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Analysis of The North Carolina High School to Community College Articulation Agreement's Impact on Student Motivation in a North Carolina High School

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Analysis of The North Carolina High School to Community College Articulation
Agreement's Impact on Student Motivation in a North Carolina High School

by
Shaun Christian Poole

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
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Approval Page

This dissertation was submitted by Shaun Christian Poole under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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Abstract

An Analysis of The North Carolina High School to Community College Articulation Agreement's Impact on Student Motivation in a North Carolina High School. Poole, Shaun Christian, 2011: Dissertation, Gardner-Webb University, School of Education. Articulation Education/Student Motivation/Illiteracy/Vocational Education/Dropout Research

The purpose of this sequential explanatory case study was to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. The study utilized quantitative data collected through student surveys then triangulated qualitative student focus group and teacher focus group interview data in order to establish statistical themes for narrative analysis. The research focused on Career and Technical Education courses in the concentration of Business Information Technology at a rural high school, Grades 9 through 12, located in the piedmont region of North Carolina.

The condition of the school caused school leaders to focus attention on academic programs in order to increase student achievement. Data compiled from North Carolina Department of Public Instruction's report cards, national illiteracy statistics, and national, state, and local dropout rates were utilized in order to justify the study's purpose. In addition, the school's faculty expressed concerns that students consistently lacked motivation.

The conditions of the targeted school warranted the exploration of the North Carolina High School to Community College Articulation Agreement in order to increase student achievement through a new approach. The results from the study led the researcher to conclude that the opportunities provided by the North Carolina High School to Community College Articulation Agreement had positive effects on student motivation by stimulating the student participants' thought processes toward improvement of grades, graduating high school, pursuing college or postsecondary training, and thinking about career fields. The researcher's recommendation was for the school improvement team to research, analyze, and implement a plan of action that will educate, monitor, and facilitate the earning of college credits via the North Carolina High School to Community College Articulation Agreement.

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Chapter 1: Introduction

This research case study was designed to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. The primary focus of the study was in Career and Technical Education (CTE) in the concentration of Business and Information Technology. The researcher utilized a student motivational survey (Appendix A), student focus group interviews (Appendix B), and a teacher focus group interview (Appendix C) to collect data. The researcher then triangulated the data from all sources to identify themes that emerged from the study. The following case study is justified by current research in the content of (a) national adult illiteracy, (b) lack of student motivation, and (c) national, state, and local dropout rates.

According to Baer, Kutner, Sabatini, and White (2009), the reportable findings of the 2003 National Assessment of Adult Literacy reported that approximately 30 million adults living in the United States can perform no more than the most simple and concrete literacy tasks. Consequently, Wedgeworth (2005) stated adult illiteracy reverberates throughout the U.S. economy through public assistance. According to Green-Demers and Pelletier (2003), year after year, for reasons yet to be understood, numerous high school students find themselves in a state in which they do not have the desire to carry out the academic tasks required of them. Hidi and Harackiewicz (2000) further stated that it is evident that a deeper understanding of academic amotivation is needed. The Condition of Education 2008, the U.S. Department of Education's (2008) National Center for Education Statistics study, reported that the 2006 national high school dropout rate was

9.3% for ages 16 through 24 who lacked a high school diploma or equivalent credential.

The report continued to classify the data by ethnicity to convey ethnic trends and

disparities. The following will elaborate on national adult illiteracy, lack of student

motivation, and dropout rates as they pertain to the justification for the case study.

Statement of the Problem

Since the inception of the Carl D. Perkins Vocational and Applied Technology

Education Act of 1990, states without firm articulation agreements between high schools,

community colleges, and universities were pushed to develop plans to serve Tech Prep

programs or risk losing federal funding (Reese, 2002). According to Imel (1991), the

Carl D. Perkins Vocational and Applied Technology Education Act of 1990 represented

the largest amount of federal funding ever authorized for vocational education. The Act

enabled Congress to spend up to $1.6 billion per year on state and local programs that

teach the skill competencies necessary to work in a technologically advanced society

(Wilcox, 1991). The Act (a) emphasized the integration of academic and vocational

education, (b) provided greater opportunities for vocational education to disadvantaged

people, (c) required states to be more accountable for their vocational programs, (d)

distinguished between the secondary and postsecondary levels of vocational education,

and (e) encouraged local districts to provide greater leadership in reforming and

improving vocational education. The key proponent of the Carl D. Perkins Vocational

and Applied Technology Education Act of 1990 was the study conducted by the United

States Congress cited as the National Literacy Act of 1991 (National Institute for

Literacy, 1991). The connection between the Carl D. Perkins Vocational and Applied

Technology Education Act of 1990 and the National Literacy Act of 1991 is linked by

Wirt (1991) stating that there was a shift from the traditional job skills orientation of

vocational education to a broader purpose of using vocational education as a method for learning academic skills and for connecting thought with action. In addition, the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 presented vocational educators with the opportunity to assume a leadership role in state and local efforts to reform education (Imel, 1991).

In the National Literacy Act of 1991, a study commissioned by the United States Congress, Congress defined *literacy* as an individual's ability to read, write, and speak English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential (National Institute for Literacy, 1991). The purpose of the National Institute for Literacy (1991) study, as established in Public Law 102-73, was to enhance the national effort to eliminate the problem of illiteracy by the year 2000 by improving research, development, and information dissemination through a national research center. The results of the National Literacy Act of 1991 reported that Congress found (a) nearly 30 million adults in the United States have serious problems with literacy, (b) literacy problems are intergenerational and closely associated with poverty and pose a major threat to the economic well-being of the United States, (c) present public and private literacy programs reach only a small portion of the population in need and often result in only minimal learning gains, (d) the prevention of illiteracy is essential to stem further growth in national illiteracy rates, (e) literacy programs generally lack adequate funding, adequate coordination with other literacy programs and an adequate investment in teacher training and technology, (f) access to better information about the best practices in the literacy field and more research in order to provide better diagnostic and instructional tools are essential for improvement of literacy and employability in the United States, (g)

as many as 50 million workers may have to be trained or retrained before the year 2000, (h) the supply of unskilled workers is increasing while the demand for unskilled labor is decreasing, (i) programs under the Adult Education Act, which are the largest Federal source of direct literacy services in the United States, serve only 10% of eligible participants, and (j) all public and private literacy programs serve only about 19% of those who need help (National Institute for Literacy, 1991). Due to Congress's evidences in the National Literacy Study (1991), seven federally supported initiatives were enacted to include increasing authorization for literacy programs, establishing a National Institute for Literacy, authorizing state literacy resource centers, creating national workforce demonstration projects, establishing literacy programs for incarcerated individuals, creating *indicators* of program quality, and requiring Gateway Grants to public housing authorities. It was not until 2003 that the U.S. Department of Education revisited literacy skills among adults in the United States.

The U.S. Department of Education (2003) published the results of the data gathered in 2003 titled the National Assessment of Adult Literacy (NAAL). The study's assessment was administered to more than 19,000 adults, ages 16 or older, in households and prisons. According to the report Basic Reading Skills and the Literacy of America's Least Literate Adults (Baer et al., 2009), the tasks included on the assessment were designed to measure functional literacy, unlike indirect measures of literacy, which rely on self-report and other subjective evaluations. The assessment measured literacy directly through tasks completed by adults which were prose literacy, document literacy and quantitative literacy. Prose literacy is the knowledge and skills needed to search, comprehend, and use information from continuous texts such as books, newspaper articles, or magazines; document literacy is the knowledge and skills needed to search,

comprehend, and use information from noncontinuous texts, such as maps, schedules, and catalog order forms; and quantitative literacy is knowledge and skills needed to identify and perform computations using numbers that are embedded in printed materials (Baer et al., 2009). The participants began the assessment by answering seven literacy questions called the *core literacy tasks*. The adults who were unable to correctly answer the seven questions were given an alternative assessment. Based on the participant's performance on the literacy assessment, the ranking of below basic, basic, intermediate, and proficient were assigned.

The Literacy of America's Least Literate Adults, a report based on the 2003 National Assessment of Adult Literacy, reported the findings categorized by prose literacy, document literacy and quantitative literacy. According to Baer et al. (2009), the reportable findings of the 2003 National Assessment of Adult Literacy were (a) 14% of adults in the United States scored below basic in prose literacy, (b) 29% of adults in the United States scored at the basic level in prose literacy, (c) 44% of adults in the United States scored at an intermediate level in prose literacy, and (d) 13% of adults in the United States scored at proficient levels in prose literacy. This means that approximately 30 million adults living in the United States can perform no more than the most simple and concrete literacy tasks; in addition, approximately 63 million adults can perform only simple and everyday literacy activities. When comparing the National Literacy Act of 1991 study to the 2003 National Assessment of Adult Literacy, there was no significant change in prose literacy or document literacy; however, there was a significant change in quantitative literacy. The significant change was reported as an 8-point increase between 1991 and 2003. The interpretation is that no significant change occurred between 1991 and 2002 in (a) the knowledge and skills needed to search, comprehend, and use

information from continuous texts such as books, newspaper articles or magazines; and (b) the knowledge and skills needed to search, comprehend, and use information from noncontinuous texts, such as maps, schedules, and catalog order forms. However, quantitative literacy gained in the knowledge and skills needed to identify and perform computations using numbers that are embedded in printed materials.

Robert Wedgeworth (2005), president of ProLiteracy Worldwide, conducted a study and then published a report based on the 2003 National Assessment of Adult Literacy (NAAL). The study reported that the economic impact of adult functional illiteracy in the United States reverberates throughout the country's economy through public assistance which refers to welfare, food stamps, Temporary Assistance to Needy Families (TANF), and Medicaid. These public assistance programs make up the majority of the budget for most local governments. According to Cain (2003), 25% of all high school dropouts report having received public assistance as compared to 10% of high school graduates. In addition, the cost of health care services and goods is increasing faster than most sectors of the economy and is a continued concern for American families. The health care industry estimates $70 billion per year of unnecessary health care expenses is attributable to poor literacy (Wedgeworth, 2005). Furthermore, Wedgeworth (2005) continued to report that the United States' prison population has tripled since 1980; there are now more than 1 million individuals housed in state and federal prisons, more adults than in any other developed nation. According to Literacy Behind Prison Walls (1994), 70% of inmates are either functionally illiterate or read below the eighth-grade level. The reverberation of functional adult illiteracy's impact does not end with public assistance, healthcare expenses, or the United States' prison system. From the National Association of Manufacturers and the U.S. Chambers of

Commerce to the U.S. Department of Labor, much time and ink has been spent in the past 5 years on studies and reports regarding the skills that employees in the United States will need if this country is to retain or improve its standing as a competitor in the global market (Wedgeworth, 2005). Stuart and Dahm (1999), stated that in the 21st Century, American competitiveness and worker prosperity would be tied tightly to the education and skill attainment of the workforce. Similarly, the U.S. 21st Century Workforce Commission (2000) goes on to state that the skills most often called for by employers include the ability to read and understand complex material, think analytically, and use technology efficiently.

There is no question that adult functional illiteracy poses a threat to the national well-being of the United States. According to the 2003 National Assessment of Adult Literacy (Baer, Kutner, Sabatini, & White, 2009), 14% of Americans are functioning at below basic prose literacy level while 29% are functioning at basic prose literacy level. This means that approximately 30 million adults in the United States can only perform the most simple and concrete literacy tasks; furthermore, approximately 63 million adults in the United States can only perform simple and everyday literacy activities. The existing political climate has its educational emphasis on prevention by solving the problem of adult literacy by improving the education of children through the No Child Left Behind Act of 2001. The astronomical size, compounded with the complexity of the functional illiteracy problem in the United States, cannot be solved with a simple solution. However, focusing on individual student needs through student motivation may impact student achievement and, as a result, improve the literacy rate in the United States.

Researchers have identified a variety of goals that students pursue at school which

include academically-oriented goals and socially-oriented goals. Pintrich (2000) referred

to academically-oriented goals as motivation to master material and to demonstrate one's

competence by performing well; whereas, Wentzel (2002) defined socially-oriented goals

as motivating behavioral aspects of classroom engagement and the degree to which

students develop positive relationships with teachers and peers. As a subset of

academically-oriented goals, achievement tasks refer to the student's reason or incentive

for engaging in different tasks or activities and include different components such as

interest in the activity, its importance to the individual, and its perceived usefulness

(Eccles et al., 1983; Wigfield & Eccles, 2002). Deci and Ryan (1985, 2002) further stated

that researchers have continued to clarify the longstanding distinction between intrinsic

and extrinsic motivation and have found that when a student's motivation is more

intrinsic, he/she engages more deeply in learning activities. Academic amotivation,

according to Deci and Ryan (1985, 2002), is the third type of motivation which is defined

by the absence of motivation. Academic amotivation is one of the most prominent issues

plaguing teenage youths, parents, and academic institutions today. Year after year, for

reasons yet to be understood, numerous high school students find themselves in a state in

which they do not have the desire to carry out the academic tasks required of them

(Green-Demers & Pelletier, 2003). There are numerous studies that explain reasons why

students strive for academic success; however, little is known about the reasons why

students neglect their studies. Hidi and Harackiewicz (2000) stated it is evident that a

deeper understanding of academic amotivation is needed.

     The North Carolina High School to Community College Articulation Agreement

(North Carolina Department of Public Instruction (NCDPI), 2005) defined articulation as

a systematic, seamless student transition process from secondary to postsecondary

education that maximizes use of resources and minimizes content duplication. In addition, the agreement's goal is for students to make a seamless transition of identified courses from secondary to postsecondary education. The North Carolina High School to Community College Articulation Agreement (NCDPI, 2005) may stimulate academically-oriented or socially-oriented motivation; furthermore, the agreement may stimulate intrinsic motivation, extrinsic motivation, or impact academic amotivation due to numerous elements including the capabilities of transferring secondary credit to postsecondary institutions in the content of an individual student's interest.

The U.S. Department of Education's (2008) National Center for Education Statistics reported the national dropout rate in a study titled The Condition of Education 2008. The national dropout rate reported in the study for 2006 was 9.3%; in addition, the study classified dropout statistics by ethnicity which included a dropout rate of 5.8% for Caucasians, 10.7% for African Americans, and 22.1% for Hispanics. According to the North Carolina Department of Public Instruction's (2008a) Annual Report on Dropout Events and Rates 2006-2007, the North Carolina state dropout rate for 2006-2007 was 5.24% for Grades 9 through 12. Furthermore, the study reported dropout statistics by ethnicity which included a dropout rate of 4.52% Caucasians, 6.16% for African Americans, and 7.66% for Hispanics. The number one reason why students drop out of high school in North Carolina, as reported by the Annual Report on Dropout Events and Rates 2006-2007, was attendance; the second reportable reason was to enroll in a community college (NCDPI, 2008a). The school district for which the research site was located reported a dropout rate of 2.11% in 2006-2007 according to the North Carolina Department of Public Instruction's (2008a) Annual Report on Dropout Events and Rates 2006-2007. In addition, the report continued by presenting statistics from the research

site which included a dropout rate of 6.14% for 2006-2007; the ethnic dropout rates are 3.23% Caucasian, 2.15% African American, and .76% Hispanic.

According to the study titled Dropout Risk Factors and Exemplary Programs (Hammond, Linton, Smink, & Drew, 2007) conducted by Communities In Schools (CIS) youth serving organization and the National Dropout Prevention Center/Network at Clemson University (NDPC/N) on the dropout crisis in America, it found that dropping out of school stems from a wide variety of factors in four areas or domains including individual, family, school, and community factors. The results of the study reported (a) there is no single risk factor that can be used to accurately predict who is at risk of dropping out, (b) the accuracy of dropout predictions increases when combinations of multiple risk factors are considered, (c) dropouts are not a homogeneous group, (d) students who drop out often cite factors across multiple domains and there are complex interactions among risk factors, (e) dropping out of school is often the result of a long process of disengagement that may begin before a child enters school, and (f) dropping out is often described as a process, not an event, with factors building and compounding over time.

The North Carolina Department of Public Instruction (2008a) reported students that take a 4-course concentration in Career and Technical Education had a 4-year graduation cohort rate of 86.5%, whereas the overall graduation rate for all students scheduled to graduate was 70.3%. Consequently, a North Carolina student that completed a concentration in Career and Technical Education has a 16.2% increase in the likelihood of graduating. Of North Carolina's 82,294 2008 high school graduates, at least 52.9% completed a technical sequence of four Career and Technical Education courses. According to the North Carolina Department of Public Instruction (2009), 554,478

students were enrolled in Career and Technical Education in Grades 6-12 during the 2007-2008 school year. Of the 2007-2008 enrollees, 38% were enrolled in Business and Information Technology.

According to Gray (2004), contributions of Career and Technical Education is its potential to provide all high school students with a hands-on, contextually rich environment to verify tentative career choices; this helps students to make more effective postsecondary plans, such as choosing a college major, thereby increasing the probability that they will succeed. Gray (2004) went on to state Career and Technical Education curriculum attracts, motivates, and prepares students for postsecondary training in the fields of Career and Technical Education; furthermore, for students who (a) are at risk of dropping out of high school, (b) seek employment directly after high school, or (c) want to go to college at the 1- or 2-year level to prepare for pre-professional technical careers, CTE is arguably the most important curriculum in the American high school.

Setting

The school district for which the study took place was located in the piedmont region of North Carolina and was the sixth fastest growing school system in the state. According to the district's website, the total enrollment of students in 2008-2009 was 38,554 of which 10,362 were high school students, 8,788 were middle school students, and 19,404 were elementary students. The district has a total number of 50 schools of which 10 are high schools, 8 are middle schools, 29 are elementary schools, and 3 are special needs schools. The average number of students in a high school for the district is 997 with a 96% average daily attendance rate. According to the district's North Carolina School Report Card 2008-2009 (2008b), the district outperformed the state average in every ABC end-of-course test category including English I, Algebra I, Algebra II,

Geometry, Biology, Chemistry, Physical Science, Physics, Civics & Economics, and U.S.

History. As defined by federal law, the district exceeds the state's percentage of 98.1%

of classes taught by highly qualified teachers by posting a 99% figure. The district's

2007-2008 graduation rate was 80.7%. In addition, the district's 2007-2008 per pupil

expenditure was $7,313. The school district borders a major metropolitan city for which

the economic dynamics of the district are affected. The geographical area where the

research was conducted is furthest away from the metropolitan city; consequently, the

site is located in an economically declining location.

The high school targeted in this study was a high priority school located in a rural

setting in the piedmont region of North Carolina. The school consisted of Grades 9

through 12 and served approximately 865 students with an average daily attendance rate

of 95%. The school's graduation rate was 75% according to the North Carolina

Department of Public Instruction's (2008a) Annual Report on Dropout Events and Rates

2006-2007. The dropout rate at the targeted research site was 6.14%. The percentage of

students who received free or reduced lunch at the research site was approximately 65%

and the percent of exceptional children was approximately 17.4%. The 2008-2009 ethnic

membership report illustrates that 38.31% of the students were Black, 50% were White,

9.16% were Hispanic, and 2.53% were other. The performance of the school on the

ABCs end-of-course tests including the courses in English I, Algebra I, Algebra II,

Geometry, Biology, Chemistry, Physical Science, Physics, Civics & Economics and U.S.

History had a passing rate of 63.4% in 2008-2009. However, the school earned the

designation of school of progress due to meeting the standard of high growth as defined

by North Carolina for which 60% to 80% of students performed at grade level. There

were 73 classroom teachers employed at the school of which 99% were highly qualified

as defined by federal law, 29% had advanced degrees, and 10 teachers were National Board Certified. The teacher turnover rate was 21% compared to 14% for the district and state. The student enrollment in Career and Technical Education courses was 18%.

The researcher was employed with the district as part of the administrative team at the research site; as a result, the researcher was able to exercise a sphere of influence pertaining to the study. The study targeted students who were enrolled in Career and Technical Education courses in the concentration of Business and Information Technology Education and that articulated for college credit as defined by the North Carolina High School to Community College Articulation Agreement. The purpose of Business and Information Technology Education, as defined by the district's program of study, was to prepare graduates as viable competitors in the business and information technology world and for advanced educational opportunities. Instruction in Business and Information Technology Education encompassed business skills and techniques, an understanding of basic economics, and business attitudes essential to participate in the international marketplace as productive workers and consumers. In addition, it also encompassed a wide variety of opportunities to attain computer skills that are needed for a 21st Century career. The courses that qualified for articulation under Business and Information Technology Education were Computer Application I, Computer Application II, Principles of Business & Finance, Business & Electronic Communications, Small Business Entrepreneurship, Computerized Accounting I, Computerized Accounting II, e-Commerce I, e-Commerce II, Marketing, and Business Law.

The study's research was implemented and collected in two phases. First, the study began by implementing an informational presentation, utilizing computer software titled Microsoft PowerPoint, based on the North Carolina High School to Community

College Articulation Agreement. The presentation was administered to all participants

who were enrolled in a Career and Technical Education course during the first semester

of the 2010-2011 school year. The presentation of information was presented by the

Career and Technical Education Chair in order to prevent any bias and establish validity.

Second, the participants who were enrolled in Career and Technical Education in the

concentration of Business and Information Technology Education were administered a

student motivational survey, then randomly grouped together in groups of six to eight in

order to participate in focus group interviews. Finally, the teachers who taught Business

and Information Technology Education participated in a focus group interview. Once the

two phases of research were completed, the researcher compiled, analyzed, and presented

the results of the study in Chapter 4.

Purpose of the Study

The purpose of this two-phase, sequential explanatory case study was to explore

the impact of the North Carolina High School to Community College Articulation

Agreement on student motivation to (a) perform well in the course as defined by the State

of North Carolina award of college credit, (b) graduate high school, (c) pursue college or

postsecondary training in course content, and (d) select a career in the course field.

In the first phase, quantitative student survey questions addressed the impact of

the North Carolina High School to Community College Articulation Agreement on

student motivation with students in Grades 9 through 12 at a rural high school located in

the piedmont region of North Carolina. Information from this first phase was explored

further in a second qualitative phase.

In the second phase, student qualitative focus group interviews were used to probe

significant student survey results by exploring aspects of student motivation with

randomly selected students in Grades 9 through 12 at a rural high school located in the piedmont region of North Carolina. In addition, a teacher focus group interview was utilized to discover the perceived effects of the North Carolina High School to Community College Articulation Agreement on student motivation.

The reason for combining both quantitative and qualitative data was to (a) better understand the research problem by converging qualitative student focus group and teacher focus group data with quantitative student survey data, and (b) obtain statistical quantitative data through student surveys, and then converge the themed results collected from student focus group and teacher focus group interview data in order to convey a trend.

Research Questions

The North Carolina High School to Community College Articulation Agreement's impact on student motivation was explored through five guiding research questions via a sequential explanatory case study.

1. To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit? The state of North Carolina will award college credit with a course completion grade of "B" or better and a raw score of 80 or higher on the standardized VoCATS post-assessment.

2. To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school?

3. To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or

college?

     4. To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice?

     5. What are the teachers' perceived effects of the North Carolina High School to Community College Articulation Agreement on student motivation?

Definition of Terms

     Academic amotivation. Refers to the absence of motivation and can be defined as a state in which individuals cannot perceive a relationship between their behavior and that behavior's subsequent outcome (Deci & Ryan, 1985, 2002).

     Articulation. The process of coordinating curricula at different levels of education in order to foster the efficiency and effectiveness of the educational process (Robertson-Smith, 1990). Similarly, O'Meara, Hall, and Carmichael (2007) stated that articulation is described as a formal collaborative agreement between education institutions that enables a student to complete a program of study at one institution and, using accumulated credits, attain a degree at another institution in a shorter period of time.

     Career and Technical Education/Tech Prep/Vocational Education. Defined by North Carolina Department of Public Instruction as (a) preparing students for postsecondary education in career and technical fields and lifelong learning; (b) preparing students for initial and continued employment; (c) assisting students in making educational and career decisions; (d) applying and reinforcing related learning from other disciplines; (e) assisting students in developing decision making, communication, problem solving, leadership, and citizenship skills; (f) preparing students to make informed consumer decisions and apply practical life skills; and (g) making appropriate

provisions for students with special needs to succeed in career and technical education programs.

Case study. Qualitative strategies in which the researcher explores in depth a program, event, activity, process, or one or more individuals; the case(s) are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Creswell, 2009).

Document literacy. The knowledge and skills needed to search, comprehend, and use information from noncontinuous texts, such as maps, schedules, and catalog order forms (Baer et al., 2009).

Extrinsic motivation. Instrumental motives.

Focus group interview. Involve unstructured and generally open-ended questions that are few in number and intended to elicit views and opinions from the participants (Creswell, 2009).

Functional literacy. Using printed and written information to function in society, achieve one's goals, and develop one's knowledge and potential (Baer et al., 2009).

Globalization. The process of social change that is affecting social relations between people living in the world's different nation states (Midgley, 2007).

Intrinsic motivation. Pleasures and interests that relate to motives.

Likert scale. A measure that asks individuals to check their level of agreement with various statements about an attitude object (e.g., strongly agree, agree, disagree, strongly disagree, or not applicable/not observed) (Gall, Gall, & Borg, 2007).

Literacy. In the National Literacy Act of 1991 (National Institute for Literacy, 1991), a study commissioned by the United States Congress, Congress defined literacy as

an individual's ability to read, write, and speak English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential.

Mixed-methods research. An approach to inquiry that combines or associates both qualitative and quantitative forms of research. It involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study (Creswell, 2009).

Prose literacy. The knowledge and skills needed to search, comprehend, and use information from continuous texts such as books, newspaper articles, or magazines (Baer et al., 2009).

Quantitative literacy. The knowledge and skills needed to identify and perform computations using numbers that are embedded in printed materials (Baer et al., 2009).

Self-efficacy. One's ability to accomplish different tasks (Bandura, 1997; Schunk & Pajares, 2002).

Survey research. Provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population (Creswell, 2009).

Sequential explanatory strategy. In mixed-methods research, it is characterized by the collection and analysis of quantitative data in a first phase followed by the collection and analysis of qualitative data in a second phase that builds on the results of the initial quantitative results (Creswell, 2009).

Triangulate. Converging different data sources of information by examining evidence from the sources and using them to build a coherent justification for themes (Creswell, 2009).

21st Century learner. Any person influenced by technology, including technology being at the center of learning and interaction with information, primarily people born after 1982. The phrases *net-generation learners*, *millennial students*, *generation-y*, and *digital-natives* are often used to describe the generation.

21st Century skills. According to Bruett (2006), today's students need to know how to apply their knowledge in a real world environment by thinking critically, analyzing information, comprehending new ideas, communicating, collaborating in teams, and solving problems—all in the context of modern life. These competencies are called 21st Century skills.

Summary

This dissertation presents a description of a research case study designed to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. The justification for the study was supported by research through literature pertaining to adult illiteracy in America; lack of student motivation; and national, state, and local dropout rates. The negative impact of illiteracy in the United States coupled with a lack of student motivation reverberates throughout America's economy through public assistance. Twenty-five percent of all high school dropouts report having received public assistance as compared to 10% of high school graduates (Cain, 2003). Student motivation is researchable in three distinct areas: intrinsic, extrinsic, and amotivation. According to Hidi and Harackiewicz (2000), it is evident that a deeper understanding of academic amotivation is needed. Adult illiteracy and student

motivation directly impacts student dropout rates at the national, state, and local levels. According to the research, Career and Technical Education programs have a positive impact on at-risk youths and students with special needs. In addition, North Carolina students scheduled to graduate in 2008 who earned four or more related technical credits reported a 16.2% increase in their graduation rate. Chapter 2 provides an overview of literature research associated with articulation, student motivation, and variables that relate to one another.

Chapter 2: Literature Review

Overview

The literature review provides an overview of research associated with articulation, student motivation, and how the two variables relate to one another. The purpose of this sequential explanatory case study was to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. The study focused on Career and Technical Education high school courses in the concentration of Business and Information Technology at a rural high school located in the piedmont region of North Carolina.

The themes discussed in this chapter are divided into topics which are articulation, student motivation, and variables that relate articulation to student motivation. First, the theme articulation includes nine subtopics which are (a) articulation and its purpose, (b) history of articulation, (c) benefits of articulation agreements, (d) limitations of articulation agreements, (e) what research says about articulation agreements, (f) North Carolina High School to Community College Articulation Agreement, (g) community college purpose, (h) North Carolina Career-Technical Education (CTE) purpose, and (i) what research says regarding CTE. Second, the theme student motivation is divided into three subtopics which include (a) student motivation, (b) academic amotivation, and (c) interventions that enhance student motivation. Finally, the third theme discusses variables that relate the articulation theme to the phenomenon student motivation theme. Furthermore, the final theme is divided

into four subtopics which are (a) rising college costs, (b) high school dropout, (c) 21st Century learner, and (d) globalization.

Articulation and its Purpose

Articulation is the process of coordinating curricula at different levels of education in order to foster the efficiency and effectiveness of the educational process (Robertson-Smith, 1990). Similarly, O'Meara et al. (2007) stated that articulation is described as a formal collaborative agreement between education institutions that enables a student to complete a program of study at one institution and, using accumulated credits, attain a degree at another institution in a shorter period of time. Morgan, McDavid, and Beedle (2008) explained there are four basic types of articulation agreements between secondary and higher education institutions: (a) formal and legally binding agreements, (b) special agreements for career and technical students to transfer credit, (c) state system policies, and (d) voluntary agreements among individual systems or institutions. This process is utilized as a tool to encourage collaboration between educational institutions. DeMott (1999) and Menacker (1975) further differentiated articulation as being vertical (progress to higher levels of academic achievement) or horizontal (internal transfer of credits within a system or at the same level at another institution), each having its place under the articulation heading. According to Mosholder and Zirkle (2007), this coordination can take place between secondary and postsecondary levels, as well as between 2- and 4-year colleges and universities. Mosholder and Zirkle (2007), continued to state that some examples of these "2+2" models may involve students receiving college credit for some of their coursework during the last 2 years of high school that can be transferred to a 2-year community or technical college; or, they can involve 2-year college students obtaining an associate's degree and

transferring to a 4-year college or university to complete the last 2 years of a baccalaureate degree. In some cases, "2+2+2" programs have been developed between high schools, 2-year colleges, and 4-year institutions to provide a seamless pathway to the baccalaureate degree (Zirkle, Brenning, & Marr, 2006).

History of Articulation

Articulation has been part of the higher education scene in America for well over 100 years (Mosholder & Zirkle, 2007). The earliest record of articulation was implemented by William Raney Harper, the first President of the University of Chicago. By 1896, Harper had divided the undergraduate program of the university into senior and junior college divisions, presaging transfer (Kintzer, 1996). According to Mosholder and Zirkle (2007), during the first two decades of the last century, the University of California at Berkeley (UCB) implemented a program designed to encourage high schools to offer college-level courses by awarding certificates of completion covering up to 2 years credit at UCB. In 1921, the California state legislature granted legal status to the agreement. The first articulated system was founded by the state of California in the 1920s. Pasadena Junior College, which became Pasadena City College, was founded to house Grades 11-14 of a 6-4-4 system (Robertson-Smith, 1990).

The post-World War II articulation expansion was ignited in 1947 by President Harry S. Truman in which a national agency titled the Truman Commission was established. The Truman Commission published a report titled Higher Education for American Democracy, and recommended expansion of the 2-year college system as an extension of the high school system. Young (1996) stated that the Higher Education for American Democracy report concluded that community colleges could offer cost-effective alternatives for lower and middle class populations enabling completion of the

first 2 years of college or university education, and additionally provide occupational training for American workforce needs of the post-World War II economy. According to Mosholder and Zirkle (2007), the expanded system would offer the first half of baccalaureate degrees as well as semiprofessional terminal courses and public service. During the early 1950s, Advanced Placement programs (AP) and the College-Level Examination Program (CLEP) began. AP programs allowed secondary students to take high school courses and receive college-level credit after demonstrating specific levels of competency. The CLEP allowed postsecondary students the opportunity to earn college-level credit by passing a test within specific curriculum content.

Articulation started to expand during the 1960s with the rapid enrollment of college students. The Higher Education Act of 1965 directed states to create higher-education coordinating commissions in order to remain eligible for federal aid (Cohen, 2001). The number of community colleges rapidly expanded as a result of state or local funding rather than federal initiatives. As a result, the number of associates degrees conferred from community colleges grew rapidly surpassing 100,000 per year in the mid-1960s, and the trend was expected to continue (U.S. Department of Education, 2005). The California Commission created the Master Plan for Higher Education in California 1968-1975 (Mosholder & Zirkle, 2007). Furthermore, Mosholder and Zirkle (2007) stated that this plan established a tripartite postsecondary education system for the state and recommended policies and procedures for transferring from a community college to a university. Similar efforts occurred during this time period in the states of Illinois, Michigan, Washington, Georgia, and Texas. State master plans for the development and support of community colleges were in place or imminent in 19 states by 1970 (Cohen, 2001).

By the end of the 1970s, articulation was not at the forefront of scholarly debate. However, Cohen and Brawer (1985) reported the concern at the time was universal access. Thus, analysis during the decade was on nontraditional and minority students and the problems they encountered when attempting to pursue their diverse interests and objectives (Kintzer, 1996).

During the 1980s, there was an increasing recognition of the role that community colleges play in providing access to education for minorities and other disadvantaged groups (Mosholder & Zirkle, 2007). According to Cohen and Brawer (1987), in the mid-1980s community colleges enrolled 34% of all White undergraduates; whereas, comparable numbers for African Americans, Hispanics, American Indians, and Asians were 39%, 53%, 51%, and 43%, respectively.

According to Mosholder and Zirkle (2007), by the mid-1990s all 50 states had some form of higher education coordinating authority, and most were actively promoting integrated programs, each of which was essentially unique. Emerging trends in articulation indicate that the Tech Prep movement is having an impact in reshaping traditional agreement structures, due in part to the requirements put forth by the Perkins Act of 1991 (Reese, 2002). The Act forced community colleges that did not have articulation plans to develop Tech Prep programs or lose federal funding.

Benefits of Articulation Agreements

The most important reason for developing articulation agreements is to improve access by giving students more options and smoothed pathways to achieve degree completion (O'Meara et al., 2007). In addition, Bryant (2001) and Cohen (2001) stated articulation agreements complement traditional community college roles by providing (a) greater access to education in addition to their already established open-door policies, (b)

lower cost per credit, (c) the ability of a student to live at home while working on a degree, and (d) more extensive academic advisory support. The benefits of articulation agreements are not just limited to students. According to Reese (2002), administrators at 2- and 4-year institutions seeking articulation agreements can benefit through improved student retention rates and cost savings by focusing on course offerings from their respective institutions. Furthermore, administrators at 4-year institutions have access to a broader student population, thus experiencing growth in enrolled student numbers; administrators at community colleges gain the opportunity to promote the articulated programs as pathways to bachelor degrees for students with the desire to transfer after graduation (O'Meara et al., 2007). The opportunity to promote articulation agreement benefits is not limited to the universities or community colleges. Administrators at secondary institutions have the opportunity to promote articulation agreements for the purpose of secondary students earning college-level credit in career and technical education. Earning college-level credits from secondary institutions provides opportunities to begin a postsecondary education early.

Limitations of Articulation Agreements

Consequently, there are a number of reasons why 2- and 4-year institutions do not generate more comprehensive articulation agreements. Educational institutions perceive themselves as competitors, often competing for scarce resources and a limited number of students; in addition, university faculty question the quality of the course content due to the open admission policies (Mosholder & Zirkle, 2007). Transferring secondary institutional credits through an articulation agreement to postsecondary institutions in Career and Technical Education is limited to community colleges. Therefore, secondary students are limited in choices. University and private postsecondary institutions do not

participate in the articulation of career and technical education courses. University and private postsecondary institutions have an established articulation agreement for advanced placement courses.

What Researchers Say Regarding Articulation Agreements

The Perkins Act of 1991 pushed states to develop and implement Career and Technical Education articulation agreements among high schools, community colleges, and universities, or risk losing federal funding. Bringing these diverse interests together to make the 2+2+2 alternative or any career-to-work program succeed is a challenge (O'Meara et al., 2007). DeMott (1999) suggested that an individual coordinator serve as a go-between or the primary contact for the articulation process bringing administrative leaders, faculty, and curriculum planners together.

There is a paradigm shift in the method and philosophy for learning in the postsecondary education environment. This paradigm shift in higher education is occurring from an instructional paradigm to a learning paradigm (Barr & Tagg, 1995).

The instructional paradigm can be described as the "sage on stage," and learning is dispensed or delivered solely by an instructor. The learning paradigm, on the other hand, is characterized by the "guide on the side." Learning is holistic and is focused on learning environments, experiences, and is student centered. To truly provide a broad array of formal education opportunities for students, education is being restructured with innovation, flexibility, and cooperative learning environments. Redefining what constitutes an articulation agreement is essential for change and progress to occur. In the end, the need for more effective use of increasingly limited resources such as faculty, classroom space, and laboratory equipment will drive the change process. Faculty and administrators with the foresight to take advantage of this dynamic situation in

postsecondary education will reap the benefits early and have a voice in the shape of future agreements (O'Meara et al., 2007).

O'Meara et al. (2007) indicated that the most important reason for developing articulation agreements is to improve access, giving students more options and smoothed pathways to achieving degree completion. Furthermore, faculty that participate in developing articulation agreements benefit by gaining insight into planning methods, curriculum content, and cohort programs.

In a study conducted by Morgan et al. (2008), Mississippi's secondary to postsecondary articulation agreement in Career and Technical Education (CTE) was analyzed in order to promote expansion of the existing agreement. The goal of this study was to improve the workforce by evaluating and improving Mississippi's CTE programs. After thorough research, Bond, Whitney, Mills, Jones, and Rinard (2004) indicated that students were not making a smooth transition from secondary to postsecondary education, leading to a negative impact on the job market. In addition, it was stated that there were several specific areas that prevented true articulation. The major barriers presented were leadership, funding, safety, liability issues, course quality, and philosophical differences between secondary and postsecondary education. The need for a revised and expanded articulation agreement was apparent. The study continued by presenting data from the state of Mississippi's report card indicating that the state's graduation rate was 83.6% (Mississippi Department of Education, 1999). The results of the study led the researchers to several recommendations for revision and expansion of the existing articulation agreement: (a) secondary and postsecondary faculty work together to revise curriculum and assessments, (b) align curriculum with industry standards, (c) professional development for all teachers, (d) critically analyze assessment

data, (e) teachers participate in the development of curriculum and assessments, and (f) knowledge of accrediting agencies.

D'Antoni and Coulson (2008) conducted a study on Career and Technical Education articulation success in West Virginia. The result of the findings indicated that less than 1% of the students in the state were taking advantage of the articulation agreements (D'Antoni & Coulson, 2008). The participation rate of the articulation agreement was contributed to parents not understanding the meaning of articulation and students meeting barriers in accessing the credits once they enrolled in postsecondary institutions. According to the study, three plans of action took place. First, faculty from secondary and postsecondary institutions collaboratively reviewed course content and descriptions, and decided to award credit immediately upon completion of the articulated course. Second, faculties from secondary and postsecondary institutions reinvented terminology and marketed articulation agreements to parents and students comprehensively. Finally, the articulation agreement was renamed the EDGE (Earn a Degree – Graduate Early). According to D'Antoni and Coulson (2008), during the school year of 2005-2006, 29,509 students passed the end-of-course exams, and 15,398 students accepted EDGE credits. Comparatively, 26,701 students passed in 2004-2005, and only 6,203 students accepted EDGE credits.

North Carolina High School to Community College Articulation Agreement

In August of 1998, the state of North Carolina assembled a steering committee to develop guidelines for a state-wide articulation agreement between high schools and community colleges in Career Technical Education. The public high schools were represented by the North Carolina Department of Public Instruction (NCDPI); similarly, the community colleges were represented by the North Carolina Community College

System (NCCCS). The steering committee, comprised of state and local leaders within the educational system, created guiding principles for the articulation agreement. In addition, the steering committee created definitions, goals, objectives, criteria, and work team structures for the articulation agreement. In order to stay in compliance with the Southern Association of Colleges and Schools criteria, 14 curriculum work teams and three support services work teams were established. Furthermore, the work teams were comprised of more than 200 high school and community college faculty, specialists, counselors, registrars, and instructional administrators. The articulation agreement went through five public hearings. After each hearing, revisions were constructed and implemented. The revised agreement was endorsed, adopted, and accepted by NCDPI and NCCCS in November 1999.

The North Carolina High School to Community College Articulation Agreement was revised for the first time in November 2003 by NCDPI and NCCCS. The revision was implemented to update definitions, goals, objectives, components, criteria, guiding principles, and evaluation processes. NCDPI and NCCCS identified technical education courses that articulated. In January 2004, over 300 committee members consisting of high school and community college faculty reviewed curriculum, course descriptions, and competencies, and then determined if the course was significant in developing competency along with matching industry regulations and licensing requirements.

According to NCDPI (2005), the North Carolina High School to Community College Articulation Agreement was presented to, and endorsed by, the North Carolina State Board of Community Colleges on November 19, 2004. In addition, the North Carolina High School to Community College Articulation Agreement became effective in January 2005.

The North Carolina High School to Community College Articulation Agreement defined articulation as a systematic seamless student transition process from secondary to postsecondary education that maximizes use of resources and minimizes content duplication. The goal of the agreement was stated as students will make a seamless transition of identified courses from secondary to postsecondary education.

The articulation agreement encompasses 22 Career and Technical Education fields including Agriculture Mechanics/Equipment Operation, Animal Science, Automotive Services Technology, Business Management/Business Administration, Collision Repair, Construction Technology, Cosmetology, Culinary Technology, Drafting, Early Childhood Education, Electrical Trades, Electronics, Environmental and Natural Resources, Furniture and Cabinet Making, Graphics, Health Care/Health Sciences, Horticulture, Information Technology, Marketing, Metals Manufacturing, Office and Information Systems, and Welding. Furthermore, the agreement allows community colleges and local educational units to consider five additional courses for inclusion on local articulation agreements.

In order to receive community college credit from the Career and Technical Education course, the criteria is (a) students must have a grade of "B" or higher in the course, (b) students must have a raw score of 80 or higher on the standardized VoCATS post-assessment, and (c) students must enroll at the community college within 2 years of their high school graduation date.

Community College Purpose

The central mission of community college systems is to provide services to local citizenry in the form of occupational or vocational training, remedial education, college preparatory courses, and specialized community service (McDuffie & Stevenson, 1995;

Wattenbarger & Witt, 1995). One driving force behind the mission of community colleges is economic conditions. According to Kasper (2009), the vocational success of community college students depends largely on the job opportunities that become available (what economists term demand) and the number and skills of other applicants for the same position (termed supply). The economic conditions of local communities directly impact the services and Career and Technical Education programs that community colleges offer. Therefore, community colleges monitor the economic landscape of local communities, establish relationships with local businesses, and partner with state universities in order to best service their constituents. Kasper (2009) reiterated that a community college has many roles and constituents: academic, professional, and vocations. Its curriculum may be distinguished from that of other institutions of higher education by its many courses designed to enhance students' immediate career opportunities, especially with nearby employers.

North Carolina Career and Technical Education Purpose

According to the North Carolina Standard Course of Study Guide in the curriculum field of Career and Technical Education (CTE) created by the Department of Public Instruction, the mission of CTE is to help empower students for effective participation in an international economy as world-class workers and citizens. CTE fulfills this mission by (a) preparing students for postsecondary education in career and technical fields and lifelong learning; (b) preparing students for initial and continued employment; (c) assisting students in making educational and career decisions; (d) applying and reinforcing related learning from other disciplines; (e) assisting students in developing decision making, communication, problem solving, leadership, and citizenship skills; (f) preparing students to make informed consumer decisions and apply

practical life skills; and (g) making appropriate provisions for students with special needs to succeed in Career and Technical Education programs.

The areas of study that encompass CTE include Agricultural Education, Business and Information Technology Education, Career Development Education, Family and Consumer Science Education, Health Occupations Education, Marketing Education, Technology Education, and Trade and Industrial Education. Each area of Career and Technical Education encompasses school-based, work-based, or community-based learning opportunities.

For the purpose of this study, the focus will be on Business and Information Technology Education. The North Carolina Standard Course of Study stated Business and Information Technology Education is a broad comprehensive curriculum at the middle and high school levels that provides students with meaningful instruction for and about business. Furthermore, instruction in Business and Information Technology Education encompasses business skills and techniques, an understanding of basic economics, and business attitudes essential to participate in the multinational marketplace as productive workers and consumers. Business and Information Technology Education provides five career majors at the high school level to include Accounting and Finance, Business Administration, Business Management and Small Business Entrepreneurship, Information Technology, and Office System Technology. As a result, Business and Information Technology Education develops human relation/interpersonal, employability, economic, and entrepreneurial skills as part of each career major.

The North Carolina Department of Public Instruction (DPI) and the North Carolina Community College System (NCCCS) created the North Carolina High School to Community College Articulation Agreement encompassing Career-Technical

Education. The Articulation Agreement provides the opportunity to earn community

college credit for Career and Technical Education courses that align with community

college curriculum. The Career and Technical Education courses that align with

community college curriculum, developed by NCDPI and NCCCS, are Computer

Application I, Computer Application II, Principles of Business & Finance, Business &

Electronic Communications, Small Business Entrepreneurship, Computerized

Accounting I, Computerized Accounting II, e-Commerce I, e-Commerce II, Marketing,

and Business Law. The stipulation for awarding community college credit is a course

completion grade of "B" or better and a raw score of 80 or higher on the standardized

VoCATS post-assessment.

What Researchers Say Regarding Career and Technical Education

According to Gray (2004), Career and Technical Education (CTE) has been

stereotyped as preparing students only for work after high school and its students are

mostly male, too often minorities, academically backward, and destined for dead-end

jobs; however, while this characterization may or may not have been correct in the past, it

is not accurate today. Due to federal legislation in the late 1980s, new programs called

Tech Prep emerged which taught technical and integrated academic skills. The mission

of Tech Prep is to prepare students for postsecondary education in the concentration of

Career and Technical Education. Gray (2004) went on to state that most CTE students

complete a traditional academic program as well as a CTE concentration, and the

majority go on to college, not directly to work. With the transformation of CTE, a new

stereotype emerged. CTE is now viewed by many students as an alternate route to higher

education; the enrollment declines of the 1970s and 1980s have been reversed with CTE

students representing one in four of all students. Furthermore, there are no significant

race or gender differences between CTE students and the general student population and most CTE students are enrolled in business, health care, trade/industry, and information technology programs (Gray, 2004).

Research shows the percentage of CTE concentrators who now go on to college after high school (60%) is only slightly lower than the percentage of students in the college-prep program (72%). In addition, of the CTE concentrators who go to college, about two-fifths pursue a bachelor's degree, and the rest continue their technical education at the 1- and 2-year college level (Gray, 2004).

During the 1990s, over a million foreign-born workers were admitted to the U.S. on H1b visas to fill most technical jobs (Gray, 2004). The consequences of 9/11 will indeed change immigration policies, create a void in the U.S. labor market, and will affect economic growth. Gray (2004) stated that the relationship of this labor market dilemma to CTE is that the Career and Technical Education curriculum is the only program of study in the high schools that is specifically designed to prepare students for college-level education for jobs as technicians.

Research shows that CTE programs have a positive impact on at-risk youths and students with special needs. Crucial to note, special-needs students who are enrolled in CTE are more likely to graduate from high school, to be employed in higher paying trades, or to enroll in higher education (Gray, 2004). Furthermore, Gray (2004) stated that numerous studies have demonstrated the positive effects of CTE on reducing high school dropout rates. The most recent study on this topic finds that taking CTE courses is strongly related to persisting to graduation; in addition, this effect was positive for any ratio of CTE to academic courses, but was maximized at a ratio of three CTE credits to four academic credits or roughly a 40% CTE to 60% academic ratio (Gray, 2004).

Gray (2004) went on to state that a contribution of CTE is its potential to provide all high school students with a hands-on, contextually rich environment to verify tentative career choices; this helps students to make more effective postsecondary plans, such as choosing a college major, thereby increasing the probability that they will succeed.

According to Dare (2006), vocational education, or Career and Technical Education (CTE), is one academic pathway that is continuing to emerge as a boundary-spanning approach to facilitating students' transitions from high school to postsecondary education. Dare (2006) went on to confirm Gray (2004) by stating that CTE, once considered a track for noncollege bound high school students, has evolved to include an increased emphasis on rigorous academic preparation and integrated and articulated CTE courses and programs. CTE is now a "major enterprise within the United States P-16 education system," according to the Association for Career and Technical Education (2006, p. 9).

In a study conducted by DeLuca, Plank, and Estacion (2006) and Hudson and Hurst (1999), the results concluded that students who participate in a blended CTE and postsecondary preparatory program are prepared for both college and work. In an analysis of cohorts from four different high schools between 1982 and 1994, the researchers discovered that mathematics and reading achievement test gains between eighth and twelfth grades for those who participated in a combined college preparatory and Career and Technical Education program were not statistically different from those students who participated in a college preparatory program solely.

Specifically, of a group of students scoring in the middle two quartiles on eighth-grade math assessments, students who completed a concentration of secondary CTE courses along with a college preparatory curriculum increased their

mathematics test scores by an average of twenty-seven points by twelfth grade, students from the same two quartiles who completed only a college preparatory curriculum gained an average of twenty-nine points. By comparison, students from the same two quartiles who only took a CTE concentration gained twenty-two points. Reading test score gains for the same group of students were twenty-one points for the combined curriculum, twenty-two for the college prep curriculum, and eighteen for the CTE concentration. (Dare, 2006, p. 74)

Therefore, CTE curriculum attracts, motivates, and prepares students for postsecondary training in the fields of Career and Technical Education. Furthermore, students who (a) are at risk of dropping out of high school, (b) seek employment directly after high school, or (c) want to go to college at the 1- or 2-year level to prepare for pre-professional technical careers, CTE is arguably the most important curriculum in the American high school (Gray, 2004). In total, these three groups make up the majority of high school students.

Research Regarding Student Motivation

Over the last 30 years, researchers have focused primarily on individuals' beliefs, goals, and values as the major motivational underpinnings of behavior (Eccles & Wigfield, 2002). Such beliefs include students' self-efficacy, or their belief in their ability to accomplish different tasks (Bandura, 1997; Schunk & Pajares, 2002). According to Wigfield and Wentzel (2007), efficacious students take on stronger academic challenges, persist longer when difficulties arise, and believe they will succeed in the future. Students who perceive that they have control over their learning, or have some say in what they learn also have been a focus of theoretical discussion and research. In general, students holding such beliefs tend to be more engaged in their learning

activities (Grolnick, Gurland, Jacob, & Decourcey, 2002; Ryan & Deci, 2000).

Furthermore, students who understand and believe that success directly relates to the

effort and abilities they put forth and possess consistently remain positively motivated.

In order to understand school-related success, researchers have identified a variety

of goals that students pursue at school. These include academically-oriented goals to

master material and to demonstrate one's competence by performing well (Pintrich,

2000), as well as social goals that motivate behavioral aspects of classroom engagement

and the degree to which students develop positive relationships with teachers and peers

(Wentzel, 2002). As a subset of academic-oriented goals, researchers identify students

valuing achievement tasks. Valuing achievement tasks refers to a student's reasons or

incentives for engaging in different tasks or activities and includes different components

such as interest in the activity, its importance to the individual, and its perceived

usefulness (Eccles et al., 1983; Wigfield & Eccles, 2002). Deci & Ryan (1985; 2002)

stated that researchers continue to clarify the longstanding distinction between intrinsic

and extrinsic motivation and find that when a student's motivation is more intrinsic,

he/she engages more deeply in learning activities.

There is increasing evidence that a student's motivation directly impacts his/her

social and academic functioning (Wentzel, 1999, 2002; Wigfield, Eccles, Schiefele, &

Davis-Kean, 2006). Examples of this work include studies which show that a student's

self-efficacy predicts achievement over and above the effects of children's previous

performances and that enhancing a student's self-efficacy boosts performance in different

areas (Schunk & Pajares, 2002; Schunk & Zimmerman, 1997). Similarly, Eccles and

Wigfield (2002) found that with previous performance controlled, children's ability

beliefs in math and reading predict their subsequent performance in these areas; in

addition, children's valuing of achievement also predicts their choices of which activities to continue to pursue.

Research has provided an abundance of knowledge showing that teachers and educators influence, both positively and negatively, a student's motivation. According to Wigfield and Wentzel (2007), there is a growing consensus on how instructional practices can enhance students' self-efficacy and help students assume control over their own learning, develop positive achievement goals, learn to value learning, and relate well to teachers and peers in their classrooms. For instance, students' self-efficacy is enhanced when they experience success on different kinds of tasks and receive feedback that helps them understand that their success was because of their own efforts (Schunk & Pajares, 2002). Dweck (2002) contributed by stating that when teachers emphasize the importance of hard work, improvement, and persistence rather than ability as keys to success, children's attributions for their performance are more positive. Tasks that are challenging conceptually, engage higher cognitive skills, and are meaningful to students, increase intrinsic motivation for and valuing of learning (Hidi & Harackiewicz, 2000; Wigfield, Eccles, & Rodriguez, 1998). Furthermore, Wentzel (1999, 2002) stated that giving students opportunities to collaborate with their peers on various learning activities and creating positive social and emotional climates in schools so that teachers and students relate to each other in positive ways foster students' academic motivation.

There are many individual differences among children including ethnic, cultural, and social class disparities. Due to diversity, motivational interventions must be tailored to the population it tends to motivate. The concern about achievement differences across cultural and ethnic groups is increasingly important because the student population in American schools is becoming more ethnically and culturally diverse (Okagaki, 2006;

U.S. Department of Education, 2003). According to Wigfield and Wentzel (2007), there are three reasons for a motivational perspective on ethnic, cultural, and social class achievement differences between different groups of children in the United States. First, the experiences of ethnic minority children in American schools often result in feelings of alienation and social rejection that can have a negative impact on their interest in learning and willingness to engage in academic activities (Greenfield et al., 2006; Ogbu, 1992; Okagaki, 2006). Therefore, understanding the ethnic, cultural, and social class differences in American schools will contribute to the resolution of motivational disparities and low achievement levels, and will increase interest in learning. Second, once students establish a history of failure, they are more likely to experience significant declines in motivation (Wigfield & Wentzel, 2007). It is difficult for students to stay interested in school, have clear goals, and develop self-efficacy when they have established a history of failure in school. Finally, research has shown student motivation declines across a school year. According to Wigfield and Wentzel (2007), most children begin school with optimism about their prospects for school success and have a strong interest in learning. Over the course of the school years, many of these children lose confidence in their ability in different areas as they receive feedback about their own performance, compare themselves to other students, and have increasingly difficult tests and assessments to complete. For many children they begin to view school as a workplace and have to perform tasks that are not meaningful to them. Some of these large changes occur during the transitions from elementary school to middle school and from middle school to high school. Therefore, Wigfield and Wentzel (2007) suggested that school-level interventions to boost children's motivation may be especially important during the late elementary and middle school years.

Academic Amotivation

Academic amotivation is one of the most prominent issues plaguing teenage youths, parents, and academic institutions today. According to Green-Demers and Pelletier (2003), year after year, for reasons yet to be understood, numerous high school students find themselves in a state in which they do not have the desire to carry out the academic tasks required of them. There are numerous studies that explain reasons why students strive for academic success; however, little is known about the reasons why students neglect their studies. It is evident that a deeper understanding of academic amotivation is needed (Hidi & Harackiewicz, 2000). According to the self-determination theory (Deci & Ryan, 1985, 2002), behavior can be effectuated through intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation refers to pleasures and interests that relate to motives while extrinsic motivation relates to instrumental motives. Amotivation refers to the absence of motivation and can be defined as a state in which individuals cannot perceive a relationship between their behavior and that behavior's subsequent outcome (Deci & Ryan, 1985, 2002). Amotivated individuals cannot predict the consequences of their behavior, nor can they see the motive behind it; they may feel disintegrated or detached from their action and, thus, will invest little effort or energy in its effectuation (Legault, Green-Demers, & Pelletier, 2006). Amotivation has been linked to classroom behaviors such as boredom, poor concentration, nonattendance, low involvement in physical education, and high school dropout.

Legault et al. (2006) created taxonomy from the theory amotivation. Thus, the four subtypes of academic amotivation are based on ability beliefs, effort beliefs, value placed on the task, and characteristics of the task. Ability belief is based on self-efficacy.

According to Bandura (1991), when perceived self-efficacy is high, more ambitious challenges are pursued, and a greater goal commitment is applied; whereas, when self-efficacy is dubious, failure is perceived as a likely outcome. Effort belief refers to the amount of effort, desire, and capacity one is willing to put forth into a certain task. According to a study conducted by Skinner, Wellborn, and Connel (1990), belief in one's ability and in one's effort were both necessary antecedents to school performance. The value placed on the task directly influences the individual's degree of amotivation. Ryan (1995) noted that amotivation stems from not valuing an activity. In addition, Legault et al. (2006) contributed by stating that when the task is not an integral component of a student's life, or if, in effect, it is not important to the student, amotivation may result. Characteristics of a task go through an evaluation process by individuals. If the qualitative experience of the activity does not engage the knowledge, ability, or stimulation of students then it is unlikely that students will favor it; furthermore, when a task is void of interesting or stimulating qualities and when it is boring, routine, tedious, arduous, or irrelevant amotivation may ensue (Legault et al., 2006).

In an exploratory factor analysis, Legault et al. (2006) hypothesized that it would be possible to retain four items per factor which would adequately represent each of the four amotivation subtypes. The study collected data through questionnaires from 351 students from the Ottawa-Gatineau region. The students' ages ranged from 12-18 years. The questionnaires (Academic Amotivation Inventory) were designed by a panel of experts and the primary goal was to ascertain students' reasons for not wanting to study or do their homework. Legault et al. (2006) concluded results from exploratory factor analyses and CFAs indicated that students are amotivated in school for four different classes of reasons: their ability belief, effort belief, value placed on academic tasks, and

characteristics of the academic tasks.

Interventions That Enhance Student Motivation

Research-based knowledge has led to a growing number of individual child-based, classroom-based, and school-based interventions that focus on enhancing student motivation as a way to boost students' academic and social functioning in school (Wigfield & Wentzel, 2007). Legault et al. (2006) suggested academic attitudes and behaviors are strongly influenced by key social agents in the student's environment whether these are teachers, parents, or friends. Furthermore, a central tenet of this perspective is that social contexts that promote autonomy, competence, and relatedness will facilitate intrinsic and internalized motivation (Deci & Ryan, 1985, 2002).

Autonomy support is the dimension of social support that refers to the events and environments related to the adoption of intentional behavior and involve the respecting, valuing, and nurturing of a student's intrinsic motivation and self-determination (Legault et al., 2006). In a scholarly text, Legault et al. (2006) continued by stating teachers, parents, and friends can uphold a student's sense of autonomy by optimizing his/her opportunity to take initiative while both asking for and respecting a student's opinions; moreover, autonomy support recognizes the importance of moderate structure and guidance while emphasizing the benefits of giving children freedom, volition, and responsibility for themselves.

Competence support is the feeling that one is knowledgeable and can convey meaning precisely. It is important that a person's social network supports his/her feelings of competence, ability, and social acceptance. According to Legault et al. (2006), the art of conveying information effectively is central to pedagogy, and the student is most impacted by the transmittance of useful information that will allow him/her to put his/her

learning to practice; furthermore, it is equally important to provide constructive feedback to students on the progress of their learning and to provide it in such a way that benefits their competence needs. This is vital in the establishment and sustainability of the teacher-student relationship.

Legault et al. (2006) defined interpersonal affiliation-relatedness as students having the occasion to develop enriching relationships with others and feeling that key social figures really care about them. Students who perceive their social support networks, parents, and teachers as supporting and fueling their autonomy and competence are more intrinsically motivated at school (Reeve, Bolt, & Cai, 1999). Additionally, Vallerand (1997) contributed by stating that students in classrooms with autonomy-supportive teachers are more likely to stay in school as compared to students in classrooms with controlling teachers.

Rising College Costs

According to Wellman (2008), college tuitions have grown by 2 to 3% per year above inflation for the last 15 years, beating almost every other major commodity. The high cost for higher education does not mean revenue for the educational institutions. Pupil dollars are replacing declining state support dollars. Fifteen years ago, every tuition dollar in public community colleges was matched by $3.70 in state and local appropriations; by 2006, that had dropped to $2.20 (Wellman, 2008). Similarly, the declining trend occurred in public 4-year master's and research institutions where state funds are a small portion of all revenue. Across postsecondary institutions, the portion of spending for educational services is declining over time. For example, Wellman (2008) stated that public research universities' total revenues increased by 11% between 2002 and 2006, while spending on education and related expenses grew by only 1%;

furthermore, community colleges' educational spending suffered absolute reductions during this time.

An increase in the cost for higher education is not solely due to state budget cuts. Colleges and universities, both private and public, are experiencing several different phenomena. The first phenomenon was theorized by Howard Bowen (1980) and is the *revenue theory of cost* which argues that as nonprofit institutions, colleges, and universities try to maximize their revenue, they spend every dollar they raise (Archibald & Feldman, 2008). Therefore, Archibald and Feldman (2008) continued by stating the factors that determine costs in higher education are the determinants of higher education's revenue, such as the appropriations given to state-supported institutions, earnings on endowments, research grants, and earnings from tuition and fees. The implication of the revenue theory of cost is that cost control must come from revenue control.

The second phenomenon presented by Getz and Siegfried (1991) explained the rapid cost increases in higher education. According to Getz and Siegfried (1991), the rapid increase in higher educational costs is due to (a) changes in the product mix toward more expensive disciplines, (b) shortages of higher education inputs, (c) faculty and administrators' inflated desires for quality, (d) poor management in higher education, and (e) government regulations that create expanded duties for colleges and universities.

The third phenomenon by Massy and Wilger (1992) included Getz and Siegfried's (1991) five rapid cost increases for higher education and added two additional causes. According to Massey and Wilger (1992), two additional reasons for the rapid increase in higher educational costs are the administrative lattice and the academic ratchet. The administrative lattice refers to the growth over time in administrative

support for all kinds of activities at colleges and universities; whereas, the academic ratchet is the process by which full-time faculty have redefined their role in the institution to suit their own desires (Archibald & Feldman, 2008).

Furthermore, the largest enrollment growth in the last decade has been in public 2-year colleges which disproportionately enroll low-income, Hispanic and African American students (Wellman, 2008). Wellman (2008) continued by stating that nationwide only 7% of students are enrolled in institutions that spend $25,000 or more on them per year, in contrast to the over 45% of students where spending is below $10,000 per year. There is no sector in higher education where spending for faculty and other departmental educational expenses is more than half of operating expenditures, not even in those whose primary mission is teaching rather than research (Wellman, 2008).

According to the Statistical Abstract of Higher Education in North Carolina 2007-2008 (Yang, 2008) research report created by The University of North Carolina Chapel Hill, North Carolina public institutions' average undergraduate tuition and required fees combined cost in 2002-2003 was $2,847, while during 2007-2008 the average undergraduate tuition and required fees combined cost was $4,042. This accounted for a 6.3% increase in tuition and required fees. Furthermore, the report reported that North Carolina community colleges' average undergraduate tuition and required fees combined cost in 2002-2003 was $1,127, while during 2007-2008 the average undergraduate tuition and required fees combined cost was $1,417. This accounted for a 6.3% increase in tuition and required fees. Similarly, North Carolina private institutions' undergraduate tuition and required fees combined cost in 2002-2003 was $14,094 which increased in 2007-2008 to $19,657, reporting an increase in tuition and required fees by 6.3%. Seminary and Bible colleges reported the greatest percent increase of 12.6% by

undergraduate tuition and required fees combined cost reported in 2002-2003 at $4,747 to $7,068 during 2007-2008.

The North Carolina High School to Community College Articulation Agreement, dual enrollment, and advanced placement courses combat the rising tuition cost trend by allowing students to earn college credits during high school. Particularly, Career and Technical Education provides the most extensive articulated courses which offer students an array of career path choices and cost-saving opportunities. In addition, Career and Technical Education emphasizes globalization and tailors the curriculum within the course to the 21st Century learner.

High School Dropout

According to the U.S. Department of Education (2008), the status dropout rate represents the percentage of persons in an age group who are not enrolled in school and have not earned a high school diploma or equivalent credential such as a General Educational Development (GED) certificate; in addition, the status dropout rates are reported for 16- through 24-year-olds. The status dropout rate for this age group declined from 14.6% in 1972 to 9.3% in 2006 (U.S. Department of Education, 2008). Furthermore, the status dropout rate deciphers between ethnic subgroups to include Caucasian, Hispanic, and African American. The United States of America's dropout rate in 2006 was 9.3%, while the ethnic subgroup breakdown was Caucasian 5.8%, African American 10.7%, and Hispanic 22.1%.

A comprehensive study on the dropout crisis in America titled Dropout Risk Factors and Exemplary Programs (Hammond, Linton, Smink, & Drew, 2007) was conducted by the Communities In Schools (CIS) youth serving organization and the National Dropout Prevention Center/Network at Clemson University (NDPC/N).

According to the study conducted by Hammond, Linton, Smink, and Drew (2007), the

intent of the study was to (a) identify the risk factors or conditions that significantly

increase the likelihood of students dropping out of school, and (b) identify exemplary,

evidence-based programs that address the identified risk factors and conditions.

According to the study, a thorough review of the literature was conducted to determine

the risk factors and conditions that increase the likelihood of students dropping out of

school. Included in the study's literature review, 25 years of ERIC, PsychInfo, and

Medline literature from 1980 through December 31, 2005 were reviewed to obtain an

historic view of the issue. In addition, the National Dropout Prevention Center/Network

Library and Internet was utilized to gather additional data.

Researchers have found that dropping out of school stems from a wide variety of

factors in four areas or domains including individual, family, school, and community

factors (Hawkins, Catalano, & Miller, 1992; Rumberger, 2001). The study addresses

individual, family, school, and community domains by categorically presenting key

factors that are characteristics of dropouts.

First, the individual domain lists several factors that relate to the individual

student and contribute to the dropout rate of adolescents and include (a) high-risk

demographic characteristics; (b) early adult responsibilities; (c) high-risk attitudes,

values, and behaviors; (d) poor school performance; (e) disengagement from school; and

(f) education stability (Hammond et al., 2007).

Secondly, the family domain presents a multitude of factors that relate to family

background and home experiences, and that influences an adolescent's decision to drop

out of school. Those factors include (a) background characteristics; (b) level of household

stress; (c) family dynamics; (d) attitudes, values, and beliefs about education; and (e)

behavior related to education (Hammond et al., 2007).

Thirdly, the school domain refers to the factors that relate to school structure, environment, and policies, and that impact an adolescent's decision to drop out of school. Those factors include (a) school structure, (b) school resources, (c) student body characteristics, (d) student body performance, (e) school environment, (f) academic policies and practices, and (g) supervision and discipline policies and practices (Hammond et al., 2007).

Finally, the community domain provides several factors that relate to communities, neighborhoods, and the decision process of an adolescent's decision to drop out. Those factors include (a) location and type, (b) demographic characteristics, and (c) environment (Hammond et al., 2007).

In addition to the domains and listed factors, the study differentiates between four different subgroups of dropouts. The four subgroups of dropouts are the traditional, stay-ins, ables, and nongraduates.

First, there is evidence of a *traditional* dropout group that is consistent over time and share some common traits. They come from low socioeconomic families (Wehlage & Rutter, 1986), have poor grades (Barrington & Hendricks, 1989; LeCompte & Dworkin, 1991; Wehlage & Rutter, 1986), have low test scores (Barrington & Hendricks, 1989; Wehlage & Rutter, 1986), were retained at some point (Wehlage & Rutter, 1986), have discipline and truancy problems (LeCompte & Dworkin, 1991; Wehlage & Rutter, 1986), and have high absenteeism (Barrington & Hendricks, 1989; Hammond et al., 2007, p. 19).

Second, Wehlage and Rutter (1986) identified a group of students called *stay-ins* in which these students exemplify the same characteristics as the traditional dropout

group; however, these students graduated and had no intentions of going on to higher education. Third, according to LeCompte and Dworkin (1991), *ables* drop out for a variety of reasons other than academic failure which include family hardships, policies, rules, procedures, pregnancy, or social activities. Finally, Barrington and Hendricks (1989) referred to a subgroup called *nongraduates* which are students who stay in high school for 4 to 5 years, but do not receive a diploma.

The study attempted to identify exemplary evidence-based programs that address the identified risk factors and conditions; conversely, the study identified that (a) there were a number of issues related to the quality of available research evidence on programs addressing school dropout and other prevention issues that make it difficult to conclusively identify effective programs and (b) many programs do not include rigorous evaluation of program effectiveness or collect little to no long-term follow-up data to determine if program effects endure over time (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1999; Fashola & Slavin, 1998; Rumberger, 2001).

The overall findings and trends from the study conducted by Hammond et al. (2007) found that (a) dropping out of school is related to a variety of factors that can be classified in four areas or domains—individual, family, school, and community; (b) there is no single risk factor that can be used to accurately predict who is at risk of dropping out; (c) the accuracy of dropout predictions increases when combinations of multiple risk factors are considered; (d) dropouts are not a homogeneous group; (e) students who drop out often cite factors across multiple domains and there are complex interactions among risk factors; (f) dropping out of school is often the result of a long process of disengagement that may begin before a child enters school; and (g) dropping out is often described as a process, not an event, with factors building and compounding over time.

The school district for which the research was conducted reported a dropout rate of 2.11% during the 2006-2007 school year in grades 7-12; in addition, the district's graduation rate for 2007-2008 was reported as 77.2%. The total enrollment for the 2008-2009 school year was 38,554 students and per pupil expenditure in 2007-2008 was $7,313. The local research site in 2007-2008 reported a total enrollment of 884 students while 20% of total course enrollments were in Career and Technical Education. According to the North Carolina Department of Public Instruction's Annual Report on Dropout Events and Rates 2006-2007, the dropout rate at the targeted research site was 6.14%.

At the local research site, Career and Technical Education courses provide students with the opportunities to explore career fields and take a hands-on approach to learning while preparing for the workforce or postsecondary education. According to Brewer (2004), modern Career and Technical Education programs not only support and integrate a full range of academics, but they have qualities that give much more meaning and purpose to the education process; furthermore, Career and Technical Education encourages students' skills and interests while giving new life and significance to the academics that they need to survive and become productive citizens.

21st Century Learner

The 21st Century earner can be defined as any person influenced by technology, including technology being at the center of learning and interaction with information; primarily people born after 1982. The phrases net-generation learners, millennial students, generation-y, and digital-natives are often used to describe the generation.

Diana Oblinger (2003) summarized the following research: By age 21, these students will have spent 10,000 hours playing video games, sent 200,000 emails, watched

20,000 hours of television, spent 10,000 hours on a cell phone, but spent less than 5,000

hours reading. Furthermore, the trend will continue: Children age 6 and under will spend

2.01 hours per day playing outside, but 1.58 hours using computers and they will spend

only 40 minutes daily reading or being read to. Despite their young age, 48% of these

children have used a computer, and of these children, 27% of 4-6 year olds use a

computer daily and 39% use a computer several times a week. At least 30% have played

video games. This intense interaction with technology has deeply affected the way these

children interact with their environment (Rodger, Runyon, Starrett, & Von Holzen, 2006,

p. 1).

The characteristics of net-generation learners, millennial students, generation-y,

and digital-natives tend to be closeness to their parents; they spend more time doing

homework than watching television, refer to the internet for information and

entertainment, prefer instant messaging, are highly competitive, are accepting of

diversity, have encountered cooperative learning throughout school, believe in teamwork

and collaboration, and for them multitasking is a way of life (Howe & Strauss, 2000;

Cramer, 2007). However, net-generation learners, millennial students, generation-y, and

digital-natives are more challenging to teach due to being accustomed to having

technology throughout life and using technology throughout the day. Oblinger (2003)

contributed by stating that net-generation learners, millennial students, generation-y, and

digital-natives have zero tolerance for slowness or delays.

In order to build 21st Century skills, Bruett (2006) emphasized that the following

skills be incorporated into educational institutions: (a) rigorous core subjects; (b)

analytical thinking, problem solving, communication, and collaboration; (c) information

and communications technology literacy—the ability to use technology tools to acquire

learning skills; (d) global awareness, civic engagement, and business, financial, and economic literacy; and (e) measurement of 21st Century skills.

The North Carolina high school Career and Technical Education pathway in the concentration of Business and Information Technology Education was designed to address the needs of the 21st Century learner. According to the North Carolina Standard Course of Study (NCDPI, 2002), Business and Information Technology Education plays a major role in preparing a competent, business-literate, and skilled workforce. Furthermore, computer literacy and proficiency in the various applications are emphasized including exploratory experiences in business technology.

Each course in Business and Information Technology Education requires the use of technology. Specific 21st Century teaching techniques are utilized in order to maximize students' learning opportunities and experiences. Business and Information Technology Education curriculum utilizes the internet for research, communication, creation of websites, and creating advertising campaigns; while computer software is utilized for keyboarding, data collection, and data analysis. Business and Information Technology Education curriculum incorporates project-based instruction, cooperative learning, and experimental exploration. Multitasking is promoted within the curriculum in order to prepare students for the dynamics of a business economy.

Business and Information Technology Education includes five career majors: Accounting and Finance, Business Administration, Business Management and Small Business Entrepreneurship, Information Technology, and Office Systems Technology. There are 21 courses offered under the five majors of whom 9 articulate with community college courses under the North Carolina High School to Community College Articulation Agreement.

Globalization

According to Bruett (2006), today's students need to know how to apply their knowledge in a real world environment by thinking critically, analyzing information, comprehending new ideas, communicating, collaborating in teams, and solving problems, all in the context of modern life. These competencies are called 21st Century skills. Dynamic and new competencies are being demanded by the economy and workplaces of today. Work is fundamentally being redefined and becoming more autonomous; furthermore, employees at all levels need the ability to solve problems and use complex information to make decisions (Bruett, 2006). In a globalized society, no one person truly works in isolation. Bruett (2006) continued by stating teams are global or virtual in nature and collaboration is expected. In addition, everyone, regardless of occupation, must be able to understand, use, and apply technology in order to be efficient and effective at work.

> According to Michael Dell, chairman of the board of directors of Dell, it is critical that the United States prepare our students to be competitive in the global economy, an economy that would not be possible without modern technology. For our students to thrive and make meaningful contributions, they will need a command of twenty-first century skills such as self-direction, problem solving, communication and collaboration, and technology proficiency. (Bruett, 2006, p. 25)

According to the North Carolina Standard Course of Study (NCDPI, 2002), Business and Information Technology Education encompasses business skills and techniques, an understanding of basic economics, and business attitudes essential to participate in the multinational marketplace as productive workers and consumers.

According to the North Carolina Standard Course of Study (NCDPI, 2002), development of human relations/interpersonal, employability, economic, and entrepreneurial skills is a part of each career major. Opportunities to develop and apply leadership, social, civic, and business-related skills are provided through Future Business Leaders of America (FBLA), the Career-Technical Student Organization for Business and Information Technology Education students (NCDPI, 2002, p. 27).

Business and Information Technology Education Standard Course of Study (NCDPI, 2002) includes 12 major program outcomes. Eight major program outcomes address the need for educating students in a global economy: (a) function as economically literate citizens in domestic and multinational settings; (b) develop an understanding of personal, societal, and governmental responsibility in the economic system; (c) understand how business operates; (d) demonstrate the interpersonal, teamwork, and leadership skills needed to function in diverse business and information technology settings; (e) develop lifelong learning skills; (f) select and apply technology tools for making personal and business decisions; (g) communicate effectively as writers, listeners, and speakers in diverse social and business settings; and (h) apply critical thinking and analyzing skills needed to function in students' multiple roles as citizens, consumers, workers, managers, business owners, and directors of their own economic futures.

The North Carolina High School to Community College Articulation Agreement outlines nine Business and Information Technology Education courses out of 21 that articulate. The 21 Business and Information Technology Education courses are incorporated into five career majors: Accounting and Finance, Business Administration, Business Management and Small Business Entrepreneurship, Information Technology,

and Office Systems Technology.

Summary

The literature review chapter outlines three key themes and their subtopics which include articulation, student motivation, and variables that relate one another. The themes provide research-based data to help explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field.

First, the articulation element laid the foundation for the history, purpose, benefits, and limitations associated with articulation agreements. In addition, the articulation element, shown by research, showed the theoretical connection between the North Carolina High School to Community College Articulation Agreement and the North Carolina Career and Technical Education (CTE) pathway in the concentration of Business and Information Technology. Secondly, the student motivation element provided evidence of research that presented research-based philosophical explanations pertaining to student motivation and interventions that enhance student motivation. Finally, the third element illustrated four critically important themes that relate the elements of articulation and student motivation together to further explore the paradigm between the North Carolina High School to Community College Articulation Agreement's impact on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field in the CTE concentration of Business and Information Technology. Chapter 3

presents the methodology for the case study including research design, instruments, procedures, and rationale.

Chapter 3: Methodology

Overview

The purpose of this sequential explanatory case study was to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. Student survey data, coupled with student focus group and teacher focus group interview data, were analyzed to explore the impact and convey trends. The emphasis of the study was in Career and Technical Education courses in the concentration of Business and Information Technology and included high school students, Grades 9 through 12, located at a rural high school in the piedmont region of North Carolina. In addition, the study was implemented the first semester of the 2010-2011 school year. The courses that were associated with Business and Information Technology were Computer Application I, Computer Application II, Principles of Business & Finance, Business & Electronic Communications, Small Business Entrepreneurship, Computerized Accounting I, Computerized Accounting II, e-Commerce I, e-Commerce II, Marketing, and Business Law. The intent of the study was to provide feedback to school leaders and teachers at the targeted research site; furthermore, the local district received a copy of the study.

Research Questions

The North Carolina High School to Community College Articulation Agreement's impact on student motivation was explored through five guiding research questions, via a sequential explanatory case study.

1. To what extent does the North Carolina High School to Community College

Articulation Agreement impact student motivation to perform well as defined by North

Carolina's criteria for awarding college credit?

2. To what degree do the effects of the North Carolina High School to

Community College Articulation Agreement impact student motivation to graduate high

school?

3. To what degree does the North Carolina High School to Community College

Articulation Agreement influence the student to attend postsecondary training and/or

college?

4. To what extent does the North Carolina High School to Community College

Articulation Agreement influence student career choice?

5. What are the teachers' perceived effects of the North Carolina High School to

Community College Articulation Agreement on student motivation?

Research Design and Rationale

The research method chosen by the researcher for the case study was sequential

explanatory strategy approach. Sequential explanatory strategy, as defined by Creswell

(2009), is mixed-methods research and is characterized by the collection and analysis of

quantitative data in a first phase, followed by the collection and analysis of qualitative

data in a second phase that builds on the results of the initial quantitative results. The

reasons that the researcher chose a sequential explanatory strategy were (a) to better

understand the research problem by converging broad numeric trends from quantitative

research and the detail of qualitative research and (b) to obtain statistical, quantitative

results from a sample and then follow up with individuals to help explain those results in

more depth.

There is more insight to be gained from the combination of both qualitative and

quantitative research than from either form by itself; their combined use provides an expanded understanding of research problems (Creswell, 2009). The first comprehensive overview of mixed-methods inquiry was titled *Mixed Methods in the Social & Behavior Sciences* and was written by Tashakkori and Teddlie (2003). The mixed-methods inquiry approach can be traced to the social and human sciences. According to Creswell (2009), mixed-methods research studies have been published in many diverse fields including occupational therapy (Lysack & Krefting, 1994), interpersonal communication (Boneva, Kraut, & Frohlich, 2001), AIDS prevention (Janz et al., 1996), dementia care giving (Weitzman & Levkoff, 2000), mental health (Rogers, Day, Randall, & Bentall, 2003), and in middle school science (Houtz, 1995). In addition, group interviews have been used extensively by social science researchers and marketing researchers (Gall et al., 2007).

Mixed-methods research, as defined by Creswell (2009), is an approach to inquiry that combines or associates both qualitative and quantitative forms of research; it involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study. The research study utilized quantitative data collected through student surveys, then converged qualitative student focus group and teacher focus group interview data in order to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field.

The emphasis of the case study focused the researcher to explore a particular academic culture pertaining to the North Carolina High School to Community College

Articulation Agreement and student motivation. Case studies have gained notoriety since the late 1960s and early 1970s when they became an accepted method of research. According to Merriam (1998), a case study in education, as well as other professional arenas, is a legitimate methodological option for researchers when there is a focus on a particular culture that impacts various academic endeavors of an institution. The design of this research was a mixed-methods case study in which quantitative and qualitative data were both collected. Creswell (2003) stated that qualitative research occurs in a natural environment which allows the researcher to "get a feel" for the educational setting and that qualitative research is subject to interpretation. As a result, one cannot escape personal interpretation because the researcher filters data through a personal lens that is situated in a specific sociopolitical and historical moment (Creswell, 2003). Due to the nature of case study research, this research evolved and was developed as the study unfolded.

While the quantitative and qualitative research carried equal weight, the theoretical lens employed by the researcher during the qualitative analysis of student and teacher focus group data was subject to interpretation by the researcher. The qualitative approach utilized two methods of data collection, consisting of student and teacher focus group dialogue, to identify various themes that emerged from the data analysis. The quantitative approach utilized one method of data collection consisting of student surveys. According to Creswell (2009), survey data provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population; from sample results, the researcher generalizes or makes claims about the population.

The sequential explanatory design allowed the researcher to explore the impact of

the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field through a wide variety of instruments. In addition, the sequential explanatory design allowed the researcher to determine the disposition of students and teachers on student motivation as defined above.

Participants

The study included teachers and students from seven Career and Technical Education high school courses including Computer Application I, Computer Application II, Principles of Business & Finance, Personal Finance, Small Business Entrepreneurship, Marketing, and Business Law. The seven courses were offered in 12 sections during the first semester of the 2010-2011 school year including three sections of Computer Application I, two sections of Computer Application II, three sections of Principles of Business & Finance, one section of Personal Finance, one section of Small Business Entrepreneurship, one section of Marketing, and one section of Business Law. The 12 sections were taught by four Career and Technical Education teachers. The targeted research site had an average class size of approximately 20 students per class. Due to the majority of students enrolling in Business and Information Technology courses at the research site, the researcher focused on the respective sections. Furthermore, Business and Information Technology courses directly relate to building 21st Century skills and promote an understanding of globalization. The students enrolled in the respective courses were provided a student survey. In order to add depth to the study, randomly selected groups of six to eight students participated in focus group interviews. In

addition, a teacher focus group interview was conducted in order to provide a more comprehensive understanding.

The high school targeted in this study consisted of Grades 9 through 12 and served approximately 865 students for 2008-2009. In addition, the ages of the students participating in the study could have ranged from 14 to 22 years of age. The 2008-2009 ethnic membership report illustrated that 38.31% of the students were Black, 50% were White, 9.16% were Hispanic, and 2.53% were other. The percentage of students that received free or reduced lunch at the research site was approximately 65%. There were 73 classroom teachers employed at the school; 99% were highly qualified as defined by federal law, 29% had advanced degrees, and 10 teachers were National Board Certified. The teacher turnover rate was 21% compared to the district and state rate of 14%. The student enrollment in Career and Technical Education courses was 18%.

Instruments

The researcher collected data utilizing three instruments including a cross-sectional student survey, student focus group interviews, and a teacher focus group interview. A survey is a method of data collection using questionnaires or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized; focus group interviews involve addressing questions to a group of individuals who have been assembled for this specific purpose (Gall et al., 2007). The three data collecting instruments were directly related to the study's purpose and research questions, and explored the impact of the North Carolina High School to Community College Articulation Agreement on student motivation by utilizing statistical quantitative data and themed narrative qualitative data.

The student survey was developed based on the purpose of the study and research

questions by targeting the exploration of the articulation agreement's impact on student

motivation as it pertains to (a) student academic performance in Career and Technical

Education in the concentration of Business and Information Technology, (b) high school

graduation, (c) postsecondary training or college, and (d) career choice. The students

were asked to respond to a 5-point Likert scale survey and then answer a final open-

ended question. The 5-point scale survey answers were ranked as follows: SA = strongly

agree, A = agree, D = disagree, SD = strongly disagree, NA = not applicable or not

observed. The final open-ended question was "other information I would like to share

about the NC Articulation Agreement and student motivation is as follows." The purpose

of the final open-ended question was to provide the respondent the opportunity to

communicate to the researcher any pertinent information and establish validity.

The second form of data collection implemented by the researcher was student

and teacher focus group interviews. Six questions were developed in order to probe more

in depth into exploring the impact the articulation agreement has on student motivation

and were tightly linked to the purpose of the study and research questions. In addition,

another series of five questions were developed to assess the teachers' perceived effects

of the articulation agreement's impact on student motivation.

Appropriate pilot testing procedures were implemented to check content validity

and reliability of each assessment tool. According to Creswell (2009), content validity

refers to whether or not the questions on an instrument measure the content they were

intended to measure. Reliability is the extent to which another researcher could duplicate

the study in a similar setting and reach similar results. The researcher-created survey was

administered to a smaller sample size within the participating pool of respondents; then

the results were analyzed to check content validity. In addition, five Career and

Technical Education experts reviewed the survey instrument and provided feedback to

the researcher to further establish validity. The five Career and Technical Education

experts included a director of Career and Technical Education, a principal with 28 years

of experience in education, and three Career and Technical Education teachers from the

concentration of Business Information Technology, with a combined 50 years of teaching

experience. The purpose of pilot testing the survey, according to Creswell (2009), was to

establish content validity and improve questions, survey format, and scales.

Procedures

Data collection procedures were implemented through two research techniques by

three different instruments including a student survey, student focus group interviews,

and a teacher focus group interview. The researcher explained the purpose of the study

and requested permission to conduct research at the targeted school which was granted by

the school's principal. In addition, a timeline was established with the principal that

incorporated a starting date and a concluding date for the research study.

The timeline that was approved by the school's principal for research data

collection had a starting date of September 2010 and a conclusion date of January 2011.

The 18-week timeframe allowed the researcher to administer the student surveys and

oversee the focus group interviews conducted by an independent researcher. Once the

data collection process was completed, the researcher analyzed the data and reported the

findings in Chapter 4 by January 2011. The completed study, including Chapters 1

through 5, had a projected completion date of February 2011.

The data collection procedures were implemented in two phases. Phase one

began by the researcher administering a cross-sectional student survey to all students

enrolled in Career and Technical Education courses in the concentration of Business and

Information Technology. The courses that participated in the survey data collection

process were Computer Application I, Computer Application II, Principles of Business &

Finance, Personal Finance, Small Business Entrepreneurship, Marketing, and Business

Law. The surveys were administered by the Career and Technical Education teachers

and the respondents recorded their responses utilizing paper surveys and pencil. Once the

student surveys had been administered and results collected, the data was entered into

statistical software SPSS to calculate three different measures of central tendency and the

standard deviation. The mean, median, mode, and standard deviation were analyzed to

provide single numerical values that were used to describe the average of the entire set of

survey scores. In addition, the researcher calculated positive response rates, negative

response rates, and not applicable response rates from the student respondents. The

numerical data produced by SPSS was utilized to establish statistical themes in order to

produce narratives.

The second phase of data collection included student and teacher focus group

interviews. Students were randomly selected from the previously mentioned courses and

grouped into six to eight student groups. A qualified independent researcher tape

recorded and conducted the six question semi-structured focus group interviews. In

addition to the student focus group interviews, phase two included a teacher focus group

interview in which the teachers that taught the previously mentioned courses participated

in a tape recorded semi-structured focus group interview with the qualified independent

researcher. The purpose of the tape recording was to enhance and clarify various

elements of feedback that emerged from the discussion within the groups. The questions

between the student focus group and teacher focus group interviews were different

questions and were formulated based on the student survey analysis.

The purpose for utilizing survey data is that questionnaires and interviews are used extensively in educational research to collect data about phenomena that are not directly observable—inner experience, opinions, values, interests, and the like (Gall et al., 2007). According to Creswell (2009), survey design has several strengths including the economical impact of the study in which data collection costs are less; furthermore, surveys typically have a rapid turnaround in the data collection process. However, surveys do have weaknesses which include the inability to probe deeply into the respondent's attitudes, beliefs, and experiences. Although a survey does have weaknesses, the researcher addressed the weaknesses by employing student and teacher focus group interviews. The major advantage of interviews is their adaptability; interviewers can build a rapport with respondents, thus making it possible to obtain information that the individual probably would not reveal by any other data collection method (Gall et al., 2007). In addition, interviewers can follow up with the respondent's answers for clarification or obtain additional information. The reason for a 10-question survey was that research has shown the attention span of respondents diminishes over lengthy questionnaires and time. Furthermore, the focus group interviews were semi-structured utilizing open-ended questions to stimulate discussion.

Multiple data collection instruments were utilized to maintain validity and reliability throughout the research study. The researcher analyzed (a) student survey data, (b) student focus group interview data, and (c) teacher focus group interview data by utilizing SPSS statistical software and by recording key words or phrases from the various instruments and then grouping those words or phrases by themes. In addition, the researcher triangulated the data collected from the various instruments to identify themes that emerged from the study. Based on the identified themes, the researcher developed

narratives presenting the results of the study. Furthermore, the researcher provided graphical representation of the survey data through SPSS software. According to Creswell (2009), triangulating different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes, then converging the results, is a process that adds validity to a study. In addition, triangulation is an essential and necessary element within a study that can help eliminate researcher bias (Gall et al., 2007).

Limitations

Limitations are issues of internal validity and may impact the outcomes of the study.

1. An 18-week time constraint was placed on the study creating limitations.

2. The study was conducted with a limited perspective of the impact the North Carolina High School to Community College Articulation Agreement has on student motivation. As a result, participants in the study came from a narrow academic environment comprised of seven Career and Technical Education courses in the concentration of Business and Information Technology.

Delimitations

Delimitations are issues of internal and external validity that may limit the study from the perspective of its effectiveness.

1. The study was conducted in one rural high school located in the North Carolina piedmont region. Consequently, the results of the study only pertain to the school for which the study was carried out. However, the results from the study can be pivotal in contributing evidences for or against the Articulation Agreement's impact on student motivation to (a) perform well in the course as defined by the State of North

Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field by the North Carolina High School to Community College Articulation Agreement.

2. Although high school students have opportunities to earn college credit in a multitude of ways, the study focused on a single way which is articulation agreements in Career and Technical Education in the concentration of Business and Information Technology at a high school located in the North Carolina piedmont region.

Summary

The purpose of the study was to explore the impact of the North Carolina High School to Community College Articulation Agreement's impact on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field at a targeted high school located in the piedmont region of North Carolina. The primary focus of the study included students that were enrolled in Career and Technical Education courses in the concentration of Business and Information Technology. The study provided feedback to school leaders and teachers at the targeted research site. In addition, the findings of the study were reported to the local school district. Chapter 3 described the research design and rationale, participants, instruments, procedures, limitations, and delimitations. Chapter 4 will present the findings of this sequential explanatory case study.

Chapter 4: Results of the Study

Overview

The purpose of this sequential explanatory case study was to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field.

The primary focus of the study was in Career and Technical Education in the concentration of Business and Information Technology and included high school students, Grades 9 through 12, located at a rural high school in the piedmont region of North Carolina. The seven courses that were associated with Business and Information Technology and were offered in 12 sections during first semester of the 2010-2011 school year included three sections of Computer Application I, two sections of Computer Application II, three sections of Principles of Business & Finance, one section of Personal Finance, one section of Small Business Entrepreneurship, one section of Marketing, and one section of Business Law. The 12 sections were taught by four Career and Technical Education teachers.

The research method chosen by the researcher for the case study was sequential explanatory strategy approach. Sequential explanatory strategy, as defined by Creswell (2009), is mixed-methods research and is characterized by the collection and analysis of quantitative data in a first phase followed by the collection and analysis of qualitative data in a second phase that builds on the results of the initial quantitative results.

Once the student surveys had been administered and the results collected, the data was entered into statistical software SPSS to calculate three different measures of central

tendency and the standard deviation. The mean, median, mode, and standard deviation were analyzed to provide single numerical values that were used to describe the average of the entire set of survey scores. In addition, the researcher calculated positive response rates, negative response rates, and not applicable response rates from the student respondents. The numerical data produced by SPSS was utilized to establish statistical themes in order to produce narratives.

The researcher utilized a student survey, student focus group interviews, and a teacher focus group interview to collect data. The researcher then triangulated the data from all sources to identify themes that emerged from the study. Based on the identified themes, the researcher developed narratives presenting the results of the study.

Research Questions

The North Carolina High School to Community College Articulation Agreement's impact on student motivation was explored through five guiding research questions, via a sequential explanatory case study.

1. To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit? The state of North Carolina will award college credit with a course completion grade of "B" or better and a raw score of 80 or higher on the standardized VoCATS post-assessment.

2. To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school?

3. To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or

college?

4. To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice?

5. What are the teachers' perceived effects of the North Carolina High School to Community College Articulation Agreement on student motivation?

Phase I

The Likert scale student survey was designed to measure the attitudes and beliefs of a given statement based on the degree to which a participant agrees, disagrees, or believes it is not applicable. The survey answers were ranked as follows: SA = strongly agree, A = agree, D = disagree, SD = strongly disagree, NA = not applicable or not observed. The final open-ended question on the survey was "other information I would like to share about the NC Articulation Agreement and student motivation is as follows." The survey was aligned with the research questions in order to draw conclusions for the study; in addition, survey results were converted to numerical values to provide quantitative data for the purpose of producing trends and themes for narrative analysis.

In order to produce the mean, median, mode, and standard deviation, the Likert scale values were assigned to the numeric 5-point scale accordingly: 1 = strongly agree, 2 = agree, 4 = disagree, 5 = strongly disagree, 3 = not applicable or not observed. Once the numeric values had been assigned, the computer software SPSS was utilized to calculate the measures of central tendency mean, median, mode, and standard deviation. The measures of central tendency provided single numerical values that were used to describe the average of the entire set of scores. In addition, the researcher calculated positive response rates, negative response rates, and not applicable response rates from the student respondents. The mean score represents the average score of an entire set of scores. The

mean was coupled with the standard deviation which is a measure of the extent to which scores in a distribution deviate from their mean. In addition, the median score represents the middle point in a distribution of scores and the mode is the most frequently occurring score in a distribution. The calculated central tendencies were utilized to draw conclusions about the study's research questions. Table 1 presents gender and ethnic membership pertaining to the study's student participants.

Table 1

Student Survey: Gender and Ethnic Membership

Gender	African American	Caucasian	Latino	Other
Students (N = 181)				
Female	30	33	17	2
Male	43	39	10	7
Total	73	72	27	9

The survey was administered to 12 Career and Technical Education classes in the concentration of Business and Information Technology. According to Table 1, a total of 181 students participated in the survey component of the study; 82 students were female and 99 students were male.

The case study explored the impact of the North Carolina High School to Community College Articulation Agreement on student motivation and the results were reported based on the alignment to the research questions. The presentation of student survey results begins with questions 1 and 5 of the student survey to measure the overall

attitude and beliefs associated with the articulation agreement. Research question 1 is

directly answered through student survey questions 3 and 4. Student survey questions 2

and 6 answer research question 2; in addition, student survey questions 7, 8, and 10

provide answers to research question 3. Research question 4 is answered by the student

survey results from question 9. In order to strengthen the validity of the student survey,

results from the final open-ended question are presented based on themes established by

student responses. Tables, in addition to narratives, provide a systematic presentation of

results. Tables 2 and 3 provide response data from the student participants encompassing

student motivational survey questions 1 and 5.

Table 2

*Student Motivational Survey Question 1: The NC Articulation Agreement is a positive
program for high school students.*

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
			Students (N = 181)		
Q1	84	91	6	0	0
Percent	47%	50%	3%	0%	0%

Note. Mean = 1.57, Median = 2, Mode = 2, Standard Deviation = .56

Table 3

Student Motivational Survey Question 5: The opportunity to earn college credit for this course has a positive impact on my motivation to do well.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
		Students (N = 181)			
Q5	85	85	7	4	0
Percent	26%	57%	11%	6%	0%

Note. Mean = 1.61, Median = 2, Mode = 1, 2, Standard Deviation = .67

Student survey questions 1 and 5 were independent questions designed to measure the attitudes and beliefs of students about their feelings toward the North Carolina High School to Community College Articulation Agreement whether positive or negative.

According to Table 2, 97% of students responded positively to survey question 1; whereas, the overall remaining 3% responded not applicable. There was a 0% negative response rate. The mean score of student survey question 1 measured 1.57 with a .56 standard deviation. The median and mode were 2.

Student survey question 5 in Table 3 reported an 83% positive response rate. Furthermore, 11% responded not applicable with an overall 6% negative response rate. The mean score was 1.61 with a .67 standard deviation. The median was 2 and the mode was 1 and 2. Tables 4 and 5 present student response data pertaining to questions 3 and 4 from the student motivational survey.

Table 4

Student Motivational Survey Question 3: In order to receive college credit for this course, I must earn a "B" or higher and an 80 or better on the VoCats test; I will work harder to earn these grades.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
			Students (N = 181)		
Q3	89	85	3	3	1
Percent	49%	47%	2%	2%	<1%

Note. Mean = 1.57, Median = 2, Mode = 1, Standard Deviation = .67

Table 5

Student Motivational Survey Question 4: The NC Articulation Agreement will help me to improve my grades.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
			Students (N = 181)		
Q4	47	104	20	10	0
Percent	26%	57%	11%	6%	0%

Note. Mean = 1.96, Median = 2, Mode = 2, Standard Deviation = .77

To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit? Research question 1 is related to and is answered by student survey questions 3 and 4.

Table 4 presents question 3 on the student survey in which a 96% positive

response rate was reported. In addition, there was a 2% negative response rate and a 2% not applicable response rate. The reported mean was 1.57 with a .67 standard deviation. The median was 2 and the mode 1.

According to Table 5, student survey question 4 reported an 83% positive response rate; furthermore, the negative response rate was 6% and 11% of the students responded not applicable. The mean score was 1.96 with a standard deviation of .77. The median and mode were 2. Tables 6 and 7 provide response data from the student participants encompassing student motivational survey questions 2 and 6.

Table 6

Student Motivational Survey Question 2: The opportunities provided by the NC Articulation Agreement motivate me to graduate from high school.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
		Students (N = 181)			
Q2	65	91	13	12	0
Percent	36%	50%	7%	7%	0%

Note. Mean = 1.85, Median = 2, Mode = 2, Standard Deviation = .82

Table 7

Student Motivational Survey Question 6: The NC Articulation Agreement helps me become more determined to graduate from high school.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
			Students (N = 181)		
Q6	77	80	12	12	0
Percent	42%	44%	7%	7%	0%

Note. Mean = 1.77, Median = 2, Mode = 2, Standard Deviation = .84

To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school? Student survey questions 2 and 6 relate to and answer research question 2.

The student motivational survey question 2 reported an 86% positive response rate. In addition, 7% responded negatively and 7% responded not applicable. The mean was 1.85 with a standard deviation of .82. The median and mode were 2.

Student survey question 6 had an 86% positive response rate; however, it reported a 7% negative response rate with 7% responding not applicable. The reported mean measured 1.77 with a standard deviation of .84. The median and mode were 2. Tables 8, 9, and 10 present student response data pertaining to questions 7, 8, and 10 from the student motivational survey.

Table 8

Student Motivational Survey Question 7: The NC Articulation Agreement will help me decide to attend college or training after graduating from high school.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
		Students (N = 181)			
Q7	57	92	13	16	3
Percent	31%	51%	7%	9%	2%

Note. Mean = 1.98, Median = 2, Mode = 2, Standard Deviation = .94

Table 9

Student Motivational Survey Question 8: After graduating from high school, the NC Articulation Agreement will motivate me to attend college or training.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
		Students (N = 181)			
Q8	55	105	9	12	0
Percent	30%	58%	5%	7%	0%

Note. Mean = 1.88, Median = 2, Mode = 2, Standard Deviation = .78

Table 10

Student Motivational Survey Question 10: The NC Articulation Agreement will influence the training I pursue after graduating from high school.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
			Students (N = 181)		
Q10	54	85	19	22	1
Percent	30%	47%	11%	12%	<1%

Note. Mean = 2.07, Median = 2, Mode = 2, Standard Deviation = .97

To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or college? Research question 3 is directly answered by student survey questions 7, 8, and 10.

According to Table 8, the students responded 82% positive for question 7 on the student motivational survey. An 11% negative response rate was reported, although 7% responded not applicable. The mean score was 1.98 with a standard deviation of .94. The median and mode were 2.

Table 9 reports student survey question 8 possessed an 88% positive response rate. The negative response rate was 7% and the not applicable response rate was 5%. The mean score was 1.88 with a standard deviation of.78. The median and mode were both 2.

Student survey question 10 was reported in Table 10 by possessing a 77% positive response rate. The negative response rate was 12% and the not applicable

response rate was 11%. The mean was reported as 2.07 with a standard deviation of .97. The median and mode were 2. Table 11 provides response data from the student participants encompassing student motivational survey question 9.

Table 11

Student Motivational Survey Question 9: The NC Articulation Agreement will influence my career choice after graduating from high school.

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree
			Students (N = 181)		
Q9	53	82	18	21	7
Percent	29%	45%	10%	12%	4%

Note. Mean = 2.15, Median = 2, Mode = 2, Standard Deviation = 1.09

To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice? Research question 4 is related to and is answered by student survey question 9.

According to Table 11, 74% of students responded with a positive response. The students responding negatively were 16% and not applicable 10%. The standard deviation was 2.15 with a standard deviation of 1.09. The median and mode were 2.

Question number 11 on the student motivational survey provided the student participants an opportunity to express any additional information that was relevant to the study. The question was stated as "other information I would like to share about the NC Articulation Agreement and student motivation is as follows." The study included 181 student participants of which 18 male students responded to question number 11 and 15 female students responded.

The male student responses were grouped as themes based on specific key words utilized by the student participants. The themes established by the respondents included motivation based on monetary rewards, personal relationships, and self-motivation. In addition, the respondents established a theme based on positive remarks referencing the NC Articulation Agreement. Monetary rewards were established as a theme based on four respondents stating feedback such as "money to go to college motivates me and getting college paid for because of good grades motivates me." The theme personal relationships was established based on four respondents providing feedback such as "my family motivates me to do well, people mentoring me helps motivate me, and school staff supporting me motivates me." Self-motivation included three respondents stating feedback that included such statements as "trying to outperform my last goal motivates me, proving a person wrong motivates me, and helping my future motivates me." The last theme established by male students pertaining to question 11 on the student motivational survey was positive remarks referencing the NC Articulation Agreement. The five students' positive comments included statements such as "the articulation agreement is a good idea, the articulation agreement is awesome for student motivation, and the articulation agreement needs to be pursued by students."

The female student responses were grouped as themes based on specific key words utilized by the student participants. The themes established by the respondents include motivation based on personal relationships and the opportunities to earn college credit. The first theme established by female students pertaining to question 11 on the student motivational survey was personal relationships. The female respondents established the theme by three students stating remarks such as "others going out of their way to help me motivates me, my family motivates me, and school staff working with me

motivates me to do well." The final theme established by the female respondents was the opportunity to earn college credit provided motivation to do well. The female respondents responded nine times with statements such as "the opportunity to earn college credit motivates me, taking classes that align with a career motivates me, receiving college credit for high school courses motivates me, and earning college credit is a great opportunity for students."

Question number 11 on the student motivational survey provided the respondents the opportunity to express any comments pertaining to the NC Articulation Agreement and student motivation. A total of 33 respondents participated by providing feedback to the open-ended question which included 18 males and 15 females. The answers to question 11 were grouped as themes based on key words that the participants utilized. Table 12 presents a female student analysis incorporating student response data pertaining to the student motivational survey in which the data is shown aligned with the study's research questions.

Table 12

Student Motivational Survey: Female Student Analysis

_____

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree

_____

Students (N = 82)

Independent Questions

Q1	40%(33)	60%(48)	<1%(1)	0%(0)	0%(0)
Q5	42%(34)	54%(44)	4%(3)	<1%(1)	0%(0)

Research Question 1: To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit?

Q3	45%(37)	51%(42)	2%(2)	0%(0)	<1%(1)
Q4	19%(16)	62%(51)	10%(8)	9%(7)	0%(0)

Research Question 2: To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school?

Q2	29%(24)	54%(44)	6%(5)	11%(9)	0%(0)
Q6	35%(29)	51%(42)	5%(4)	9%(7)	0%(0)

Research Question 3: To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or college?

Q7	29%(24)	58%(47)	4%(3)	7%(6)	2%(2)
Q8	24%(20)	65%(53)	2%(2)	9%(7)	0%(0)
Q10	27%(2)	48%(39)	10%(8)	15%(12)	<1%(1)

Research Question 4: To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice?

Q9	22%(18)	55%(45)	6%(5)	15%(12)	2%(2)

_____

Table 12 presents the female student motivational survey results aligned with the case study research questions. The table includes 82 female student responses to the survey including raw scores and percentages. The independent questions 1 and 5 had

positive response rates of 100% and 96%. Research question 1 was answered by student survey questions 3 and 4 with positive response rates of 96% and 81%. Student survey question 4 had a negative response rate of 9%. Research question 2 was answered by student survey questions 2 and 6. Student survey questions 2 and 6 had positive response rates of 83% and 86%; however, questions 2 and 6 had negative response rates of 11% and 9%. Research question 3 was answered by student survey questions 7, 8, and 10 by reporting an 87%, 89%, and 75% positive response rate. Although the negative response rates were 9%, 9%, and 15%, the not applicable percentages were 4%, 2%, and 10%. Research question 4 was answered through student survey question 9, reporting a 77% positive response rate. The negative response rate for student question 9 was 17% with a 6% not applicable response rate. Table 13 presents a male student analysis encompassing student response data pertaining to the student motivational survey in which the data is shown aligned with the study's research questions.

Table 13

Student Motivational Survey: Male Student Analysis

_____

Question	Strongly Agree	Agree	Not Applicable	Disagree	Strongly Disagree

_____

Students (N = 99)

Independent Questions

Q1	52%(51)	43%(43)	5%(5)	0%(0)	0%(0)
Q5	52%(51)	41%(41)	4%(4)	3%(3)	0%(0)

Research Question 1: To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit?

Q3	53%(52)	43%(43)	1%(1)	3%(3)	0%(0)
Q4	31%(31)	54%(53)	12%(12)	3%(3)	0%(0)

Research Question 2: To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school?

Q2	42%(41)	47%(47)	8%(8)	3%(3)	0%(0)
Q6	49%(48)	38%(38)	8%(8)	5%(5)	0%(0)

Research Question 3: To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or college?

Q7	33%(33)	46%(45)	10%(10)	10%(10)	1%(1)
Q8	35%(35)	53%(52)	7%(7)	5%(5)	0%(0)
Q10	32%(32)	47%(46)	11%(11)	10%(10)	0%(0)

Research Question 4: To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice?

Q9	35%(35)	38%(37)	13%(13)	9%(9)	5%(5)

_____

Table 13 presents the male student motivational survey results aligned with the case study research questions. The table includes 99 male student responses to the survey including raw scores and percentages. The independent questions 1 and 5 had positive

response rates of 95% and 93%. Research question 1 was answered by student survey questions 3 and 4 with positive response rates of 96% and 85%. Student survey questions 3 and 4 had a negative response rate of 3%; in addition, survey questions 3 and 4 had a not applicable rate of 1% and 12%. Research question 2 was answered by student survey questions 2 and 6. Student survey questions 2 and 6 had positive response rates of 89% and 87%; however, questions 2 and 6 had negative response rates of 3% and 5%. Research question 3 was answered by student survey questions 7, 8, and 10 by reporting a 79%, 88%, and 79% positive response rate. Although the negative response rates were 11%, 5%, and 10%, the not applicable percentages were 10%, 7%, and 11%. Research question 4 was answered through student survey question 9 reporting a 73% positive response rate. The negative response rate for student question 9 was 14% with a 13% not applicable response rate. Table 14 presents a positive ethnic response analysis incorporating student response data pertaining to the student motivational survey in which the data is shown aligned with the study's research questions.

Table 14

Student Motivational Survey: Positive Ethnic Responses

_____

Question	African American	Caucasian	Latino
_____

	(N = 73)	(N = 72)	(N = 27)
Independent Questions			
Q1	96%(70)	99%(71)	93%(25)
Q5	97%(71)	93%(67)	85%(23)

Research Question 1: To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit?

Q3	97%(71)	94%(68)	96%(26)
Q4	85%(62)	83%(60)	78%(21)

Research Question 2: To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school?

Q2	85%(62)	86%(62)	85%(23)
Q6	86%(63)	89%(64)	78%(21)

Research Question 3: To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or college?

Q7	82%(60)	82%(59)	81%(22)
Q8	95%(69)	86%(62)	78%(21)
Q10	77%(56)	72%(52)	81%(22)

Research Question 4: To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice?

Q9	79%(58)	68%(49)	70%(19)

_____

Table 14 presents positive ethnic responses to the student motivational survey questions and aligns the research questions with the survey questions. There were 73 African American students, 72 Caucasian students, 27 Latino students, and nine students labeled other that participated in the student motivational survey. The independent

questions on the student motivational survey were 1 and 5. These two questions

represent the students' overall beliefs, attitudes, and feelings about the North Carolina

High School to Community College Articulation Agreement. Student survey question 1

had a positive response rate greater than 93% in all ethnic subgroups; in addition,

question 5 had a positive response rate greater than 85%. Research question 1 was

answered by student survey questions 3 and 4. These questions directly related to the

students' grades and motivation to increase classroom performance. The positive

response rate for student survey question 3 was equal to or greater than 94%. Even

though student survey question 4 was 78% for Latinos, African American and Caucasian

positive response rates were 85% and 83%. Research question 2 was answered by

student survey questions 2 and 6. These questions related to the North Carolina High

School to Community College Articulation Agreement and how it motivates students to

graduate from high school. An 85% or higher positive response rate was reported for

questions 2 and 6 on all ethnic subgroups; however, question 6 reported a 78% positive

response rate for the Latino students. Research question 3 was answered by student

survey questions 7, 8, and 9. These questions were related to the North Carolina High

School to Community College Articulation Agreement and how it motivated students to

attend college or postsecondary training.   Student survey question 7 reported a positive

response rate equal to or higher than 81% in all ethnic subgroups; whereas, student

survey question 8 reported a positive response rate of 95% for African Americans, 86%

for Caucasians, and 78% for Latinos. Student survey question 10 reported a positive

response rate equal to or greater than 72% for all ethnic subgroups. Research question 4

was answered by student survey question 9 which related the North Carolina High School

to Community College Articulation Agreement to student motivation and career

selection. Student survey question 9 reported positive response rates of 79% for African

Americans, 68% for Caucasians, and 70% for Latinos.

Phase II

Once the researcher administered the cross-sectional student survey to all students

enrolled in Career and Technical Education courses in the concentration of Business and

Information Technology and analyzed the data utilizing statistical software SPSS to

calculate the mean, median, mode, standard deviation, and response rates, student focus

group interviews and a teacher focus group interview were conducted and tape recorded

by an independent qualified researcher. The tape recording of the focus group interviews

by the independent qualified researcher continued the establishment of validity by

eliminating researcher bias during the interview process. The researcher reviewed the

recorded focus group interviews, then recorded key words and phrases that were utilized

to establish themes in order to provide a narrative analysis. The purpose of the student

focus group and teacher focus group interviews were to obtain statistical quantitative

results from a sample and then follow up with individuals to help explain those results in

more depth. The results from the student focus group interviews are as follows. Table 15

provides response data from the student participants encompassing student focus group

interview question 1.

Table 15

Student Focus Group Interviews Question 1: What motivates high school students to (a)
earn passing grades, (b) graduate from high school, (c) attend college or pursue training,
or (d) decide a career field?

Question	Key Words

Students (N = 24)

Q1	Sports/adult support/making something of myself/ incentives/leaving a legacy/learning new things

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Table 15 presents focus group interview question 1 and provides key words and

phrases that the participants utilized during the interview. Once the qualified

independent researcher stated question 1, the participants provided several statements in

response to the question. Adult support and making something of myself each had four

participants utilizing key words or phrases that were categorized with these two

statements. While high school athletics and incentives each received two participant

responses, leaving behind a legacy and learning new things received one participant

response each. Table 16 presents student response data pertaining to question 2 from the

student focus group interviews.

Table 16

Student Focus Group Interviews Question 2: Why does having the opportunity to earn
college credit for CTE courses motivate high school students to (a) earn passing grades,
(b) graduate from high school, (c) attend college or pursue training, or (d) decide a
career field?

Question	Key Words
	Students (N = 24)
Q2	Graduate college sooner/prove you are successful/ makes college cheaper

Table 16 presents focus group interview question 2; in addition, it provides key

words and phrases that the participants utilized during the interview. Once the qualified

independent researcher stated question 2, the participants provided several statements in

response to the question. The participants communicated to the independent researcher

that graduating college sooner is a motivational factor for students to earn college credit

during high school, receiving six response statements under this category for key words

and phrases. In addition, proving you are successful received two response statements

and making college cheaper received three response statements. Table 17 provides

response data from the student participants encompassing student focus group interview

question 3.

Table 17

Student Focus Group Interviews Question 3: What are some factors you will consider when making a career choice?

_____

Question	Key Words

_____

<div align="center">Students (N = 24)</div>

Question	Key Words
Q3	Interests/money/helping others/level of education/ perception of others/what a person is good at/job requirements

_____

Table 17 presents focus group interview question 3; furthermore, it provides key words and phrases that the participants utilized during the interview. Once the qualified independent researcher stated question 3, the participants provided several statements in response to the question. A person's interest led the response category by receiving six response statements under this category for key words and phrases followed by two response statements each for money, helping others, perception of others, and what a person is good at. The participants responded once each with the response statement categorized by level of education and job requirements. Table 18 presents student response data pertaining to question 4 from the student focus group interviews.

Table 18

Student Focus Group Interviews Question 4: What are some factors you will consider when deciding to attend college or postsecondary training?

Question	Key Words
	Students (N = 24)
Q4	Degrees offered/campus/location/sports/job market/cost/graduation rate/size of college

Table 18 presents focus group interview question 4 and provides key words and phrases that the participants utilized during the interview. Once the qualified independent researcher stated question 4, the participants provided several statements in response to the question. The college majors offered by a college or secondary training facility were the leading answers, receiving seven response statements under this category of key words or phrases. The location of the campus, sports at the college, and the job market each received two response statements, whereas the campus, cost, graduation rate, and size of the college received one response statement each. Table 19 provides response data from the student participants encompassing student focus group interview question 5.

Table 19

Student Focus Group Interviews Question 5: If a high school student is not motivated to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field, what can a high school do to increase student motivation?

Question	Key Words
	Students (N = 24)
Q5	Mentoring programs/provide relevance/make school fun/celebrations/school faculty is here for the students

Table 19 presents focus group interview question number 5; in addition, it provides key words and phrases that the participants utilized during the interview. Once the qualified independent researcher stated question 5, the participants provided several statements in response to the question. The leading response statement, school faculty is here for the students, received three responses under this category for key words or phrases. Celebrations received two response statements while mentor programs, provide relevance, and make school fun each received one response statement. Table 20 represents student response data pertaining to question 6 from the student focus group interviews.

Table 20

Student Focus Group Interviews Question 6: Is there any additional information that you would like to share concerning the NC Articulation Agreement and student motivation?

Question	Key Words
	Students (N = 24)
Q6	Graduation/adult support/friends/school programs/ make school fun/incentives/sports/self-motivation

Table 20 presents focus group interview question number 6; furthermore, it provides key words and phrases that the participants utilized during the interview. Once the qualified independent researcher stated question 6, the participants provided several statements in response to the question. The participants were provided the opportunity to add any pertinent information about the NC Articulation Agreement and student motivation. The leading response statement category was adult support, receiving four response statements. Friends and sports each received two response statements while graduation, school programs, make school fun, incentives, and self-motivation each received one response statement. The response statements for question 6 all referred to increasing high school students' motivation.

The teacher focus group interview was conducted by an independent qualified researcher and included four Career and Technical Education teachers from the concentration of Business and Information Technology. The teacher focus group interview data directly answered research question 5 and explored in depth the teachers' perceived effects of the North Carolina High School to Community College Articulation

Agreement on student motivation. The seven courses that were associated with Business

and Information Technology and that were offered in 12 sections during first semester of

the 2010-2011 school year included three sections of Computer Application I, two

sections of Computer Application II, three sections of Principles of Business & Finance,

one section of Personal Finance, one section of Small Business Entrepreneurship, one

section of Marketing, and one section of Business Law.

Teacher focus group interview question 1 was what motivates high school

students to (a) earn passing grades, (b) graduate from high school, (c) attend college or

pursue training, or (d) decide a career field? The teacher focus group interview

participants provided feedback to the four part question. The researcher recorded the key

words and phrases that the teacher participants utilized to describe their perception of

what motivates high school students. First, the teacher respondents reported that praise,

encouragement, and some form of academic pressure from the student's home

environment motivated high school students to earn passing grades. Second, the teacher

respondents reported that feeling a sense of accomplishment, career aspirations, and

pressure from the home environment motivated high school student to graduate from high

school. Third, the teacher respondents communicated that better paying jobs, earning

more opportunities, and securing a successful financial future is what motivates high

students to attend college or pursue training. Finally, the teacher respondents reported

that things that the student enjoys and money is what motivates high school students to

decide a career field. Each of the four teacher respondents stated through key words and

phrases that graduating from high school is a key motivator for high school students.

Teacher focus group interview question 2 was stated as what motivational

changes have you witnessed by students pertaining to the NC Articulation Agreement to

(a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field? The teacher respondents reported that they have seen little motivational change pertaining to the NC Articulation Agreement as whole classes; however, the teacher respondents reported that few students within each class have shown interest and/or improvement pertaining to the NC Articulation Agreement and student motivation. Response statements from the teachers include witnessing an increase in graduation interest, an increase in earning college credit during high school, an increase in deciding a Career and Technical Education pathway, and an interest in increasing grades by the students.

Teacher focus group interview question 3 was stated as how should the NC Articulation Agreement be utilized by high school Career and Technical Education teachers? The teacher respondents reported that the NC Articulation Agreement should be utilized to increase student motivation, increase VoCATS test scores, and establish clear career pathways within the high school curriculum. In addition, the articulation agreement should be utilized to establish relationships with local community colleges in order to establish a smooth transfer of college credits toward certificate completion.

Teacher focus group interview question 4 was stated as what do you think the effects are on student motivation by the NC Articulation Agreement to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field? The respondents communicated that the effects of the NC Articulation agreement are minimal; however, it has had an impact on a select few in each class. The responses from the teacher participants include key words and phrases such as the students who are already doing well are the interested ones and the articulation agreement's effects are due to having a college opportunity.

Teacher focus group interview question 5 was stated as is there any additional information that you would like to share concerning the NC Articulation Agreement and student motivation? The teacher focus group interview concluded with the teachers having the opportunity to provide any pertinent information regarding the NC Articulation Agreement and student motivation. Three teacher respondents reported feedback to include direct quotes. The first respondent stated "Personally, I think it is a great program and one that a lot of students could benefit from; however, I constantly have trouble finding students in my classes that have any interest in college." The second respondent stated "the NC Articulation Agreement needs to be ground into the students' minds how this articulation agreement will benefit them in the future; also, parents need to be made aware of these programs and choices as the students enter high school." Finally, the third respondent stated "I feel that students are not informed enough about the articulation agreement; therefore, they are less likely to reap the benefits of it."

Summary

The results of the study reported in Chapter 4 explored the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. The research method chosen by the researcher was sequential explanatory strategy in which the data was collected in two phases. Phase I included the researcher administering a 5-point Likert scale student motivational survey that was directly related to the research questions. Once the results from the student survey were collected, the data was entered into statistical software SPSS to calculate the mean, median, mode, standard deviation,

and response rates. The data from the statistical software was utilized to establish themes in order to produce a narrative analysis. Phase II incorporated student focus group interviews and a teacher focus group interview. The interviews were tape recorded and administered by a qualified independent researcher. Once the independent researcher conducted the focus group interviews, the researcher recorded key words and phrases from the recordings that were utilized to establish themes. The themes established by the key words and phrases were utilized to create a narrative analysis of the data. The focus group interviews were conducted to add depth to the exploration of the impact that the North Carolina High School to Community College Articulation Agreement has on student motivation. A further discussion of the results is presented in Chapter 5.

Chapter 5: Discussion

Overview

This sequential explanatory case study was designed to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field.

The study was conducted at a rural high school located in the piedmont region of North Carolina. In addition, the primary focus of the study was in Career and Technical Education in the concentration of Business and Information Technology. The seven high school courses that participated in the study were offered in 12 sections during first semester of the 2010-2011 school year including three sections of Computer Application I, two sections of Computer Application II, three sections of Principles of Business & Finance, one section of Personal Finance, one section of Small Business Entrepreneurship, one section of Marketing, and one section of Business Law. The 12 sections were taught by four Career and Technical Education teachers.

The researcher utilized a student survey, student focus group interviews, and a teacher focus group interview to collect data, then the researcher triangulated the data from all sources to identify themes that emerged from the study. The results from the 5-point Likert scale student survey were entered into statistical software SPSS in order to calculate the mean, median, mode, standard deviation, and response rates. The quantitative data produced by SPSS, coupled with the qualitative data from the student and teacher focus group interviews, were used to establish themes. The established themes were utilized to create tables and narratives for presenting the results of the study.

The case study was justified by current research in the content of (a) national

adult illiteracy, (b) lack of student motivation, and (c) national, state, and local dropout

rates. Chapter 5 presents an introduction of the dissertation, implications of the finding,

limitations, and recommendations for further research.

Introduction of the Dissertation

Phase I of the study's data collection procedures incorporated a 5-point Likert

scale student motivational survey based on the purpose of the study and the five guiding

research questions. The Likert scale student survey was designed to measure the attitudes

and beliefs of a given statement based on the degree to which a participant agrees,

disagrees, or believes the statement is not applicable. The survey included 10 questions

and one open-ended question that was stated as "other information I would like to share

about the NC Articulation Agreement and student motivation is as follows."

Once the numeric values were assigned to the survey, the computer software

SPSS was utilized to calculate the measures of central tendency mean, median, mode, and

standard deviation. In addition, the researcher calculated positive response rates,

negative response rates, and not applicable response rates from the student respondents.

The measures of central tendency provided single numerical values that were used to

describe the average of the entire set of scores. The mean score represents the average

score of an entire set of scores. The mean was coupled with the standard deviation which

is a measure of the extent to which scores in a distribution deviate from their mean. In

addition, the median score represents the middle point in a distribution of scores and the

mode is the most frequently occurring score in a distribution. The calculated central

tendencies and response rates were utilized to draw conclusions about the study's

research questions. For the purpose of this case study, the researcher interpreted the

mean score as the closer to 1 the stronger the student participants agreed with the statement; the closer to 5 the stronger the student participants disagreed with the statement. The standard deviation represented how much variation there was from the mean. A low standard deviation indicated that the data points tended to be close to the mean, whereas a high standard deviation indicated that the data was spread out over a large range of values.

Phase II of the study included student focus group interviews and a teacher focus group interview. Once the data from Phase I had been collected, entered into statistical software SPSS, and analyzed, the researcher developed six student focus group interview questions. In addition, the researcher developed five teacher focus group interview questions that specifically addressed the study's research question 5.

Once all data were collected and analyzed, the researcher triangulated the data from the survey's quantitative numeric values and the qualitative focus group interview's key words and phrases in order to identify themes that emerged from the study to present the results of the research through narrative analysis. Literature from Chapter 2 was utilized as support for the researcher's study, justification for the research to be conducted, and for comparative analysis; therefore, literature from Chapter 2 was incorporated into Chapter 5 and will be presented later in the chapter under implications of the findings.

The student motivational survey included questions 1 and 5 in which they were designed to measure the overall attitude about the North Carolina High School to Community College Articulation Agreement by the study's high school participants enrolled in Career and Technical Education in the concentration of Business and Information Technology. Question 1 on the student motivational survey was stated as

"the NC Articulation Agreement is a positive program for high school students;" in addition, question 5 on the student motivational survey was stated as "the opportunity to earn college credit for this course has a positive impact on my motivation to do well." Question 1 on the student motivational survey had a 97% positive response rate with a 1.57 mean score and a .56 standard deviation. Question 5 on the student motivational survey had an 83% positive response rate with a mean score of 1.61 and a .67 standard deviation.

Based on the mean score and standard deviation for student motivational survey questions 1 and 5, the researcher ascertained that the majority of student participants agreed with the questions' statements. In other words, if an additional student participant answered question 1 or 5, the participant would most likely choose a response around the mean. It is the value which is most likely to be closest to the next observation. The means hold true due to the standard deviations' data points clustering around the mean scores. Furthermore, the student participants' most common response was the mode of agree; however, the student respondents reported a combined raw score of 175 positive responses of strongly agree and agree, contributing to a 97% positive response rate for survey question 1. Survey question 5 reported a mode of strongly agree and agree; in addition, the participants' responses combined for a raw score of 170 strongly agree and agree, making up an 83% positive response rate.

The researcher concluded, based on student response rates and mean scores, that the participants ($N = 181$) from the study believed that the North Carolina High School to Community College Articulation Agreement is a positive program for high school students and that the opportunity to earn college credit for articulated Career and Technical Education courses had a positive impact on the students' motivation to do well.

Furthermore, five male students established a positive response theme based on key words and phrases utilized by the students for question 11 on the student motivational survey. The question was stated as "other information I would like to share about the NC Articulation Agreement and student motivation is as follows." The study included 181 student participants of which 18 male students responded to question 11 while 15 female students responded. The five students' positive comments included statements such as "the articulation agreement is a good idea; the articulation agreement is awesome for student motivation; and the articulation agreement needs to be pursued by students."

Teacher focus group interview question 5 was stated as "is there any additional information that you would like to share concerning the NC Articulation Agreement and student motivation?" During the teacher focus group interview, one of the four teachers stated "personally, I think it is a great program and one that a lot of students could benefit from."

The North Carolina High School to Community College Articulation Agreement's impact on student motivation was explored through five guiding research questions.

Research Question 1. To what extent does the North Carolina High School to Community College Articulation Agreement impact student motivation to perform well as defined by North Carolina's criteria for awarding college credit? The state of North Carolina will award college credit with a course completion grade of "B" or better and a raw score of 80 or higher on the standardized VoCATS post-assessment. Question 3 on the student motivational survey was stated as "in order to receive college credit for this course, I must earn a 'B' or higher and an 80 or better on

the VoCATS test; I will work harder to earn these grades." In addition, question 4 on the student motivational survey was stated as "the NC Articulation Agreement will help me to improve my grades." Question 3 on the student motivational survey had a 96% positive response rate with a mean score of 1.57 and a standard deviation of .67. Question 4 on the student motivational survey had an 83% positive response rate with a mean score of 1.96 and a standard deviation of .77.

Based on the mean score and standard deviation for student motivational survey questions 3 and 4, the researcher ascertained that the majority of student participants agreed with the questions' statements. In other words, if an additional student participant answered question 3 or 4, the participant would most likely choose a response around the mean. It is the value which is most likely to be closest to the next observation. The means hold true due to the standard deviations' data points clustering around the mean scores. Furthermore, the student participants' most common response was the mode of strongly agree; however, the student respondents reported a combined raw score of 174 positive responses of strongly agree and agree, contributing to a 96% positive response rate for survey question 3. Survey question 4 reported a mode of agree; in addition, the participants' responses combined for a raw score of 151 strongly agree and agree, making up an 83% positive response rate.

Based on the positive response rates and mean scores for student motivational survey questions 3 and 4, the researcher ascertained through the research that the North Carolina High School to Community College Articulation Agreement positively impacts student motivation to perform well as defined by North Carolina's criteria for awarding college credit.

Furthermore, nine female students established a positive response theme based on

key words and phrases utilized by the students for question 11 on the student motivational survey. The female respondents responded nine times with statements such as "the opportunity to earn college credit motivates me, receiving college credit for high school courses motivates me, and earning college credit is a great opportunity for students."

In order to add depth to the results of the student motivational survey questions 3 and 4 and to explore research question 1 in more depth, student focus group question 2 was incorporated. The student focus group interview question that aligned with research question 1 was stated as "why does having the opportunity to earn college credit for CTE courses motivate high school students to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field?" The participants communicated to the independent researcher that graduating college sooner is a motivational factor for students to earn college credit during high school, receiving six response statements under this category for key words and phrases. In addition, proving you are successful received two response statements and making college cheaper received three response statements.

The teacher respondents reported that they have seen little motivational change pertaining to the NC Articulation Agreement as whole classes; however, the teacher respondents reported that few students within each class have shown interest and/or improvement pertaining to the NC Articulation Agreement and student motivation. Response statements from the teachers include observing an increase in interest about earning college credit during high school and an interest in increasing grades by the students.

Research Question 2. To what degree do the effects of the North Carolina High School to Community College Articulation Agreement impact student motivation to graduate high school? Question 2 on the student motivational survey was stated as "the opportunities provided by the NC Articulation Agreement motivate me to graduate from high school." In addition, question 6 on the student motivational survey was stated as "the NC Articulation Agreement helps me become more determined to graduate from high school." Question 2 on the student motivational survey had an 86% positive response rate with a mean score of 1.85 and a standard deviation of .82. Question 6 on the student motivational survey had an 86% positive response rate with a mean score of 1.77 and a standard deviation of .84.

Based on the mean score and standard deviation for student motivational survey questions 2 and 6, the researcher ascertained that the majority of student participants agreed with the questions' statements. In other words, if an additional student participant answered question 2 or 6, the participant would most likely choose a response around the mean. It is the value which is most likely to be closest to the next observation. The means hold true due to the standard deviations' data points clustering around the mean scores. Furthermore, the student participants' most common response was the mode of agree; however, the student respondents reported a combined raw score of 156 positive responses of strongly agree and agree, contributing to a 86% positive response rate for survey question 2. Survey question 6 reported a mode of agree; in addition, the participants' responses combined for a raw score of 157 strongly agree and agree, making up an 83% positive response rate.

The researcher concluded, based on the student motivational survey and mean scores for questions 2 and 6, that the North Carolina High School to Community College

Articulation Agreement positively impacts student motivation to graduate from high school.

In order to add depth to the results of the student motivational survey questions 2 and 6 and to explore research question 2 in more depth, student focus group questions 1 and 5 were designed. Student focus group interview question 1 was stated as "what motivates high school students to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field?" Student focus group interview responses included adult support and making something of myself; each had four participants utilizing key words or phrases that were categorized with these two statements. While high school athletics and incentives each received two participant responses, leaving behind a legacy and learning new things received one participant response each.

Student focus group interview question 5 was stated as "if a high school student is not motivated to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field, what can a high school do to increase student motivation?" The leading response statement, school faculty is here for the students, received three responses under this category for key words or phrases. Celebrations received two response statements; mentor programs, provide relevance, and make school fun each received one response statement.

Research Question 3. To what degree does the North Carolina High School to Community College Articulation Agreement influence the student to attend postsecondary training and/or college? Question 7 on the student motivational survey was stated as the "NC Articulation Agreement will help me decide to attend college or training after graduating from high school." Question 8 on the student motivational

survey was stated as "after graduating from high school, the NC Articulation Agreement will motivate me to attend college or training." Question 10 on the student motivational survey was stated as "the NC Articulation Agreement will influence the training I pursue after graduating from high school." Question 7 on the student motivational survey had an 82% positive response rate with a mean score of 1.98 and a standard deviation of .94. Question 8 on the student motivational survey had an 88% positive response rate with a mean score of 1.88 and a standard deviation of .78. Question 10 on the student motivational survey had a 77% positive response rate with a mean score of 2.07 and a standard deviation of .97.

Based on the mean score and standard deviation for student motivational survey questions 7, 8, and 10, the researcher ascertained that the majority of student participants agreed with the questions' statements. In other words, if an additional student participant answered questions 7, 8, or 10, the participant would most likely choose a response around the mean. It is the value which is most likely to be closest to the next observation. The means hold true due to the standard deviations' data points clustering around the mean scores. Furthermore, the student participants' most common response was the mode of agree; however, the student respondents reported a combined raw score of 149 positive responses of strongly agree and agree, contributing to a 82% positive response rate for survey question 7. Survey question 8 reported a mode of agree; in addition, the participants' responses combined for a raw score of 160 strongly agree and agree, making up an 88% positive response rate. Survey question 10 reported a mode of agree; in addition, the participants' responses combined for a raw score of 139 strongly agree and agree, making up a 77% positive response rate.

The researcher determined that the North Carolina High School to Community

College Articulation Agreement influences the student's decision to attend postsecondary training and/or college based on the student motivational survey response rates and mean scores for questions 7, 8, and 10.

Furthermore, four male and nine female students established a positive response theme based on key words and phrases utilized by the students for question 11 on the student motivational survey. The male respondents responded four times with statements such as "money to go to college motivates me and getting college paid for because of good grades motivates me." In addition, the female respondents responded nine times with statements such as "the opportunity to earn college credit motivates me, receiving college credit for high school courses motivates me, and earning college credit is a great opportunity for students."

Student focus group interview question 4 was stated as "what are some factors you will consider when deciding to attend college or postsecondary training?" The college majors offered by a college or secondary training facility were the leading answers, receiving seven response statements under this category of key words or phrases. The location of the campus, sports at the college, and the job market each received two response statements; the campus, cost, graduation rate, and size of the college received one response statement each.

According to the teacher focus group interview response statements, focus group interview question 2, the teachers have witnessed some motivational changes pertaining to a student's interest in their Career and Technical Education pathway.

Research Question 4. To what extent does the North Carolina High School to Community College Articulation Agreement influence student career choice? Question 9 on the student motivational survey was stated as "the NC Articulation

Agreement will influence my career choice after graduating from high school." Question 9 on the student motivational survey had a 74% positive response rate with a mean score of 2.15 and a standard deviation of 1.09.

Based on the mean score and standard deviation for student motivational survey question 9, the researcher ascertained that the majority of student participants agreed with the question's statement. In other words, if an additional student participant answered question 9, the participant would most likely choose a response around the mean. It is the value which is most likely to be closest to the next observation. The mean holds true due to the standard deviation's data point clustering around the mean score. Furthermore, the student participants' most common response was the mode of agree; however, the student respondents reported a combined raw score of 135 positive responses of strongly agree and agree, contributing to a 74% positive response rate for survey question 9.

Based on the results of the student motivational survey question 9 response rate and mean score, the researcher ascertained that the North Carolina High School to Community College Articulation Agreement influences a student's career choice.

In addition, nine female students established a positive response theme based on key words and phrases utilized by the students for question 11 on the student motivational survey. The female respondents responded nine times with statement such as "taking classes that align with a carrier motivates me, the opportunity to earn college credit motivates me, and receiving college credit for high school courses motivates me."

Student focus group interview question 3 was incorporated into the study based on exploring research question 4 in more depth. Student focus group interview question 4 was stated as "what are some factors you will consider when making a career choice?" A person's interest led the response category by receiving six response statements under

this category for key words and phrases followed by two response statements each for money, helping others, perception of others, and what a person is good at. The participants responded once each with the response statement categorized by level of education and job requirements.

According to the teacher focus group response statements, question 2, the teachers did observed an increased interest in Career and Technical Education pathways and career selection interests.

Research Question 5. What are the teachers' perceived effects of the North Carolina High School to Community College Articulation Agreement on student motivation? The teacher focus group interview was directly related to the procedures of the study and was specifically developed to answer research question 5. First, focus group interview question 1 was stated as "what motivates high school students to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field?" The teachers' response statements included consistent feedback such as parent involvement from the home, self-direction, teacher relationships, and graduating from high school. Second, the teacher focus group interview question 2 was stated as "what motivational changes have you witnessed by students pertaining to the NC Articulation Agreement to (a) earn passing grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide a career field?" The teacher focus group respondents reported that as whole classes they have not observed motivational changes; however, few students within each class have shown interest in Career and Technical Education pathways, graduation, and an increase in earning college credits during high school. Third, the teacher focus group interview question 3 was stated as "how should the NC Articulation Agreement be utilized by high school Career and Technical

Education teachers?" The focus group participants stated that the NC Articulation

Agreement should be utilized to increase student motivation, VoCATS test scores, and

assist with establishment of smoothed pathways within the high school curriculum.

Fourth, the teacher focus group interview question 4 was stated as "what do you think the

effects are on student motivation by the NC Articulation Agreement to (a) earn passing

grades, (b) graduate from high school, (c) attend college or pursue training, or (d) decide

a career field?" The respondents communicated that the effects of the NC Articulation

agreement are minimal; however, it has had an impact on a select few in each class.

Finally, the teacher focus group interview question number 5 was stated as "is there any

additional information that you would like to share concerning the NC Articulation

Agreement and student motivation?" Common themes that were established by the

teacher focus group interview participants were students, as well as parents, need to go

through a training process in order to understand the NC Articulation Agreement. In

addition, the teacher participants stated that the NC Articulation Agreement was a

positive program.

Table 12 presented the female student motivational survey results aligned with the

case study research questions. The table included 82 female student responses to the

survey, including raw scores and percentages. The table presented frequencies and

positive, negative, and not applicable response rates. The frequencies provided the

researcher with the capability to calculate response rates of students in order to provide

the researcher with numeric values to the degree to which the student participants agreed,

disagreed, or believed they were not applicable. The table provided statistical data

independent from the male student participants and did not factor ethnicity. The female

student analysis allowed the researcher to analyze female student data pertaining to the

study and draw conclusions based on frequency rates that were calculated into response

rates. Based on the results from the female student analysis, the researcher implied that if

an additional female student participant provided a response to a question on the student

motivational survey, the participant would most likely choose a response around the

question's mean. Therefore, the female student analysis provided the researcher with the

most likely outcome if an additional female respondent participated in the research study.

The means from the female student analysis hold true due to the data points clustering

around the mean scores. The researcher ascertained from the table's response rates that

the North Carolina High School to Community College Articulation Agreement has a

positive impact on student motivation to (a) perform well in the course as defined by the

State of North Carolina award of college credit, (b) graduate high school, (c) pursue

college or postsecondary training in course content, and (d) select a career in the course

field. According to student motivational survey questions 1 and 5 in Table 12, the

student participants reported that the NC Articulation Agreement is a positive program

for high school students, posting a 100% positive response rate. In addition, the student

participants reported a 96% positive response rate indicating that the opportunity to earn

college credit during high school positively impacts them to do well in the course.

Table 13 presented the male student motivational survey results aligned with the

case study research questions. The table included 99 male student responses to the

survey, including raw scores and percentages. The table presented frequencies and

positive, negative, and not applicable response rates. The frequencies provided the

researcher with the capability to calculate response rates of students in order to provide

the researcher with numeric values to the degree to which the student participants agreed,

disagreed, or believed they were not applicable. The table provided statistical data

independent from the female student participants and did not factor ethnicity. The male

student analysis allowed the researcher to analyze male student data pertaining to the

study and draw conclusions based on frequency rates that were calculated into response

rates. Based on the results from the male student analysis, the researcher implied that if

an additional male student participant provided a response to a question on the student

motivational survey, the participant would most likely choose a response around the

question's mean. Therefore, the male student analysis provided the researcher with the

most likely outcome if an additional male respondent participated in the research study.

The means from the male student analysis hold true due to the data points clustering

around the mean scores. The researcher concluded from the table's response rates that

the North Carolina High School to Community College Articulation Agreement has a

positive impact on student motivation to (a) perform well in the course as defined by the

State of North Carolina award of college credit, (b) graduate high school, (c) pursue

college or postsecondary training in course content, and (d) select a career in the course

field. According to student motivational survey questions 1 and 5 in Table 13, the

student participants reported that the NC Articulation Agreement is a positive program

for high school students, posting a 95% positive response rate. In addition, the student

participants reported a 93% positive response rate indicating that the opportunity to earn

college credit during high school positively impacts them to do well in the course.

Table 14 presents positive ethnic responses to the student motivational survey

questions and aligns the research questions with the survey questions. There were 73

African American students, 72 Caucasian students, 27 Latino students, and nine students

labeled other that participated in the student motivational survey. The table presented

frequencies and positive response rates; furthermore, the frequencies provided the

researcher with the capability to calculate response rates of students in order to provide the researcher with numeric values to the degree to which the student participants agreed with the student survey question. The table provided statistical data reported by ethnicity; in addition, the ethnic student analysis allowed the researcher to analyze ethnic student data pertaining to the study and draw conclusions based on frequency rates that were calculated into response rates. Based on the results from the ethnic student analysis, the researcher implied that if an additional student participant provided a response to a question on the student motivational survey, the participant would most likely choose a response around the question's mean. Therefore, the ethnic student analysis provided the researcher with the most likely outcome if an additional respondent participated in the research study. The means from the ethnic student analysis hold true due to the data points clustering around the mean scores. The researcher ascertained from the table's response rates that the North Carolina High School to Community College Articulation Agreement has a positive impact on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. According to student motivational survey questions 1 and 5 in Table 14, the student participants reported that the NC Articulation Agreement is a positive program for high school students posting 96% African American, 99% Caucasian, and 93% Latino positive response rates. In addition, African American, Caucasian, and Latino students reported positive response rates of 97%, 93%, and 85%, indicating that the opportunity to earn college credit during high school positively impacts them to do well in the course.

Implications of the Findings

The researcher set out to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field by utilizing five guiding research questions. The research questions were incorporated into three distinct research procedures which included a student motivational survey, a teacher focus group interview, and student focus group interviews. Once the data were collected, analyzed, and the results of the study presented, the researcher concluded with the implications of the findings established by the case study's results. The implications of the findings presented by the researcher, via a sequential explanatory case study, are as follows.

The overall feeling about the North Carolina High School to Community College Articulation Agreement by the study's participants is that the program is positive for high school students; in addition, the participants reported that the program has a positive impact on student motivation to do well. The overall feeling about the Articulation Agreement was supported through data provided by the student motivational survey and the teacher focus group interview. Due to the lack of knowledge pertaining to the NC Articulation Agreement by the research site's faculty and the nonexistent monitoring of articulated credits, the researcher's recommendation was for the school improvement team to research, analyze, and implement a plan of action that will educate, monitor, and facilitate the earning of college credits via the NC Articulation Agreement. Included in the plan of action by the school improvement team, teachers would participate in a professional development workshop that would provide the knowledge, background, and

capabilities of the NC Articulation Agreement.

Research question 1 was designed by the researcher to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to perform well in the course as defined by the state of North Carolina award of college credit. Student motivational survey questions 3 and 4, were utilized to quantify the students' attitudes and beliefs; furthermore, data provided by the student motivational survey question 11, student focus group interviews, and teacher focus group interview continued the exploration of research question 1 in more depth. The results from the research concluded that the NC Articulation Agreement positively impacts student motivation to perform well as defined by North Carolina's criteria for awarding college credit. The researcher discovered that when students are presented with the possibility of earning college credits for Career and Technical Education articulated courses, students report that they will work harder to earn a "B" and an 80 or better on the VoCATS test and will work to improve grades. However, the teacher participants reported observing little motivational change by whole classes, but a few students within each class demonstrated a change in motivation toward improvement. The researcher's recommendation to the Career and Technical Education Department at the research site is for the teachers to develop strategies that educate, support, and facilitate the earning of college credits based on the NC Articulation Agreement's award of college credit requirements. The recommendation by the researcher is due to the interaction and proximity of the teachers with students; in addition, research has shown that teachers can positively or negatively influence a student's self-efficacy. Furthermore, the researcher's recommendation was supported through data provided by the student motivational survey, student focus group interviews, and the teacher focus group interview.

Additional support of the researcher's recommendation comes from the literature review and the various literature resources utilized in the study. The various literature resources justify and support the recommendation by facilitating students to increase grades and VoCATS test scores in order to earn articulated college credit based on the NC Articulation Agreement's requirements. In a study conducted by Morgan et al. (2008), Mississippi's secondary to postsecondary articulation agreement in Career and Technical Education (CTE) was analyzed in order to promote expansion of the existing agreement. The results of the study led the researchers to several recommendations for revision and expansion of the existing articulation agreement: (a) secondary and postsecondary faculty work together to revise curriculum and assessments, (b) align curriculum with industry standards, (c) professional development for all teachers, (d) critically analyze assessment data, (e) teachers participate in the development of curriculum and assessments, and (f) knowledge of accrediting agencies. The study conducted by Morgan et al. (2008) provided the researcher with comparative data in order to draw support for the researcher's own study pertaining to the NC Articulation Agreement.

Research has provided an abundance of knowledge showing that teachers and educators influence, both positively and negatively, a student's motivation. According to Wigfield and Wentzel (2007), there is a growing consensus on how instructional practices can enhance students' self-efficacy and help students assume control over their own learning, develop positive achievement goals, learn to value learning, and relate well to teachers and peers in their classrooms. Research-based knowledge has led to a growing number of individual child-based, classroom-based, and school-based interventions that focus on enhancing student motivation as a way to boost their academic and social

functioning in school (Wigfield & Wentzel, 2007). Legault et al. (2006) suggested academic attitudes and behaviors are strongly influenced by key social agents in the student's environment whether these are teachers, parents, or friends. Furthermore, a central tenet of this perspective is that social contexts that promote autonomy, competence, and relatedness will facilitate intrinsic and internalized motivation (Deci & Ryan, 1985, 2002). Due to the proximity of the Career and Technical Education teachers to the students and the sphere of influence that they possess, the recommendation by the researcher for the CTE teachers was to develop strategies that educate, support, and facilitate the earning of college credits based on the NC Articulation Agreement's requirements.

Research question 2 was designed by the researcher to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to graduate from high school. Student motivational survey questions 2 and 6 were incorporated to quantify research question 2; in addition, data collected through student focus group interviews was utilized to add depth to the study. The results of the study determined that the North Carolina High School to Community College Articulation Agreement positively impacts student motivation to graduate from high school. The students reported that the opportunity to earn college credit for Career and Technical Education courses stimulated the thought process of high school students that participated in the study to positively think about graduation; students also reported that the NC Articulation Agreement motivates them and helps them become determined to graduate from high school. Furthermore, a theme was established by the student focus group interviews which was faculty and staff that were in place to support and encourage the students motivated students to do well. The researcher's recommendation is for the

research site's administrative team and guidance department to become knowledgeable of the NC Articulation Agreement in order to develop strategies that support Career and Technical Education teachers. In addition, it is recommended that the administrative team and guidance monitor the earning of college articulated credits through grade completion and monitor graduation rates. The researcher's recommendation was supported through data provided by the student motivational survey and student focus group interviews.

Additional support of the researcher's recommendation comes from the literature review and the various literature resources utilized in the study. D'Antoni and Coulson (2008), conducted a study on Career and Technical Education articulation success in West Virginia. The result of the findings indicated that less than 1% of the students in the state were taking advantage of the articulation agreements (D'Antoni & Coulson, 2008). The participation rate of the articulation agreement was contributed to parents not understanding the meaning of articulation and students were meeting barriers in accessing the credits once they enrolled in postsecondary institutions. According to the study, three plans of action took place. First, faculty from secondary and postsecondary institutions collaboratively reviewed course content and descriptions, and decided to award credit immediately upon completion of the articulated course. Second, faculties from secondary and postsecondary institutions reinvented terminology and marketed articulation agreements to parents and students comprehensively. Finally, the articulation agreement was renamed the EDGE (Earn a Degree – Graduate Early). According to D'Antoni and Coulson (2008), during the school year of 2005-2006, 29,509 students passed the end-of-course exams, and 15,398 students accepted EDGE credits. Comparatively, 26,701 students passed in 2004-2005, and only 6,203 students accepted

EDGE credits. The study conducted by D'Antoni and Coulson (2008) provided the researcher with comparative data and support justifying the need for the research site's administrative team, educators, and guidance department to become knowledgeable of the NC Articulation Agreement's capabilities, monitoring of articulated credits through grade completion, and graduation rates.

The justification of the recommendation was further reinforced by high school dropout statistics provided in the literature review. According to the U.S. Department of Education (2008), the status dropout rate represents the percentage of persons in an age group who are not enrolled in school and have not earned a high school diploma or equivalent credential, such as a General Educational Development (GED) certificate; in addition, the status dropout rates are reported for 16- through 24-year-olds. The status dropout rate for this age group declined from 14.6% in 1972 to 9.3% in 2006 (U.S. Department of Education, 2008). Researchers have found that dropping out of school stems from a wide variety of factors in four areas or domains including individual, family, school, and community factors (Hawkins et al., 1992; Rumberger, 2001). According to the North Carolina Department of Public Instruction (2008), the North Carolina high school dropout rate was 70.3%; however, if a student completed a four course sequential pathway in Career and Technical Education the graduation rate increased to 86.5%.

Research question 3 was designed by the researcher to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to pursue college or postsecondary training. Questions 7, 8, and 10 on the student motivational survey were created to quantify the attitudes and beliefs towards research question 3. In order to add depth to the exploration of research question 3,

student motivational survey question 11, student focus group interviews, and a teacher focus group interview were incorporated into the study. The results from the study determined that the North Carolina High School to Community College Articulation Agreement influences the student's decision to attend postsecondary training and/or college. The student participants reported that the opportunity to earn college credit, via the NC Articulation Agreement, stimulated the thought process to attend college or pursue postsecondary training. In order to support the researcher's findings, several themes were established by student motivational survey question 11, student focus group interviews, and the teacher focus group interview. The researcher's recommendation to the research site is that career interest inventories be implemented by the guidance department coupled with Career and Technical Education teachers in order to facilitate the exploration of career fields. This recommendation would allow students the opportunity to choose a Career and Technical Education pathway that best fits the student's interests. The researcher's recommendation was supported through data provided by the student motivational survey, student focus group interviews, and a teacher focus group interview.

Additional support of the researcher's recommendation comes from the literature review and the various literature resources utilized in the study. According to the North Carolina Standard Course of Study Guide in the curriculum field of Career and Technical Education (CTE) created by the Department of Public Instruction, the mission of CTE is to help empower students for effective participation in an international economy as world-class workers and citizens. CTE fulfills this mission by (a) preparing students for postsecondary education in career and technical fields and lifelong learning; (b) preparing students for initial and continued employment; (c) assisting students in making

educational and career decisions; (d) applying and reinforcing related learning from other disciplines; (e) assisting students in developing decision making, communication, problem solving, leadership, and citizenship skills; (f) preparing students to make informed consumer decisions and apply practical life skills; and (g) making appropriate provisions for students with special needs to succeed in career and technical education programs. According to Gray (2004), Career and Technical Education curriculum attracts, motivates, and prepares students for postsecondary training in the fields of Career and Technical Education. Furthermore, students who (a) are at risk of dropping out of high school, (b) seek employment directly after high school, or (c) want to go to college at the 1- or 2-year level to prepare for pre-professional technical careers, CTE is arguably the most important curriculum in the American high school. Dare (2006) goes on to confirm Gray (2004) by stating CTE, once considered a track for non-college bound high school students, has evolved to include an increased emphasis on rigorous academic preparation and integrated and articulated CTE courses and programs. CTE is now a "major enterprise within the United States P-16 education system," according to the Association for Career and Technical Education (Dare, 2006, p. 9).

Research question 4 was designed by the researcher to explore the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to select a career in the course field. The student motivational survey question 9 was included in the survey to quantify research question 4; in addition, student survey question 11, student focus group interviews, and a teacher focus group interview were also utilized to explore further the impact of the NC Articulation Agreement on student career choice. The researcher concluded that the North Carolina High School to Community College Articulation Agreement influences a student's career choice. The

students reported that the opportunity to earn college credits for Career and Technical Education courses stimulated the thought process of high school students that participated in the study to think positively about career decisions. In addition to the student motivational survey results, student and teacher participants reported positive themes that aligned with student career choices and the NC Articulation Agreement. The researcher's recommendation is that career assessment inventories be utilized to identify student's interests coupled with career exploration activities such guest speakers, field trips, and the establishment of relationships with local businesses in order to maximize community resources. These opportunities would allow students to explore career interests as well as provide students with relevancy through experiences. The researcher's recommendation was supported through data provided by the student motivational survey, student focus group interviews, and a teacher focus group interview.

Additional support of the researcher's recommendation comes from the literature review and the various literature resources utilized in the study. According to Gray (2004), Career and Technical Education (CTE) has been stereotyped as preparing students only for work after high school and its students are mostly male, too often minorities, academically backward, and destined for dead-end jobs; however, while this characterization may or may not have been correct in the past, it is not accurate today. According to Bruett (2006), today's students need to know how to apply their knowledge in a real world environment by thinking critically, analyzing information, comprehending new ideas, communicating, collaborating in teams, and solving problems all in the context of modern life; these competencies are called 21st Century skills.

In order to build 21st Century skills, Bruett (2006) emphasized that the following skills be incorporated into educational institutions: (a) rigorous core subjects, (b)

analytical thinking, problem solving, communication, and collaboration, (c) information and communications technology literacy—the ability to use technology tools to acquire learning skills, (d) global awareness, civic engagement, and business, financial, and economic literacy, and (e) measurement of 21st Century skills.

The North Carolina high school Career and Technical Education pathway in the concentration of Business and Information Technology Education was designed to address the needs of the 21st Century learner. According to the North Carolina Standard Course of Study (NCDPI, 2002), Business and Information Technology Education plays a major role in preparing a competent, business-literate, and skilled workforce. Furthermore, computer literacy and proficiency in the various applications are emphasized including exploratory experiences in business technology.

Research question 5 was incorporated into the study by the researcher to explore the perceived effects of the North Carolina High School to Community College Articulation Agreement on student motivation. Career and Technical Education teachers from the concentration of Business and Information Technology participated in a focus group interview which was conducted to facilitate the exploration of research question 5. The researcher ascertained from the focus group interview several key points. First, the teacher participants believed that the most successful students possess characteristics from self-direction, positive teacher relationships, parent involvement, and aspirations to graduate high school. Second, the teacher participants have witnessed positive motivational changes pertaining to grades, career interests, and earning college credits during high school; however, these observable changes occurred with a few students within each class. Third, the teacher participants believe that the NC Articulation Agreement should be utilized to increase VoCATS test scores, facilitate career

exploration, and help to establish smooth pathways within Career and Technical Education. Finally, the teacher participants reported that students, teachers, and parents should attend professional development to educate, understand, and apply the North Carolina High School to Community College Articulation Agreement to high school curriculum. The researcher's recommendation is that teachers attend professional development pertaining to the NC Articulation Agreement while students and parents attend information sessions in order to establish a common language and learn how to apply the NC Articulation Agreement to high school curriculum. The researcher's recommendation was supported through data provided by a teacher focus group interview.

Summary

The researcher set out to explore, through a sequential explanatory case study, the impact of the North Carolina High School to Community College Articulation Agreement on student motivation to (a) perform well in the course as defined by the State of North Carolina award of college credit, (b) graduate high school, (c) pursue college or postsecondary training in course content, and (d) select a career in the course field. The results from the study led the researcher to conclude that the opportunities provided by the North Carolina High School to Community College Articulation Agreement have positive effects on student motivation by stimulating the student participant's thought process toward improvement of grades, graduating high school, pursuing college or postsecondary training, and thinking about career fields. The researcher justified the case study utilizing current research in the content of (a) national adult illiteracy; (b) lack of student motivation; and (c) national, state, and local dropout rates. The conclusions from the results of the study by the researcher could impact the performance of the school by

stimulating student motivation, consequently impacting the research site's graduation rate through student achievement.

In order to understand school-related success, researchers have identified a variety of goals that students pursue at school. These include academically-oriented goals to master material and to demonstrate one's competence by performing well (Pintrich, 2000), as well as social goals that motivate behavioral aspects of classroom engagement and the degree to which students develop positive relationships with teachers and peers (Wentzel, 2002). The researcher ascertained from the results of the study that the NC Articulation Agreement positively stimulated the student participant's thought process pertaining to academically- and socially-oriented goals.

Researchers have found that dropping out of school stems from a wide variety of factors in four areas or domains including individual, family, school, and community factors (Hawkins et al., 1992; Rumberger, 2001). The school domain refers to the factors that relate to school structure, environment, policies, and that impact an adolescent's decision to drop out of school which include (a) school structure, (b) school resources, (c) student body characteristics, (d) student body performance, (e) school environment, (f) academic policies and practices, and (g) supervision and discipline policies and practices (Hammond et al., 2007). The overall findings and trends from the study conducted by Hammond et al. (2007) found that (a) dropping out of school is related to a variety of factors that can be classified in four areas or domains—individual, family, school, and community; (b) there is no single risk factor that can be used to accurately predict who is at risk of dropping out; (c) the accuracy of dropout predictions increases when combinations of multiple risk factors are considered; (d) dropouts are not a homogeneous group; (e) students who drop out often cite factors across multiple domains and there are

complex interactions among risk factors; (f) dropping out of school is often the result of a long process of disengagement that may begin before a child enters school; and (g) dropping out is often described as a process, not an event, with factors building and compounding over time. Due to the North Carolina High School to Community College Articulation Agreement positively stimulating the student participant's thought process toward improvement of grades, graduating high school, pursuing college or postsecondary training, and thinking about career fields, the dropout rate of high school students at the research site may be impacted through increased student achievement related to the opportunities provided by the NC Articulation Agreement.

The North Carolina high school Career and Technical Education pathway in the concentration of Business and Information Technology Education is designed to address the needs of the 21st Century learner. According to the North Carolina Standard Course of Study (NCDPI, 2002), Business and Information Technology Education plays a major role in preparing a competent, business-literate, and skilled workforce. Furthermore, computer literacy and proficiency in the various applications are emphasized including exploratory experiences in business technology. In addition to the 21st Century learner, according to Bruett (2006), today's students need to know how to apply their knowledge in a real world environment by thinking critically, analyzing information, comprehending new ideas, communicating, collaborating in teams, and solving problems all in the context of modern life; these competencies are called 21st Century skills. Career and Technical Education, coupled with the opportunities provided by the North Carolina High School to Community College Articulation Agreement, provide students the opportunities to understand the concept of globalization and work toward building 21st Century skills all while having an opportunity to earn community college credits.

According to Gray (2004), contributions of CTE is its potential to provide all high school students with a hands-on, contextually rich environment to verify tentative career choices; this helps students to make more effective postsecondary plans, such as choosing a college major, thereby increasing the probability that they will succeed.

Limitations

An 18-week time constraint was placed on the study; however, the sequential explanatory approach that the researcher chose for the case study required two phases of data collection which included a student motivational survey, student focus group interviews, and a teacher focus group interview.

The study was conducted with a limited perspective of the impact that the North Carolina High School to Community College Articulation Agreement has on student motivation. As a result, participants in the study came from a narrow academic environment comprised of seven Career and Technical Education courses in the concentration of Business and Information Technology.

Recommendations for Further Research

Once the data from this sequential explanatory case study was collected, analyzed, and reported, the researcher provided several recommendations in order to guide future studies based on the researcher's knowledge and experiences from the research topic. First, the case study was limited to only the targeted school. Future studies could encompass various schools and school districts. The diversification could increase the scope of a study by socioeconomic classes, ethnicities, regions, and gender. Second, the primary focus of the case study was in Career and Technical Education in the concentration of Business and Information Technology. The researcher recommended that the scope of the case study be broadened by including various majors within the

Career and Technical Education curriculum. Future studies that incorporate various majors within the Career and Technical Education curriculum could provide comparative data in order to advance the North Carolina High School to Community College Articulation Agreement's range and effectiveness.

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Appendix A

Student Motivational Survey

Student Motivational Survey

Gender: Male   Female

Ethnicity: African American   Caucasian   Latino   Other

Please rate how strongly you agree or disagree with the following statements.

SA = Strongly Agree   A = Agree   D = Disagree   SD = Strongly Disagree
NA = Not Applicable or Not Observed

Question	SA	A	D	SD	NA
1. The NC Articulation Agreement is a positive program for high school students.					
2. The opportunities provided by the NC Articulation Agreement motivate me to graduate from high school.					
3. In order to receive college credit for this course, I must earn a "B" or higher and an 80 or better on the VoCats test; I will work harder to earn these grades.					
4. The NC Articulation Agreement will help me to improve my grades.					
5. The opportunity to earn college credit for this course has a positive impact on my motivation to do well.					
6. The NC Articulation Agreement helps me become more determined to graduate from high school.					
7. The NC Articulation Agreement will help me decide to attend college or training after graduating from high school.					
8. After graduating from high school, the NC Articulation Agreement will motivate me to attend college or training.					
9. The NC Articulation Agreement will influence my career choice after graduating from high school.					
10. The NC Articulation Agreement will influence the training I pursue after graduating from high school.					

11. Other information I would like to share about the NC Articulation Agreement and student motivation is as follows:

Appendix B

Student Focus Group Interview Questions

Student Focus Group Interview Questions

1.) What motivates high school students?

    a. To earn passing grades

    b. To graduate from high school

    c. To attend college or pursue training

    d. When deciding a career field

2.) Why does having the opportunity to earn college credit for CTE courses motivate high school students?

    a. To earn passing grades

    b. To graduate from high school

    c. To attend college or pursue training

    d. To help think about a career field

3.) What are some factors you will consider when making a career choice?

4.) What are some factors you will consider when deciding to attend college or postsecondary training?

5.) If a high school student is not motivated:

    a. To earn passing grades

    b. To graduate from high school

    c. To attend college or pursue training

    d. To explore a career field

Follow up question: What can a high school do to increase student motivation?

6.) Is there any additional information that you would like to share concerning the NC Articulation Agreement and student motivation?

Appendix C

Teacher Focus Group Interview Questions

Teacher Focus Group Interview Questions

1.) What motivates high school students?

    a. To earn passing grades

    b. To graduate from high school

    c. To attend college or pursue training

    d. When deciding a career field

2.) What motivational changes have you witnessed by students pertaining to the NC

Articulation Agreement?

    a. To earn passing grades

    b. To graduate from high school

    c. To attend college or pursue training

    d. Deciding a career field

3.) How should the NC Articulation Agreement be utilized by high school Career and

Technical Education teachers?

4.) What do you think the effects are on student motivation by the NC Articulation

Agreement?

    a. To earn passing grades

    b. To graduate from high school

    c. To attend college or pursue training

    d. When deciding a career field

Follow up question: Have you witnessed any effects of the NC Articulation

Agreement on student motivation?

5.) Is there any additional information that you would like to share concerning the

NC Articulation Agreement and student motivation?