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Analysis of Retention Factors that influence Georgia's Secondary Career and Technical Education Teachers to Remain in the Teaching Profession

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AN ANALYSIS OF RETENTION FACTORS THAT
INFLUENCE GEORGIA'S SECONDARY CAREER AND
TECHNICAL EDUCATION TEACHERS TO REMAIN
IN THE TEACHING PROFESSION

by

HOPE JACKSON MORRIS

(Under the Direction of James F. Burnham)

ABSTRACT

The research study on the retention influences of Georgia's secondary career and technical education teachers was conducted to determine why the teachers chose to remain in the teaching profession. Participants included all program areas of career and technical education in the state of Georgia. Data were gathered to analyze the demographics, personal retention influences, and professional retention influences of the career and technical education teachers.

The quantitative study was conducted by an on-line survey. Approximately 700 e-mails were sent, and 154 participants responded. Demographic results suggested that the typical career and technical education teacher respondents had 21 plus years of experience, were age 51 to 60, white, non-Hispanic, had a current salary of over \$46,000, and taught in the business program area.

Professional retention influences such as support from administrators, adequate time to complete job responsibilities, pleasant working conditions, students' intellectual growth, resources, salary increases, parental support, professional development, and mentoring were some of the retention influences noted on the survey. Results indicated

that support from administrators ranked as the most important professional retention influence for Georgia's secondary career and technical education teachers. ANOVAs were conducted to determine if there were any relationships between the demographics and professional retention influences. Significant differences were found between years of experience and potential for salary increases, age and watching students grow intellectually, ethnicity and support by peers, and salary and professional associations.

Personal retention influences such as inner sense of knowing the teacher is doing a good job, positive interaction with students, and parental support were some of the retention influences noted on the survey. Results indicated that inner sense of knowing the teacher was doing a good job ranked as the most important personal retention influence. ANOVAs were conducted to determine if there were any relationships between the demographics and personal retention influences. A significant difference was found between the program area demographic group and positive interaction with students and parental support.

INDEX WORDS: Vocational education, Career and technical education, Teacher retention, Teacher attrition

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DOCTOR OF EDUCATION

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DEDICATION

to my boys

Jackson and Andrew

and

to my parents

Josephine Jackson and the late Paul Jackson

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CHAPTER 1

INTRODUCTION

Career and technical education (formerly known as vocational education) in America is as old as the United States of America (Gordon, 2003). Learning a skill to gain employment has not changed since the colonial era, but who teaches the skill has changed. The first teachers of career and technical education were master craftsmen (Roberts, 1965). For example, Benjamin Franklin was an apprentice printer and was taught the skill of printing by a master craftsman in 1718 (Franklin Institute, 2006). As career and technical education changed, the master craftsmen evolved into today's career and technical education teachers (Career and Technical Education, 2004). A report published for the National Center for Education Statistics noted that there were 118,000 secondary career and technical education teachers in the United States during 1992 (Heaviside, Carey, Farris, 1994). Career and technical education teachers stated that they were likely to remain in teaching until retirement (Kaufman, 1992).

During her fifteen years of teaching, this researcher has observed that there was a low turnover rate among career and technical education teachers in the state of Georgia. When the researcher completed her bachelor's degree in 1989, she was advised that she must be willing to move to an extreme rural region of Georgia because business education teachers usually retained employment in their school district until they died or retired. The educational realm might find understanding the longevity of Georgia's secondary career and technical education insightful; therefore, the factors that influence

career and technical education teachers to remain in the teaching profession were analyzed.

General Introduction

When the colonists immigrated to the New World, they brought the concept of the apprenticeship from their respective countries. Apprenticeship was not part of a school curriculum, but it was how people learned a trade (Gordon, 2003; McCarthy, 1950; Thompson, 1973). McCaslin and Parks (2002) noted that master craftsmen, who served as apprenticeship instructors, also provided instruction in civic and moral responsibility to their apprentices. Thompson (1973) and Scott and Sarkees-Wircenski (2001) noted that apprenticeship declined during the colonial period and that the factory system of the 19th century had the greatest impact in the decline of apprenticeship training. Researchers noted that the industrial society called for a different approach to train workers (Lazerson & Grubb, 1974; Smith, 1999). Smith also stated that the emergence of vocational education at the end of the 19th century provided a link between American education and the American economy.

In addition, the land-grant institution movement began during the 19th century. The primary objective of land-grant institutions was to educate farmers in increased crop production, to educate the homemaker in various family life activities, and to educate engineers for an expanded industrial society. Based on the Morrill Act of 1862, the University of Georgia became a land-grant institution when the University accepted financial support for vocational programs during 1886 (Gordon, 2003; Law, 1994; McCarthy, 1950). The land-grant universities created university high schools which placed vocational preparation training as the top priority in their curriculum. Smith

(1999) noted that during the early 1900s, President Theodore Roosevelt was a proponent of vocational education because he believed that the American public school system failed to provide workers necessary industrial training.

According to Scott and Sarkees-Wircenski (2001), high schools of the early 1900s were generally established for students preparing for higher education. However, due to social conditions, some parents demanded that schools provide training to enable students to enter the job market (Scott & Sarkees-Wircenski, 2001). Foster (1997) noted that public schools in the late 1890s and early 1900s taught vocational education as a part of the general education curriculum. The signing of the Smith-Hughes Act in 1917 isolated vocational education from general education and appropriated funds specifically for vocational education (Gordon, 2003). Scott and Sarkees-Wircenski stated that when vocational education moved from the agrarian society of 1917 to a highly industrialized and technological advanced society, education legislation addressed those changes. Since the late 1980s, the federal level has referred to vocational education as career and technical education. Therefore, this researcher also referred to career and technical education. According to Lynch (2000), career and technical education is offered in 93% of the nation's 15,200, grades 9-12 comprehensive high schools. According to the United States Department of Education Career and Technical Education Department, nearly every high school student in the United States enrolls in at least one career and technical education course; one in four enrolls in three or more career and technical education courses in a single program area according to district requirements.

Career and technical education has changed since the days of the Smith-Hughes Act. Not only has the name changed, but also the mission has changed. According to The

Carl D. Perkins Vocational and Technical Education Act Public Law 105-332, changes in the mission now include the incorporation of school-based and work-based learning along with business partnerships, the use of increased technology, and the use of cyberspace as a resource. The 20th century saw mandates in career and technical education due to acts of the federal legislature.

Federal Legislation

Although there are numerous legislative acts concerning career and technical education, the Smith-Hughes Act of 1917 was the first of many acts to impact career and technical education. This act, signed into law by President Woodrow Wilson, appropriated federal funding for career and technical education (A New Association is Born, 2002; Lozada, 1999; Prosser & Quigley, 1950). According to Gordon (2003), the Smith-Hughes Act isolated career and technical education from other areas of the high school curriculum.

Vocational legislative acts from 1929 through 1946 authorized federal assistance to career and technical education annually (Evolution of Public Education Legislation, 1987). Many of these acts increased funding for career and technical education and included money for teacher education programs (Scott & Sarkees-Wircenski, 2001). The Vocational Education Act of 1963 was the most significant career and technical education legislation since the Smith-Hughes Act of 1917 (Gordon, 2003). The significance of this act was noted by the fact that federal funding was appropriated to maintain, tend, and improve existing programs of career and technical education. Scott and Sarkees-Wircenski (2001) noted that the act affirmed the federal government's commitment to career and technical education.

In 1984, the Carl D. Perkins Vocational Act amended the Vocational Education Act of 1963. Gordon (2003) and Hogg (1999) stated that the goals of the act were to improve the labor force work skills and to provide adults with an equal opportunity in career and technical education. Another change in career and technical education occurred when the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 was signed. The 1990 act integrated academic and career and technical education, or Tech Prep, whereas the previous acts had isolated career and technical education from the other school curriculum (Bragg, 1999; Evolution of Public Education Legislation, 1987; Gordon, 2003).

State career and technical education programs. The Carl Perkins Act mandates individual state career and technical education programs in the form of two main grants: the Basic State Grants and Tech Prep. Individual states control the distribution of money between the secondary and postsecondary levels.

Local funds are distributed according to the federal policy; therefore, local school systems often have a career and technology education director who supervises the school district's career and technical education program. Moore, Crudup, and Vander-Wall (1992) stated that vocational directors were generally involved with administration, instruction, program promotion, and personnel. Job descriptions for local career and technical education directors in Georgia included developing curriculum, preparing career and technical education budgets, and recruiting and evaluating career and technical education teachers. Thus, local career and technology directors need to understand factors that influence career and technical education teachers to remain in their respective program areas for a period of time.

Teacher Attrition and Retention

Attrition is defined as teachers leaving the school district where they are employed or teachers leaving the teaching profession altogether (Darling-Hammond, 2003; Ingersoll, 2001). According to Bobek (2002) and Colley (2002), 22% of new teachers left the profession within the first three years, 50% of new teachers left after the first five years, and two million new teachers will be needed over the next decade. In addition, Ingersoll noted that teacher retirement accounted for less than 20% of teacher attrition.

Although teachers cite a variety of reasons for leaving the teaching profession, some of the more common reasons were unmotivated students, lack of parental support, lack of preparation, limited resources, minimal administrative support, and low salary (AARP, 2003; Darling-Hammond, 2003; Justice, Greiner, & Anderson, 2003). Colley (2002) noted that beginning teachers earned an average \$8000 per year less than other college graduates.

Personal factors that influence teacher retention. Retaining teachers in today's teaching profession seems to be a daunting task. Teachers who are satisfied by an intrinsic reward system have chosen to remain in teaching. A study conducted by the AARP (2003) noted that the rewards ranged from seeing students achieve concepts being taught, to personal interactions with students, to watching students progress over the years. In addition, Williams (2003) noted teachers who witnessed student growth were motivated to remain in teaching. According to Williams, the personal and professional challenges engaged by teachers influenced their retention. Bobek (2002) stated that teachers who have remained in the teaching profession have attained resources and

exhibit certain characteristics such as qualified career skills, personal ownership, and a sense of humor. Moreover, Shann (1998) conducted a job satisfaction study of urban middle school teachers and noted that teacher-pupil relationships ranked highest in terms of job satisfaction.

Professional factors that influence teacher retention. In addition to intrinsic motivators that influence teachers to remain in the teaching profession, there were extrinsic motivators that influence teachers' decisions to remain. Principals as instructional leaders can help in this endeavor. New teachers need to see the principal in their classrooms and receive feedback from the principal (Colley, 2002). As noted by Colley (2002) and Brock and Grady (1998), new teachers learning about a school's culture was also important to teacher retention. Principals and veteran teachers may apprise new teachers of a school's culture by telling them the school's legendary stories.

Successful teachers tended to remain in a school system where they are supported, are part of a team, and can achieve common goals (Wong, 2002). In addition, factors that influence teachers to remain in the teaching profession were administrative support, rewards and advancements, and collegial support (AARP, 2003). Murphy and Angelski (1997) noted that teachers' relationships with their principal, their spouse's career, and their community relationships were factors that influence teachers to remain at their respective schools.

School districts may help successful teachers who desire to remain in their school system. Districts may do this by reducing teaching loads, providing release time for professional development opportunities, providing monetary incentives, and enforcing student discipline (Justice et al., 2003). Wong (2002) stated that school systems desiring

quality teachers made new teacher training and support top priorities. Hence, teachers would realize that school systems both needed and valued their service.

Career and Technical Education Teacher Attrition and Retention

According to the United States Department of Education, career and technical education teachers, or vocational education teachers, teach in a variety of program areas. The program areas ranged from business and agriculture to health occupations and trade industry. Researchers noted that career and technical education teachers tended to be older than academic teachers (Gordon, 2003; Levesque, Lauen, Teitelbaum, Alt, & Librera, 2000). The researchers attributed this tendency to the career and technical education teacher entering the teaching profession at an older age, possibly after working in private industry. Kaufman (1992) stated that approximately 27% of secondary career and technical education teachers were age 50 or over compared to 18.5% of nonvocational teachers who were age 50 or over. Kaufman also noted that 43% of career and technical education teachers stated that they would remain in the teaching profession until retirement compared to 37% of nonvocational teachers who stated that they would remain in the teaching profession until retirement.

Researchers have shown that professional factors such as adequate resources, administrative support, and reduction of extra duties influenced career and technical education teachers to remain in the teaching field (Crawford, 2000; Kirby & LeBude, 1998). Edwards and Briers (2001) and Kirby and LeBude (1998) noted that personal factors such as perception of competence level, co-worker relationships, professional growth, and student growth were strong retention influences for the career and technical education teachers involved in the studies.

In contrast, Heath-Camp and Camp (1990) noted that nationwide 15% of first year career and technical education teachers vacated their teaching positions at the end of their first year. In addition, Weston (1997) noted a general shortage of teachers caused some school systems to delete program areas from their school curricula. Crawford (2000) conducted a qualitative study of career and technical education teachers who had left the teaching profession to determine reasons for leaving. Crawford noted various reasons for leaving: dissatisfaction with teaching, dissatisfaction with salary, and lack of administrative support.

Statement of the Problem

Secondary schools in the United States employ approximately 118,000 career and technical education teachers. Career and technical education teachers constitute a teaching force that traditionally accrues more years of teaching experience than other groups of teachers. Little was known about the factors that influence a career and technical education teacher to remain in the teaching profession. Understanding the professional and personal factors that influence Georgia's secondary career and technical education teachers to remain in the teaching profession may be insightful to education leaders. Therefore, the researcher's purpose was to analyze the retention factors that influence Georgia's secondary career and technical education teachers to remain in the teaching profession.

Research Questions

The overarching question for this study was as follows: Why do Georgia's secondary career and technical education teachers tend to remain in the teaching profession?

1. What is the demographic profile of career and technical education teachers?
2. What are the professional factors that influence career and technical education teachers to remain in the teaching profession?
3. What are the personal factors that influence career and technical education teachers to remain in the teaching profession?
4. What is the relationship between the demographic profile and the professional factors?
5. What is the relationship between the demographic profile and the personal factors?

Significance of the Study

Much of the literature about career and technical education focused mainly on course offerings, student population, and teacher background. However, the researchers do not discuss the factors that influence teacher longevity in career and technical education. The researcher's purpose was to describe the personal and professional factors that influence Georgia's secondary career and technical education teachers to remain in the teaching profession. Understanding the factors that influence career and technical education teachers to remain in the classroom will enable the Georgia Department of Career and Technical Education, local career and technical education administrators, and

local school system principals and superintendents to make a better determination of possible attrition, retention, and retirements of career and technical education teachers.

Procedures

Data were collected by an on-line survey titled *Retention Influences of Georgia's Secondary Career and Technical Education Teachers* sent to career and technical education teachers throughout Georgia. Data gathered consisted of work environment, teaching experience, interest in teaching, and demographics.

Limitations

The analysis of retention influences can be generalized only to Georgia's secondary career and technical education teachers.

Definition of Terms

Terms used in this study may need clarification. The following definitions are important for the reader to understand the study terminology.

Academic teachers are those teachers who teach courses other than vocational education courses and hereinafter will be referred to as nonvocational teachers.

Alternative certification is certification received by teachers who entered the career and technical education teaching field from private industry.

Attrition is the act of teachers leaving the teaching profession due to either professional or personal reasons.

Retention is defined as teachers remaining in the teaching profession.

Traditional certification is certification received by teachers who followed a traditional teacher preparation program.

Vocational education is the teaching of real-life situations in a classroom or lab setting. Vocational education is also known as career and technical education and hereinafter in this study will be referred to as career and technical education.

Summary

The researcher's purpose was to analyze professional and personal factors that influence Georgia's secondary career and technical education teachers to remain in the teaching profession. The analysis was to provide Georgia's school district administrators reasons for the secondary career and technical education teachers' longevity in the teaching profession. No matter the name used for career and technical education by the educational world, career and technical education has been a mainstay of American public education from the Colonial Period through the Twentieth Century. Although the career and technical education mission and name have changed over the years, the main concept of providing work skills to the general public has not changed. This concept has remained intact from the Morrill Act of 1862 to the Carl Perkins Vocational and Applied Technology Education Act of 1990.

Teacher attrition is increasing rapidly. Two million new teachers will be needed in the United States over the next decade. Therefore, school administrators may want to study teacher retention or teacher longevity to determine factors that influence a teacher's decision to remain in the teaching profession. Studies on reasons for nonvocational teacher attrition and retention have been conducted, but no known research on reasons that Georgia's secondary career and technical education teachers remain in the teaching profession was available. Reasons for remaining in the teaching profession were noted by nonacademic teachers. Some of the reasons were administrative support, rewards,

advancements, and student growth. Administrators may be able to use the factors or characteristics that have influenced Georgia's secondary career and technical education teachers' retention to influence Georgia's nonvocational teachers to remain in teaching.

CHAPTER 2

REVIEW OF RESEARCH AND RELATED LITERATURE

Introduction

The retention of quality teachers is a complex challenge (Brown, 2003). Brown noted that the United States Department of Education estimated two million teachers will be hired over the next 10 years. Understanding the retention influences of career and technical education teachers who have diverse backgrounds will ensure that there are confident, composed, and highly qualified career and technical education teachers teaching the leaders of tomorrow (Brown, 2003; Ruhland & Bremer, 2003). Martin (1995) stated in a speech given at a technology educators' meeting that teaching was more than just reporting to class. Teachers should look within themselves to determine whether they were committed to the school community and the teaching profession. Martin noted that if technology teachers were committed to the teaching profession, then competent teachers would remain in the classroom.

Historical Background

A historical review of career and technical education in the United States was examined to give the reader a foundation for understanding how career and technical education began in the United States. The historical foundation guides the career and technical education curriculum of the 21st century.

American Apprenticeship

The oldest type of career and technical education in the United States was apprenticeship. However, because apprenticeship was a formal agreement between a master and the apprentice that was not part of a school curriculum, apprenticeships later

evolved into formal education (Gordon, 2003). Roberts (1965) and Hogg (1999) noted that there were two types of apprentices in the American colonies. One was voluntary, where a child chose to become an apprentice; the other was compulsory, where a child was apprenticed. Generally, parents who could not pay for a child's education placed the child in an apprenticeship (Hogg, 1999; Roberts, 1965).

Because there were no guilds or craft organizations in colonial America, the colonists modified the British apprenticeship program to meet the needs of the colonists. Consequently, apprenticeship became an important part of education in colonial America (Gordon, 2003). During the colonial period in America, apprentices were taught by master craftsmen. McCaslin and Parks (2002) noted that colonial era apprentices were provided on-the-job training and craft instruction. Since there was not any formal education for apprentices, their masters were expected to instruct their apprentices in civic and moral responsibility. Miller (1993) noted that colonists deemed vocational education for lower socio-economic classes who learned by imitation, not by higher-order thinking skills. Consequently, apprenticeships flourished during this time.

Roberts (1965) and Miller (1993) stated that in 1642 the Massachusetts Bay Colony established a compulsory apprentice law that required parents and masters of apprentices to teach each child a trade and to instruct the child how to read and to understand the principles of religion and the laws of the colony. Furthermore, Roberts noted that in 1665 New York passed a law which made the first provision for education. The law required that all children and apprentices be instructed in religion, the province law, and a trade. The New York law was a compulsory education law, but this law did not use apprenticeship as a way to enforce the law (Roberts, 1965).

The first separation of vocational and academic instruction occurred during the 18th century when the masters sent the apprentice to evening school for reading, writing, and arithmetic because they were no longer able to provide academic instruction to the apprentice (McCaslin & Parks, 2002). However, according to Barlow (1976), apprenticeship began to decline rapidly in the late 1700s. Barlow noted that the factory system of the 1800s was the most important reason for the decline in apprenticeship. A need for workers who knew their craft continued, but this change in industry brought changes in schools (Barlow, 1976). What became known as the Industrial Revolution created a working class who demanded not only educational opportunities but also demanded jobs that required a new type of education (Walter, 1993).

Public Education in Early America

Curriculum taught in schools during the 18th century consisted of various topics (Delano, 1976). Topics included newspaper writing, dancing, reading, fencing, shorthand, French, Latin, arithmetic, geography, spelling, geometry, astronomy, and bookkeeping (Barlow, 1976; Delano, 1976). Delano noted that all children were taught bookkeeping, women kept records of household expenses, and men kept business transaction records. However, children who lived in isolated areas were taught to read by parents, older siblings, or friends (Delano, 1976).

Hogg (1999) noted that before the American Civil War, education continued much as it had in colonial times. Children learned by imitating adults or by apprenticeship. Barlow (1976) stated that by 1840 in New England, school was the rule, not the exception. Barlow also noted that the Midwestern states made school the rule by 1850. However, children from upper and middle class families attended school while

children from poor families seldom attended school. Hogg stated that there were approximately 500 public secondary schools by 1870 in the United States.

The 1874 Kalamazoo decision in the Michigan Supreme Court clarified the legal need for public high schools (Hogg, 1999). Scott and Sarkees-Wircenski (1996) noted that the increase of compulsory school laws gave schools a diversified population. High school was no longer a transition school for those planning to attend college; high school became a school for the masses (Walter, 1993; Scott and Sarkees-Wircenski, 1996).

Industrial Revolution

The early 1800s brought the decline of the apprenticeship due to the Industrial Revolution (Gordon, 2003; Hogg, 1999; McCarthy, 1952; Smith, 1999). The Industrial Revolution in the United States influenced education during three separate movements that spanned 175 years. The first industrial revolution saw the establishment of the factory system during the years of 1776-1800 (McCarthy, 1952). These factories used power-driven machines which ousted craftsmen (Bezis-Selfa, 2004). The factory system was slow to materialize in the beginning because the American colonists depended on England to supply them with manufactured goods (McCarthy, 1952). Walter (1993) noted that the Industrial Revolution was also delayed in the United States due to restrictive trade laws.

Events such as the Embargo Act, the Nonintercourse Act, and the War of 1812 brought the United States into the second industrial revolution. The War of 1812 prompted the acceptance of the factory system, but the American Civil War expedited the movement (McCarthy, 1952; Roberts, 1965). The demand for guns and supplies drove the craftsmen, or masters and apprentices, out of business because the craftsmen could

not maintain the pace of the arsenal demand. Eli Whitney determined how to manufacture guns by machine so that the parts were interchangeable (Eli Whitney Institute, 2006). Therefore, guns with interchangeable parts were produced in quantity. Power-driven machines produced a product in quantities. Furthermore, mass-production machines were developed. Demands for improvements and new inventions evolved as a result of the increased trade of manufactured goods (Thompson, 1973).

The third movement of Industrial Revolution in the United States began during the post-Civil War era (Gordon, 2001). New inventions or discoveries gave rise to the movement. Henry Ford built his Model T in 1908 and ushered in the era of mass production with his moving assembly line (Frost, 2000; *The Way it Was*, 1998). This new technology, or mass production, had five disadvantages (Thompson, 1973). The disadvantages included increased accidents, poor working conditions, layoffs when supply and demand was not met, blacklisting workers who protested the new system, and economic chaos for families if their wage earners were lost due to an accident. The factory owner felt no responsibility to his workers when the workers experienced misfortune in the owner's factory (Thompson, 1973). In addition, workers needed no formal education to operate the simple machinery. However, the owner observed that his literate employees became better workers (Thompson, 1973; Barlow, 1976).

Impact of Industrial Revolution on American Education

Demand for the development of vocational education began during the 1820s (Gordon, 2003). Different types of schools emerged as apprenticeships faded, and the American Industrial Revolution began (Barlow, 1976; Gordon, 2003; Hogg, 1999; Thompson, 1973; Walter, 1993). Gordon noted that before 1820 the first institution to

provide the benefits of academic and vocational preparation was the Farm and Trade School in Boston, Massachusetts.

American lyceum. One type of school was the American lyceum, a movement that occurred between 1823 and 1833. The lyceums were used to educate adults through lectures (Gordon, 2003; Hogg, 1999; Roberts, 1965). Because farmers and mechanics did not trust the lecturers and because there was a lack of funding for lyceums, the movement was ephemeral (Gordon, 2003).

During the early 1800s, technical institutes and special schools were established (Roberts, 1965). The Rensselaer School, which later became the Rensselaer Polytechnic Institute in Troy, New York, was established to provide instruction in agriculture and science (Gordon, 2003; Roberts, 1965). Roberts stated that technical institutes established for instruction in practical application became an important influence in the development of vocational education in the United States in the ensuing years.

Land grant colleges. During the time of the American Industrial Revolution, the establishment of land-grant colleges led to vocational education instruction in high schools (Roberts, 1965). The Morrill Act of 1862 (Evolution of Public Education Legislation, 1987) stated that public land would be donated for colleges of agricultural and mechanical arts instruction. The Morrill Act and its amendments were the foundation for today's agricultural colleges and state universities (Scott & Sarkees-Wircenski, 1996). Gordon (2003) noted that the Morrill Act was the first legislation to support vocational education. Universities realized that students enrolled in higher education were unprepared; therefore, land-grant colleges created university high schools and made vocational training a curriculum priority (Gordon, 2003). In addition, Roberts (1965)

noted that the land-grant colleges had an influence on high schools because the land-grant colleges prepared teachers, developed new sciences and materials, and helped the public schools to serve the people's needs.

Manual training schools. Manual training schools emerged during the late 1860s in the United States (Barlow, 1976). Researchers noted that instruction provided by the manual training institutions included the academics as well as mechanics, bookkeeping, and carpentry (Gordon, 2003; McCarthy, 1952; Roberts, 1965). The manual labor movement began when the Hampton Institute opened in 1868 (Gordon, 2003). The first manual training high school was founded in St. Louis, Missouri, in 1888 (Barlow, 1976; Hogg, 1999; Roberts, 1965). Roberts stated that this high school was a branch of Washington University Polytechnic. Professor Calvin Woodard saw the need for a combination of academic and shop courses for secondary students. Manual training high schools continued to be established well into the 1880s (Barlow, 1976; Gordon, 2003; Hogg, 1999; Roberts, 1965). The 1890s and early 1900s saw the advent of the technical high school, which was a specialized type of manual training high school (Roberts, 1965). Walter (1993) stated that the manual training movement helped to begin a shift to vocational education. Due to the growing need of specialized jobs, a broad high school curriculum stressed that students needed assistance in choosing a career path (Walter, 1993).

Twentieth Century

Before the signing of the Smith-Hughes Act in 1917, the United States was vocationally unprepared (Gordon, 2003; Smith, 1999). Consequently, as the United States entered World War I, there was a shortage of trained workers for the military and

industry. The first major legislation after the Morrill Act of 1862 was the Smith-Hughes Act of 1917.

Smith-Hughes Act of 1917. United States Senator Hoke Smith and United States Representative Dudley Hughes introduced similar legislation in their respective houses of Congress (Gordon, 2003; Lozada, 1999). Gordon noted that when President Wilson signed the law into effect on February 23, 1917, he gave the nation “. . . one of its greatest assets, vocational education” (p. 79). In summary, the law provided for “. . . education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure” (Roberts, 1965, p. 563). This Act was the beginning of vocational education isolation from the academic curriculum (Gordon, 2003; Roberts, 1952).

The Smith-Hughes Act created the Federal Board for Vocational Education (Barlow, 1976; Hillison & Moore, 1993). Hillison and Moore noted that the board was included in the Act because the Commissioner of Education continuously referred to vocational education as school gardens and nature study. Furthermore, proponents of the Smith-Hughes Act felt that relinquishing vocational education to someone who had such a limited view of vocational education would be detrimental. The Federal Board of Vocational Education’s life span was short-lived; it became an advisory board after the Great Depression. However, in an effort to economize the government, the Federal Board for Vocational Education was abolished in 1946 by President Truman (Hillison & Moore, 1993).

Vocational Education Act of 1963. Before the enacting of the Vocational Education Act of 1963, the intervening years saw legislative acts authorizing additional funds, teacher education programs, and additional vocational programs (Gordon, 2003; McCarthy, 1952; Roberts, 1965). President John F. Kennedy commissioned a vocational education study, followed the project into the legislative phase, and stressed the importance of vocational education to Congress through his messages (Barlow, 1976). Although President Kennedy was assassinated before he could sign the legislative act, President Lyndon Johnson signed the law in December 1963 (Barlow, 1976).

When President Johnson signed the Vocational Education Act of 1963, vocational education began a new era (Gordon, 2003). Roberts (1965) noted that the law was designed to accomplish three goals. The first goal was to improve the current programs and to develop new vocational education programs. The second goal was to encourage research and experimentation. The third goal was to provide work-study programs to enable high school students to continue to attend school on a full-time basis while working part-time jobs during school hours. The part-time job was supervised by the respective vocational education teacher. Lozada (1999) also noted that the Vocational Education Act of 1963 created educational opportunities for students with academic, socioeconomic, or other handicaps.

Carl D. Perkins Vocational Education Act. During 1984, the Carl D. Perkins Vocational Education Act, which changed vocational education funding from program expansion to funding for program improvement and at-risk student populations, was signed (Gordon, 2003). The Perkins act set two major goals to be accomplished through vocational education. The economic goal was to improve skills of the labor force and to

prepare adults for job opportunities. The social goal was to provide equal opportunities for adults in vocational education.

The 1990s saw another change in vocational education. The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 emphasized the integration of academic and vocational education, articulation between segments of education engaged in workforce preparation, and close linkages between school and work (Lozada, 1999). These changes represented a major paradigm in how vocational education had been implemented historically in the United States. Provisions in legislation since Smith-Hughes had advocated a separation between academic and vocational education (Lozada, 1999).

However, the separation between academic and vocational education changed in 1998. President Clinton signed the Carl D. Perkins Vocational and Technical Education Act and replaced the 1990 Act (Gordon, 2003). Gordon noted that the 1998 Act provided for the establishment of the Technical Preparatory program, or Tech Prep. Tech Prep was the integration of academics and vocational education which led to post-secondary education and successful careers for secondary students (ACTE, 2004).

The 21st century demands of the economy and technical fields necessitate that students read, interpret, analyze, calculate, use technology, and communicate clearly (ACTE, 2004). The vernacular change from vocational to career and technical signified the evolution of the field to meet the educational needs of today's students (Kerka, 2000; ACTE, 2004). Predmore (2004) noted that not only were career and technical education programs found in rural areas of the country, but also these programs were found in urban areas. Career and technical education programs in urban areas were integral in

successfully combating low student achievement. Lynch (2000) stated that career and technical education was integral to the whole school and noted four purposes for high school career and technical education. The purposes of career and technical education are to provide career exploration and planning, to enhance academic achievement and motivation to learn, to acquire generic work skills for employment, and to establish pathways for continued education and lifelong learning for the career and technical education student (Lynch, 2000). Adams (1996) noted that those who teach career and technical education assume additional responsibilities that include recruiting and retaining students, supervise a co-curricular student organization, coordinate an advisory committee, and place students in occupational job training programs.

Teacher Attrition

Attrition is defined as the teacher leaving the teaching profession altogether (Ingersoll, 2001). Researchers have noted factors that influenced teachers to leave the profession (see Table 1). Some of these influences were isolation from colleagues, inadequate curriculum materials, a relatively non-existent mentor, little student discipline, lack of administrative support, low teacher salaries, overall poor working conditions, inadequate teacher education preparation, lack of student motivation, and lack of influence over decision-making (Darling-Hammond, 2003; Ferriter & Norton, 2004; Ingersoll, 2001; Johnson & Birkeland, 2003).

Teacher attrition increased from 1987 to 2000 by approximately 125,000 teachers while those teachers entering the profession during the same time span increased by 50,000 teachers (Darling-Hammond, 2003). Darling-Hammond reported that one-third of new teachers left the profession within five years. Bobek (2002) stated that 22 percent of

Table 1

Studies Related To Teacher Attrition

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Shen (1998)	Examine teacher attrition and retention	4,761 public school teachers	Quantitative: direct discriminate function analyses	<ul style="list-style-type: none"> • stayers were statistically distinguished from movers and leavers on personal characteristics, school characteristics, and perceptions of school and profession related issue
Certo & Fox (2002)	Investigate teacher attrition and retention	42 teachers from urban, suburban, and rural Virginia	Quantitative: focus groups	<ul style="list-style-type: none"> • top reasons to leave profession were insufficient salary, lack of administrative support, and lack of planning time
Madsen & Hancock (2002)	Examine music education teacher attrition and retention	137 music education teachers	Quantitative: questionnaire	<ul style="list-style-type: none"> • many music teachers left profession early in their careers • lack of support was a concern • some music teachers reentered the profession after leaving

new teachers left within three years. Bobek and Darling-Hammond stated that the attrition rate was higher in high poverty schools than it was in low-poverty schools.

Urban and rural school systems, which have both high-poverty and low-poverty schools, had common attrition problems. Urban and rural schools experienced inadequate resources, teacher isolation, large class size, discipline issues, and lack of parental support (Simurda, 2004). Researchers have noted that attrition among teachers was a problem and that retention was a priority. Shen (1998) conducted a study that used data from the 1990-1991 Schools and Staffing Survey and the 1991-1992 Teacher Follow-Up Survey. The sample included 4,761 public school teachers. Shen found that fewer experienced teachers tended to leave the profession while more experienced teachers remained in the profession. In addition, Madsen and Hancock (2002) reported in their study of 137 music teachers over a six-year time span that 34.4% of teachers had left teaching and that this number was below the national average rate of attrition for teacher in other subject areas.

Certo and Fox (2002) noted salary as a teacher attrition influence from a qualitative study of elementary, middle and secondary math, science, or special education teachers from Virginia schools. Teachers participated in one of nine focus groups. One of Certo and Fox's research questions inquired about perceptions of reasons that colleagues left the teaching profession. The number one theme for leaving the teaching profession was salary and benefits. Ingersoll (2001) stated that one-fourth of teachers who participated in the Teacher Follow-up Survey (TFS) gave low salaries as a reason for leaving the profession. Virginia school teachers noted that the complete pay package including benefits was inadequate (Certo & Fox, 2002). One comment from a focus

group was “. . . teaching salaries are not growing with the rate of the economy. So to live off a teaching salary is a struggle. Both [my husband and I] have extra jobs to supplement living expenses” (Certo & Fox, 2002, p. 14).

Billingsley (2004) and Dove (2004) noted in their respective studies that salary was linked to teacher attrition. Dove noted that many studies, worldwide, indicated that teachers left the teaching profession due to dissatisfaction with salary. Teachers changed careers due to low salaries. Darling-Hammond (2003) reported that teacher salaries in the United States were 20% below salaries of other professions with comparable education and training.

Richard Riley, United States Secretary of Education during President Clinton’s administration, stated in his Seventh State of America Education address that the teaching profession needs to be a better paid profession. The income gap between experienced teachers with a master’s degree and people in other fields with the same level of education is \$32,000 a year (Riley, 2005).

Teacher Retention

Billingsley (2004) stated that teacher retention pertains to teachers who remain in the teaching profession at the same assignment and school. Billingsley also described teacher retention as those teachers who remain at the same school but in a different position or teachers who moved to a new school. Studies related to teacher retention noted retention influences may be classified into two categories: professional and person (see Table 2).

Table 2

Studies Related To Teacher Retention

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Shen (1998)	Examine teacher attrition and retention	4,761 public school teachers	Quantitative: direct discriminate function analyses	<ul style="list-style-type: none"> • stayers were statistically distinguished from movers and leavers on personal characteristics, school characteristics, and perceptions of school and profession related issues
Brunetti (2001)	Examine teacher job satisfaction	426 Northern California high school teachers	Quantitative: survey & Qualitative: interviews	<ul style="list-style-type: none"> • working with students most powerful motivator to remain in classroom • other factors for remaining were passion for subject, autonomy, and collegiality

Table 2 (continued)

Studies Related To Teacher Retention

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Certo & Fox (2002)	Investigate teacher attrition and retention	42 teachers from urban, suburban, and rural Virginia	Quantitative: focus groups	<ul style="list-style-type: none"> • top reasons to leave profession were insufficient salary, lack of administrative support, and lack of planning time
AARP (2003)	Explore current and former K-12 teacher views on retention and attrition	100 current and former K-12 teachers	Qualitative: online bulletin boards and telephone interviews	<ul style="list-style-type: none"> • noted reasons of motivation and rewards for teachers to remain in teaching • listed retention barriers
McGlamery & Edick (2004)	Retention study of the CADRE Project	117 CADRE teachers	Quantitative: surveys	<ul style="list-style-type: none"> • majority of teachers in CADRE induction program remained in teaching
Inman & Marlow (2004)	Examine attitudes of beginning teachers for perceived	Teachers in Georgia's public school systems	Quantitative: Professional Attitude Survey	<ul style="list-style-type: none"> • beginning teachers needed teacher education mentors, colleagues with similar ideas about teaching, administrators who encouraged, and positive community support

influence on school and teaching policies were more inclined to remain in teaching (Certo & Fox, 2002; Shen, 1998). Ferriter and Norton (2004) stated that a teacher remarked to them in an interview that although her current school, where she had been for seven years, was dilapidated, had little technology, and she had a \$125 budget, the principal empowered the teachers to make decisions. Teacher empowerment was the reason she chose to stay. Furthermore, Certo and Fox (2002) conducted a qualitative study composed of 42 teachers divided into focus groups. The interviewed teachers had taught in their grade level and subject area for fewer than eight years. The teachers in the focus groups indicated that giving teachers decision-making power would influence them and other teachers to remain in teaching. Inman and Marlow (2004) noted that beginning teachers who had colleagues with whom they shared ideas and solved problems were more likely to remain in teaching.

Teacher empowerment was also a component to systems thinking. Minarik, Thornton, and Perreault (2003) discussed how principals should rid themselves of command and control attitudes to create a school culture that promotes and supports teacher empowerment. Science teachers in 14 school districts in Imperial County, California were part of the Valle Imperial Project in Science, which focused on systematic approaches for teacher retention (Klentschy & Molin-DeLa Torre, 2003). The K-12 student population in Imperial County was 81.5% Hispanic; therefore, the majority of the county's schools qualified for Title I. Even though a school was a Title I school, Klentschy and Molina-DeLa Torre stated that the empowerment teachers received through leadership development, collaboration, and networking within and between schools influenced their decision to remain in teaching.

Often low salary was considered a factor in influencing teachers to leave the teaching profession (AARP, 2003; Darling-Hammond, 2003; Justice, Greiner, & Anderson, 2003). In contrast, a study composed of teachers from randomly selected Georgia schools was conducted by Inman and Marlow (2004) and showed that salary was a reason for teachers to remain in the teaching profession. Salary was considered a factor in retention, and 77% of the respondents in the study answered the questionnaire accordingly (Inman & Marlow, 2004). In addition, Shen (1998) noted that annual salary for teachers was correlated positively with teacher retention. Shen reported that this positive correlation was between the number of years teaching experience and annual salary.

According to Morice and Murray (2003), the Ladue School District in St. Louis, Missouri, has retained teachers by implementing an incentive pay program. The school district's evaluation and salary program was begun in 1953 to evoke cooperation, respect, trust, and to improve instruction. The program criteria were based on a teacher's organizational skills, content knowledge, instructional delivery, conducive learning environment, student evaluation, and provisions for student differences. The Ladue teacher compensation plan was not linked to student achievement. The Ladue School District had a strong retention record with an average of only 4.86% of Ladue's teachers leaving the teaching profession for reasons other than retirement since 1993.

The Ladue School District's teacher salaries compared favorably with the surrounding school districts (Morice & Murray, 2003). However, the Ladue district did not use a teacher salary schedule and did not set a maximum salary. A teacher's annual raise was determined by an equation using the teacher's performance appraisal. The

2003-2004 Ladue School District Report Card noted the average Ladue teacher salary was \$53,858; average county teacher salary was \$49,056; and the average Missouri teacher salary was \$38,247 (Ladue School District, 2004, p. 2).

Induction, or mentoring programs, were ways to help retain teachers. According to Millinger (2004), effective mentoring programs should meet two conditions. The first condition was that both mentor and mentee should have clearly defined roles and responsibilities. The second condition was that both the mentor and mentee should gain from investing themselves in the mentoring process (Millinger, 2004). McGlamery and Edick (2004) conducted a study of the Career Advancement and Development for Recruits and Experienced teachers (CADRE) project. The CADRE project was a Nebraska induction program for beginning teachers and professional renewal for veteran teachers. Newly certified teachers were supported during their first year of teaching by a university graduate program and selected teachers. McGlamery and Edick surveyed 117 former CADRE teachers to determine CADRE's impact on teacher retention and found that 89% were still teaching. All of the teacher comments noted that the qualified mentor provided assistance in helping new teachers feel secure and confident in assuming their varied responsibilities as first year teachers.

Administrative support was a positive influence on teacher retention. Useem and Neild (2005) noted that Philadelphia implemented retention strategies in 2003. New teachers in Philadelphia reported that they felt welcomed and supported by administrators (Useem & Neild, 2005). Otto and Arnold (2005) conducted a study of special education teachers and found that experienced special education teachers considered administrators

to be supportive whereas those with fewer than five years of teaching experience did not consider the administrators to be supportive.

The main aspect of administrative support was treating teachers as professionals. Teachers who experienced administrative support were more likely to remain in teaching than those who experienced less support (Billingsley, Gersten, Gillman, & Morvant, 1995). Renard (2003) noted that administrative support incorporates many aspects of a school building and instruction time. Some ways an administrator could show support was to avoid assigning teachers an after school duty, to avoid placing new teachers on school committees for at least two years, to avoid assigning new teachers to the most difficult students, to avoid new teachers having to use various classrooms on a daily basis, and to schedule the same planning period for the mentors and the new teachers. Billingsley et al. stated that receiving the resources was not the issue; having the feeling that someone was advocating for the new teachers was what was important.

Efficient and adequate teacher preparation was a factor in teacher retention. Researchers who conducted a study in Texas of teacher preparation methods of alternative certification programs (ACP, Centers for Professional Development and Technology (CPDT), and traditional certification programs (TCP) found that the TCP produced a higher retention rate than the ACP and CPDT at the end of five years (Harris, Camp, & Adkison, 2003). The TCP retention rate was 88.28%, the ACP rate was 80.95, and CPDT rate was 85.82% (Harris, Camp, & Adkison, (2003). Allen (2003) noted that alternative route participants experienced more difficulties than traditionally trained teachers due to the alternative route of teachers who had limited pre-service training. Alternative certification programs met the short term goal of putting teachers in the

classroom, but ACP teachers did not remain in the classroom as long as a teacher who has completed a TCP (Harris et al., 2003). In addition, Allen noted that teacher retention varied depending on the quality of the respective teacher preparation program.

Nelson (2004) taught in a high-needs school in Rochester, New York. After several months of struggling with teaching, Nelson felt that her teacher preparation program had been inadequate. However, she participated in professional learning opportunities and stated that retention would be higher in high-needs schools if teacher preparation programs included an understanding of the student socio-cultural as related to education and a supervised experience in a high-needs school (Nelson, 2004).

Working conditions were a factor in teacher retention. The research tended to consider working conditions as a component of administrative support (Billingsley et al., 1995; Brunetti, 2001; Dove, 2004; Madsen & Hancock, 2002). Dove stated that working conditions consisted of class size, planning time, instructional resources, school organization, and opportunities for advancement. Teachers who taught in schools of affluent or advantaged communities experienced smaller class sizes and teachers who had influence over school decisions tended to remain in teaching (Darling-Hammond, 2003). The study conducted by the AARP (2003) showed that rewards and advancements, professional development opportunities, and supportive colleagues contributed to teacher retention.

Personal Factors

A study conducted by the AARP (2003) noted that rewarding moments in a teacher's career influenced the teacher's decision to remain in teaching. Examples of these rewards were the moment when a student grasps the concept taught, personal

connections with students, contact beyond high school, student maturation over the years, and gratitude of parents and administrators. Certo and Fox (2002) noted that an elementary teacher was asked, “What reasons do teachers give for staying in their school division?” The elementary teacher gave the reply:

I love what I do. Why? Because . . . it’s always different. You never know what the kids are going to do. There is always a challenge to figure out. How to get that kid to understand what he doesn’t understand and yet that look on his face when the light bulb goes on. They go ‘oh, yeah!’ there is so much reward in that you get up the next morning and come back (p. 4).

Another teacher stated that she had a sense of commitment to children in her school and that the work environment gave her a sense of feeling important and needed (Certo & Fox, 2002).

Williams (2003) conducted in-depth interviews with 12 teachers who had been teaching at least 15 years with an average of 23 years. One of the factors that influenced teachers to continue to teach was the reward of teaching. The rewards of teaching included witness of students’ change and growth, inspiration of children wanting to learn, and leading students to believe in themselves. A high school history teacher interviewed by Williams stated, “You can see they’re frustrated at first, and then suddenly you can see this glow on their faces. . . .they say, ‘Gosh, yeah, I got it. I see it’” (p. 72).

A study conducted by Brunetti (2001) produced similar results with teachers from a large Northern California school district. Brunetti interviewed 28 teachers; all but two had 15 years or more of teaching experience with an average of 28 years. Teachers rated the factor of seeing students learn and grow as a very important influence on their

decision to remain in the classroom. One teacher stated how proud he was that his journalism class voluntarily produced an issue of the school newspaper pertaining to the San Francisco earthquake of 1989. Another teacher stated that the most important reward for him was seeing a student achieve success when the student did not have self-confidence. Bobek (2002) noted that a teacher's intrinsic reward of influencing the cognitive, social, and personal growth of students enabled the teacher to remain in teaching despite other discouraging experiences. In addition, the AARP (2003) study noted that teachers enjoyed contributing to the lives of young people by helping young people learn.

Another personal factor that influenced teachers to remain in the teaching profession is the teacher's relationship with the students. Shann (1998) stated that a group of middle school teachers were asked the question: "What do you like most about teaching in this school?"; these middle school teachers replied, "the kids!" (p. 69). Teachers also stated that professional student-teacher relationships with their students were important and satisfying.

The challenge of teaching kept teachers in the classroom. Williams (2003) stated the challenge involved teachers meeting their students' needs. Challenge also came to the teachers in the form of varying how they teach, working with different students every year, and taking on new tasks inside and outside the classroom (Williams, 2003). Brunetti's (2001) study in Northern California found that working with different young people and having success with problem students motivated teachers to remain in the classroom.

Career and Technical Education Teacher Retention

A report distributed by the National Center for Education Statistics stated that during the 1987-88 school year, there were approximately 829,000 grades 9-12 public school teachers (Kaufman, 1992). Of the 829,000 teachers, approximately 163,000 were career and technical education teachers. Of the 163,000 career and technical education teachers, approximately 53% of them were male, 90% were white, and 27% were age 50 and over. Although certain career and technical education teachers began their teaching career after working in the private sector, 46% of career and technical education teachers held a master's degree or higher. The career and technical education teacher had 10 or more years of teaching experience. However, a report by Heaviside, et al. (1994) for the National Center for Education Statistics stated that there were 118,000 secondary career and technical education in the United States during 1994. In addition, Levesque et al. (2000) stated that career and technical education teachers were older than academic teachers. This age contrast may have been due to career and technical education teachers entering the teaching profession after a career in the private sector (Levesque et al., 2000).

Career and technical education teachers taught in different settings including the classroom, the laboratory, and work-based. The career and technical education teacher teaches by using a vast array of teaching strategies (Rojewski, 2002). Career and technical education teachers must stay abreast of current work and family trends along with educational reforms (Rojewski, 2002). In addition, Twomey (2002) and Harrison (1987) noted that career and technical education teachers require more than the skills of their teaching profession and must be thoroughly trained and adept in the career and

technical education program in which they teach. Joerger and Bremer (2001) stated career and technical education teachers not only needed specific occupational skills, but also they needed skills to meet the needs of special populations, integrate academic and occupational instruction, coordinate work-based learning programs, and prepare students for the workplace and secondary education. Thus, career and technical education teachers were pressured to have a wide range of skills (Joerger & Bremer, 2001). Researchers conducted studies that show retention influences and retention barriers for career and technical education teachers (see Table 3).

Retention Influences

Kirby and LeBude (1998) conducted a survey study of 167 beginning career and technical education teachers in agriculture and biotechnology and health occupations in North Carolina. Of the 167 surveys mailed, 84 were returned. The researchers listed 36 retention strategies which impacted the teachers' retention. The 13 strategies rated 3.5 or higher included the following:

1. Adequate materials, textbooks, and workbooks were provided.
2. Adequate facilities supporting the curriculum were provided.
3. Reimbursement for continuing education was provided.
4. A positive work climate for teaching and learning was provided.
5. Administrative endorsement of school policies resulted in effective student discipline.
6. The principal provided helpful evaluation and feedback.
7. Extra duties for beginning teachers were reduced.
8. Clerical support was provided for beginning teachers.

Table 3

Studies Related To Career and Technical Education Teacher Retention and Attrition

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Brown (1973)	Identify factors that contribute to retention	222 agricultural instructors	Quantitative: survey	<ul style="list-style-type: none"> • noted factors based on age influenced teachers to remain in teaching
Wright (1991)	To address the technology education teacher retention problem	State supervisors of technology education	Quantitative: survey	<ul style="list-style-type: none"> • noted reasons of retention problems
McCannon & Stitt-Ghodes (1995)	Analyze business teachers attrition and retention	6 award & 6 non-award teachers	Qualitative: interviews	<ul style="list-style-type: none"> • mentoring relationships were important
Kirby & LeBude (1998)	Determine nature and existence of beginning	167 teachers in agriculture, health occupations, and exploring biotechnology	Quantitative: survey (primary) and focus groups	<ul style="list-style-type: none"> • assistant strategies had greatest impact on beginning teachers; less than 50% experienced • support teams instead of mentor should have been provided

Table 3 (continued)

Studies Related To Career and Technical Education Teacher Retention and Attrition

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Crawford (2000)	Examine why T&I teachers leave at higher rate	18 midwestern secondary T&I teachers	Qualitative: bounded case study	<ul style="list-style-type: none"> • successful students • administrative support • teacher current with changing technology
Edwards & Briers (2001)	Determine selected characteristics of new agriculture teachers and examine same to determine which contribute to teacher longevity	133 agricultural teachers in Texas	Quantitative: survey	<ul style="list-style-type: none"> • significant relationships were found between years expected to teacher and gender, ag work experience and department size
Osgood (2001)	Determine whether mentor relationships are perceived as beneficial	6 teacher, mentor, administrator triads	Qualitative: interviews	<ul style="list-style-type: none"> • noted recommendations for retention

Table 3 (continued)

Studies Related To Career and Technical Education Teacher Retention and Attrition

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Ruhland (2001)	Investigate factors that influence teacher attrition and retention	Business education graduates from NABTE member institutions between 1996-2000	Quantitative: survey	<ul style="list-style-type: none"> • 46% stayers, 7% leavers had an above average commitment to teaching after completing their degree or certification requirements • teachers who were still teaching reported that their mentor experience positively influenced their decision to remain in teaching
Mimbs (2002)	Obtain information from FCS teachers about their perceptions on teacher shortage and ideas for retention	94 FCS teachers	Quantitative: survey & open-ended questions	<ul style="list-style-type: none"> • job satisfaction high • five themes noted for teacher recruitment and retention

Table 3 (continued)

Studies Related To Career and Technical Education Teacher Retention and Attrition

STUDY	PURPOSE	PARTICIPANTS	DESIGN	OUTCOMES
Kerlin (2003)	Investigate perceived differences between academic and CTE teachers regarding stress	74 academic and CTE teachers in southwest Ohio	Quantitative: Teacher Stress Measure	<ul style="list-style-type: none"> • CTE teachers reported greater role stress and task stress in a career center setting • Academic teachers reported greater school environment stress
Knobloch & Whittington (2003)	Examine differences between teacher efficacy of novice teachers based on career commitment	91 novice agricultural teachers in Ohio	Quantitative: pretest-posttest design	<ul style="list-style-type: none"> • Teacher with higher career commitment were more effective after 10 weeks of teaching than teachers with low career commitment

9. An extra planning period was provided for beginning teachers.
10. A salary supplement was provided in the county.
11. An orientation on school policies was given.
12. An in-service on classroom management was provided.
13. Planning time was made available before school started.

Kirby and LeBude (1998) also found that there was a significant, positive relationship between the 13 strategies and the respondent's Task scores. Task scores measured strategies to manage time and complete tasks needed by the respondent.

Ruhland (2001) conducted a study of secondary business teachers who were graduates of institutions in which the institution was a member of the National Association for Business Teacher Education. Eighty-six percent of the secondary business teacher respondents who entered the teaching profession between 1996 and 2000 were still teaching in February 2001. Ruhland noted that positive retention factors were pleasant working conditions, positive teaching experience, positive interaction with students, and adequate time to complete job responsibilities. Crawford (2000) conducted a qualitative study of secondary trade and industry teachers in a Midwestern state to examine reasons trade and industry teachers left the profession. Crawford found that 45% of the respondents to her study were dissatisfied with the teaching profession whereas Kirby and LeBude's (1998) noted that 80% of the respondents experienced a positive work climate. Furthermore, Mimbs (2002) stated that a survey conducted of family and consumer sciences teachers indicated that 59% of the teachers had a high job satisfaction rate.

Brown (1973) conducted a survey of agricultural instructors in the Southeastern United States to determine factors that affected or influenced the instructors to remain in the teaching profession. Brown found that of 100 instructors under the age of 40, 81% responded that they intended to teach for one more year while 64% indicated they intended to continue in the teaching profession for five more years. Of the 122 instructors over the age of 40, 89% indicated they would continue in the teaching profession for one more year; 68% planned to remain five more years. The quantitative study conducted by Brown listed 31 factors which influenced the teacher's decision to remain in teaching. Factors ranged from advantages of year-round employment, enjoyment of teaching high school students, challenge of changing curriculum, to pride in professional status. Agricultural instructors over and under age 40 ranked advancement and security as the most important influence of their decision to remain in teaching (Brown, 1973).

The study conducted by Brown (1973) found that agricultural instructors rated certain factors as having "little" influence in their decision to remain in the teaching profession. Those factors were opportunities to move to a better job in vocational agriculture, other business interests in community, spouse had a good job in the area, and time for other interests.

Edwards and Briers (2001) found that there was a moderate relationship between an agricultural teacher's work experience and the length of time that the agricultural teacher planned to remain in teaching. Agricultural teacher responses indicated that the more work experience the teacher gained, the longer the teacher expected to remain in the profession. Knoblock and Whittington (2003) found in their study that agricultural teachers with a higher career commitment were more likely to remain in teaching and to

be successful teachers. Knoblock and Whittington stated that novice agricultural teachers were even more committed to the teaching profession after their first year of teaching.

The commitment a teacher has to the teaching profession was demonstrated by Kevin Derezotes, a former Air Force pilot and salesman who began teaching in the year 2000. Derezotes found the transition from salesman to teacher an easy one (Emeagwali, 2005). Emeagwali stated that Derezotes “loves his profession and the difference he makes in the lives of his students” (p. 44). Secondary business education teachers who were awarded the Southeastern Business Education Secondary Teacher of the Year Award or the Georgia Business Education Association Secondary Teacher of the Year Award were participants in a qualitative study (McCannon & Stitt-Ghodes, 1995). The participants in the study attributed their longevity to the success of students in the classroom. One teacher noted that she enjoyed helping students realize their potential and seeing students succeed (McCannon & Stitt-Ghodes, 1995). In addition, Ruhland (2001) found that secondary business education teachers who were not committed to the teaching profession were more likely to leave the teaching profession.

Retention Barriers

Crawford’s (2000) study provided recommendations that would encourage career and technical education teachers to remain in teaching. Eighteen trade and industry teachers participated in the qualitative study. Data were collected through interviews. The participants were males whose mean age was 46 and the mean years of teaching were seven. The participants gave various reasons for leaving: dissatisfaction with teaching and with salary, change of family residency, or retirement. Wright (1991) also identified

retention problems related to lack of support from administrators, lack of realistic experiences that relate to classrooms, and lack of student enrollment in courses.

The retention problems identified by Wright (1991) resulted from a survey conducted at the request of the International Technology Education Association's Professional Improvement Plan. In addition to respondents rating factors using a Likert-type scale, respondents added responses for retention causes and solutions. Written responses of professional reasons gathered by Wright were lack of involvement in technology curriculum and lack of financial support for professional learning opportunities. Economic reasons noted by Wright were that teachers left teaching positions for careers in industries and few summer job opportunities were available. Also, administrative/teaching schedules were a retention problem. Included in this area were program reductions, administrative paperwork, and four to five daily preparations at the secondary level. Also, respondents wrote that large class sizes and lack of support for discipline were retention problem areas (Wright, 1991).

Participants in Crawford's (2000) study noted the lack of administrative support. Examples of this lack of administrative support consisted of teachers being unable to get answers to questions on funding, reasons that certain programs were closed and other programs were established, and a poor work environment. Wright (1991) and Crawford (2000) noted solutions that would have influenced the participants to remain in teaching. Some of the solutions were increased financial support from the federal, state, and local governments; increase in teacher salaries; no extra duties for the first year; and funded professional staff development. Also, the use of mentors, collaborative groups, and teacher networks should have been used extensively (Crawford, 2000). In addition,

Heath-Camp and Camp (1990) noted that new career and technical education teachers needed efficient teacher handbooks, mentors, and a thorough orientation of the school's policies and procedures. Furthermore, Heath-Camp and Camp stated that career and technical education teachers who had taken an alternative certification route needed thorough explanations of program curriculum, demonstrations on how to complete lesson plans, an extra planning period, no extra duties, and professional earning opportunities.

Kerlin (2003) found in a study of career and technical education teachers that negative stress from the teacher's role, task, and the school environment contributed to job dissatisfaction which could cause career and technical education teachers to leave the teaching profession. Wright (1991) also found that stress was a teacher retention problem. Stress affected the career and technical education teacher's health. Solutions to retain the career and technical education teachers were to design an effective professional teacher staff development program and to have co-workers assist new career and technical education teachers with clarification of teacher responsibilities and the teacher evaluation. Administrators were encouraged to give support, morale boosters, and peer group discussion to help de-escalate the career and technical education teacher's stress (Kerlin, 2003).

Induction Programs

Osgood (2001) stated that an induction program was critical to a career and technical education teacher's decision to remain in the profession. Heath-Camp and Camp (1990) noted in their study of beginning career and technical education teachers who entered the teaching profession through an alternative route that efficient induction programs were needed to retain teachers. Joerger and Bremer (2001) stated that

beginning career and technical education teachers had different induction needs than other beginning teachers. One need was that in addition to classroom teaching, new career and technical education teachers may be advisers to their respective career and technical student organization and may also coordinate work-based learning programs. Another need was that career and technical education teachers may attain certification through alternative routes.

In order for the induction program to succeed, beginning or novice teachers should receive an extensive orientation to a school's policies and procedures along with an understanding of teacher duties and responsibilities. Mentors should also teach the same subject as the mentee teaches (Heath-Camp & Camp, 1990; Joerger & Bremer, 2001). Osgood (2001) found that mentor and mentee relationships that were mismatched failed. Also, a mentor's classroom should have close proximity to the mentee's classroom. The greater the distance between the two classrooms, the less chance for positive mentoring (Osgood, 2001). Joerger and Bremer identified specific areas of need for beginning career and technical teachers. Areas identified were the management of career and technical student organizations, concerns of equipment and laboratories, and development and maintenance of community support.

Summary

Career and technical education has made numerous changes in the United States since the infancy period to the 21st century. Today's career and technical education teacher has evolved from the master apprentice through changes to curriculum, funding, and legislation. The advent of the American Industrial Revolution greatly impacted career and technical education because a need to have trained workers in factories was

discovered. Also, beginning with the Morrill Act of 1862, legislation to establish vocational education and support vocational education was implemented.

There was a shortage of trained workers when the United States entered World War I, and the Smith-Hughes Act of 1917 was signed to help combat the problem. However, vocational education was isolated from the academic curriculum. This separation continued through much legislation until 1998 when the Carl D. Perkins Act was signed and established the Technical Preparatory program.

When teacher attrition increased during 1987-2000, teacher retention became a challenge for school systems. Career and technical education teacher retention influences tended to revolve around changing curriculum trends and personal teacher satisfaction. A study conducted in 1973 noted retention influences that ranged from salary and advancement to satisfaction with teaching and home situations. In addition, later studies that included retention influences of adequate equipment and facilities, administrative support, and induction programs were conducted. Even though there were barriers to career and technical education teacher retention, solutions to the barriers were noted.

Studies pertaining to the retention influences of career and technical education teachers were conducted on specific program areas of career and technical education. However, no known retention study on career and technical education teachers as a group had been conducted.

CHAPTER 3

METHODOLOGY

Introduction

The researcher's purpose was to analyze professional and personal factors that influence Georgia's secondary career and technical education teachers to remain in the teaching profession. The study gathered data concerning factors that influenced the retention of Georgia's secondary career and technical education teachers. Relationships between demographics and the retention influences were also examined. The study was completed to provide a description of Georgia's secondary career and technical education teachers and to provide insight to educational leaders pertaining to teacher retention.

Research Questions

The overarching question for this study was as follows: Why do Georgia's secondary career and technical education teachers tend to remain in the teaching profession?

1. What is the demographic profile of career and technical education teachers?
2. What are the professional factors that influence career and technical education teachers to remain in the teaching profession?
3. What are the personal factors that influence career and technical education teachers to remain in the teaching profession?
4. What is the relationship between the demographic profile and the professional factors?

5. What is the relationship between the demographic profile and the personal factors?

Methodology

Research Design

The design of the study was a descriptive analysis of Georgia's secondary career and technical education teachers. Fraenkel and Wallen (1996) stated that the most common descriptive methodology is the survey method. Nardi (2003) noted that surveys are best designed for measuring variables with numerous values or response categories, investigating attitudes and opinions that are not observable, describing characteristics of a large population, and studying behaviors that may be difficult to tell someone face-to-face. This quantitative study was conducted by a cross-sectional survey. According to Fraenkel and Wallen (1996) and Nardi (2003), a cross-sectional survey is given at a specific time and only once to a sample of a predetermined population.

Population

The population for this study was secondary career and technical education teachers. This population included teachers from the career and technical education program areas of agricultural, business and information technology, family and consumer sciences, health occupations, marketing, and trade and industry.

Sample

There are approximately 3,200 secondary career and technical education teachers in Georgia. Systematic random sampling was conducted to reduce the sample size to 700 career and technical education teachers (Krejcie & Morgan, 1970). Nardi (2003) stated that a systematic random sample is used when a researcher wants to generate a sample

from a large population. A database of career and technical education teachers was obtained from the Georgia Department of Education Career, Technical, and Agricultural Department. After culling administrators and higher education career and technical education teachers, teachers were assigned a number and every fifth teacher name was selected. Because 200 e-mails were returned, another systematic random sample using the remaining 2,500 career and technical education teachers was conducted. Every 13th teacher name was selected to receive an e-mail containing the Quia survey link.

Instrumentation

The survey used in this study was entitled *Retention Influences of Georgia's Secondary Career and Technical Education Teachers* (See Appendix A). The survey used a Likert-type style response. The Likert-type responses included (1) not important, (2) somewhat important, (3) very important, (4) extremely important, and (5) no opinion. There were seven questions pertaining to personal retention influences, 15 questions pertaining to professional retention influences, one open-ended question, and five questions pertaining to demographics. An item analysis of the survey questions is shown in Table 4. The survey was a modification of an existing survey (Ruhland, 2001). Permission was obtained to use any part of the instrument (see Appendix B). Content validity was established because survey items were based on the literature of teacher retention.

The on-line version of the survey was created using Quia (key-ah) at www.quia.com. This researcher used the survey section to create the on-line survey. Once the survey was created, a URL address or link was created by the Quia website. Electronic mail (e-mail) addresses were obtained from either the Georgia Department of

Table 4

Survey Item Analysis

Survey Item	Research	Research Question
Teaching experience R-1 (Pe)	Brunetti, 2001; Ruhland, 2001; Bobek, 2002; AARP, 2003; Crawford, 2000; McCannon & Stitt-Ghodes, 1995; Kerlin, 2003	3, 5
Professional development R-2, 3 (Pr)	Kirby & LeBude, 1998	3, 5
Doing a good job R-4 (Pe)	Brown, 1973	3, 5
Mentor programs R-5 (Pr)	McGlamery & Edick, 2004; Osgood, 2001; Joerger & Bremer, 2001	2, 4
Administrator support R-12, 17, 18 (Pr)	Brown, 1973; Kirby & LeBude, 1998; Wright, 1991, Crawford, 2000; Kerlin, 2003	2, 4
Peer support R-7 (Pr)	Inman & Marlow, 2004	2, 3, 4
Student interaction R-8, 15, 16, 22 (Pe)	AARP, 2003; Certo & Fox, 2002; Shann, 1998;Ruhland, 2001	2, 3, 4
Job responsibilities R-9 (Pr)	Brown, 1973; Kirby & LeBude, 1998; Ruhland, 2001	2, 4
Working conditions R-10 (Pr)	Simurda, 1994; Kirby & LeBude, 1998; Ruhland, 2001	2, 4
Resources R-11 (Pr)	Simurda, 1994; Kirby & LeBude, 1998	2, 4
Settings R-6 (Pr)	Joerger & Bremer, 2001; Rojewski, 2002	2, 4
Salary R-13 (Pr), 21 (Pe) D-4	AARP, 2003; Justice, Greiner, & Anderson, 2003; Inman & Marlow, 2003; Sheen, 1998; Brown, 1973; Crawford, 2000	1, 2, 4, 5
Policies and Procedures R-14 (Pr)	Kirby & LeBude, 1998; Heath-Camp & Camp, 1990	2, 4
Parents R-19, 20 (Pr)	Simurda (1994); Ruhland (2001)	2, 4
Years Experience D-1	Shenn, 1998; Madsen & Hancock, 2002; Edwards & Briers, 2001; Knoblock & Whittington, 2003	1, 4, 5
Age D-2	Kaufman, 1992; Levesque et al., 2000; Brown, 1973	1, 4, 5
Ethnicity D-3	Ruhland, (2001)	1, 4, 5
Subject Area D-5	Brown, 1973; Kirby & LeBude, 1998; Crawford, 2000; Ruhland, (2001)	

Note. R=Retention item; D=Demographic item; Pe=Personal influence; Pr=Professional influence.

Career, Technical, and Agricultural career and technical education teacher database or from school websites. School names were listed on the career and technical education teacher database. The Quia link was copied and pasted into an e-mail which was sent to the career and technical education teachers.

Pilot Study

A panel of secondary career and technical education teachers was used to conduct a pilot study. The panel of secondary career and technical education teachers was composed of secondary career and technical education teachers from the Laurens County School District and the Dublin City School District. Teachers who participated in the pilot study did not participate in the actual study. The panel was asked to take the survey on *Retention Influences of Georgia's Secondary Career and Technical Education Teachers*. A recommendation to separate recognition and support from administrators was made by the panel of teachers from the pilot study. The recommendation was examined, noted, and the change made (Nardi, 2003).

Data Collection

Permission was obtained from the Georgia Southern University Institutional Review Board (IRB) on March 2, 2006, to conduct the study (see Appendix C) The researcher e-mailed secondary career and technical education teachers the link to the on-line survey with a cover letter (see Appendix D). Approximately 10 days after the link to the on-line survey had been e-mailed to the participants, a follow-up e-mail was sent as a reminder for the career and technical education teachers to complete the survey if they had not already done so (Creswell, 2003). No responses to the on-line survey were

received after March 27, 2006; therefore, the data collection was closed on March 31, 2006.

Data Analysis

Descriptive statistics were used to summarize survey responses in order to address the demographic profile and personal and professional factors that influence career and technical education teachers' decision to remain in their program areas. Responses associated with research questions 2 and 3 on professional and personal influence factors were summarized using frequencies and percentages and means and standard deviations. The number of people responding to the survey was noted. Analysis of variance (ANOVA) was used to explore potential relationships between demographics and personal and professional factors. Analysis and tables were produced using Statistical Package for the Social Sciences (SPSS) version 12.

Summary

This study was a quantitative study, and a cross-sectional survey was used to collect the data. A descriptive analysis of Georgia's secondary career and technical education teachers was conducted. A pilot study of the survey *Retention Influences of Georgia's Secondary Career and Technical Education Teachers* was conducted, and a recommendation made by the panel were examined, noted, and changes made.

The survey along with a cover letter was e-mailed to career and technical education teachers. A follow-up e-mail was sent to the career and technical education teachers approximately 10 days after the first e-mail as a reminder for teachers to complete the survey if they had not already done so.

Frequency tables were used to address the demographic profiles, educational preparation, teaching experience, and skills and interest in teaching. The relationship between the demographics and personal and professional factors of the secondary and career and technical education teachers were analyzed using ANOVA.

CHAPTER 4

REPORT OF DATA AND ANALYSIS

Introduction

This research study was conducted to analyze the retention influences of Georgia's secondary career and technical education teachers. The instrument used was a survey modeled after a survey used by Ruhland (2001). Data were gathered to analyze the demographics and personal and professional retention influences of Georgia's secondary career and technical education teachers.

Research Questions

The overarching question for this study was as follows: Why do Georgia's secondary career and technical education teachers tend to remain in the teaching profession?

1. What is the demographic profile of career and technical education teachers?
2. What are the professional factors that influence career and technical education teachers to remain in the teaching profession?
3. What are the personal factors that influence career and technical education teachers to remain in the teaching profession?
4. What is the relationship between the demographic profile and the professional factors?
5. What is the relationship between the demographic profile and the personal factors?

Participants

The quantitative research study was conducted through an on-line survey sent to approximately 700 career and technical education teachers throughout the state of Georgia. The participants were given the opportunity to participate by completing the on-line survey. The participants could choose not to participate by deleting the e-mail.

Survey Response

Responses were received from 154 subjects, yielding a 22% rate of response. There were 900 e-mails sent with approximately 200 e-mails returned due to unknown e-mail addresses.

Demographic Profile

The first research question examined the demographic profile of Georgia's secondary career and technical education teachers. A career and technical education teacher was defined as a teacher who taught in a career and technical education department. There were five questions in the demographic section of the survey. The responses for each demographic question are shown in Appendix Tables 1 through 5.

There was a wide variety of experience noted among the respondents; however, 28.10% of career and technical education teachers had 21 plus years of experience. Just as there was a wide variety of experience, the age of the career and technical education teacher also varied from teachers under age 30 to 70 years of age. Fifty-one of the respondents (33.33%) indicated that they were age 51-60. One hundred and twenty of the respondents were white, non Hispanic; the majority of participants reported a current salary of over \$46,000. All program areas of Georgia Department of Career, Technical,

and Agricultural teachers were represented by the participants, and 40.79% of respondents indicated that they taught in the business program area.

Professional Retention Influences

The second research question examined the professional factors that influenced Georgia's secondary career and technical education teachers to remain in their program area. There were 15 professional retention influences listed on the survey, and they are listed in rank order from greatest influence to least influence as shown in Table 5. Nine of the 15 had mean of 3 or greater. Support from administrators ($M=3.68$) was considered to be the most important factor influencing retention. The second ranked item that influenced retention was institutional policies and procedures that support the teacher ($M=3.62$). This second ranked item's mean was very close to the mean of the retention influence support from administrators. The bottom one-third of the 9 items with a mean of 3 or greater were potential for salary increases, support of parents, and professional development opportunities respectively.

Professional retention influence survey items considered somewhat important are noted in Table 5 and have means ranging from 2.48 to 2.84. Recognition of and support by peers had a mean of 2.84. The next two items, availability of mentoring program and recognition from administrators, had close means of 2.76 and 2.75 respectively. The least important professional retention influence was a career and technical education teacher teaching in a variety of settings ($M=2.48$).

The open-ended question asked if there were other factors that influenced the career and technical education teacher's retention. Some of the professional factors that

Table 5
Professional Retention Influences

Retention Influence	N	Mean*	SD
1. Support from administrators	153	3.68	.495
2. Institutional policies and procedures that support the teacher	154	3.62	.526
3. Adequate time to complete job responsibilities	154	3.53	.585
4. Pleasant working conditions	153	3.51	.608
5. Watching student grow intellectually	154	3.51	.586
6. Quality and quantity of resources available	154	3.42	.634
7. Potential for salary increases	152	3.37	.803
8. Support of parents	154	3.27	.698
9. Professional development opportunities	153	3.03	.778
10. Recognition of and support by peers	153	2.84	.911
11. Availability of mentoring program	152	2.76	1.015
12. Recognition from administrators	153	2.75	.870
13. Potential for leadership opportunities	154	2.55	.879
14. Participation in professional associations	153	2.54	1.000
15. Teach in a variety of settings	153	2.48	1.027

Note. Survey scale: 1-not important; 2-somewhat important; 3-very important; 4-extremely important; 5-no opinion

* There were no responses to the rating 5-no opinion and this rating was not included in Mean and SD calculations.

were noted were administrator support, co-workers in the department, salary, and work load. One respondent noted, “Administrators that are visible and approachable.” Another responded, “Support of the administration in discipline areas.” Respondents also noted that the ability to be autonomous in curriculum, teaching style, and classroom management was a factor. Another was adequate materials were available only in the classroom, in the media center, and in the counselor’s office. Retirement benefits and health insurance were retention influences noted by several respondents.

An area of retention noted by two respondents was professional associations. One respondent stated, “Being able to meet with other instructors in my related areas and to be able to take students to regional, state, and national conferences” was an influence. Another responded, “I have been very active in GBEA, NBEA, SBEA—I think that having ‘good’ teachers around me and giving me opportunities to help and be part of a committee have helped me. I would also say FBLA has helped me stay involved in my teaching.”

There were noted barriers to retention. One respondent answered that salary was the one thing to drive him/her back into industry. Two respondents noted that work load was a concern. One stated “. . . leaving the teaching field this year after only three years. I have had an unacceptable work environment, lack of support from administrators on numerous occasions, and lack of parental support on several occasions. . . . I feel that I was hired to do everything but teach.”

Another retention barrier indicated was the lack of respect for teachers:

. . . I feel that we (vocational teachers) are severely undervalued, especially with the increased focus on testing and academics. I have often felt like my courses

were considered unimportant by administrators, students, and other academic teachers. Often times, I teach many skills and concepts students will need for future success in life. . . . I did not get into teaching to be marginalized and pushed aside. I truly wanted to help and make a difference in the lives of my students. Yet, the educational system seeks to prevent my efforts at every turn. This year I have strongly considered going back to corporate America. Quite frankly, I'm sick of not being respected.

Personal Retention Influences

The third research question pertained to the personal factors that influenced career and technical education teachers to remain in their program area. There were seven personal retention influences noted on the survey and are listed in rank order of importance in Table 6. Six of the seven personal retention influences had a mean of 3 or greater. Only one of the seven was considered somewhat important.

An inner sense of knowing that the career and technical education teacher is doing a good job ($M=3.74$) was ranked first among the personal retention influences, and a positive interaction with students ($M=3.68$) ranked second. The least important personal retention influence factor was contact with students in the community ($M=2.83$).

Responses to the open-ended question about other factors that may influence retention revolved around the career and technical education teacher's love for the job. One person responded, "Enjoy working with young people (many reasons that revolve around the student such as the challenge, students' sense of humor, students' sense of

Table 6
Personal Retention Influences

Retention Influence	N	Mean*	SD
1. Inner sense of knowing I'm doing a good job	152	3.74	.485
2. Positive interaction with students	153	3.68	.521
3. Seeing students comprehend the concepts being taught	152	3.64	.545
4. Positive teaching experience	153	3.41	.774
5. Satisfied with teaching salary	151	3.17	.839
6. Acknowledgment of support by parents for their child	153	3.07	.817
7. Contact with students in the community	152	2.83	.836

Note. Survey scale: 1-not important; 2-somewhat important; 3-very important; 4-extremely important; 5-no opinion

* There were no responses to the rating 5-no opinion and this rating was not included in Mean and SD calculations.

pride in self, etc.).” Another responded, “I teach because I love teaching. I have had several different jobs. This is by far the most gratifying. It would take a lot to make me leave.” Another similar statement was, “The fact that I love my school keeps me employed here. There are other job opportunities for me, but I can’t imagine leaving where I am!” Another career and technical education teacher responded,

I love my job—I teach marketing and I have students that leave early to work. I am in an excellent school with wonderful administrators, students, and parents! These are all factors that contribute to me wanting to continue to teach. When you are a teacher, you have to love what you do to want to continue to grow etc. I

think the school and environment that you work in is a factor for all teachers (not just career & technical ed) to remain in education.

Another respondent noted that he/she teaches life skills to students to help improve local work force and make a difference in the lives of the students as opposed to making a higher salary.

Two other retention influences noted in the open-ended question were the workplace being close to home or the location of the school and school breaks. One respondent stated, "My daughter is able to attend school in the county in which I teach. It is important for me to continue teaching so she may graduate with the students she has schooled with since 1st grade." The respondent who stated breaks were a retention influence noted, "provides for renewal and change."

A barrier to personal retention influences was the amount of personal time required for outside of the classroom duties. One respondent noted excessive paperwork, equipment repair, conducting fundraisers for student organization, having to pay large out-of-pocket fees for required membership in several professional organizations to satisfy state criteria for program, and hours given from personal time to take students to conferences throughout the year.

Demographics and Professional Retention Influences

The fourth research question examined the relationship between the demographic profile and the professional retention influences. Group means and standard deviations were calculated for all demographic groups and the professional retention influences. A oneway analysis of variance (ANOVA) procedure was performed with each demographic

group to determine if significant differences existed among the group means for retention influences.

The first demographic group was the career and technical education teacher's years of teaching experience. The six categories for years of experience were collapsed into three groups in order to perform the ANOVA. The three collapsed groups were 0-6 years, 7-15 years and 16 plus years. Descriptives and ANOVA summary results are presented in Table 7. Two observed F-values were significant: potential salary increases and support of parents. A Scheffe followup procedure was performed to determine the significant differences among the group means.

In terms of the research question, this researcher found a significant difference in potential for salary increases and support of parents based on the career and technical education teacher's years of experience. Results showed that the 16 plus years of experience group considered potential for salary increases more important as a retention influence than the 7-15 years of experience group. Results also showed that the 16 plus years of experience group considered support of parents more important as a retention influence than the 0-6 years of experience group.

Second, the demographic group of age of the career and technical education teacher was considered. The five age groups were collapsed into four groups in order to perform the ANOVA. The four collapsed groups were under 30, 31 to 40, 41 to 50, and 51 to 70. Descriptives and ANOVA summary results are presented in Table 8 for career and technical education teacher age and professional retention influences. The observed F-value was significant for watching students grow intellectually. A Scheffe follow up

Table 7

Descriptives and Analysis of Variance for
Years Experience and Professional Retention Influences

		Descriptives		
		0-6 years	7-15 years	16 plus years
Professional development opportunities	M	2.90	2.93	3.21
	SD	.78	.84	.70
Participation in professional associations	M	2.35	2.47	2.77
	SD	1.13	.94	.89
Availability of mentoring program	M	2.76	2.65	2.85
	SD	1.11	.95	.99
Recognition of and support by peers	M	2.75	2.78	2.98
	SD	.96	.80	.95
Adequate time to complete job responsibilities	M	3.51	3.39	3.65
	SD	.58	.61	.55
Pleasant working conditions	M	3.44	3.52	3.56
	SD	.64	.55	.63
Quality and quantity of resources available	M	3.43	3.37	3.44
	SD	.67	.65	.60
Teach in a variety of settings	M	2.41	2.43	2.57
	SD	1.06	1.05	.99
Potential for salary increases	M	3.37	3.11	3.57
	SD	.85	.78	.74
Institutional policies and procedures that support the teacher	M	3.61	3.57	3.67
	SD	.57	.50	.51
Support from administrators	M	3.73	3.60	3.70
	SD	.49	.54	.46
Support of parents	M	3.02	3.33	3.46
	SD	.74	.63	.66

Note. 0-6 years N = 51; 7-15 years N = 46; 16 plus years N = 57

Table 7 (continued)

Descriptives and Analysis of Variance for
Years Experience and Professional Retention Influences

		0-6 years	7-15 years	16 plus years
Watching students grow intellectually	M	3.45	3.48	3.58
	SD	.61	.55	.60
Potential for leadership opportunities	M	2.59	2.39	2.63
	SD	.61	.55	.60
Recognition from administrators	M	2.86	2.58	2.77
	SD	.85	.89	.87

Note. 0-6 years N = 51; 7-15 years N = 46; 16 plus years N = 57

Table 7 (continued)

Descriptives and Analysis of Variance for
Years Experience and Professional Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Professional development opportunities	Between	3.11	2	1.56	2.63
	Within	88.78	150	.59	
	Total	91.90	152		
Participation in professional associations	Between	5.09	2	2.55	2.60
	Within	146.88	150	.98	
	Total	151.97	152		
Availability of mentoring program	Between	1.03	2	.51	.50
	Within	154.45	149	1.04	
	Total	155.47	151		
Recognition of and support by peers	Between	1.79	2	.89	1.08
	Within	124.45	150	.83	
	Total	126.24	152		
Adequate time to complete job responsibilities	Between	1.71	2	.86	2.55
	Within	50.98	151	.34	
	Total	52.40	153		
Pleasant working conditions	Between	.40	2	.20	.54
	Within	55.83	150	.37	
	Total	56.24	152		
Quality and quantity of resources available	Between	.14	2	.07	.17
	Within	61.26	151	.41	
	Total	61.40	153		
Teach in a variety of settings	Between	.80	2	.40	.38
	Within	159.37	150	1.06	
	Total	160.17	152		

*p < .05. **p < .01.

Table 7 (continued)

Descriptives and Analysis of Variance for
Years Experience and Professional Retention Influences

<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Potential for salary increases	Between	5.29	2	2.64	4.28*
	Within	92.08	149	.62	
	Total	97.37	151		
Institutional policies and procedures that support the teacher	Between	.27	2	.13	.48
	Within	42.13	151	.28	
	Total	42.40	153		
Support from administrators	Between	.42	2	.21	.86
	Within	36.89	150	.25	
	Total	37.31	152		
Support of parents	Between	5.32	2	2.66	5.80**
	Within	69.23	151	.46	
	Total	74.55	153		
Watching students grow intellectually	Between	.49	2	.25	.72
	Within	52.00	151	.34	
	Total	52.50	153		
Potential for leadership opportunities	Between	1.61	2	.81	1.04
	Within	116.57	151	.77	
	Total	118.18	153		
Recognition from administrators	Between	2.01	2	1.00	1.33
	Within	113.05	150	.75	
	Total	115.06	152		

*p < .05. **p < .01.

Table 8

Descriptives and Analysis of Variance for
Age and Professional Retention Influences

		Descriptives			
		Under 30	31 to 40	41 to 50	51 to 70
Professional development opportunities	M	2.89	3.00	2.96	3.14
	SD	.88	.76	.83	.71
Participation in professional associations	M	2.58	2.41	2.54	2.60
	SD	1.26	1.05	1.05	.84
Availability of mentoring program	M	2.68	2.76	2.75	2.80
	SD	1.16	1.09	1.06	.90
Recognition of and support by peers	M	2.89	2.90	2.74	2.88
	SD	1.05	.77	.94	.92
Adequate time to complete job responsibilities	M	3.58	3.38	3.58	3.53
	SD	.61	.56	.61	.57
Pleasant working conditions	M	3.61	3.48	3.52	3.48
	SD	.61	.51	.68	.60
Quality and quantity of resources available	M	3.37	3.52	3.50	3.31
	SD	.68	.57	.65	.63
Teach in a variety of settings	M	2.26	2.83	2.28	2.53
	SD	1.05	1.23	1.02	.88
Potential for salary increases	M	3.47	3.24	3.43	3.35
	SD	.96	.74	.80	.79
Institutional policies and procedures that support the teacher	M	3.58	3.55	3.69	3.60
	SD	.61	.51	.47	.56
Support from administrators	M	3.79	3.72	3.74	3.57
	SD	.42	.46	.44	.57

Note. Under 30 N = 19; 31 to 40 N = 30; 41 to 50 N = 47; 51 to 70 N = 58

Table 8 (continued)

Descriptives and Analysis of Variance for
Age and Professional Retention Influences

		Under 30	31 to 40	41 to 50	51 to 70
Support of parents	M	3.05	3.38	3.21	3.31
	SD	.78	.62	.77	.64
Watching students grow intellectually	M	3.53	3.28	3.46	3.66
	SD	.77	.46	.65	.48
Potential for leadership opportunities	M	2.63	2.62	2.46	2.55
	SD	.76	.94	.99	.80
Recognition from administrators	M	3.21	2.76	2.60	2.70
	SD	.92	.87	.87	.82

Note. Under 30 N = 19; 31 to 40 N = 30; 41 to 50 N = 47; 51 to 70 N = 58

Table 8 (continued)

Descriptives and Analysis of Variance for
Age and Professional Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Professional development opportunities	Between	1.30	3	.43	.71
	Within	90.60	149	.61	
	Total	91.90	152		
Participation in professional associations	Between	.67	3	.22	.22
	Within	151.30	149	1.02	
	Total	151.97	152		
Availability of mentoring program	Between	.22	3	.07	.07
	Within	155.26	148	1.05	
	Total	155.47	151		
Recognition of and support by peers	Between	.67	3	.22	.26
	Within	125.57	149	.84	
	Total	126.24	152		
Adequate time to complete job responsibilities	Between	.84	3	.28	.81
	Within	51.56	150	.34	
	Total	52.40	153		
Pleasant working conditions	Between	.25	3	.09	.27
	Within	55.98	149	.38	
	Total	56.24	152		
Quality and quantity of resources available	Between	1.33	3	.44	1.10
	Within	60.08	150	.40	
	Total	61.40	153		
Teach in a variety of settings	Between	6.51	3	2.17	2.11
	Within	153.66	149	1.03	
	Total	160.17	152		

*p < .05. **p < .01.

Table 8 (continued)

Descriptives and Analysis of Variance for
Age and Professional Retention Influences

<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Potential for salary increases	Between	.85	3	.28	.43
	Within	96.52	148	.65	
	Total	97.37	151		
Institutional policies and procedures that support the teacher	Between	.40	3	.13	.48
	Within	42.00	150	.28	
	Total	42.40	153		
Support from administrators	Between	1.20	3	.40	1.64
	Within	36.11	149	.24	
	Total	37.31	152		
Support of parents	Between	1.75	3	.58	1.20
	Within	72.80	150	.49	
	Total	74.55	153		
Watching students grow intellectually	Between	2.94	3	.98	2.97*
	Within	49.55	150	.33	
	Total	52.50	153		
Potential for leadership opportunities	Between	.67	3	.22	.29
	Within	117.51	150	.78	
	Total	118.18	153		
Recognition from administrators	Between	5.18	3	1.73	2.34
	Within	109.88	149	.74	
	Total	115.06	152		

*p < .05. **p < .01.

procedure was performed to determine the significant differences among the group means. In terms of the research question, results showed that the 51-70 age group considered watching students grow intellectually more important as a retention influence than the 31-40 age group.

The third demographic group was ethnicity. The six ethnic groups were collapsed into two ethnic groups. The two collapsed groups were white and non-white. Summary results are presented in Table 9 for the descriptives and ANOVA conducted on ethnicity and professional retention influences. The observed F-value for support by peers was significant. Results showed that the white ethnic group considered recognition of and support by peers to be a more important retention influence than the non-white ethnic group.

Next, the demographic group salary was tested. Summary results are presented in Table 10 for the descriptives and ANOVA conducted on salary and professional retention influences. Only one observed F-value was significant: participation in professional associations. A Scheffe followup procedure was performed to determine the significant differences among the group means. Results showed that the over \$46,000 salary range placed more importance on participation in professional associations as a retention influence than the \$36,000 to \$35,999 salary range group and the \$26,000 to \$35,999 salary range group.

The last demographic to be tested was program area. The 11 program areas were collapsed into five groups. The five collapsed groups were agriculture; business, marketing, and information technology (IT), family and consumer sciences, technology

Table 9

Descriptives and Analysis of Variance for
Ethnicity and Professional Retention Influences

		Descriptives	
		White	Non-white
Professional development opportunities	M	3.03	3.00
	SD	.74	.91
Participation in professional associations	M	2.51	2.66
	SD	.99	.1
Availability of mentoring program	M	2.71	2.97
	SD	1.01	1.03
Recognition of and support by peers	M	2.94	2.51
	SD	.88	.95
Adequate time to complete job responsibilities	M	3.54	3.51
	SD	.58	.61
Pleasant working conditions	M	3.50	3.53
	SD	.63	.56
Quality and quantity of resources available	M	3.38	3.51
	SD	.63	.66
Teach in a variety of settings	M	2.43	2.65
	SD	.99	1.15
Potential for salary increases	M	3.35	2.40
	SD	.81	.81
Institutional policies and procedures that support the teacher	M	3.62	3.60
	SD	.52	.55
Support from administrators	M	3.69	3.66
	SD	.48	.54
Support of parents	M	3.22	3.43
	SD	.68	.74

Note. White N = 121; Non-white N = 31

Table 9 (continued)

Descriptives and Analysis of Variance for
 Ethnicity and Professional Retention Influences

		White	Non-white
Watching students grow intellectually	M	3.50	3.51
	SD	.57	.66
Potential for leadership opportunities	M	2.49	2.71
	SD	.85	.99
Recognition from administrators	M	2.79	2.63
	SD	.86	.88

Note. White N = 121; Non-white N = 31

Table 9 (continued)

Descriptives and Analysis of Variance for
Ethnicity and Professional Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Professional development opportunities	Between	.02	1	.02	.03
	Within	90.92	150	.61	
	Total	90.94	151		
Participation in professional associations	Between	.59	1	.59	.60
	Within	146.88	149	.99	
	Total	147.47	150		
Availability of mentoring program	Between	1.83	1	1.83	1.77
	Within	153.01	148	1.03	
	Total	154.83	149		
Recognition of and support by peers	Between	4.87	1	4.87	6.08*
	Within	119.32	149	.80	
	Total	124.19	150		
Adequate time to complete job responsibilities	Between	.02	1	.02	.05
	Within	51.82	150	.35	
	Total	51.84	151		
Pleasant working conditions	Between	.02	1	.02	.05
	Within	55.72	149	.37	
	Total	55.74	150		
Quality and quantity of resources available	Between	.52	1	.52	1.28
	Within	60.20	150	.40	
	Total	60.71	151		
Teach in a variety of settings	Between	1.27	1	1.27	1.20
	Within	158.40	149	1.06	
	Total	159.67	150		

*p < .05. **p < .01.

Table 9 (continued)

Descriptives and Analysis of Variance for
Ethnicity and Professional Retention Influences

<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Potential for salary increases	Between	.06	1	.06	.09
	Within	96.91	149	.65	
	Total	96.97	150		
Institutional policies and procedures that support the teacher	Between	.01	1	.01	.02
	Within	42.09	150	.28	
	Total	42.10	151		
Support from administrators	Between	.03	1	.03	.14
	Within	36.81	150	.25	
	Total	36.84	151		
Support of parents	Between	1.15	1	1.15	2.36
	Within	72.79	150	.49	
	Total	73.94	151		
Watching students grow intellectually	Between	.00	1	.00	.01
	Within	51.99	150	.35	
	Total	51.99	151		
Potential for leadership opportunities	Between	1.39	1	1.39	1.79
	Within	116.37	150	.78	
	Total	117.76	151		
Recognition from administrators	Between	.73	1	.73	.98
	Within	111.21	149	.75	
	Total	111.93	150		

*p < .05. **p < .01.

Table 10

Descriptives and Analysis of Variance for
Salary and Professional Retention Influences

		Descriptives		
		Over \$46,000	\$36,000 to \$45,999	\$26,000 to \$35,999
Professional development opportunities	M	3.15	2.89	2.86
	SD	.76	.83	.66
Participation in professional associations	M	2.76	2.33	2.19
	SD	.95	.98	1.08
Availability of mentoring program	M	2.86	2.48	3.00
	SD	1.02	1.00	.95
Recognition of and support by peers	M	2.86	2.96	2.62
	SD	.95	.82	.87
Adequate time to complete job responsibilities	M	3.55	3.48	3.57
	SD	.55	.66	.60
Pleasant working conditions	M	3.54	3.46	3.52
	SD	.57	.69	.60
Quality and quantity of resources available	M	3.48	3.30	3.52
	SD	.61	.70	.60
Teach in a variety of settings	M	2.61	2.35	2.29
	SD	1.06	.92	1.06
Potential for salary increases	M	3.42	3.31	3.24
	SD	.75	.85	.94
Institutional policies and procedures that support the teacher	M	3.63	3.61	3.62
	SD	.51	.58	.50
Support from administrators	M	3.72	3.56	3.81
	SD	.48	.55	.40
Support of parents	M	3.37	3.13	3.29
	SD	.63	.72	.72

Note. Over \$46,000 N = 89; \$36,000 to \$45,999 N = 43; \$26,000 to \$35,999 N = 22.

Table 10 (continued)

Descriptives and Analysis of Variance for
Salary and Professional Retention Influences

		Over \$46,000	\$36,000 to \$45,999	\$26,000 to \$35,999
Watching students grow intellectually	M	3.51	3.57	3.48
	SD	.59	.50	.51
Potential for leadership opportunities	M	2.53	2.65	2.38
	SD	.86	.90	.92
Recognition from administrators	M	2.73	2.80	2.67
	SD	.82	.97	.91

Note. Over \$46,000 N = 89; \$36,000 to \$45,999 N = 43; \$26,000 to \$35,999 N = 22.

Table 10 (continued)

Descriptives and Analysis of Variance for
Salary and Professional Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Professional development opportunities	Between	2.79	2	1.40	2.36
	Within	88.05	149	.59	
	Total	90.84	151		
Participation in professional associations	Between	8.47	2	4.23	4.48**
	Within	141.11	149	.95	
	Total	149.58	151		
Availability of mentoring program	Between	5.59	2	2.79	2.77
	Within	149.30	148	1.01	
	Total	154.89	150		
Recognition of and support by peers	Between	1.64	2	.82	1.01
	Within	121.17	149	.81	
	Total	122.82	151		
Adequate time to complete job responsibilities	Between	.18	2	.09	.26
	Within	51.94	150	.35	
	Total	52.19	152		
Pleasant working conditions	Between	.22	2	.11	.29
	Within	55.76	149	.37	
	Total	55.97	151		
Quality and quantity of resources available	Between	.94	2	.47	1.17
	Within	60.29	150	.40	
	Total	61.23	152		
Teach in a variety of settings	Between	3.07	2	1.53	1.47
	Within	154.91	149	1.04	
	Total	157.97	151		

*p < .05. **p < .01.

Table 10 (continued)

Descriptives and Analysis of Variance for
Salary and Professional Retention Influences

<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Potential for salary increases	Between	.76	2	.38	.59
	Within	96.21	148	.65	
	Total	96.97	150		
Institutional policies and procedures that support the teacher	Between	.01	2	.01	.02
	Within	42.00	150	.28	
	Total	42.01	152		
Support from administrators	Between	1.19	2	.60	2.49
	Within	35.65	149	.24	
	Total	36.84	151		
Support of parents	Between	1.75	2	.88	1.94
	Within	67.60	150	.45	
	Total	69.35	152		
Watching students grow intellectually	Between	.14	2	.07	.23
	Within	46.03	150	.31	
	Total	46.17	152		
Potential for leadership opportunities	Between	1.10	2	.55	.71
	Within	116.78	1580	.78	
	Total	117.88	152		
Recognition from administrators	Between	.28	2	.14	.18
	Within	114.72	149	.77	
	Total	114.99	151		

*p < .05. **p < .01.

education and trade and industry (T&I), and healthcare science. Summary results are presented in Table 11 for the descriptives and ANOVA conducted on program area and professional retention influences. Two observed F-values were significant: participation in professional associations and institutional policies and procedures that support the teacher. A Scheffe follow up procedure was performed to determine the significant differences among the group means. Results showed that the agriculture program area considered participation in professional associations more important than the business, marketing, and information technology group. Results indicated the family and consumer sciences group considered institutional policies and procedures that support the teacher a more important professional retention influence than the other program areas.

In summary, the professional retention influences including support of parents, potential for salary increases, watching students grow intellectually, recognition of and support by peers, participation in professional associations, and institutional policies and procedures that support the teacher were important influences to career and technical education teacher's retention. The 16 plus years of experience group considered potential for salary increases an important retention influence. Also, the 51 to 70 age group considered watching students grow intellectually an important retention influence, and the white ethnic group considered support by peers to be an important retention influence. In addition, participation in professional associations was an important retention influence for both the over \$46,000 salary range and career and technical education teachers in the agriculture program area. Furthermore, the family and consumer sciences

Table 11

Descriptives and Analysis of Variance for
Program Area and Professional Retention Influences

		Descriptives				
		Ag	Bus., Mkt, IT	FACS	Tech Ed. & T&I	Hea. Sci.
Professional development opportunities	M	3.22	2.94	2.17	2.96	3.00
	SD	.67	.84	.82	.68	.79
Participation in professional associations	M	3.56	2.28	2.87	2.40	2.65
	SD	.73	.91	.97	1.00	1.00
Availability of mentoring program	M	3.11	2.63	3.00	2.68	3.00
	SD	1.36	1.02	.91	1.03	.87
Recognition of and support by peers	M	3.22	2.86	2.91	3.00	2.41
	SD	.83	.91	.85	.87	.80
Adequate time to complete job responsibilities	M	3.56	3.60	3.65	3.36	3.29
	SD	.53	.55	.65	.64	.59
Pleasant working conditions	M	3.50	3.57	3.43	.348	3.29
	SD	.76	.55	.66	.59	.69
Quality and quantity of resources available	M	3.44	3.43	3.52	3.24	3.41
	SD	.73	.67	.67	.44	.62
Teach in a variety of settings	M	2.78	2.36	2.64	2.68	2.47
	SD	1.30	.95	1.09	1.03	1.07
Potential for salary increases	M	3.11	3.39	3.57	3.17	3.29
	SD	1.05	.77	.73	.82	.77
Institutional policies and procedures that support the teacher	M	3.56	3.66	3.78	3.36	3.71
	SD	.53	.51	.42	.57	.47
Support from administrators	M	3.78	3.71	3.83	3.60	3.59
	SD	.44	.49	.39	.50	.51

Note. Ag N = 9; Business, Marketing, and IT N = 89; FACS N = 23; Tech. Ed. and T&I N = 31; Healthcare Science N = 16.

Table 11 (continued)

Descriptives and Analysis of Variance for
Program Area and Professional Retention Influences

		Ag	Bus., Mkt, IT	FACS	Tech Ed. & T&I	Hea. Sci.
Support of parents	M	3.33	3.33	3.52	3.12	3.00
	SD	.50	.70	.59	.73	.61
Watching students grow intellectually	M	3.67	3.56	3.52	3.36	3.59
	SD	.50	.50	.59	.49	.51
Potential for leadership opportunities	M	2.56	2.50	2.78	2.52	2.47
	SD	.53	.91	1.04	.82	.72
Recognition from administrators	M	2.67	2.86	2.77	2.48	2.47
	SD	.71	.92	.92	.71	.51

Note. Ag N = 9; Business, Marketing, and IT N = 89; FACS N = 23; Tech. Ed. and T&I N = 31; Healthcare Science N = 16.

Table 11 (continued)

Descriptives and Analysis of Variance for
Program Area and Professional Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Professional development opportunities	Between	1.41	4	.35	.58
	Within	83.59	138	.61	
	Total	84.99	142		
Participation in professional associations	Between	17.22	4	4.31	4.93**
	Within	120.48	138	.87	
	Total	137.71	142		
Availability of mentoring program	Between	4.65	4	1.16	1.14
	Within	140.14	137	1.02	
	Total	144.79	141		
Recognition of and support by peers	Between	5.15	4	1.29	1.68
	Within	106.05	138	.77	
	Total	111.20	142		
Adequate time to complete job responsibilities	Between	2.36	4	.59	1.73
	Within	47.53	139	.34	
	Total	49.89	143		
Pleasant working conditions	Between	1.18	4	.30	.81
	Within	50.56	138	.37	
	Total	51.75	142		
Quality and quantity of resources available	Between	1.05	4	.26	.65
	Within	55.78	139	.40	
	Total	56.83	143		
Teach in a variety of settings	Between	3.36	4	.84	.81
	Within	144.39	138	1.05	
	Total	147.75	142		

*p < .05. **p < .01.

Table 11 (continued)

Descriptives and Analysis of Variance for
Program Area and Professional Retention Influences

<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Potential for salary increases	Between	2.56	4	.64	1.02
	Within	85.84	137	.63	
	Total	88.39	141		
Institutional policies and procedures that support the teacher	Between	2.55	4	.64	2.52*
	Within	35.20	139	.25	
	Total	37.75	143		
Support from administrators	Between	.89	4	.22	.98
	Within	31.18	138	.23	
	Total	32.07	142		
Support of parents	Between	3.50	4	.88	1.97
	Within	61.82	139	.45	
	Total	65.33	143		
Watching students grow intellectually	Between	1.00	4	.25	.94
	Within	36.89	139	.27	
	Total	37.89	143		
Potential for leadership opportunities	Between	1.55	4	.39	.50
	Within	108.11	139	.78	
	Total	109.66	143		
Recognition from administrators	Between	3.90	4	.98	1.39
	Within	96.91	138	.70	
	Total	100.81	142		

*p < .05. **p < .01.

program area considered institutional policies and procedures that support the teacher an important retention influence.

Demographics and Personal Retention Influences

The fifth research question examined the relationship between the demographic profile and the personal retention influences. A oneway ANOVA procedure was performed with each demographic group to determine if significant differences existed among the group means. Group means and standard deviation were conducted between all demographic groups and the personal retention influences. Previously noted collapsed demographic groups were used to conduct the ANOVAs.

The first demographic relationship tested was years experience and the personal retention influences. The ANOVA showed no relationships between the career and technical teachers' years of experience and personal retention influences (see Table 12).

Second, the demographic relationship between career and technical education teacher age and personal retention influences was tested. The ANOVA showed no relationships between the career and technical teacher's age and personal retention influences (see Table 13).

The third demographic tested was ethnicity. The ANOVA showed no relationships between the career and technical teacher's ethnicity and personal retention influences (see Table 14).

Next, the salary group was tested to determine if there was a relationship between salary and personal retention influences. The ANOVA showed no relationships between the career and technical teacher's salary and personal retention influences (see Table 15).

Table 12

Descriptives and Analysis of Variance for
Years Experience and Personal Retention Influences

Descriptives				
		0-6 years	7-15 years	16 plus years
Positive teaching experience	M	3.35	3.46	3.43
	SD	.80	.78	.76
Inner sense of knowing I'm doing a good job	M	3.71	3.69	3.80
	SD	.50	.51	.44
Positive interaction with students	M	3.65	3.69	3.70
	SD	.48	.47	.60
Contact with students in the community	M	2.69	2.84	2.95
	SD	.79	.81	.90
Seeing students comprehend the concepts being taught	M	3.63	3.61	3.68
	SD	.49	.54	.60
Acknowledgment of support by parents for their child	M	2.90	3.11	3.18
	SD	.86	.74	.83
Satisfied with teaching salary	M	3.18	2.98	3.33
	SD	.84	.87	.81

Note. 0-6 years N = 51; 7-15 years N = 46; 16 plus years N = 57

Table 12 (continued)

Descriptives and Analysis of Variance for
Years Experience and Personal Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Positive teaching experience	Between	.28	2	.14	.24
	Within	90.77	150	.61	
	Total	91.06	152		
Inner sense of knowing I'm doing a good job	Between	.40	2	.20	.85
	Within	35.07	149		
	Total	35.47	151		
Positive interaction with students	Between	.09	2	.04	.16
	Within	41.22	150	.28	
	Total	41.31	152		
Contact with students in the community	Between	1.84	2	.92	1.32
	Within	103.71	149	.70	
	Total	105.55	151		
Seeing students comprehend the concepts being taught	Between	.15	2	.07	.25
	Within	44.67	149	.30	
	Total	44.82	151		
Acknowledgment of support by parents for their child	Between	2.17	2	1.08	1.64
	Within	99.18	150	.66	
	Total	101.35	152		
Satisfied with teaching salary	Between	3.03	2	1.51	2.18
	Within	102.50	148	.69	
	Total	105.52	150		

*p < .05. **p < .01.

Table 13

Descriptives and Analysis of Variance for
Age and Personal Retention Influences

		Descriptives			
		Under 30	31 to 40	41 to 50	51 to 70
Positive teaching experience	M	3.47	3.28	3.42	3.46
	SD	.77	.80	.82	.73
Inner sense of knowing I'm doing a good job	M	3.74	3.62	3.74	3.79
	SD	.56	.49	.53	.41
Positive interaction with students	M	3.74	3.66	3.64	3.71
	SD	.45	.48	.64	.46
Contact with students in the community	M	2.84	2.89	2.70	2.90
	SD	.83	.74	.91	.83
Seeing students comprehend the concepts being taught	M	3.63	3.55	3.63	3.71
	SD	.50	.51	.65	.50
Acknowledgement of support by parents for their child	M	3.05	3.34	2.91	3.05
	SD	.85	.67	.86	.83
Satisfied with teaching salary	M	3.16	3.07	3.27	3.14
	SD	.90	.90	.82	.82

Note. Under 30 N = 19; 31 to 40 N = 30; 41 to 50 N = 47; 51 to 70 N = 58

Table 13 (continued)

Descriptives and Analysis of Variance for
Age and Personal Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Positive teaching experience	Between	.72	3	.24	.40
	Within	90.34	149	.61	
	Total	91.06	152		
Inner sense of knowing I'm doing a good job	Between	.55	3	.18	.78
	Within	34.92	148	.24	
	Total	35.47	151		
Positive interaction with students	Between	.20	3	.07	.25
	Within	41.10	149	.28	
	Total	41.31	152		
Contact with students in the community	Between	1.14	3	.38	.54
	Within	104.41	148	.71	
	Total	105.55	151		
Seeing students comprehend the concepts being taught	Between	.49	3	.16	.54
	Within	44.33	148	.30	
	Total	44.82	151		
Acknowledgment of support by parents for their child	Between	3.34	3	1.11	1.69
	Within	98.00	149	.66	
	Total	101.35	152		
Satisfied with teaching salary	Between	.80	3	.27	.38
	Within	104.72	147	.71	
	Total	105.52	150		

*p < .05. **p < .01.

Table 14

Descriptives and Analysis of Variance for
Ethnicity and Personal Retention Influences

		White	Non-white
Positive teaching experience	M	3.38	3.51
	SD	.82	.61
Inner sense of knowing I'm doing a good job	M	3.76	3.66
	SD	.49	.48
Positive interaction with students	M	3.66	3.74
	SD	.53	.51
Contact with students in the community	M	2.83	2.80
	SD	.82	.93
Seeing students comprehend the concepts being taught	M	3.62	3.71
	SD	.57	.46
Acknowledgement of support by parents for their child	M	3.04	3.12
	SD	.79	.91
Satisfied with teaching salary	M	3.13	3.26
	SD	.84	.83

Note. White N = 121; Non-white N = 31

Table 14 (continued)

Descriptives and Analysis of Variance for
Ethnicity and Personal Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Positive teaching experience	Between	.55	1	.55	.86
	Within	90.20	150	.60	
	Total	90.71	151		
Inner sense of knowing I'm doing a good job	Between	.27	1	.27	1.12
	Within	35.07	148	.24	
	Total	35.33	149		
Positive interaction with students	Between	.19	1	.19	.71
	Within	41.01	150	.27	
	Total	41.20	151		
Contact with students in the community	Between	.03	1	.03	.05
	Within	105.46	148	.71	
	Total	105.49	149		
Seeing students comprehend the concepts being taught	Between	.24	1	.24	.79
	Within	44.45	149	.30	
	Total	44.69	150		
Acknowledgment of support by parents for their child	Between	.15	1	.15	.22
	Within	100.32	149	.67	
	Total	100.46	150		
Satisfied with teaching salary	Between	.47	1	.47	.67
	Within	103.33	147	.71	
	Total	104.13	148		

*p < .05. **p < .01.

Table 15

Descriptives and Analysis of Variance for
Salary and Personal Retention Influences

		Descriptives		
		Over \$46,000	\$36,000 to \$45,999	\$26,000 to \$35,999
Positive teaching experience	M	3.46	3.30	3.43
	SD	.73	.92	.60
Inner sense of knowing I'm doing a good job	M	3.74	3.76	3.71
	SD	.49	.48	.46
Positive interaction with students	M	3.69	3.67	3.71
	SD	.54	.48	.56
Contact with students in the community	M	2.91	2.78	2.67
	SD	.83	.88	.80
Seeing students comprehend the concepts being taught	M	3.69	3.60	3.57
	SD	.54	.58	.51
Acknowledgement of support by parents for their child	M	3.13	2.93	3.05
	SD	.80	.85	.81
Satisfied with teaching salary	M	3.18	3.20	3.10
	SD	.85	.82	.89

Note. Over \$46,000 N = 89; \$36,000 to \$45,999 N = 43; \$26,000 to \$35,999 N = 22

Table 15 (continued)

Descriptives and Analysis of Variance for
Salary and Personal Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Positive teaching experience	Between	.72	2	.36	.60
	Within	89.99	149	.60	
	Total	90.71	151		
Inner sense of knowing I'm doing a good job	Between	.02	2	.01	.05
	Within	34.90	148	.24	
	Total	34.93	150		
Positive interaction with students	Between	.03	2	.02	.06
	Within	40.81	149	.27	
	Total	40.84	151		
Contact with students in the community	Between	1.17	2	.59	.84
	Within	103.69	148	.70	
	Total	104.86	150		
Seeing students comprehend the concepts being taught	Between	.41	2	.20	.69
	Within	43.99	148	.30	
	Total	44.40	150		
Acknowledgment of support by parents for their child	Between	1.13	2	.57	.85
	Within	99.33	149	.67	
	Total	100.47	151		
Satisfied with teaching salary	Between	.17	2	.19	.12
	Within	105.32	147	.72	
	Total	105.49	149		

*p < .05. **p < .01.

The last demographic area tested was program area. Summary results are presented for the descriptives and ANOVA conducted on program area and personal retention influences. Two observed F-values were significant: positive interaction with students and acknowledgment of support by parents for their child (see Table 16). A Scheffe follow-up procedure was performed to determine the significant differences among the group means. Results showed that the agriculture program area considered positive interaction with students more important than the healthcare science group. Also, the family and consumer sciences group considered acknowledgment of support by parents for their child a more important personal retention influence than the healthcare science group.

In summary, there were no statistically significant relationships found between personal retention influences and the demographic categories years of experience, age, ethnicity, and salary. The agriculture program area considered a positive interaction with students a more important personal retention influence than the other program areas. Furthermore, the family and consumer sciences program area considered acknowledgment of support by parents for their child a more important personal retention influence than the other program areas.

Summary

One hundred fifty-four of 700 participants responded to an on-line survey which examined the retention influences of Georgia's secondary career and technical education teachers. Participants represented all program areas of career and technical education in

Table 16

Descriptives and Analysis of Variance for
Program Area and Personal Retention Influences

		Descriptives				
		Ag	Bus., Mkt, IT	FACS	Tech Ed. & T&I	Hea. Sci.
Positive teaching experience	M	3.78	3.30	3.52	3.40	3.29
	SD	.44	.88	.67	.65	.85
Inner sense of knowing I'm doing a good job	M	3.56	3.76	3.74	3.72	3.59
	SD	.76	.46	.45	.46	.51
Positive interaction with students	M	3.89	3.78	3.70	3.52	3.47
	SD	.33	.42	.56	.51	.51
Contact with students in the community	M	3.22	2.75	3.09	2.71	2.88
	SD	.44	.83	.95	.62	.78
Seeing students comprehend the concepts being taught	M	3.44	3.68	3.70	3.68	3.59
	SD	.53	.53	.47	.48	.51
Acknowledgement of support by parents for their child	M	2.89	3.10	3.43	2.96	2.65
	SD	1.05	.77	.66	.89	.70
Satisfied with teaching salary	M	2.78	3.22	3.13	3.20	3.00
	SD	1.09	.85	.82	.71	.79

Note. Ag N = 9; Business, Marketing, and IT N = 89; FACS N = 23; Tech. Ed. and T&I N = 31; Healthcare Science N = 16.

Table 16 (continued)

Descriptives and Analysis of Variance for
Program Area and Personal Retention Influences

ANOVA					
<u>Variable</u>	<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Positive teaching experience	Between	2.41	4	.60	.98
	Within	85.43	138	.62	
	Total	87.85	142		
Inner sense of knowing I'm doing a good job	Between	.68	4	.17	.73
	Within	32.05	137	.23	
	Total	32.73	141		
Positive interaction with students	Between	2.49	4	.62	2.87*
	Within	29.97	138	.22	
	Total	32.43	142		
Contact with students in the community	Between	3.68	4	.92	1.45
	Within	86.92	137	.63	
	Total	90.59	141		
Seeing students comprehend the concepts being taught	Between	.56	4	.14	.54
	Within	35.53	137	.26	
	Total	36.09	141		
Acknowledgment of support by parents for their child	Between	6.76	4	1.69	2.72*
	Within	85.67	138	.62	
	Total	92.43	142		
Satisfied with teaching salary	Between	2.07	4	.52	.75
	Within	93.81	136	.69	
	Total	95.87	140		

*p < .05. **p < .01.

Georgia. Data were gathered to examine the demographic profile and professional and personal retention influences.

This researcher's findings indicated that the top five professional retention influences were support from administrators, institutional policies and procedures that support the teacher, adequate time to complete job responsibilities, pleasant working conditions, and watching student grow intellectually. In addition, when statistical tests were conducted to analyze the relationship between the demographics and professional retention influences, only three of the top five professional retention influences noted differences between the means. Those three were support of parents and the 16 plus years of experience group, watching students grow intellectually and the 51 to 70 age group, and institutional policies and procedures that support the teacher and the family and consumer sciences program area group. Furthermore, recognition of and support by peers and participation in professional associations also had mean differences noted but ranked in the bottom six of professional retention influences.

This researcher's findings indicated that the top three personal retention influences were inner sense of knowing I'm doing a good job, positive interaction with students, and seeing students comprehend the concepts being taught. When statistical tests were conducted, no differences were noted between the personal retention influences and the demographic categories years of experience, age, ethnicity, and salary. However, there were noted differences in the program area demographic category. The agriculture program area considered a positive interaction with students an important personal retention influence, and the influence was ranked number two. The family and

consumer sciences program area considered acknowledgment of support by parents for their child an important personal retention influence, which was ranked number seven.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The research study was conducted for the purpose of examining the retention influences of Georgia's secondary career and technology education teachers. The survey used was modeled after a survey used by Ruhland (2001) in a similar study. Georgia's secondary career and technical education teachers were surveyed, and data were gathered to examine the demographic profile, professional retention influences, and personal retention influences.

The overarching research question addressed in this study was the following: Why do Georgia's secondary career and technical education teachers tend to remain in the teaching profession? The research population was comprised of 700 subjects as on-line surveys were e-mailed to the secondary career and technical education teachers. There were 154 responses to the on-line survey indicating a 22% response rate.

Analysis of Research Findings

Research studies conducted by Kirby and LeBude (1998), Crawford (2000), and Ruhland (2001) noted professional and personal retention influences of secondary career and technical education teachers. However, studies by Wright (1991), Crawford (2000), and Kerlin (2003) indicated barriers to retention of career and technical education teachers. This researcher noted the professional and personal retention influences that Georgia's secondary career and technical education consider important to their retention in the 22% of teachers responding. In addition, the relationships between the professional

and personal retention influences and demographics indicated that there were some significant differences.

After examination of the demographic profile, the typical respondent had 21 or more years of experience, was age 51 to 60, was white, non-Hispanic, had a salary of over \$46,000 a year, and taught business. The respondents indicated that the most important professional retention influence was support from administrators and that the least important professional retention influence was the career and technical education teacher taught in a variety of settings. Furthermore, the same respondents indicated that the most important personal retention influence was an inner sense of knowing that the career and technical education teacher was doing a good job. The least important personal retention influence was contact with students in the community.

The examination of the different demographic groups was conducted to determine if there were any relationships among demographics and professional retention influences. Results indicated that the career and technical education teachers with 16 or more years of experience considered salary increases and support of parents as important retention influences.

The age group demographic noted that watching students grow intellectually was a retention influence. In addition, those career and technical education teachers with a salary of over \$46,000 consider professional association a retention influence.

The open-ended question addressed other retention influences by the career and technical education teacher. The career and technical education teachers who responded to the open-ended question indicated that support of administration was a retention influence. This paralleled the survey responses when compared to the importance

rankings of professional retention influences. In addition, working with students and enjoyment of the job correlated to the rankings of the personal retention influences.

Discussion of Research Findings

Teacher retention influences and barriers to retention were studied to determine reasons that teachers remain in the teaching profession. Beginning with Brown's (1973) study, retention influences were noted for specific groups of career and technical education teachers. Brown's study conducted with agricultural teachers indicated that enjoyment of teaching and advancement were important influences to remain in teaching. This researcher's findings indicated that these were also important retention influences for Georgia's secondary career and technical education teachers.

Retention influences that included professional factors were surveyed to determine what professional retention influences Georgia's secondary career and technical education teachers considered important to their retention. Kirby and LeBude (1998) noted in their research study 13 retention strategies of two groups of career and technical education teachers. The retention strategies ranged from adequate materials and textbooks, to administrative support of school policies, and available planning time before school. This researcher's findings were concurrent.

Ruhland (2001) documented positive retention factors including pleasant working conditions, positive teaching experience, adequate time to complete job responsibilities, and positive interaction with students. This researcher found that adequate time to complete job responsibilities, pleasant working conditions, and positive interaction with students were also retention influences with a mean of 3.5 or higher. The retention influence positive teaching experience had a mean of 3.4.

Heath-Camp and Camp (1990), Osgood (2001), and Joerger and Bremer (2001) stated that efficient induction programs were critical to a teacher's decision to remain in the teaching profession. In addition, Joerger and Bremer noted that career and technical education teachers may have different induction needs. This researcher's findings indicated that a mentoring or induction program was of lesser importance than noted by previous research.

Studies conducted by Useem and Neild (2005), Otto and Arnold (2005), Kirby and LeBude (1998), and Crawford (2000) stated that administrative support was an important retention influence for teachers. This researcher's findings indicated that support from administrators was considered to be the most important professional retention influence for Georgia's secondary career and technical education teachers. Another aspect of administrative support are institutional policies and procedures that support the teacher. Again, Georgia's career and technical education teachers felt policies and procedures were a retention influence. However, Georgia's secondary career and technical education teachers did not consider recognition from administrators as a highly important retention influence.

For some teachers, salary is a retention influence. Inman and Marlow (2004) found this to be true in their study of Georgia teachers. This researcher's findings were concurrent.

Kirby and LeBude (1998) noted that opportunities for professional development was a retention influence. This researcher also showed that Georgia's secondary career and technical education teachers considered professional development opportunities an influence for retention.

Another set of retention factors were personal influences. Research studies conducted by the AARP (2003), Certo and Fox (2002), and Ruhland (2001) found that a teacher's intrinsic rewards were retention influences. This researcher found this to be true also. Respondents indicated that having an inner sense of knowing that they are doing a good job, having a positive interaction with students, and seeing students comprehend the concepts being taught were the three most important personal retention influences.

Open-ended responses to the current research indicated that enjoyment of working with young people and the gratification from the job were retention influences. Even though career and technical education teachers indicated that they were satisfied with their teaching salary, a response in the open-ended question section stated that salary was the one thing to cause the respondent to want to return to private industry.

In the second part of the survey the researcher addressed demographics. Previous research on career and technical education teacher retention was conducted in certain program areas. This researcher used all program areas of career and technical education in Georgia to conduct the study. Therefore, the demographics of the study indicated the typical respondent was business teachers, made over \$46,000, white, non-Hispanic, aged 51 to 60, and had 21 plus years of teaching experience.

In summary, this researcher defined the retention influences of Georgia's secondary career and technical education teachers and compared those to previous career and technical education retention studies. Similarities were shown in the influences of support from administrators, pleasant working conditions, salary, availability of resources, inner sense of doing a good job, and students comprehending concepts being taught. There were also similarities in factors that were not as important to retention

influence. Those were recognition and support by peers, potential for leadership opportunities, and contact with students in the community.

Conclusions

Career and technical education is an integral part of the high school curriculum. The need to understand reasons that Georgia's secondary career and technical education teachers have longevity in the teaching profession is important. Asserted earlier was that this researcher had observed low turnover among Georgia's secondary career and technical education teachers. As indicated by the findings, the typical Georgia secondary career and technical education teachers had 21 or more years of experience. Consistent with years of experience is the age of Georgia's secondary career and technical education teacher. The typical respondent age was over age 51. Because there were more older respondents to the survey, retention influences that ranked more important might have been influenced by age and experience.

A statement made by several respondents was that retirement benefits and health insurance were retention influences. Georgia teachers can retire with 30 years of experience and receive 60% of the average of their two highest years of annual salary of their retirement. Furthermore, they also have the option of keeping their health insurance.

While it seems reasonable that some teachers leave the teaching profession due to low teacher salary, that is not the case for Georgia's secondary career and technical education teachers. Over half of the teachers made over \$46,000 a year. Salary was a retention influence. However, Georgia's teachers have a set base salary schedule based on degree and years of experience. Thus, the salary schedule may have contributed to this

being an important retention influence. In addition, the Georgia teacher salary schedule is approved by the State Legislature each year.

Retention influences have not changed drastically over the last 30 years. This conclusion can be drawn from the fact that earlier researchers noted retention influences of adequate materials and facilities, positive work climate, positive teaching experience, adequate time to complete job responsibilities, advancement and security. However, the one outstanding professional retention influence is support from administrators, which was not noted in earlier studies. Support from administrators may be more important in 2006 than it was in 1973.

Furthermore, career and technical education teachers have remained in the teaching profession because they are intrinsically motivated as shown by the personal retention influences. Respondents noted that seeing students comprehend concepts and an inner sense of knowing that the career and technical education teacher was doing a good job were important personal retention influences.

Implications

Career and technical education has changed tremendously since the Morrill Act of 1862. However, the underlying concept of training young people to be productive and skilled citizens has not. Even those who teach have changed. There is no longer an apprentice teaching just a skill; there is a certified teacher teaching a skill and work ethics. Those who teach in career and technical education must have a reason for remaining in teaching. A review of the literature indicated that there is a wide variety of reasons that influence a career and technical education teacher's decision to remain in a chosen program area. However, these influences were indicated by specific groups of

career and technical education teachers. This researcher noted retention influences for all program areas in Georgia. In addition, the findings have an impact on Georgia's educators because the results may enlighten the Georgia Department of Career, Technical, and Agriculture Education, local career and technical education administrators, local school system principals, and local school system superintendents about what they can do to retain career and technical education teachers and non-career and technical education teachers.

Educational leaders should be concerned with career and technical education teacher retention. Retention of teachers is crucial to school systems. This researcher's findings provides additional information on teacher retention in Georgia, which can aid Georgia's educators in making informed decisions concerning attrition, retention, and retirements of career and technical education teachers. In addition, the means for the professional and personal retention influences that were noted in this study were closely related. Education leaders might use the noted influences to aid not only retention but recruitment of teachers.

Recommendations

1. This researcher's findings indicated that the typical respondents were business teachers. Another study could be conducted using a specific program area.
2. The review of literature indicated that prior to the current research, no other study had been conducted on all program areas of career and technical education. This study could be replicated in another state and the results compared.

3. Although mentoring was a retention influence of some importance, another study could be conducted on the retention influences of career and technical education teachers who were mentored and career and technical education teachers who were not mentored.
4. The response rate was low for this survey. The study could be replicated using a mail out survey instead of an on-line survey.
5. Respondents indicated that support from administrators was the most important retention influence. Educators from the building administrator to the state school superintendent should embrace the fact that positive administrative support is a crucial retention factor.

Reports from the National Center for Education Statistics noted a marked decrease in the number of career and technical education teachers from 1987 to 1992. Educational leaders at all levels of education should seek to understand reasons that teachers remain in the teaching profession and use that information to combat attrition to keep dedicated teachers in the classroom.

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APPENDICES

Appendix A

Retention Influences Of Georgia's Secondary Career and
Technical Education Teachers Survey**Retention Influences of Georgia's Secondary
Career and Technical Education Teachers**

This survey is being conducted for a dissertation entitled "An Analysis of Retention Factors that Influence Georgia's Secondary Career and Technical Education teachers to Remain in the teaching profession." Please take a few minutes to provide me with your opinions regarding influences on retention of career and technical education teachers. Your responses will be kept confidential and you will not be identified individually in any way in the findings of the study. Thank you for your participation.

Definitions: Career and Technical Education Teacher—for the purposes of this study a career and technical education teacher will be any teacher who teaches in a career and technical education department.

Part 1: Retention Influences

Rate each item as to its importance in determining your interest to continue teaching with one (1) being not important to five (5) no opinion.

		(1) not important	(3) very important	(5) no opinion		
		(2) somewhat important	(4) extremely important			
1.	Positive teaching experience	1	2	3	4	5
2.	Professional development opportunities	1	2	3	4	5
3.	Participation in professional associations	1	2	3	4	5
4.	Inner sense of knowing I'm doing a good job	1	2	3	4	5
5.	Availability of mentoring program	1	2	3	4	5
6.	Teach in a variety of settings	1	2	3	4	5
7.	Recognition of and support by peers	1	2	3	4	5
8.	Positive interaction with students	1	2	3	4	5
9.	Adequate time to complete job responsibilities	1	2	3	4	5
10.	Pleasant working conditions	1	2	3	4	5
11.	Quality and quantity of resources available	1	2	3	4	5
12.	Potential for leadership opportunities	1	2	3	4	5

13.	Potential for salary increases	1	2	3	4	5
14.	Institutional policies and procedures that support the teacher	1	2	3	4	5
15.	Contact with students in the community	1	2	3	4	5
16.	Seeing students comprehend the concepts being taught	1	2	3	4	5
17.	Recognition from administrators	1	2	3	4	5
18.	Support from administrators	1	2	3	4	5
19.	Support of parents	1	2	3	4	5
20.	Acknowledgment of support by parents for their child.	1	2	3	4	5
21.	Satisfied with teaching salary	1	2	3	4	5
22.	Watching student grow intellectually	1	2	3	4	5

Are there other factors that influence your retention? If so, please list and explain: _____

Part 2: Demographics

Please check the appropriate answer.

1. How long have you been a career and technical education teacher?

<input type="checkbox"/> 0-3 years	<input type="checkbox"/> 11-15 years
<input type="checkbox"/> 4-6 years	<input type="checkbox"/> 16-20 years
<input type="checkbox"/> 7-10 years	<input type="checkbox"/> 21 + years
2. Age

<input type="checkbox"/> Under 30	<input type="checkbox"/> 51-60
<input type="checkbox"/> 31-40	<input type="checkbox"/> 61-70
<input type="checkbox"/> 41-50	<input type="checkbox"/> over 70
3. Ethnicity:

<input type="checkbox"/> White, non-Hispanic	<input type="checkbox"/> Native American
<input type="checkbox"/> Black, non-Hispanic	<input type="checkbox"/> Asian/Pacific Islander
<input type="checkbox"/> Hispanic	<input type="checkbox"/> Other
4. Current Salary

<input type="checkbox"/> over \$46,000	<input type="checkbox"/> \$26,000 to \$35,999
<input type="checkbox"/> \$36,000 to \$45,999	<input type="checkbox"/> Less than \$25,999
5. Subject area(s) licensed or certified to teach:

<input type="checkbox"/> Agriculture	<input type="checkbox"/> Healthcare Science
<input type="checkbox"/> Business	<input type="checkbox"/> Auto, Electronics, HVACR (T&I)
<input type="checkbox"/> Information Tech.	<input type="checkbox"/> CVAE/RVI/PS
<input type="checkbox"/> Marketing	<input type="checkbox"/> Information System
<input type="checkbox"/> Family & Consumer Sciences	<input type="checkbox"/> Sheet Metals
<input type="checkbox"/> Technology Ed.	<input type="checkbox"/> Other: Please List _____

Appendix B

Ruhland Letter Granting Permission to Use Survey

**CLATSOP COMMUNITY COLLEGE**

1653 JEROME AVENUE • ASTORIA, OREGON 97103-3698 • PHONE (503) 325-0910

November 7, 2005

Ms. Hope Morris
904 N. Peachtree Road
Dublin, GA 31027

Dear Ms. Morris:

I received your letter requesting permission to use the survey I developed titled *Factors Influencing the Retention of Secondary Business Teachers* based upon current research you are conducting. You have my permission to use the survey and/or modify the survey for your dissertation. I am requesting that you appropriately cite this survey based upon the research I conducted in your research and any publications as a result of the research you complete.

If you have questions, please contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Sheila Ruhland'. The signature is written in black ink and extends across the width of the page.

Sheila Ruhland Ph.D.
Vice President of Instruction
503-338-2440
sruhaldn@clatsopcc.edu

Appendix C

Institutional Review Board Approval Letter

Georgia Southern University Office of Research Services & Sponsored Programs Institutional Review Board (IRB)		
Phone: 912-681-5465		Administrative Annex P.O. Box 8005 Statesboro, GA 30460
Fax: 912-681-9719	Oversight@GeorgiaSouthern.edu	

To: Herb Morris
904 N. Peachtree Rd.
Duluth, GA 31027

CC: James Barnham, Faculty Advisor
P.O. Box 8131

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(LACUC/IRB/OTRB)

Date: March 2, 2006

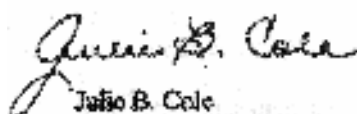
Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered: **IRB06127**, and titled "Retention Influence of Georgia's Secondary Career and Technical Education Teachers", it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research.

This IRB approval is in effect for one year from the date of this letter. If at the end of that time, there have been no changes to the research protocol, you may request an extension of the approved period for an additional year. In the interim, please provide the IRB with any information concerning any significant adverse event, whether or not it is believed to be related to the study, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator prior to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

Sincerely,



Julio B. Cole
Director of Research Services and Sponsored Programs

Appendix D

Survey Cover Letter/E-Mail

Survey on Retention Influences of Secondary CTE Teachers

Page 1 of 1

This message has been scanned for known viruses.

From: H. J. Morris
To: hopejmorris@aol.com
Subject: Survey on Retention Influences of Secondary CTE Teachers
Date: Mon, 27 Mar 2006 06:29:34 -0800 (PST)

Dear Career, Technical, and Agricultural Education Teacher:

My name is Hope J. Morris, and I am a doctoral student in the Department of Leadership, Technology, and Human Development at Georgia Southern University. I am writing my dissertation and conducting a survey on factors that influence the retention of Georgia's secondary career and technical education teachers. For analysis purposes, I am asking secondary career and technical education teachers to complete a *Retention Influences of Georgia's Secondary and Career and Technical Education Teachers* instrument.

This e-mail is to request your assistance in collecting data using this instrument; it should take about 20 minutes for you to provide the requested information. There is, of course, no penalty should you decide not to participate. If you agree to participate, please complete the survey at <http://www.quia.com/sv/78407.html> by either clicking the link or by copying and pasting the address into the URL address bar. If you choose not to participate, just delete this e-mail. Completion of the survey will be considered permission to use the information you provided in my analysis. Please be assured that your responses will be anonymous as all surveys are identical and names are not required. I will not be able to identify your responses from those of other participants. Only I will have access to any individual participant responses. The data will be most useful to me if your respond to every item on the instrument; however, you may choose not to answer one or more of these items without penalty.

If you have any questions about this research project, please call me at 478-272-5782 or e-mail me at hopejmorris@aol.com. If you have any questions or concerns about your rights as a research participant in this study, they should be directed to Office of Research Services and Sponsored Programs at 912-486-7758 or by e-mail at oversight@georgiasouthern.edu.

Let me thank you in advance for your assistance in this research effort. This information will be useful in understanding the retention influences of Georgia's secondary career and technical education teachers.

Respectfully,

Hope J. Morris

New Yahoo! Messenger with Voice, Call regular phones from your PC for low, low rates.

3/27/2006

Table A1
CTE Teacher Years of Experience

Years	N	Percent
0-3	26	16.99
4-6	24	15.69
7-10	30	19.61
11-15	16	10.46
16-20	14	9.15
21 + years	43	28.10

Note. Total N = 153

Table A2
CTE Teacher Age

Age	N	Percent
Under 30	18	11.76
31-40	30	19.61
41-50	47	30.72
51-60	51	33.33
61-70	7	4.58
over 70	0	0.00

Note. Total N = 153

Table A3
CTE Teacher Ethnicity

Ethnicity	N	Percent
White, non-Hispanic	120	78.43
Black, non-Hispanic	27	17.65
Hispanic	1	.66
Native American	3	1.96

Note. Total N = 151

Table A4
CTE Teacher Salary

Current Salary	N	Percent
over \$46,000	88	57.52
\$36,000 to \$45,999	43	28.10
\$26,000 to 35,999	22	14.38

Note. Total N = 153

Table A5
CTE Teacher Program Areas

Area	N	Percent
Agriculture	9	5.92
Business	62	40.79
Information Technology	12	7.89
Marketing	15	9.21
Family & Consumer Sciences	23	15.13
Technology Education	21	13.82
Healthcare Science	16	10.53
Trade & Industry	10	6.58
CVAE/RVI/PS	1	.66
Sheet Metals	1	.66
Other	27	17.76

Note. Respondents could check all program areas that applied; 153 respondents answered this question.