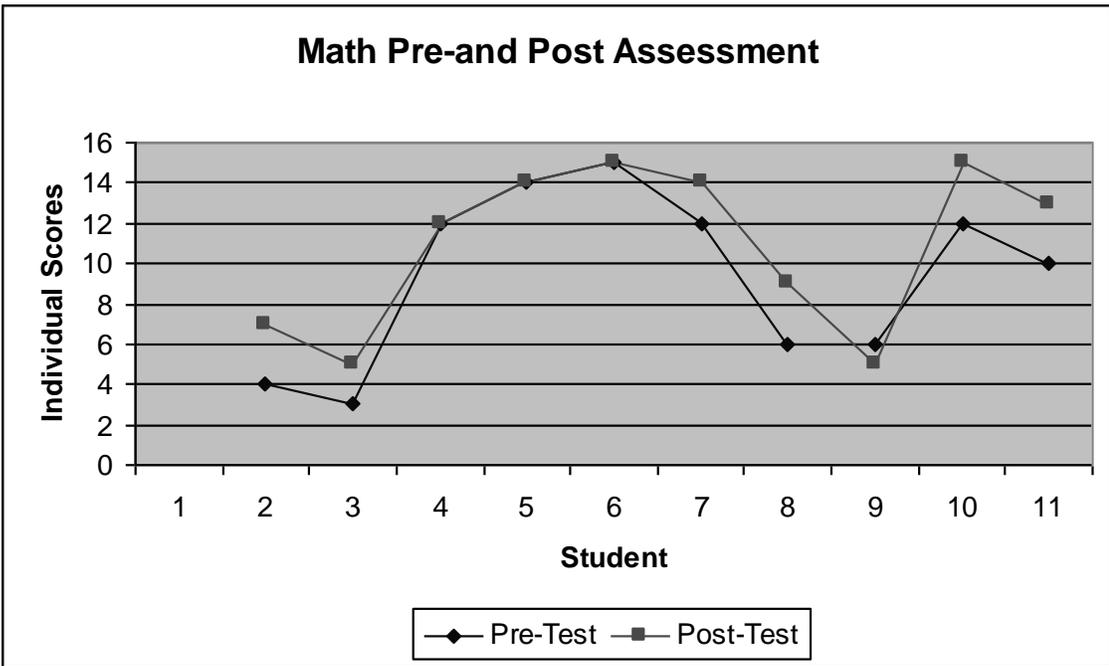


Figure 3: Math Pre- and Post-Assessment

The average score for the Vocabulary was a 2 and the t-scores for Vocabulary were 1.0954 while the p-value was 2.365, this determined the decision to Accept the Null Hypothesis in the area of Vocabulary. (See Table 3)

	<b>Vocabulary Pre- and Post-Assessment</b>		
Student	Pre-Test	Post-Test	Difference
A	8	13	5
B	13	14	1
C	13	13	0
D	9	14	5
E	13	14	1
F	11	13	2
G	12	14	2
H	11	12	1
I	13	13	0
J	11	14	3

Table 3: Vocabulary Pre- and Post Assessment

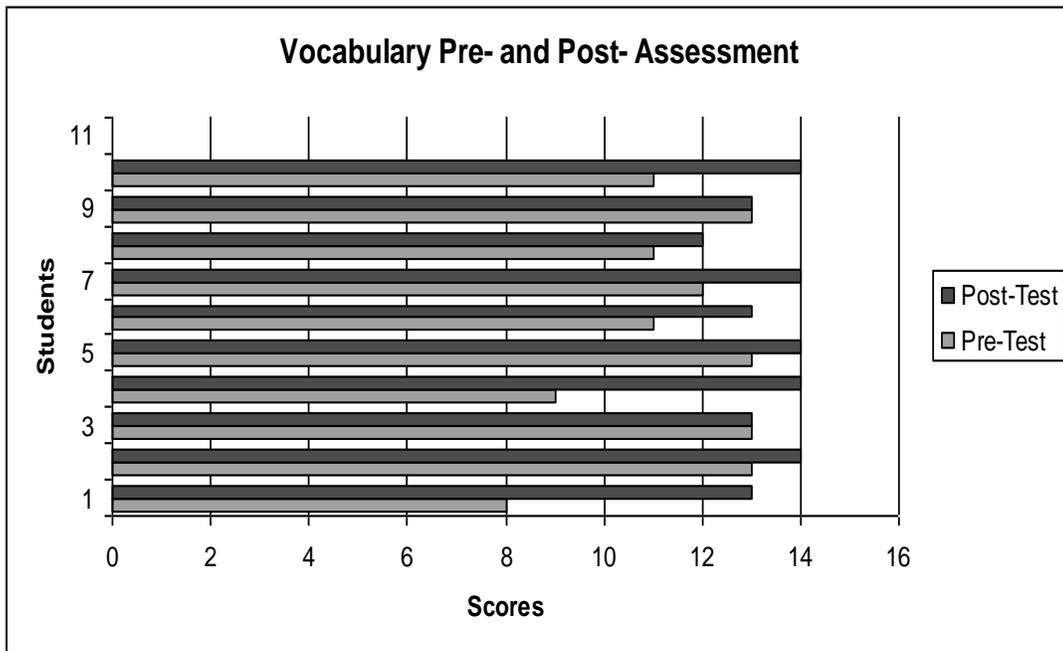


Figure 4: Vocabulary Pre- and Post-Assessment

The average score for the Comprehension was a 9 and the t-scores for Comprehension were 0.8178; the p-value was 2.365, for this reason we determined that we should accept the Null Hypothesis in the area of Comprehension.

<b>Comprehension Pre- and Post-Assessment</b>				
Student	Pre-Test	Post-Test	Difference	
A	6	8	2	
B	5	7	2	
C	6	8	2	
D	8	8	0	
E	7	8	1	
F	6	8	2	
G	8	8	0	
H	7	8	1	
I	6	5	-1	
J	8	8	0	

Table 4: Comprehension Pre- and Post Assessment

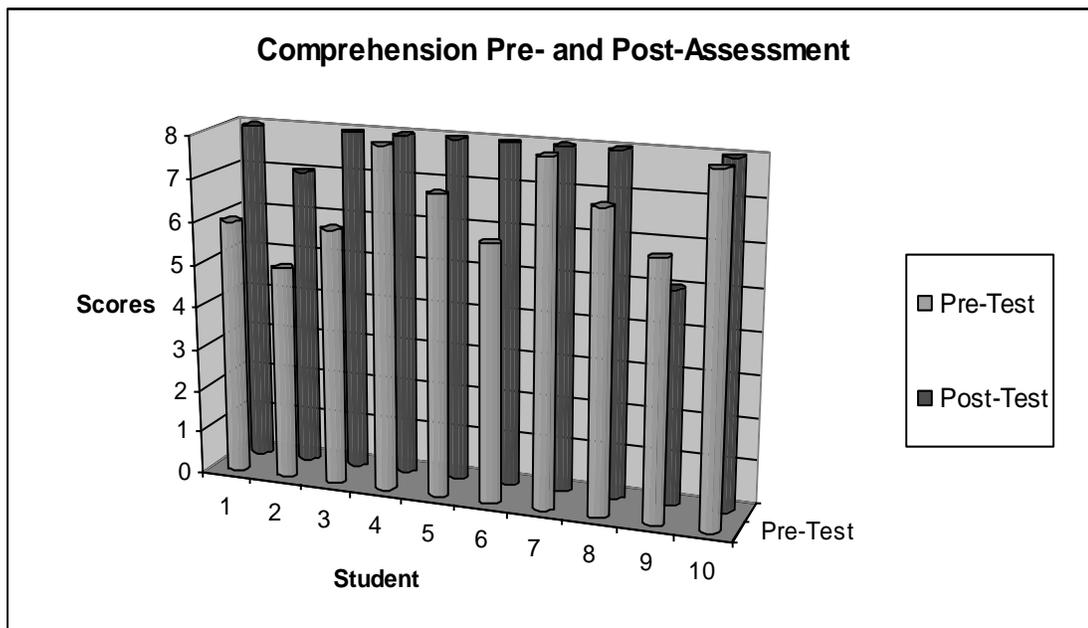


Figure 5: Comprehension Pre- and Post-Assessment

### Findings

Given the analysis of the data and the testing of the hypothesis, a limited number of findings become apparent. By enrolling special education students into a one year preparatory Nursing Assistant Certification class and providing them with Direct Instruction and additional time, students have the potential to increase entrance proficiency toward qualifying for program entry into a State mandated Certified Nursing Assistant training program in the Nursing Assistant Skills, however the data revealed that this preparatory class will not necessarily increase proficiency in Math, Vocabulary and Comprehension.

Special Needs students would experience a high rate of success in the Nursing Assistant skills and be prepared to meet the industry certification standards if they received the intensive and structured curriculum that a Direct Instruction model would provide prior to enrolling in the Washington State required Nursing Assistant Training program.

Discussion:

This research explored the background and effectiveness of Career & Technical Education and the important role CTE can play in the education of Special needs students. The research addressed the strategy of using Direct Instruction when working with at risk students to ensure future success in gaining entry into an advance level Nursing Assistant Certification program. Based on the results of the data collected, there is a high probability that special education students will demonstrate proficiency toward meeting the Nursing Assistant specific skills on the entrance exams required for the Nursing Assistant Certification training program given additional time and a Direct Instruction format. However, the opposite is true of the Math, Vocabulary and Comprehension skills. This intensive instruction model will assist special education students in meeting their goal of qualifying to enter a Nursing Assistant Certification training program upon completion of high school.

This project was delimited to one teacher, instructional assistant and ten grade 10-12 special needs students during the 2008-2009 school year at Bremerton High School in Bremerton, Washington. Bremerton High School is located in the heart of Bremerton, Washington and according to the October, 2008 enrollment count, has a total student population of 1,414. One of the major problems facing Bremerton High School is that the poverty level is at least 60% of the entire school population. This has been identified as an area of improvement for Adequate Yearly Progress (AYP) in math in that there has been a positive correlation between income level and the math scores. An additional area of improvement identified is the achievement of special needs students on existing statewide standardized tests.

### Summary

This chapter was designed to analyze the data and identify the findings. From the data, the hypothesis was for the most part, not supported and the Null hypothesis was accepted, however when considering the Nursing Assistant job specific skills, the hypothesis was supported. and the Null Hypothesis rejected.

## CHAPTER 5

### Summary, Conclusions and Recommendations

#### Introduction

This chapter has been organized around the following topic: (a) introduction, (b) summary, (c) conclusions, (d) recommendations.

#### Summary

The need to reform the Elementary and Secondary Education Act (ESEA), was the driving force behind the No Child Left Behind, (NCLB) legislation passed in 2002. The goals of the NCLB legislation were to insure accountability and to close the achievement gap between high performing and under performing students, specifically between, minority and non-minority, as well as, special needs students.

The Individuals with Disabilities Education Act, 2004 (IDEA) is legislation that drives special education services in America's schools and demonstrates the commitment of legislators to tear down remaining barriers to equality that faces Americans with disabilities today. The NCLB legislation requires that special needs students be provided with vocational training while in school, in addition to the development of a transition plan that will outline their plans once they leave high school. In prior years, Special Education students who enrolled in the

Bremerton School District's only accelerated one year Nursing Assistant Certification (NAC) program have not been successful in meeting certification standards. In its attempts to solve this problem, the Bremerton School District developed an additional class designed to prepare Special Education student populations for entry into a Nursing Assistant Certification program.

There has been a decrease in the number of special needs and under-served students who have been accepted into the advanced Nursing Assistant Certification (NAC) program available to students in the Bremerton School District.

Historically, special education students enrolled in this program have been unsuccessful at meeting Washington State certification standards for Nursing Assistants in the areas of math, problem solving and decision-making. The guidelines as set forth by the Federal Government's Individual's with Disabilities Education Act, 2004 (IDEA), specifically requires that special needs students be provided with occupational training.

Bremerton High School's Special Needs students demonstrated an interest in the NAC program, but they were discouraged from enrolling in the existing one year program because of the rigorous curriculum. It was determined that these students needed some additional preparation prior to enrollment. In order to do this, Bremerton High School developed an additional step to assist students toward

meeting the requirements of the Nursing Assistant program. This was a class that would specifically target the skills necessary, such as math, nursing assistant skills, vocabulary and reading comprehension delivered through a direct instruction format.

The purpose of this study was to determine if special needs students would demonstrate increased entrance proficiency toward qualifying for program entry into a State mandated Certified Nursing Assistant training program, through a Direct Instruction format.

Special Needs students would experience a high rate of success and be prepared to meet the industry certification standards if they received a direct instruction format prior to enrolling in the Nursing Assistant Training program. However, what the study revealed was that the students showed significant gains in the job specific Nursing Assistant Certification skills, but they showed little to no increase in proficiency in the Math, Vocabulary and Comprehension.

### Conclusions

The researcher concluded that the study was inconclusive as to the overall academic gains of all Special Education students. Even though the Special Education students made small gains in the job specific Nursing Assistant Certification skills, the data clearly determined that there was not enough of a

difference in proficiency in the areas of Math, Vocabulary and Comprehension to reject the null hypothesis.

### Recommendations

Based on the conclusions, a limited set of recommendations may be forthcoming. The time frame for this project was relatively short. Students were assessed in October and then again in February. This short period left little time to determine whether Direct Instruction and additional time on tasks would show an increase in proficiency in the areas of Nursing Assistant Skills, Math, Vocabulary and Comprehension. The researcher would recommend the time of the research study to begin in September and conclude in May of the 2009-2020 school year. The researcher believes giving additional time on tasks through a Direct Instruction format and targeted activities in math, vocabulary and comprehension throughout the year will help to show even greater gains in all three academic areas. Furthermore, based on the data results, the researcher believes that the sampling was too small to demonstrate any significant change. Clearly, the students made some gains, although small, they did show improvement, therefore more time and a larger sampling would probably reflect a greater improvement in the test scores. It is also important to note that careful consideration must be given to the curriculum

used in the Nursing Assistant Certification training program. This curriculum must be strong in math vocabulary and comprehension in addition to the job specific Nursing Assistant Certification skills.

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Appendix A  
Permission Slip

Appendix B

## Nursing Assistant Certification Pre- and Post Test Compilation