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Career and Technical Education Curriculum: The Implementation Process in Southeast Georgia High Schools

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A CAREER AND TECHNICAL EDUCATION CURRICULUM: THE
IMPLEMENTATION PROCESS IN SOUTHEAST GEORGIA HIGH SCHOOLS

by

KENNETH D. BOYD

(Under the Direction of Linda M. Arthur)

ABSTRACT

Career and Technical Education (CTE) programs have been an element of the American high school experience and are still an integral part of an overall high school curriculum (Silverberg, 2004). An academic foundation, combined with work and life skills, is essential for preparing a student for the 21st Century workplace (Wonacott, 2003). Employers require well trained employees possessing the skills and capabilities taught in CTE programs. However, employers also report difficult recruiting when attempting to hire well trained, qualified people. The purpose of this study was to better understand the implementation process of a high school CTE curriculum in Southeast Georgia high schools.

This was a qualitative case study using focus groups: Career and Technical Education Coordinators representing the linkage between secondary and postsecondary education; high school counselors whose responsibilities include student curriculum selection; and, parents who represent the pivotal role of specific curriculum selection for their children. Each group served a vital role in

providing data that were assessed and analyzed to fulfill the overall purpose of the study.

Study results showed that CTE coordinators and counselors were familiar with the concept of an implementation process, but stated concern that no formal, consistent process existed that outlined CTE curriculums for parents and students. Parents were much less aware of any implementation process and vigorously stated that one should exist and that CTE curriculums should be explained and promoted. The researcher found that factors such as career goals, parent and teacher influence, and peer opinions were involved when students selected CTE curriculums. The researcher also found that CTE curriculum selection influence came from a variety of sources such as parents, peers, career opportunities, potential job salaries, and overall information about future careers as related to specific businesses and industries.

INDEX WORDS: Career and Technical Education, Focus group, Career opportunity, Technical preparation, Dual enrollment, Joint enrollment

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A Dissertation Submitted to the Graduate Faculty of Georgia Southern University
in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

STATESBORO, GEORGIA

2008

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DEDICATION

This dissertation is dedicated to my wife Kathy for her unconditional love and support to me throughout my doctoral studies. She was always steadfast with her continuous encouragement and occasional prodding. I love her with all my heart and only hope and pray that someday I can return the devotion and commitment. Without her, this accomplishment has no value.

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There have been many people in my professional and personal life that have provided encouragement and support. Most are unaware of their importance to me, but I have inwardly thanked them for their involvement. I thank them for their unconditional commitment, and I only hope that they understand how thankful I am for their participation in my journey.

A special thanks to Dr. Linda Arthur who served as my dissertation committee chair and displayed strong leadership and mentorship. Also, she demonstrated a passion for education, the learning process, and the potential applicability of my topic. She understood my passion for technical education and realized that I was not to be denied my say about opportunities for high school students. Dr. Arthur encouraged me throughout the research and writing process and insisted that my devotion to my topic be displayed in my final chapter.

I am indebted to my committee members: Dr. Rosemarie Stallworth-Clark, who provided me such excellent insights about incorporating technology into my methodology and telling me I had a great story to tell. Dr. Stallworth-Clark provided me excellent professional guidance about others who might want to know about my research and recommended that I share my thoughts and insights about career and technical education with other professionals. And, Dr. Neil Aspinwall, who spoke with me about embarking on this journey almost five years ago. His leadership skills, decision-making process, and overall professionalism represent to me that of a proven educational leader who correlated workforce development programs to business opportunities.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	7
LIST OF TABLES	12
LIST OF FIGURES	13
CHAPTER	
1 INTRODUCTION	14
Background of the Study	15
Statement of the Problem.....	18
Research Questions	19
Importance of the Study	20
Procedures	21
Research Design.....	21
Population/Sample	22
Instrumentation	23
Data Analysis	24
Delimitations	25
Limitations.....	25
Summary.....	25
2 REVIEW OF RESEARCH AND RELATED LITERATURE	27
Introduction.....	27
High School & Technical College CTE Partnership.....	28
Technical Preparation (“Tech Prep”) in Georgia	31

	Dual and Joint Enrollment in Georgia.....	35
	21 st Century Business Requirements	37
	Required Worker Skills.....	38
	Worker Salaries.....	40
	Career and Technical Education Programs	41
	Summary	48
3	METHODOLOGY	50
	Introduction.....	50
	Research Questions	51
	Research Design	51
	Population	53
	Participants.....	54
	Sample	55
	Instrumentation.....	55
	Validation.....	56
	Data Collection	57
	Data Analysis	58
	Reporting the Data	59
	Summary.....	59
4	REPORT OF DATA AND DATA ANALYSIS	60
	Introduction.....	60
	Research Questions	61
	Respondents	61

	10
Demographic Data.....	61
Findings.....	64
Introduction.....	64
What is the Implementation Process of a CTE Curriculum	64
What Factors are Involved with Student Selecting a CTE Program.....	68
What Influential Roles do Individuals Play in a Student’s Curriculum Selection.....	71
Summary.....	75
5 SUMMARY, CONCLUSIONS, AND IMPLICATIONS.....	77
Summary.....	77
Analysis of Research Findings.....	78
Discussion of Research Findings.....	81
What Factors are Involved with Student Selecting a CTE Program	81
What Influential Roles do Individuals Play in a Student’s Curriculum Selection.....	84
Conclusions.....	85
Implications.....	87
Recommendations.....	88
Recommendations for Further Research.....	89
Dissemination.....	90
Concluding Thoughts.....	91

REFERENCES	95
APPENDICES	98
A FOCUS GROUP DISCUSSION QUESTIONS	99
B IRB APPROVAL LETTER	101
C PARTICIPANT CONSENT LETTER.....	103
D STUDIES RELATED TO CTE CURRICULUMS	107
E STUDIES RELATED TO BUSINESS AND INDUSTRY	110

LIST OF TABLES

	Page
Table 4.1: Coordinators and Counselors Demographic Data	62
Table 4.2: Parents Demographic Data	63

LIST OF FIGURES

	Page
Figure 2.1: Matching Advancement to Education Achievement.....	47

CHAPTER 1

INTRODUCTION

“Employers today need workers with ‘pocket protector’ skills – creative problem-solvers with strong math and science backgrounds” (Spellings, 2006, p. 1)

Career and Technical Education (CTE) programs are an integral element of a comprehensive high school curriculum. CTE began in public high schools in the early 20th Century with a focus of preparing individuals for work. This goal has evolved over time to include such courses as technology enhancement training, decision-making modeling, problem-solving, and leadership abilities all aimed at enhancing an academic foundation for work. This career and technical education has become more than just teaching a student how to earn a living by using his or her hands. An academic foundation, combined with work and life skills, is essential for preparing a student for the 21st Century workplace (Wonacott, 2003).

Richard Lynch (2000) described the demand for CTE programs by today’s businesses as industries requiring workers to possess new and different skills, and technology is pushing the need for advanced technical skills while complex processes and machinery require employees with problem-solving, teamwork, and leadership capabilities. Lynch supports CTE programs that combine theory and practical application. Additionally, salary earnings for individuals with a CTE foundation are more than non-CTE high school graduates (Silverberg, et al., 2004).

With over a third of high school graduates entering the job market immediately after graduation (U.S. Department of Education, 2004), it may be important to the secondary and post-secondary education communities to better understand the importance and implementation of CTE programs. With CTE programs existing within a secondary and post-secondary partnership, and 21st Century businesses needing workers possessing CTE produced skills, the demand for CTE graduates is great. After declining enrollment in the 1980's, the percentage of high school students taking CTE courses was relatively constant through the 1990's entering the 21st Century (Silverberg, et al., 2004).

Background of the Study

In 1917, Congress passed, and President Woodrow Wilson signed into law, the Smith-Hughes Act (Lynch, 2000). This Act was the start of career and technical education (CTE) at the federal government level and defined CTE as the "preparation for employment in positions requiring less than a baccalaureate degree" (Oklahoma, 2006). Funding was provided for CTE in agriculture, trades and industry, and home economics (Lynch, 2000). An element of the Smith-Hughes Act called for a new curriculum that would better serve the needs of the children of the working class who for the first time were attending school, but not headed for professions such as medicine, engineering, or law (Lynch, 2000). In 1984, Congress passed the Carl D. Perkins Vocational Education and Applied Technology Act and there were two main objectives: (1) improvement of vocational programs, and (2) better services and increased access to vocational education for students with special needs (Lynch, 2000). The Carl D. Perkins

Vocational and Applied Technology Education Act of 1990 and The Carl D. Perkins Vocational and Applied Technology Education Amendments of 1998 made additional changes in federal direction for CTE focusing on student achievement and performance (Lynch, 2000).

The aspect of Technical Preparation, better known as “tech-prep,” resulted from the legislation in 1990 which focused on career and technical skill oriented programs that seamlessly flowed for two years in high schools followed by two years at a technical colleges (Rojewski, 2002). In Georgia, the Georgia Department of Education and the Georgia Department of Technical and Adult Education jointly administer Tech Prep programs (Gornto, 2005). In addition to Tech Prep curriculums, secondary and postsecondary institutions also developed Dual and Joint Enrollment programs that permit high school students to enroll in, and receive credit for, technical college programs (Georgia Department of Education, 2005).

Approximately 37% of the three million annual high school graduates immediately enter the labor market (U.S. Department of Education, 2004). Businesses and industries are recognizing that skills such as problem solving, communications, and leadership, combined with core academic topics (e.g. mathematics, English, writing) comprise vocational credentials and professional certifications (i.e., industry approved) as qualifications for job placement and advancement (Chute, 2005). Employees possessing these skills as part of a career and technical education background were rated by employers 61.9%

better in productivity and 65.1% better in attitude than other workers (Southern Regional Education Board, 2006). Technology improvements will only increase the need for these type of highly skilled workers to work on business challenges, global demands, and changes in the work environment (Karoly and Panis, 2004).

As workers obtain career and technical education skills, employers will pay increased salaries for those individuals with an increased skill base (National Center on Education and the Economy, 2007). Earnings are higher per year and by lifetime for those workers with higher levels of academic achievement and cognitive skills (Educational Testing Service, 2007). More specifically, high school graduates of career and technical education programs have increased earnings of \$1200 on average immediately after graduation and by \$1800 seven years later (U.S. Department of Education, 2004). If the same high school graduate also earns a technical college certificate as part of the career and technical education program, earnings will be 6.5% higher on average compared to a non-CTE high school graduate (Silverberg, et al., 2004).

Historically, career and technical education had the reputation of enrolling students designated as potential dropouts or those with academic problems (Chute, 2005). Those programs in high schools have been characterized by several public perceptions: parents wanting their children to get a traditional four-year college degree versus a perceived inferior, two-year technical college degree; career and technical jobs pay poorly; and, students in career and technical education programs are academically the lowest ranking students (Lewis, 2001). However, career and technical education has been correlated to

better high school academic performance, enhancing students' current and future earnings, and higher enrollment numbers for additional higher education programs (U.S. Department of Education, 2004). In spite of this, U.S. manufacturers are reporting a gap between the availability of individuals with required worker skills and stated performance requirements that are needed for global competition (Eisen, et al., 2005). Additionally, U.S. manufacturers have identified specific deficiencies of high school graduates entering the workforce that include basic employability skills (e.g., attendance, work ethic), and math, science, and reading comprehension (Eisen, et al., 2005).

Statement of the Problem

High school and technical college partnerships have existed in some form since the passage of the first federal legislation in 1917. These two institutions have jointly developed integrated career and technical education programs that have produced high school graduates that simultaneously earned technical college credits. High school graduates of these programs have completed a curriculum that included core academic skills as well as industry related technical capabilities.

Twenty-first century businesses are interested in hiring these high school graduates of career and technical education programs. Businesses are also willing to pay more than average salaries to these graduates because of the academic and technical skills they possess. Additionally, the fastest growing jobs require workers with a high school academic base of knowledge in addition to career and technical education skills.

Although businesses seek career and technical education program graduates, and companies have stated their intent on paying increased wages to individuals possessing those skills and abilities, these same companies contend there are shortages of workers possessing the work skills of these graduates. Although studies outline course content and statistics of existing career and technical education courses in high schools, and speak to the non-growth of CTE students, none address why this industry demand for graduates is not being met. One way to unfold this mismatch is to understand how the career and technical education curriculum is being implemented in high schools. Therefore, the purpose of this study was to understand the implementation process of a career and technical education curriculum in Southeast Georgia High Schools.

Research Questions

The overarching question to be addressed in this study is the following: What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools? The following sub-questions will guide the research:

1. What factors are involved with students' selecting a high school career and technical education program?
2. What role do high school teachers, counselors, administrators, peers, and parents play in a student's selection of a high school career and technical education program?

Importance of the Study

This study provided information that can be used by the Technical College System of Georgia, high school leaders, high school students, and parents of high school students, to make more informed decisions about career and technical education choices.

Findings of the study can assist high school students to understand the demand and value of a career and technical education program. Data from this study is important to high school leaders, counselors, and parents to enable them to understand industry demands, salaries, and other benefits of a career and technical education program as it applies to post-graduate job opportunities. This study will help technical college leaders plan and develop higher education courses that become part of a high school career and technical education program, thus strengthening an existing educational partnership.

This study was of significance to the researcher who works at a Georgia Technical College and is involved with a variety of businesses and industries and the employees they seek to hire. Fully understanding the academic and technical skills of individuals that employers are attempting to find and hire, this researcher is determined that integrated high school and technical college programs become a viable answer to produce highly sought after high school graduates. Graduating students with a high school diploma and career and technical education job skills will meet employment demands of 21st Century employers (Bennett, 2006). Finally, this study fills a void in the existing research

and available literature on the topic of implementing a career and technical education curriculum in Southeast Georgia High Schools.

Procedures

Research Design

This study was a qualitative case study involving four focus groups. Specifically, this research was an instrument case study based on better understanding the research topic (Glesne, 2006). Focus groups, a mean for collecting key informant, were specifically chosen because participant involvement and in-depth interviewing could produce many perspectives on a shared topic (Glesne, 2006). The following four focus groups were created: two groups of high school counselors; one group of Georgia Southeast Region Career and Technical Education Coordinators; and one group of parents. Since it was important to obtain multiple viewpoints on a single topic affecting all participants, the notion of focus groups was used (Glesne, 2006). Morgan (1997) identified the following advantages of focus groups: (a) concentrated amounts of data on the research topic is produced; (b) group interaction produces good data; and (c) focus groups are topic oriented because the researcher controls the topic.

Since the purpose of the study was to understand the implementation process of a high school career and technical education curriculum in Southeast Georgia, focus groups from secondary and post-secondary organizations were utilized. Additionally, since parents play a vital role in student curriculum choice, that group's input was important as well. Career and Technical Education

Coordinators were included since they represent the bridge between secondary and post-secondary courses into the CTE curriculum. The Southeast Georgia Region consists of Altamaha, Ogeechee, Savannah, Okefenokee, and Southeastern Technical Colleges as well as Coastal Georgia Community College. Each CTE Coordinator is assigned to one of these colleges and the corresponding school districts found in the twenty-four counties aligned with these institutions of higher education.

Each focus group brought a different perspective to the aspect of implementing a CTE curriculum. If only one mixed focus group were utilized, the dynamics of each group might well be lost and one point of view might have dominated the research. The study design decision to create separate groups to enhance participation is known as *segmentation* (Morgan, 1997). This researcher believed that each identified focus group would have knowledge, experiences, and opinions that would produce valuable data. With focus groups, the unit of analysis is the group, not individual participants. Morgan (1997) states that focus group studies usually have three to five groups with six to ten individuals in each group.

Population/Sample

The population of the study was comprised of high school counselors, parents of high school students, and Georgia Southeast Region Career and Technical Education Coordinators, all holding their respective positions during the 2007-2008 academic school year. The sample for the study was segmented into the following four focus groups: Focus Group #1 was Career and Technical

Education Coordinators from the Georgia Southeast Region; Focus Groups #2 and #3 were two groups of high school counselors randomly sampled from high school principal approved lists; and, Focus Group #4 was parents of high school 9th through 12th grade students (Focus Group #3). From purposive sampling, six to eight high school counselors, one from each of the six elements that make up the Georgia Southeast Region were selected forming Groups #2 and #3. Six to ten parents, with at least one parent from each element within the Southeast Region, formed the last focus group.

Instrumentation

The instrument used for this study consisted of questions (Appendix A) developed by the researcher that were aimed at answering the research questions generating discussions within each focus group. Focus groups were scheduled for one, one hour sessions, but discussions lasted slightly longer allowing for introductions and concluding remarks. Ground rules were developed by the researcher who served as the moderator or facilitator of each focus group (Glesne, 2006). Examples of these rules included: one speaker at a time; established start and stop times for sessions; and selection of a neutral, public location for the sessions. It was important not to establish too many rules and set the expectation that the researcher will micro-manage all aspects of the discussion (Morgan, 1997). All sessions were audio recorded for transcription; all participants were notified and aware of the recordings. All participants were volunteers.

The researcher served as the moderator for each focus group interview. After brief self-introductions by all participants, the moderator started with an “ice-breaker” question that set the stage for more in-depth questions and additional follow-up, probing questions. The moderator made it clear to each group that he was conducting these focus groups to learn from the participants about the stated topic.

Data Analysis

All focus group discussions were audio recorded and then transcribed followed by processing the transcriptions using a method called thematic analysis (Glesne, 2006); the data was assessed with the purpose of identifying major ideas, a process called coding. Each major idea was given a title (i.e., code) and each code was assigned sub-codes as the data were continuously analyzed. As identical sub-codes emerged in different codes, this situation represented a major theme. The analysis of this data organized by major themes was instrumental in answering the research questions. All collected data included researcher notes, observations of participants and participant answers to questions. Data themes were continuously evaluated as all data were carefully reviewed time and again until all data that remained were pertinent to the research questions. Frequency counts of focus group responses helped the researcher to identify similar patterns of answers to the discussion questions generated from the focus groups and assisted with determining conclusions and outcomes.

Delimitations

The following delimitations were associated with this study:

1. Participants in the high school counselors focus group were from high schools in Georgia's Southeast Region.
2. Participants in the parents of high school students focus group were parents of students enrolled in high schools in Georgia's Southeast Region.
3. Participants in the Career and Technical Education Coordinators focus group were from Georgia's Southeast Region.

Limitations

The following limitations were associated with this study:

1. Career and Technical Education Coordinators and high school counselors held their positions during the 2007-2008 academic school year.

Summary

Career and Technical Education (CTE) curriculums exist in high schools in Southeast Georgia and some portions of the curriculums were developed and delivered with assistance from Georgia's Technical Colleges. CTE programs consist of not only core academic fundamentals such as reading, mathematics, and writing, but also technical skills in concentrated areas of study such as medical, business, agriculture, and industrial technology. Also integrated into overall curriculums are knowledge-based capabilities such as problem solving, communications, teamwork, and leadership.

Twenty-first Century businesses are seeking potential employees who possess many of those skills taught in a CTE curriculum. A high school student who graduates from a high school that utilized a CTE curriculum will be in high demand from a variety of modern industries because of what they have learned from a CTE high school experience. Armed with a foundation of academic basics as well as technical skills, a CTE high school graduate might find themselves receiving higher than average starting wages as well as total lifetime earnings (Silverberg, et al, 2004).

However, business leaders have stated that individuals with this described skill set is in short supply. The number of high school CTE curriculum students declined from the mid-1980s to the mid-1990s and has recovered slightly with no significant increase (U.S. Department of Education, 2000). With such a stated business demand and CTE curriculum availability, a better understanding of the implementation process of CTE curriculums was a research opportunity. Therefore, a clearer understanding of the implementation process was important to the researcher and the research results will aid secondary and post-secondary leaders in strengthening a CTE curriculum implementation/design process in Southeast Georgia high schools and ultimately for all Georgia high schools.

CHAPTER 2

REVIEW OF RESEARCH AND RELATED LITERATURE

Introduction

Career and Technical Education (CTE) programs have been an element of the American high school experience and are still an integral part of an overall high school curriculum (Silverberg, 2004). CTE began in public high schools in the early 20th Century with a focus of preparing individuals for work. This goal has evolved over time to where CTE includes such courses as technology enhancement training, decision-making modeling, problem-solving, and leadership abilities all aimed at enhancing an academic foundation. In other words, career and technical education became more than just teaching a student how to earn a living by using his or her hands. An academic foundation, combined with work and life skills, is essential for preparing a student for the 21st Century workplace (Wonacott, 2003).

Almost 50% of the nation's high schools offer one or more CTE programs (U.S. Department of Education, 2005). The purpose of these programs is to combine academic rigor with technical learning; CTE programs are not simply teaching students a "trade" that can be accomplished with their hands. Furthermore, although the high school is where students prepare for a higher education experience, it also prepares students for what routinely gets less attention at a high school level, and that is a job that might lead to a career (Grubb, 1995). With 37% of the three million annual high school graduates immediately entering the labor market (U.S. Department of Education, 2004),

career preparation is a key CTE objective. Ultimately, a CTE student is more employable, will receive higher wages, and will achieve higher levels of management throughout a career whether or not the student achieves any post secondary credits (U.S. Department of Education, 2004).

High School & Technical College CTE Partnership

In 1917, Congress passed and President Woodrow Wilson signed into law the Smith-Hughes Act (Lynch, 2000). This Act was the start of career and technical education (CTE) at the federal government level and defined CTE as the “preparation for employment in positions requiring less than a baccalaureate degree” (Oklahoma, 2006). Funding was provided for CTE in agriculture, trades and industry, and home economics (Lynch, 2000). An element of the Smith-Hughes Act called for a new curriculum that would better serve the needs of the children of working people who for the first time were attending school, but not headed for professions such as medicine, engineering, or law (Lynch, 2000).

The George-Reed Act of 1929 extended and amended the Smith-Hughes Act by increasing federal support for vocational education. In 1935, the George-Ellzey Act replaced the George-Reed Act and provided federal dollars to train teachers for the first time (Oklahoma, 2006). The George-Barden Act of 1946 increased annual federal government funding for agriculture, home economics, and trade and industries areas of vocational education with the Health Amendment being included in 1956 adding the education of practical nurses to the overall mission of vocational education.

In 1984, Congress passed the Carl D. Perkins Vocational Education and Applied Technology Act and there were two main objectives: (1) improvement of vocational programs, and (2) better services and increased access to vocational education for students with special needs (Lynch, 2000). The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 and The Carl D. Perkins Vocational and Applied Technology Education Amendments of 1998 made additional changes in federal direction for CTE focusing on student achievement and performance (Lynch, 2000).

Key changes in federal policy started with the passage of the Vocational Education Act of 1963 (Wonacott, 2003). The federal government exercised more control over state vocational education initiatives by including set-asides, a governmental term describing funds for a specific purpose and specific group of people. These set-asides were aimed at assisting poor and disabled persons who were being missed by regular vocational education programs. Although training for poor and disabled persons was now being provided, the major thrust of vocational education funding continued to be the simple purpose of training men and women for jobs. The overall purpose of these pieces of legislation was to use federal funds to improve academic and technical education programs (Wonacott).

Approximately 62% of the Perkins funding is spent at the secondary level where vocational programs are started and student interest is first generated; the Carl D. Perkins Act is vital to preparing future workers and strengthening the

current workforce. This Act supports state and local level vocational programs providing technical skills for careers today and tomorrow (Driscoll, 2005).

The Perkins Act states the federal mandate about the importance of vocational education. To implement vocational education programs, secondary and post-secondary institutions utilize appropriated funds from the Perkins Act; funding provided by the Perkins Act is not channeled directly to students.

Although businesses, current and future ones, stand to benefit by hiring vocational graduates, there is no legislated (federal or state) enticement to become involved with vocational programs. In some situations, businesses will be invited to participate with local school boards and community groups into an initiative titled Business-Education Partnerships (Savannah Area Chamber, 2006). In other scenarios, they might have to insist that local curriculums be developed to capture a specific industry's requirements for employees.

Vocational Education began in public schools in the early 20th century by preparing individuals for work. In the 21st century, vocational education included technology enhancement training, decision-making modeling, and more leadership characteristics courses, all aimed at improving an academic foundation. In other words, vocational education became more than just teaching a student how to earn a living by using his hands. Federal legislation influenced the definition, intent, and implementation of vocational education plans. Furthermore, in an attempt to enhance the image of vocational education, the original term of "vocational education" was changed in 1998 by the Association for Career and technical Education (ACTE) to "career and technical

education” to enhance the connotation, meaning, and professionalism of this form of education (Lynch, 2000). The old term painted the picture of students who did good things with their hands, but did not do well with their brains; this type of education was to provide some training for them so they could find a job and become a valued citizen (Chute, 2005). However, a more progressive view of the purpose of CTE is the preparation for work and post secondary education and training (Rojewski, 2002).

Career and Technical Education has involved high schools and technical colleges in Georgia and has evolved from a general education curriculum enabling students to grow crops and work in factories to programs aimed at students working in fast-paced, global market industries facing ever-changing technology and a more diverse workforce (Lynch, 2000). The overall education process now encompasses the theoretical and applied tools needed by all students; the hands are just as important as the head (Wonacott, 2003). This CTE process is outlined in Tech Prep and Dual and Joint Enrollment demonstrating the secondary and post secondary partnership. Research has been conducted about these CTE programs existing in the United States (Appendix D).

Technical Preparation (“Tech Prep”) in Georgia

The term Tech Prep comes from the U.S. Department of Education and is a program of study involving secondary and postsecondary educational classes.

Tech-Prep is defined by the Department of Education (2002) and states the program of study must: combine a minimum 2 years of study of secondary and postsecondary education; integrate academic, and vocational and technical, instruction; provide technical preparation in a career field; build student competence in mathematics, science, reading, writing, communications, economics, and workplace skills; lead to an associate or a baccalaureate degree or postsecondary certificate in a specific career field; and, lead to placement in appropriate employment or to further education. The Tech-Prep Program is funded under Title II of the Carl D. Perkins Vocational and Technical Education Act of 1998 (Perkins III) and the federal funds are provided directly to state secondary and postsecondary institutions.

Georgia's Tech Prep website describes Tech Prep as one that promotes exploration of careers and to select a program of study that combines academic and technical courses that ultimately leads to a career. This combined program of study allows a student to not only successfully complete required core academics, such as mathematics, science, reading, writing, and communications, but also career and technical education courses. Essentially, a student is learning academic and technical skills. In the state of Georgia, Tech Prep is a program consisting of articulation agreements between secondary and postsecondary institutions and is jointly implemented by the Georgia Department of Education and the Georgia Department of Technical and Adult Education (Gornto, 2005).

A secondary student who is enrolled in a Georgia Tech Prep Program follows a prescribed program concentration with an emphasis on a career pathway. There are currently eight program concentrations: Architecture, Construction & Transportation; Engineering & Technology; Business & Computer Science; Marketing, Sales & Services; Family & Consumer Sciences; Healthcare Science; Agriculture; and Government & Public Safety. The Georgia high school student chooses a program concentration and then successfully completes the following secondary classes as part of state requirements (Georgia Department of Education, 2002):

- Core Courses
 - 4 units of English/Language Arts
 - 4 units of Mathematics
 - 4 units of Science
 - 4 units of Social Studies
 - 2 units of Health & Physical Education
 - 1 unit of Computer Technology
 - 3 units of locally required electives
- Tech/Career Prep Emphasis
 - 4 units total
 - 3 of 4 units must be in one program concentration

In Georgia, the Tech Prep Program student graduates from high school with a “Tech Prep” diploma. This differs from the Georgia student who graduates with a “College Prep” diploma in that the college prep student has taken two units of a

foreign language, one additional unit of locally required electives, and one additional unit of mathematics in lieu of the four units in the Tech/Career Prep Emphasis. Both programs of study lead to a valid, recognized high school diploma; each has a unique focus in preparing high school students for future career and higher education opportunities.

A secondary career and technical education enables students to learn and acquire skills required in the 21st Century workforce while also mastering core academic courses. Christin Driscoll (Techniques, 2005) references the Southern Regional Education Board (SREB) in that students finishing a career and technical program have better test scores and have better job opportunities and salary outcomes than students considered ready to enter college. Career and technical education programs are offered in approximately 47% of the high schools throughout the United States (U.S. Department of Education, 2005). Additionally, the U.S. Department of Education states that 97% of high school students take at least one career and technical education class while 25% take three or more classes in one area of emphasis; overall, 33% of college students are involved in career and technical education programs. Finally, high-risk students are eight to ten times less likely to quit high school during the 11th or 12th grades if they participate in a career and technical education pathway (Kulik, 1998).

Successful completion of a Tech Prep Program Concentration leads a student to a valid high school diploma (Georgia Department of Education, 2002). However, the four units of Tech Prep Emphasis is only the beginning for a

student to embark on a complete technical college program of study. Additionally, although all four units might be in the same concentrated occupational area (e.g., Business and Computer Science), all four classes might not be recognized as articulated courses with a technical college; articulation referring to approval by the technical college to award college credit for identified a specified course. This might result in a student achieving some credits from the technical college for high school graduation, but the credits received might not be focused in any single higher education program (e.g., business, medical, or industrial technology).

Dual and Joint Enrollment in Georgia

A high school student who has been accepted and enrolled in a technical college may engage in secondary and post secondary classes simultaneously. Secondary and postsecondary credit is being obtained as the student successfully completes courses. This process is called Dual Enrollment (Georgia Department of Education, 2005). With Dual Enrollment, the technical college and high school have developed and signed an articulation agreement which outlines higher education courses a student may take while also studying high school courses. These courses are approved by the Georgia Department of Education and may count towards high school graduation credit requirements. A key fact is that these courses are taught by technical college instructors.

In a 2005 study by Harnish and Lynch involving several Georgia Technical Colleges and various Georgia high schools, collaboration between college and high school was found to be strong but no relationship with surrounding

industries was found to exist. This is an opportunity to pursue in that business and industry relationships provide an important element in enhancing career and technical education programs with current, real world relevancy to academic material. In fact, Harnish and Lynch also found that parents and high school counselors were not a factor in a student choosing to enroll in dual enrollment programs. Roebuck (2003) states that parents might not be aware of CTE programs and counselors might discuss CTE options with only selected students.

There are several advantages to dual enrollment. First, a high school student can get an early start on college by taking college courses and receiving credit for them while still in high school. Secondly, the student can experience a college level course and instructor and potentially develop a better understanding of the academic college experience albeit a limited one. Finally, a student can explore various career fields enabling him or her to make an early career decision or at least develop options based on the experience.

Dual enrollment has disadvantages as well. Although a student will experience college level courses, the courses might not be focused in any specific career field. College credits will be earned and he or she will have a jump start on achieving overall academic program credit requirements; however, no recognized level (e.g., certificate, diploma, degree) of academic accomplishment will have been achieved. Additionally, a graduate who wants to immediately enter the workforce in a specific career field (e.g., medical, business, manufacturing) has not received a concentrated course load in any career field, only a potpourri of subjects.

Joint enrollment is similar to dual enrollment in that the high school student is enrolled in both high school and an institution of higher education. However, the credit received from the postsecondary courses cannot be applied towards high school graduation requirements (Georgia Department of Education, 2005).

21st Century Business Requirements

Career and technical education has been an integral element of high school curriculums since the passage of the first federal law in 1917 about vocational education (U.S. Department of Education, 2004). Career and technical education has been correlated to better high school academic performance, enhancing students' current and future earnings, and additional follow-on higher education programs (U.S. Department of Education). CTE programs are correlated to meet industry standards and to support the requirements of a workforce needing academic performance (Roebuck, 2002).

Students enrolled in a career and technical education program are achieving good academic results. The number of academic courses taken by career and technical education students has increased by almost 30% from 1982 to 1998. Approximately 26% of students take trigonometry, pre-calculus, and other advanced math courses compared to 42% of other students (U.S. Department of Education, 2004). College attendance by career and technical education graduates rose 32% between 1982 and 1992; nearly 50% of all career and technical education graduates continue their education at college compared to 64% of college prep students (Lynch, 2000).

A combined high school and technical college career and technical education program will go along way in preparing a student for today's workplace. The graduate will be prepared for not only further higher education studies, but also the workplace. Today's high school students require rigorous academics combined with modern workplace skills; workers of tomorrow must learn about technology, leadership, and computer operations. Furthermore, employers also state the need for workers possessing skills such as workplace readiness, soft skills, and generic skills (Simpson, 2002). Learning is a continuous challenge. In excess of 50% of the nation's high school career and technical education graduates pursue further study (Southern Region Education Board, 2006). Research studies (Appendix E) have been conducted showing the business and industry demand for employees possessing those skills taught in CTE programs and potential earnings for graduates of CTE programs.

Required Worker Skills

Given our global market, mobile workforce, and ever advancing technology, the need for vocational education achieving technical college graduation levels that are less than a bachelor degree, is increasing in demand (Department of Education, 2005). Employers require well-trained people with industry specific skills and according to a 2002 survey by the U.S. Chamber of Commerce's Center for Workforce Preparation,

Nearly 75% of employers report severe conditions when trying to hire qualified workers, 40% say that applicants are poorly skilled, and 30% say that applicants have the wrong skills for available jobs.

Companies are eager to align with local secondary school administrators with the only reward being community involvement. Businesses want to hire the children of their current workers, so business leaders want to assist in the public education process. That assistance might be supporting vocational programs although at times, forming such alliances is not always easy; a partnership is long-term endeavor (Greenberg, 1999). However, business-education partnerships are essential so graduates of jointly designed and implemented CTE programs by secondary and post secondary institutions are prepared for the workforce (Geib, 2002).

Career and technical education programs are found in 93% of the nation's 15,200 Grade 9-12 high schools. Additionally, these type of programs are also offered at about 1,100 area vocational centers nationwide; students study academic classes at their assigned high school and study technical courses at the vocational center (Lynch, 2000). Career and technical education is being demanded by businesses for its combined technical and academic approach. CTE institutions need to recognize this demand and provide CTE programs to new and growing enterprises (Geib, 2002). The number of high school students successfully completing both a college prep and a career and technical education program has increased from 1% in 1982 to 7% in 1998 (Lynch, 2000).

Lynch (2000) describes forces supporting the demand for reform with career and technical education. Lynch outlines industries that are requiring its workers to possess new and different skills. *Public Expectations* state that people want career education integrated with a public, K-12 curriculum and that

parents expect their children to attend college irrespective of curriculum.

However, statistics paint a dismal picture of freshmen not returning for their second year of higher education and low graduation percentages. *Student Learning* professes that youth must be taught how to think, not just what to think. A focus on problem-solving is critical and career and technical education needs to present curriculums constructed of both theory and practical application. As technology drives more complex machinery and processes, employees will have to learn and apply additional skills faster (Bennett, 2006). Finally, *High School Reform* combines dual goals of providing individuals with a quality education that prepares them for career and opportunities and faster income increases along with communities that are comprised of educated people making productive contributions to society. Together, these forces show why the reform of high school career and technical education is required and desired.

Worker Salaries

Career and technical education programs prepare students for the immediate labor force post graduation. Career and technical education graduates who continue with higher education studies are 2.5 times more likely than other high school graduates to be employed while engaged in a higher education program (Southern Regional Education Board, 2006). Earnings for women who earn an associate degree in a career and technical education curriculum are on average 47% higher than a woman who earns only a high school diploma and men with a similar career and technical education degree earn more than 30% above a male high school graduate (U.S. Department of Education, 2004).

A benefit of this correlation between educational achievement and job advancement is economic gains. According to the U.S. department of Education, National Assessment of Vocational Education, Final Report to Congress (2004), males with an institutional certificate earn 6.5% more than males with only a high school diploma/GED; females earn 16.3% more than males. Men and women who earn an associate degree earn 30.2% and 47.0% more respectively. Earnings increase as promotions occur. Although the achievement of an educational certificate or degree does not guarantee a promotion, it places an individual in a more desirable position to demonstrate company worth and added value.

Career and technical education programs must be closely aligned with, and developed on, the requirements of modern-day businesses and industries. Since employment is a goal of students in these programs and educators must understand the requirements of such businesses; teachers and high school leaders must be familiar with work environments and technical skills (Greenberg, 1999). Employers are demanding more from employees than academic knowledge. Global competition of businesses and industries affects workforce development with employee skills stated as increasingly more important, if not the most important factor for survival (Geib, 2002).

Career and Technical Education Programs

U.S. manufacturers are reporting a gap between the availability of individuals with required worker skills and stated performance requirements that are needed for global competition (Eisen, et al., 2005). Additionally, U.S. manufacturers

have identified specific deficiencies of high school graduates entering the workforce that include basic employability skills (e.g., attendance, work ethic), and math, science, and reading comprehension (Eisen, et al., 2005). However, there are examples of CTE programs that work well in combining academics with technical skill learning and produce graduates ready for today's 21st Century Workforce.

Jesse Sieff loves airplanes and his goal is to attend the U.S. Air Force Academy. He spends his mornings at Steel Center Area Vocational-Technical School in Jefferson Hills, PA, studying aircraft maintenance (Chute, 2005). Jesse attends his home high school for one-half of the school day for his programmed academic curriculum and the remainder of the day at the Steel Center which serves students in 10 surrounding school districts (Chute). Enrollment in vocational programs across Pennsylvania has grown 12% in the past decade (Chute). Kenneth Gray, professor of workforce education at Pennsylvania State University, is quoted by Eleanor Chute (2005) as saying the job market is making career and technical education more desirable. Additionally, according to Gray, almost one-third of high school graduates who completed a vocational program, went on to higher education.

During the first year of aircraft maintenance, Jesse, from Chute's example (2005), will study diesel mechanics, and computer-aided drafting. The next year as a high school junior, he will be taught by the Pittsburgh Institute of Aeronautics (PIA), and if successful, by the end of his senior year, Jesse will be eligible to test for a power-plant license. If he is awarded the license, he is eligible to enter the

institute after high school graduation with advanced standing and could achieve an associate degree in 12, rather than 21 months. Once he has his associate degree, he can transfer up to 66 credits to a four-year college or university.

Suppose Jesse does not get accepted to the U.S. Air Force Academy. Jesse has prepared himself for other education and career options while succeeding at traditional academic courses and a vocational career path as well. After he receives his associate degree from PIA, he is positioned to continue his education at a four-year college, or to directly enter the profession of aircraft maintenance. PIA has placed many graduates throughout the industry (PIA, 2006).

The state of Connecticut funds the operation of the Connecticut Regional Vocational-Technical School System (CRVTSS). There are education and training programs in 37 occupational areas and approximately 11,000 students; 41% are minority and 36% are on free or reduced-price lunch. Each successful student receives a high school diploma and a certificate in a stated occupational area (Doughty-Jenkins, 2005).

The mission statement of CRVTSS is clear in that it is dedicated to providing “a rigorous educational program meeting the needs of Connecticut’s citizens and employers through academic instruction, intensive occupation-specific training and apprenticeship credit.” A partnership is created between state citizens (taxpayers), students (seeking a career), and businesses (wanting to hire qualified people), which is critical to making the CRVTSS successful for everyone.

There are 37 occupational fields where students can earn a certificate; students can also earn up to 14 college credits throughout their programs. More than 30% of the graduating seniors go on to additional education, and the CRVTSS has a dropout rate of 1.2% compared to the state average of 2.1%. Community relationships are important as a fourth partner emerges, other institutions of higher education. Anatomy and Physiology students spend one day a week at Yale University studying alongside medical students. Nursing students work with staff, faculty, and students at Southern Connecticut State University. Whether it is preparation for higher education or a specific career field, CRVTSS accomplishes both. Students are succeeding with academic foundations as well as career related course materials.

Harmon Industries, Inc. produces electronic components and communications systems in the Kansas City area. They were short of qualified employees; they formed an alliance in 1992, of local high schools, two community colleges, and Central Missouri State University (CMSU). They were determined to work as a team to turn “well-meaning theory into hard-edge reality” (Greenberg, 1999). A “School-to-Career” Initiative was developed and implemented with students receiving on-the-job training, challenging hands-on projects, and relevancy to academic learning (Greenberg). Overall results of this initiative have shown an increase in academic achievement among students, lower dropout rates, improved attendance, and higher job placement results (Greenberg).

Harmon, other related businesses, and the school systems shared with the expense of labor, materials, and other expenses (Greenberg, 1999). The key to

this success was the close coordination between business and academia. Teachers and counselors visited work sites and learned what a modern manufacturing plant looks like and how it operates. The idea of correlating academic work to real-world application was a monumental lesson learned (Greenberg).

There are two ways the business and education partnership can be strengthened - apprenticeships and internships. The apprenticeship is usually sponsored by a company or industry or might be recognized by state or federal government agencies (U.S. Department of Labor, 2007). As the student is learning the academics in the classroom, and perhaps even the theory side of a vocation, they can learn and apply the skills element at the business. The apprentice student is assigned to an expert where he or she can demonstrate learned skills and receive immediate feedback for correction and improvement. This is the practical, hands-on side of the vocational program. Work hours can be designed around academic, classroom hours. The apprenticeship can be a full-time or part-time job and is characterized by a consistent, continuous learning environment at a business being taught and tutored by vocation experts. This arrangement is woven into the overall vocation curriculum and will most likely be 2-3 years in duration (U.S. Department of Defense, 2007).

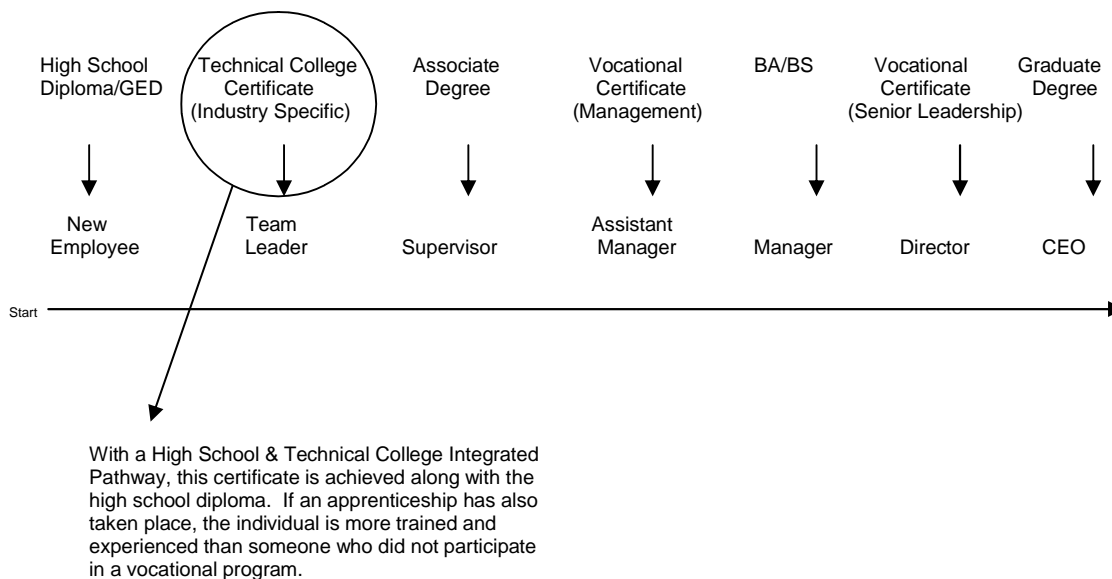
An internship differs from an apprenticeship in that the duration of program is shorter. It is similar to attending a higher education institution for a quarter or semester except that you are working for a business company. The student is obtaining practical work experience and has the opportunity to determine if that

particular company/industry or profession is enjoyable for a career (U.S. Department of Defense, 2007).

One of the best methods of enhancing the business linkage to a vocational education program of study is establishing the overlap of organizational promotions to educational advancement. The more education achieved (i.e., various degrees and professional certificates), the better the chance for promotion and advancement. It is mutually beneficial for the employer and employee to develop career pathways that link career advancement to education achievement (Lewis, 2005).

Businesses and industries are recognizing vocational credentials and professional certifications (i.e., industry approved) as qualifications for job placement and advancement (Chute, 2005). These achievements are supplementing formal educational degrees and magnifying the documented knowledge, skills, and attributes of an individual for employment and promotion. Figure 2.1 is the researcher's example of matching career advancement with education and training accomplishments.

Figure 2.1 Matching Advancement to Education Achievement



In the past, a business-education partnership might have been defined as a company donating used computers or other equipment, or providing funds for a school field trip. Today, the business community is beginning to pay closer attention to secondary school curriculums and the academic abilities of high school graduates. Many are urging civic organizations to pressure the state and local education systems to make improvements and create higher standards (Lewis, 2005). High dropout rates, low skills of high school graduates, and the absence of a work ethic, are resulting in businesses volunteering leaders, workers, time, money, and other resources to elementary, middle, and high schools for the betterment of facilities and students. With a constantly changing economic scene, and the rapid demand for technology-savvy employees, this

partnership has taken on a new approach (Greenberg, 1999). Companies are more involved with schools utilizing a hands-on approach.

Summary

Participating in a program that combines a high school and technical college career and technical education combines academic rigor with specialized technical skills. The partnership between secondary and post secondary institutions is strong and has existed for some time in Georgia. CTE programs are well documented and provide students with an opportunity to simultaneously engage in high school and college level curriculums. If a CTE program also integrates an on-the-job apprenticeship, this student will not only be academically ready for employment, but will also have experienced workplace learning. Additionally, if employment is delayed by individual choice, this student is academically prepared for a 2-year or 4-year college experience. High school programs such as TechPrep, dual enrollment, and joint enrollment provide opportunities for high school students to earn technical college credits. The college experience is also present for the student albeit limited.

Strong business-education partnerships are required to make career and technical education programs successful. Businesses are demanding potential employees possess many of the technical skills taught in CTE programs. Employers are willing to provide increased earnings for these skills as well. Businesses can play a role in assisting a technical college to develop appropriate industry-related curriculums, providing students a learning environment, apprenticeships, and opportunities for jobs. A high school graduate with an

academic background combined with learned technological work skills is in demand as a 21st Century Workforce employee. Although studies outline course content and statistics of existing career and technical education courses in high schools, and speak to the non-growth of CTE students, none address why this industry demand for graduates is not being met. Therefore, this study will provide a better understanding of how CTE programs are implemented in high schools which is important to the researcher as well as secondary and post secondary leaders.

CHAPTER 3

METHODOLOGY

Introduction

High school and technical college partnerships have existed in some form since the passage of the first federal legislation in 1917. These two institutions have jointly developed integrated career and technical education programs that have produced high school graduates who have simultaneously earned technical college credits. High school graduates of these programs have entered the workforce with core academic skills as well as industry specific capabilities.

Twenty-first Century businesses are interested in hiring these high school graduates of career and technical education programs. Businesses are also willing to pay more than average salaries to graduates who possess academic and technical skills. Additionally, the fastest growing jobs require workers with a high school academic base of knowledge in addition to career and technical education skills.

Although businesses seek career and technical education program graduates, and companies have stated their intent on paying increased wages to individuals possessing those skills and abilities, these same companies contend there are shortages of workers possessing the work skills of these graduates. Although studies outline course content and statistics of existing career and technical education courses in high schools, and speak to the non-growth of CTE students, none address why this industry demand for graduates is not being met. One way to unfold this mismatch is to understand how the career and technical education

curriculum was being implemented in high schools. Therefore, the purpose of this study was to understand the implementation process of a career and technical education curriculum in Southeast Georgia High Schools.

An analysis of the data was used to answer the overarching research question, “What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools?” This chapter outlines supporting questions, research design, methods and procedures of the study, and proposed method of depicting findings.

Research Questions

The overarching question that was addressed in this study was this: What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools? The following sub-questions guided the research:

1. What factors are involved with students selecting a high school career and technical education program?
2. What influential role do high school teachers, counselors, administrators, peers, and parents play in a student’s selection of a high school career and technical education program?

Research Design

This study was a qualitative case study involving four focus groups. Specifically, this research was an instrument case study based on better understanding the research topic (Glesne, 2006). Focus groups, as a means for collecting key informant data, were specifically chosen because participant

involvement and in-depth interviewing could produce many perspectives on a shared topic (Glesne, 2006). The following four focus groups were created: two groups of high school counselors; one group of Georgia Southeast Region Career and Technical Education Coordinators; and one group of parents. Since it was important to obtain multiple viewpoints on a single topic affecting all participants, the notion of focus groups was used (Glesne, 2006). Morgan (1997) identified the following advantages of focus groups: (a) concentrated amounts of data on the research topic is produced; (b) group interaction produces good data; and (c) focus groups are topic oriented because the researcher controls the topic.

Since the purpose of the study was to understand the implementation process of a high school career and technical education curriculum in Southeast Georgia, focus groups from secondary and post-secondary organizations were utilized. Additionally, since parents play a vital role in student curriculum choice, that group's input was important as well. Career and Technical Education Coordinators were included since they represent the bridge between secondary and post-secondary courses into the CTE curriculum. The Southeast Georgia Region consists of Altamaha, Ogeechee, Savannah, Okefenokee, and Southeastern Technical Colleges as well as Coastal Georgia Community College. Each CTE Coordinator is assigned to one of these colleges and the corresponding school districts found in the twenty-four counties aligned with these institutions of higher education.

Each focus group brought a different perspective to the aspect of implementing a CTE curriculum. If only one mixed focus group were utilized, the dynamics of each group might well be lost and one point of view might have dominated the research. The study design decision to create separate groups to enhance participation is known as *segmentation* (Morgan, 1997). This researcher believed that each identified focus group would have knowledge, experiences, and opinions that would produce valuable data. With focus groups, the unit of analysis is the group, not individual participants. Morgan (1997) states that focus group studies usually have three to five groups with six to ten individuals in each group.

Population

The population for the study was four focus groups: one group of Georgia Regional Technical Preparation (Tech Prep) Coordinators; two groups of high school counselors; and, one group of parents of 9th through 12th grade students (Georgia grade levels for a career and technical education program). The Georgia Department of Education and the Georgia Department of Technical and Adult Education administer Tech Prep jointly. These two state agencies have developed six, state-wide regions comprised of thirty-seven coordinators organized around the service areas (i.e., counties) of the state's thirty-three Technical Colleges. The study was focused on only one region, the Southeast Region, consisting of six coordinators. The high school counselors and parents were part of the thirty-six high schools in the Southeast Region. This region was chosen by the researcher for the study because of proximity, but also because

the researcher holds a professional position in a technical college in this region and the study was valuable to future career and technical education initiatives. It is this population that provided data and information to better understand the research questions.

Participants

The actual participants of the study were Georgia Southeast Region Tech Prep Coordinators, high school guidance counselors, and parents of 9th through 12th grade students. The counselors and parents came from the thirty-six high school systems within the Georgia Southeast Region. Coordinators and counselors in the study were employed during the 2007-2008 academic year. These three groups of participants were instrumental in how, when, and why a secondary institution student chooses a career and technical education program. This study provided information to all three groups so they can better understand the implementation process of a career and technical education curriculum.

The mission of Georgia's Tech Prep Coordinators is to provide an opportunity to secondary students to obtain a technical and academic education (Georgia Department of Education, 2007). These coordinators work with secondary and postsecondary institutions as well as business leaders to synchronize career and technical education programs that are available for interested students. Rojewski (2002) outlines the specifics of Tech Prep as a coordinated curriculum integrating academic and vocational education.

High school guidance counselors and parents are involved with students enrolled, or soon-to-be enrolled, in career and technical education programs.

Counselors provide information to students, assist with career planning, and interface with parents in making educational decisions about students. Gornto (2005) writes about high school counselors and their extensive role with career and technical education programs, as they understand and promote it, and work with parents to understand their importance in the educational process.

Sample

Morgan (1997) suggests that focus groups research include three to five groups with six to ten individuals in each group. Likewise, in the present study all six Career and Technical Education Coordinators from the Georgia Southeast Region were invited to comprise Focus Group #1, six to eight high school counselors, one from each of the six elements that make up the Georgia Southeast Region formed Focus Groups #2 and #3, and with assistance from the selected high school counselors, six to ten parents with at least one parent from each element within the Southeast Region, formed Focus Group #4.

Instrumentation

The instrument used for this study consisted of questions developed by the researcher that were aimed at answering the research questions generating discussions within each focus group. Focus groups were scheduled for one, one hour sessions, but discussions lasted slightly longer allowing for introductions and concluding remarks. Ground rules were developed by the researcher who served as the moderator or facilitator of each focus group (Glesne, 2006). Examples of these rules included: one speaker at a time; established start and stop times for sessions; and selection of a neutral, public location for the

sessions. It was important not to establish too many rules and set the expectation that the researcher will micro-manage all aspects of the discussion (Morgan, 1997). All sessions were audio recorded for transcription; all participants were notified and aware of the recordings. All participants were volunteers.

The researcher served as the moderator for each focus group interview. After brief self-introductions by all participants, the moderator started with an “ice-breaker” question that set the stage for more in-depth questions and additional follow-up, probing questions. The moderator made it clear to each group that he was conducting these focus groups to learn from the participants about the stated topic.

Validation

Validity means that answers or responses represent what they are intended to represent. Documenting not only the actual responses from each focus group, but also documenting the “group-to-group validation” determined overall validation of the research study. This data produced by the four focus groups was analyzed and incorporated into the research findings found in Chapter 4, Report of data and Data Analysis. When this study was completed, this researcher wanted his findings to be trustworthy in that other researchers will use them to continue, expand, and even better understand the presented topic.

In this study, focus groups were the primary source of data. According to Morgan (1997), this is referred to as a *self-contained* method in that this researcher’s four focus groups (high school counselors (2 each), parents, and

Tech Prep Coordinators) produced data that when assessed answered the research questions and produced a better understanding of the research topic. Morgan continued to state that a topic is worthy of emphasis when three factors occur: how many of the focus groups mention the topic; how many individuals within each focus group talk about the topic; and, how enthusiastic the participants act concerning the topic. The combination of these three factors is known as “group-to-group validation.” Therefore, when all three factors occurred within the four focus groups, consistency happens, a necessary condition for validity. In addition, Glesne (2006) wrote about validation in terms of *trustworthiness* that was addressed throughout the research. With the four focus groups, trustworthiness emerged as a rapport developed with each group participant. Researcher conduct was an important aspect in that appearance, speech, attitude, and general interaction with the groups contributed to a good rapport and thus, trustworthiness.

Data Collection

Permission from the Georgia Southern University Institutional Review Board (IRB) was received prior to conducting this focus group research. After receiving approval from the IRB, each Career and Technical Education Coordinator was invited to participate in Focus Group #1. Requests for counselors’ participation were sent to each high school principal in the Southeast Georgia Region explaining the study and requesting the names of 9th – 12th grade counselors who were approved for participation. Two random samplings of six names each formed Focus Groups #2 and #3; these counselors were then invited to

participate. If a counselor declined to participate, another name was randomly chosen until six individuals agreed to participate. Parents were chosen with assistance from the selected high school counselors with a representation across the Southeast Region.

After each focus group was formed, a meeting time and location was scheduled. Focus group questions found in Appendix A were used to generate discussion and gather data. Each focus group meeting was audio taped with full awareness of each participant. Additionally, individual comments, and participant conduct and interaction with others and the researcher/facilitator were noted during each focus group meeting.

Data Analysis

All focus group discussions were audio recorded and then transcribed followed by processing the transcriptions using a method called thematic analysis (Glesne, 2006); the data was assessed with the purpose of identifying major ideas, a process called coding. Each major idea was given a title (i.e., code) and each code was assigned sub-codes as the data were continuously analyzed. As identical sub-codes emerged in different codes, this situation represented a major theme. The analysis of this data organized by major themes was instrumental in answering the research questions. All collected data included researcher notes, observations of participants and participant answers to questions.

Reporting the Data

Data themes were continuously evaluated as all data were carefully reviewed time and again until all data that remained were pertinent to the research questions. Frequency counts of focus group responses helped the researcher to identify similar patterns of answers to the discussion questions generated from the focus groups and assisted with determining conclusions and outcomes

Summary

This chapter outlined the method used to better understand the implementation process of a career and technical education curriculum in Southeast Georgia High Schools. Four focus groups were conducted consisting separately of tech prep coordinators, two separate groups of high school counselors, and high school parents of 9th through 12th grade students. The collected data from the focus groups was analyzed using the qualitative technique of coding. Data and derived findings are presented in Chapter 4.

CHAPTER 4

REPORT OF DATA AND DATA ANALYSIS

Introduction

This study was a qualitative case study involving four focus groups. Specifically, this research was an instrument case study based on better understanding the research topic (Glesne, 2006). Focus groups, a mean for collecting key informant, were specifically chosen because participant involvement and in-depth interviewing could produce many perspectives on a shared topic (Glesne, 2006). The following four focus groups were created: two groups of high school counselors; one group of Georgia Southeast Region Career and Technical Education Coordinators; and one group of parents. Since it was important to obtain multiple viewpoints on a single topic affecting all participants, the notion of focus groups was used (Glesne, 2006). Morgan (1997) identified the following advantages of focus groups: (a) concentrated amounts of data on the research topic is produced; (b) group interaction produces good data; and (c) focus groups are topic oriented because the researcher controls the topic.

Since the purpose of the study was to understand the implementation process of a high school career and technical education curriculum in Southeast Georgia, focus groups from secondary and post-secondary organizations were utilized. Career and Technical Education Coordinators and counselors were included since they represented the integration of secondary and post-secondary courses

into an overall CTE curriculum. Additionally, since parents play a vital role in student curriculum choice, parental input was important as well.

Research Questions

In this chapter, the researcher presented the findings and discussion of the analysis as framed by the overarching question: What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools? Answers to the following sub-questions were also sought:

1. What factors are involved with students selecting a high school career and technical education program?
2. What influential role do high school teachers, counselors, administrators, peers, and parents play in a student's selection of a high school career and technical education program?

Respondents

Demographic Data

The researcher conducted four focus group sessions: Group #1 consisted of Georgia Southeast Region Career and Technical Education Coordinators responsible for assisting thirty-six high schools throughout twenty-three counties; Groups #2 and #3 consisted of separate groups of high school counselors from various high schools, all involved with students engaged to some degree with a career and technical education curriculum; and, Group #4 was parents who had a student currently enrolled in the 9th through 12th grade population in a high school in Southeast Georgia. The coordinators and counselors had an average of 7.4 years of service at their current institution and 15.3 years in the field of

education. The coordinators and counselors' professional education credentials included two with a Bachelor Degree, eight with a Master Degree, three with a Master Degree and also an Educational Specialist Degree, and none with a Doctoral Degree. Male coordinators and counselors totaled two (15%) with eleven females (85%). The thirteen coordinators and counselors were mainly Caucasians (11 for 85%) with two (15%) being African American (Table 4.1).

Table 4.1

Coordinators and Counselors Demographic Data

Characteristic	n	mean
Years at current institution	96.5	7.4
Years in field of education	199	15.3
Highest professional degree achieved		
Bachelor	2	
Master	8	
Master plus specialized degree	3	
Doctorate	0	
Gender		
Female	11	
Male	2	
Ethnic Background		
African American	2	
Caucasian	11	

Demographic data about the parent participants in Focus Group #4 is shown in Table 4.2. The parents had children enrolled in a Southeast Georgia High School from 9th through 12th grade. Four out of the five parents had never heard of a CTE Curriculum and were unaware that such a program existed in their children's high school. Four of the five were female and one female was married to the only male in the group.

Figure 4.2

Parents Demographic Data

Characteristic	n
Grade your child is currently enrolled	
9 th	2
10 th	1
11 th	2
12 th	1
Child enrolled in a CTE curriculum	
Yes	1
No	4
Gender	
Female	4
Male	1

Findings

Introduction

Four focus groups were conducted: CTE Coordinators, two of high school counselors, and one of parents of students. Each group session was voice recorded and then transcribed. Questions from Appendix A were asked in each focus group. Probing questions were also asked for additional information, clarification of responses, and more in-depth answers from group participants. Each focus group session's recording was transcribed and these transcriptions were assessed by the researcher using grouping and theme development of the data along with session field notes taken by the researcher. The development of codes and sub-codes was a continuous and iterative process that resulted in major themes used to answer all research questions.

What is the Implementation Process of a CTE Curriculum

The overarching research question asked 'What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools?' Each focus group provided a variety of statements, comments, thoughts and opinions ,about this question. Participants' responses about an implementation process were sub-coded into implementation process categories of history, stigma, perception, purpose, terminology, and characteristics. The assessment of all data pertaining to an implementation process and the sub-coding of the data from audio transcripts showed 50 separate responses from CTE Coordinators, 72 from the first group of high school counselors and 43 comments from the second group of high school counselors.

CTE Coordinators responded to the focus group questions and discussed their experiences, thoughts, and opinions about implementation processes in various high schools. This researcher expected this group to specifically identify those high schools with clearly defined, well executed implementation processes since these processes were critical to their function as linkage to local technical colleges. However, participant responses were vague in the sense that no specific process existed, to their knowledge, in the high schools they supported. One coordinator stated “I don’t remember anybody saying anything about technical colleges.” Another coordinator simply answered “no” when asked if she was aware of a formal process in any high school which provided the forum to pitch career and technical education. Another coordinator stated that the perception in most high schools is that implementation processes are not formalized so as to not draw attention to career and technical education students. When asked “why” by this researcher, she stated that these students are viewed by most teachers and administrators as academically challenged or to be at-risk of not graduating. A third coordinator stated that average or below average performing students, particularly career and technical education students, stay out of the limelight and thus, do not receive much attention. In other words, career and technical education students go about their high school experience quietly and without fanfare. If students find out about such curriculums, that is acceptable; however, no formal process exists to demonstrate such a curriculum for them to follow.

The first focus group of high school counselors provided responses centered on students engaged with college-prep versus tech-prep curriculums. The overall implementation process was personalized by the counselor depending on the students' interaction. One counselor stated that "I'll tell you, from my standpoint, most of my students don't even know if they are doing college prep or tech prep." Another counselor elaborated on what normally occurs with students in that "our math, science, social studies, and English teachers, because they are not that interested in that [career and technical curriculum] so there is a little bit of a breakdown in the process." Most reported that a negative stigma exists about career and technical education curriculums in general and the supporting implementation processes. One counselor commented that "There is this self-centered ideology that the only way to really be somebody is with advanced education, the highest degree you can get..."

The second focus group of high school counselors were more vocal about technical education with one counselor amazed that schools had removed curriculums that "trained students for jobs." These participants vocalized the need for a process that clearly explained technical education options and curriculums, but expressed frustration that school leaders would not embrace such a concept. One counselor commented that "students are so geared to their parents wanting them to go to college, they are still not thinking of a technical college as being college." Another stated that "society is so engrained that you cannot be successful without having a four-year college education that parents, some parents, have that perception that this is what has to happen." This

researcher expected these comments because he faces the challenge of continuously explaining the role and capabilities of a technical college on a daily basis. The counselor with the most years of secondary school experience simply asked “Why do we not have high schools now throughout the state that are preparing students to go to the workforce. I started in education years ago with the vocational education high schools.”

The focus group of parents was an emotional and energized group of participants and vigorously defended their involvement with the decisions about curriculum choices. Two parents indicated that they had never heard of a career and technical education curriculum and thought that every student basically took the same types of courses. One of the two participants simply stated that “I was never even aware of it.” One parent had heard of technical education, but really didn’t understand the specific differences between a career and technical education program and other curriculum choices. Some parents felt Elementary school is the place to start an implementation process into a career and technical education curriculum. Informing parents of curriculum choices as well as criteria for student selection to participate in curriculums was a key concern of this group. This researcher expected this group to speak badly about school administrators, teachers, and counselors. However, they defended them and loudly stated that their children’s high school experience and success were their responsibilities. Having said that, these participants wanted more information about curriculum choices, career opportunities, and technical course offerings. This group stated that they had to ask, beg, and plead for information. They felt

that a formal curriculum implementation process executed at consistent times throughout the 9th through 12th grade calendars would be highly desirable.

What Factors are Involved with Students Selecting a CTE Program

The first research question, ‘What factors are involved with students selecting a high school career and technical education program?’ was responded to with various forms of input and opinions by each focus group. The data group, Selection Factors was sub-coded into groups, knowledge, options, applicability, recognition, and achievement based on participants’ responses. Several responses focused on general career goals, parental and teacher influence, and peer opinion. School facilities and location were important in that friends did not want to be separated from friends during the school day.

One career and technical education coordinator commented on a student who was determined to study horticulture, “He is a very articulate student. He actually attends Waycross College to get his two classes because he is that determined.” In this example, it was clear to all group members that student interest, coupled with the knowledge of career options, motivated this student to pursue and succeed at a career and technical education curriculum. Another coordinator’s experience sited a student working for Yancey, Inc. and said “There is a Wayne County High School kid, and this will be his second year I believe that he is working for this company, and the word I am getting is that he will probably be making \$60,000 a year as a technician.” This individual learned about this career opportunity from a formal advertising campaign linking the high school to Yancy, Inc. In fact, the student was initially influenced by a career and technical

education teacher that learned about the student's interest in operating and repairing construction equipment and guided the student through a career and technical education curriculum that enabled him to be successful in that career position.

The first focus group of high school counselors commented mainly on selection factors options. Discussion about options centered on students being aware of job/career choices after high school. One counselor highlighted one student by stating "I had young ladies that were making big bucks in their senior year as a licensed cosmetologist before most kids even graduated high school." Another counselor had led a group of high schools students touring a welding lab at a local technical college. She told them that "After ten years of teaching, I am still not making what you could make your first year out of that program and I think there is a mindset about, and because the teachers had to go to college, thinking the only way you can make money is to get a four-year degree first." Discussions about salaries in technical careers concluded that high school students need to know more about what to expect if they enter certain professions. The perception exists about career and technical education curriculums producing students who will enter blue collar jobs that require hard physical labor, and pay very low wages. Counselors know that is not true, but find it difficult to promote technical career opportunities. Very few parents and students seem to understand the possibilities of high salaries associated with career success.

As with the first group of counselors, discussions with the second group of counselors focused on students being informed of job and career opportunities both during and after high school. One counselor commented “And not every student is going to college, not every student is going to the university.” This statement was made in the context of high schools offering academic and technical curriculums, but focusing on student enrollment in academic curriculums. Another counselor commented that presenting technical skills to students was a viable option in that “If we are giving them vocational skills, even those that do not get a diploma, will have something that they can offer an employer.” When counseling students, one counselor explained “Now, when a student says I just want to go the tech prep route, I want to do this, then of course we tell them what opportunities are available.” However, individual counseling requires a great amount of time and these counselors stated that they spend the least amount of time on personal student counseling. This researcher was not expecting the discussion about how much time is invested with a student seeking answers about a career and technical education curriculum. A student might admit that they have no interest in higher education, but want to learn skills that prepare them for the modern workforce. The process of informing a student about opportunities and choices is time consuming and career and technical education students do not receive adequate counseling simply due to insufficient allocated time.

The focus group of parents was initially concerned about not being aware of a CTE curriculum and what class choices were available for their children as

addressed earlier when an implementation process was discussed. This group's focus then turned to understanding what options, as an element of selection factors, were available when discussing a CTE curriculum. One parent offered that "My suggestion would be to bring in the parent in the seventh and eighth grade, from a counselor's perspective, and let them know what's available." Another participant was concerned that students take courses that do not interest them, that they do not see any real world applicability of the material to real life and the curriculum does not allow them to take classes that appeal to them from a life-style perspective. Speaking honestly, one parent stated "He's frustrated because he hasn't gotten on to that stuff he really wants to do." A participant was emphatic about the point that the applicability of a CTE curriculum to industry jobs was not being recognized in his child's high school. He summarized with "Do you realize that is why we don't have the work force that we need to work in the technical departments that we have now?" This group of parents was extremely vocal about the fact that curriculums that are linked to career opportunities are not fully explained to parents and students.

What Influential Roles do Individuals Play in a Student's Curriculum Selection

This study's last research question sought to answer 'What influential role do high school teachers, counselors, administrators, peers, and parents play in a student's selection of a high school career and technical education program?' The coded group of influential role was further sub-coded into the categories of counseling, information, credentials, motivation, involvement, experiences, and business partnerships based on participants' responses. A second coded group

titled Future Expectations was assessed as a relevant aspect to answering this research question from a supporting perspective providing examples of CTE Programs correlating to work opportunities. This group was sub-coded into the categories of job/career, money, relevancy, competition, and success defined.

The focus group of CTE Coordinators stated that involvement meant time spent with students, formally and informally, discussing various academic issues and career aspirations. One coordinator spoke about a counselor's involvement with his own son by stating "When the counselor was meeting with him the first time—and he came home and told me—he said, 'Yeah, I'm not college material.' I went down there and had a discussion with the counselor because I said how can you tell whether or not this kid is going to go to a four-year college when he is in the ninth grade, because you don't know what he is going to do in four years." Another coordinator related her attempt at combining program counseling with a future salary expectation by explaining "I know when I speak to eighth grade classes, I tell them to be happy in what you do, and let it pay you enough to live the lifestyle that you want to live, which might not be the same as me." It was clear that this group of counselors believed they played an influential role with students and their choice of high school curriculum, career plans, and overall future job expectations and satisfaction. The frustration this group expressed was the perceived lack of coordination between the high school and local technical college. More could be done about implementing seamless curriculums between secondary and postsecondary institutions with a clear linkage to career opportunities.

The first focus group of high school counselors commented on the difficulty of providing relevant information to students because of group dynamics. One counselor explained that “I don’t know if it’s because they’re embarrassed to say they’re not going to go to college, or that some of them are going to be reluctant to leave their friends and to say I’m giving up on college, I’m going over here to get these technical skills.” Another counselor commented about her role outlining existing job/career partnerships as part of her counseling role responsibility. She stated that “... it’s funny because when students find out that so-and-so’s at the company Gulfstream and so-and-so’s at the company Temcor, they come asking how can they get a job there. I think if they have something to work for and they see that yes, there’s a big company out there that’s willing to hire them I think they would complete a career and technical education curriculum to gain at least an interview with such a company.” This group expressed a difficulty in counseling students about all the career possibilities that do not require a four-year education. Many students were skeptical about such advice.

The second focus group of high school counselors focused on parental involvement with their children as students. One counselor described parental involvement comparing a CTE curriculum with a traditional academic curriculum with “ Parents think of your traditional four-year, liberal arts-based type school; and, if a career path requires a student to start working right out of high school, or maybe just do a short-term program, the parent doesn’t see that as being valid, as something they’ve prepared their child to do all their life.” Another

counselor commented about a specific aspect of parental involvement with the response that “There are many parents out there that don’t take an interest in their child’s schooling.” This researcher sensed a deep frustration with this group of counselors about parental involvement. Comments were made about parents not having a clear understanding and belief about their children’s academic achievements and overall capabilities. Counselors felt that many parents believe their children will still go to college and become highly paid doctors, lawyers, and business leaders even though their child might have already failed a school year or failed the Georgia High School Graduation Exam. Counselors indicated that parents seem to live in a dream world of false expectations when the discussion is about their child’s success and future education and career possibilities.

Every parent in the parent focus group was very clear that they were involved with their children’s school work and overall school curriculum. They expressed the notion several times that they influenced their children’s behavior and school performance more than a teacher, counselor, or friend. Parents discussed their involvement in terms of personal experiences, motivation, and information. One parent wanted to make sure his child learned the correct skills to be able to work and pursue a career – “How are you [researcher] and I going to ever retire if they don’t go to work?” Another parent was combining her active involvement with information by commenting that “What’s important to me is you [school] sit down and you [school] tell me what you [school] have available for my child.” All participants indicated that involvement, armed with current and accurate

information, had to begin early in a child's school experience. "Elementary school is when you're more involved" said one parent.

Data from the focus groups were analyzed and showed the participants believed various factors were involved with students selecting a high school career and technical education program. These factors ranged from peer influence, location of classes, career and job choices, and academic achievement. Participants also displayed an awareness and recognition of the impacting influence from many people towards the student's selection of a high school career and technical education program. Influence came from a variety of people such as parents, teachers, and peers. Influence also came in several different forms such as participation in civic groups, information about local companies and industries, and overall potential salary rates aligned with specific jobs.

Summary

The researcher analyzed data from the focus groups to provide answers to the overarching question and research questions. The researcher was able to determine that all groups were familiar with the notion of an implementation process of a career and technical education curriculum, but any process was not formally scheduled and implemented within high schools and the format might be both formal and informal depending on the school. Focus group participants acknowledged the importance of an implementation process, but all were not involved with developing and/or implementing the process with students and parents.

Further discussion about major findings, conclusions from the research findings, implications of the study for the field of educational administration, and recommendations will be presented in Chapter 5.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The researcher conducted the study to identify key factors involved with the implementation process of a career and technical education curriculum in Southeast Georgia high schools. Four focus groups were used as the sources for research: one of Career and Technical Education Coordinators; two groups of high school counselors; and one of parents. All coordinators and counselors were employed in Southeast Georgia high schools during the school year 2007-2008. All parents had at least one child registered as a 9th to 12th grade student in a Southeast Georgia high school. The researcher conducted the research study based on a review of literature surrounding a high school career and technical education curriculum, the demand of businesses and industries for graduates of said curriculum, and factors that influence a student in choosing said curriculum as a program of study.

This study was a qualitative case study. The case consisted of four focus groups of key participants related to career and technical education in Southeast Georgia. All participants of each focus group were volunteers. The participation of the counselors was approved by their high school principals. The data collected was from developed group discussion questions as well as notes and observations by the researcher during focus group discussions. Each group brought a different perspective about the implementation process of a career and technical education curriculum. An Item Analysis was done to support correlation

of focus group questions to supporting literature. All focus group sessions were audio-taped and then transcribed; the data was coded into groups and sub-groups with frequency of responses tabulated by group and sub-group. The grouping of data was done to identify patterns among the groups attempting to answer all research questions.

Analysis of Research Findings

The data obtained by this study were analyzed to provide an answer to the overarching research question “What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools?” The researcher was able to determine that all four groups were familiar to some degree with an existing process that was used to guide and select curriculum courses for any given student. The data indicated that implementation processes were not the same at different high schools and were open to various interpretation and understanding by the four focus group participants. Each group acknowledged the importance and need for a clearly defined implementation process, but all were not equally involved in developing and using such a process.

The researcher was able to identify various factors involved in selecting a career and technical education curriculum by a Southeast Georgia high school student. The data indicated peer influence, location of classes, career and job choices, and academic achievement as key factors in selecting such a curriculum. The data also indicated that a variety of people such as teachers, counselors, and parents contributed to the decision of a student selecting a

career and technical education curriculum. The data reflected that these groups of people influenced a student by providing discussions about potential careers with local businesses and industries, future job salaries, and informing students of supporting academic pursuits aligned with job opportunities.

Career and Technical Education Coordinators were direct in their comments that to their knowledge and experience, no formal process existed of informing parents and students about career and technical education curriculums and opportunities. Furthermore, there was no linkage between a curriculum and specific businesses that might offer career opportunities within a functional industry such as manufacturing, automotive, electrical, or warehousing/logistics. Although the coordinators sensed a positive shift in the way high school administrators approached the idea of developing and using a formal implementation process for a career and technical education curriculum, the overall focus of high school leaders was preparing students for college, not necessarily preparing them for a career or even entering the workforce, irrespective of when that event might occur.

Both groups of High School Counselors were similar in their responses about an implementation process. These two groups expressed dissatisfaction with performing other job responsibilities they deemed less important than what they believed was student counseling. For example, they were involved too much with various testing events, administrative duties, and assisting teachers with starting new classes and programs. To them, student counseling was done only if time allowed. One counselor had over 35 years of experience in secondary

school systems. She was extremely vocal about what she called “poor leadership” by high school administrators. She remembered students, primarily boys, taking vocational type classes throughout a high school curriculum and they became well prepared for not only entering the workforce and possible higher education opportunities, but also just being a good citizen of the local community. This counselor was adamant that most high school leaders today, not when she began her career, do not communicate well with parents and teachers; all they focus on are test scores because these leaders believe good test scores will get them promoted, not necessarily higher graduation rates.

The group of parents indicated that they did not know of any formal process where parents learned about curriculum choices, whether that choice be career and technical education or other pathways. A husband and wife duo were loud and clear that their children’s high school success was their sole responsibility and not school leaders, counselors, or teachers. These same two people were shocked that the high school did not promote career and technical education curriculums since the husband had attended a Vo-Tech High School in New York. His personal interests and career centered on building a variety of items from wood and new technology composite materials. A different mother felt equally responsible about her daughter, but this parent was unique in that she was currently enrolled in the local technical college earning an Associate Degree in Business Operations and told the group how she was learning skills that were immediately applicable to her current job. However, she had never heard of, or

experienced a formal career and technical education implementation process at the high school her daughter attends.

Discussion of Research Findings

This research sought to better understand the overarching question: What is the implementation process of a career and technical education curriculum in Southeast Georgia High Schools? The following research questions guided the study:

1. What factors are involved with students selecting a high school career and technical education program?
2. What influential role do high school teachers, counselors, administrators, peers, and parents play in a student's selection of a high school career and technical education program?

What Factors are Involved with Students Selecting a CTE Program

The first research question asked "What factors are involved with students selecting a high school career and technical education program?" Literature supporting this study indicated the need and existence of career and technical education curriculums in high schools. Technical Preparation ("Tech Prep") is a viable curriculum for Georgia high school students involving secondary and postsecondary educational classes. Stone, Kowske, and Alfeld (2004) concluded that tech prep and classes supporting a career pathway were important aspects of high school curriculums. The data from each focus group validated this literature with discussions about factors such as career options, job and career expectations, and job salaries affecting a student's decision in

selecting a career and technical education curriculum. The two groups of High School Counselors spoke about the importance of student's knowing and understanding curriculum options and curriculum applicability to career and job opportunities and interests. Each group expressed an understanding of what specific curriculum courses were essential to building a student's knowledge base for aligned careers. However, these groups also spoke of the reputation of career and technical education students as those who could not do well in other academic courses. In other words, these were the students who had to learn to do something with their hands because they would never earn a living using their individual brains. This researcher was not surprised by this discussion in that other research (Lewis, 2000) supports the perception that only students that cannot succeed in high school academics pursue a career and technical education curriculum.

The Career and Technical Education Coordinators spoke of the importance of the involvement of Georgia's Technical Colleges with high schools in developing and implementing career and technical education curriculums. This supports literature outlined by MacAllum and Johnson (2002) emphasizing the necessary partnership between Technical Colleges and high schools. All coordinators contributed that partnerships between secondary and postsecondary institutions were essential in developing and implementing career and technical education curriculums that resulted in graduates capable of entering lifetime careers with 21st Century skills and academic capabilities. However, although leaders in both secondary and postsecondary systems that they worked with understood this

important linkage, there did not seem to be one coherent, agreed upon strategy for successfully implementing career and technical education curriculums.

Although each focus group spoke about the need and awareness of a career and technical education curriculum, the responses indicated a lack of knowledge about an implementation process that culminated with a student selecting such a curriculum for a program of study. The coordinators and counselors were familiar with orientation sessions designed to present yearly school schedules and a variety of offered classes to students and parents only. No one mentioned a clearly designed process that enabled a student to select high school classes that supported or led to postsecondary curriculums supporting specific careers or jobs. Several parents were totally unaware that a career and technical education curriculum existed although they recognized the need and importance of educating and preparing students for careers in plumbing, electrical, maintenance, or automotive. Parents had heard of the local technical college but did not know the role it played in working with the high schools. This is very unfortunate in that MacAllum and Johnson (2002) showed in their research that a strong partnership between a high school and a local technical college serves to attract students. The researcher found several key factors that affected a student's decision to choose a career and technical education curriculum, but no comprehensive implementation process that integrated a student's career interests, parental involvement, cumulated academic achievements, and/or curriculum availability.

What Influential Roles do Individuals Play in a Student's Curriculum Selection

The second research question asked “What influential role do high school teachers, counselors, administrators, peers, and parents play in a student's selection of a high school career and technical education program?” All four groups indicated that they viewed themselves and their respective roles as an influencing force on a student's decision to select a career and technical education curriculum. Although Harnish and Lynch (2005) indicated that parents and high school counselors were not factors in a student's decision to enroll in classes where secondary and postsecondary credit may be obtained (i.e., dual enrollment), this researcher's groups of counselors and parents vigorously disagreed with this literature finding. The data from the focus group of parents showed responses indicating a strong parental influence with their children and overall course selection and high school achievement. All groups indicated a responsibility to motivate students with personal experiences, professional involvement with curriculum choices, and arming students with current, correct, and relevant information about curriculums and applicable career and job opportunities. However, the data from each focus group indicated differences in how influential groups such as teachers, counselors, and parents presented and promoted choices such as a career and technical education curriculum. Parents indicated a challenge in obtaining information from appropriate high school representatives while coordinators and counselors spoke of an overall high school approach in emphasizing importance on curriculums and classes that prepared students for a transition to postsecondary institutions.

The data from all focus groups indicated the need for a more influential role from local businesses via a partnership with high schools. Lewis (2000) outlines this requirement as essential for successful career and technical education curriculums. Coordinators, counselors, and parents discussed their respective influential roles to better answer a student's concerns about future expectations surrounding career opportunities. The data from each group indicated an individual awareness of business demands for high school graduates possessing the skills taught in a career and technical education curriculum. The supporting literature of Hardy (2000) showed the experiences of various employees after graduating from a high school career and technical education program. These employees felt their education had prepared them for a career as well as a job and that they possessed the confidence to pursue higher education programs or training required for promotions and job flexibility. Participants in each focus group discussed the relevancy of career and technical education classes and the potential for rewarding careers and corresponding job salaries.

Conclusions

A successful implementation process of a career and technical education curriculum involves various organizations and entities. High school leaders and counselors continuously work with this curriculum and the students it potentially affects. Technical college leaders and Career and Technical Education Coordinators play a vital role in bridging secondary and postsecondary roles and purposes. And finally, the parents of high school students are involved with the curriculum choices that are encountered throughout a high school experience.

All of these groups of individuals play an influential role on a student's decision to select a career and technical education program. All groups are active participants in presenting curriculum selection factors to students and integrating future career and job expectations into the overall academic high school experience. Based on the findings of this study, the following conclusions are presented:

1. The implementation process of a career and technical education curriculum is not consistently articulated to Southeast Georgia high school students, staff, or parents. Implementation process has a different meaning to different groups of individuals.
2. The existence of a career and technical education curriculum is not well known across different groups of individuals, both inside and outside a high school organization.
3. The business and industry demand for high school graduates possessing the skills taught in a career and technical education curriculum is not well known nor understood among high school staff, students, and or parents.
4. A career and technical education curriculum has a reputation for enrolling only high school students who perform poorly in standard academic classes.
5. This researcher discovered that high school counselors believe an overall de-emphasis of career and technical education programs exists

within high schools and not promoted by high school administrators, teachers, and other counselors.

Implications

Combining available literature and the findings of this study, the following implications are presented:

1. Georgia high schools, not just the Southeast region, should be interested in the findings of this study. This study can be used to synchronize the efforts of high school administrators, teachers, counselors, parents, and the students. As the Georgia Department of Education and all respective school districts develop curriculums, an implementation process for selecting any curriculum, but especially a career and technical education program, can be developed.
2. The Georgia Department of Technical and Adult Education should be interested in the findings of this study for improving the partnerships between technical colleges and local high school districts within the technical college's assigned area of responsibility. An immediate focus might be joint work on specific classes and integrating business and industry support into a career and technical education program.
3. Parent participants of this study indicated an involvement with their children's high school experience. However, the findings of this study might be useful in developing descriptions of academic curriculums for parental information and assistance with curriculum selection. This might be an element of an overall implementation process.

4. Supporting literature of this study indicates a high business and industry demand for graduates possessing the skills taught in a career and technical education curriculum; the literature also points out the potential increased salaries for these graduates. This study might assist in developing information packets about local career opportunities and how specific programs can prepare a student for those identified careers.
5. This researcher better understands the linkage among high schools, technical colleges, and local businesses and industries. This study provides a starting point for integrating career demands with clearly defined high school academic pathways and seamless higher education programs that produce highly educated and trained workers for the 21st Century.
6. Technical colleges and businesses and industries in Southeast Georgia need to take a more proactive and visible role in partnering with high schools in developing and implementing a career focused and business sponsored program. This program must align academic requirements and technical skills with specific career opportunities. It must be rigorous and more than simply having company employees volunteer time assisting with routine school events.

Recommendations

This researcher makes the following recommendations based on the findings of this study with the purpose of improving an implementation process of a career and technical education curriculum in Georgia's high schools:

1. The Georgia Department of Education and the Georgia Department of Technical and Adult Education should organize a state-wide task force with the purpose of developing an implementation model for technical colleges and high schools to follow in aligning secondary and postsecondary resources with business and industry demands for an educated and trained workforce.
2. The Georgia Department of Education and the Georgia Department of Adult and Technical Education should coordinate efforts in developing and staffing a variety of counselors and coaches within technical colleges and high schools. The purpose of each position within each institution should be distinct, yet linked together to accomplish a single goal of aligning students with academic achievement, career interests, business and industry partnerships, and higher education opportunities.
3. All state agencies involved with secondary and postsecondary education as well as all of the respective institutions within each category should study and reflect upon current programs and initiatives aimed at continuing and improving student achievement. Benchmark accomplishments require a thorough analysis to include graduation rates, career/job placement rates, and returns on investment of all costs matched against achieved goals.

Recommendations for Further Research

This researcher makes the following recommendations for further research:

1. This study should be conducted in other regions of Georgia; findings should be analyzed and compared.
2. This study should be conducted with high school principals, technical college presidents, and career and technical education program administrators within the Georgia Department of Education and the Georgia Department of Technical and Adult Education.
3. A study should be conducted with high school and technical college instructors about strengthening joint curriculums.
4. A study should be conducted with high school parents about the role of parents in getting a student enrolled in a career and technical education curriculum.
5. A study should be conducted with high school teachers and counselors about known information and awareness of the purpose and capabilities of Georgia's Technical Colleges.

Dissemination

The researcher will initially share the findings of this study with his technical college president and recommend ways of presenting the findings and recommendations with local high school district leaders. The researcher will work with the technical college public relations team to publish several articles in local newspapers, technical college magazines, and appropriate business and trade publications. If invited to do so, the researcher will make presentations to local high school principals and their staffs to include teachers and counselors. The researcher will also identify venues for presenting the findings and

recommendations to local civic organizations such as Chambers of Commerce, Manufacturing and Logistics Council, Development Authorities, and other departments of the Georgia Department of Technical and Adult Education.

A final population that would be interested in the findings would be the parents of high school students. Although the parent participants of this study indicated a close involvement with their children's high school academic program, this researcher suspects that all parents are not as actively involved. This researcher will work with high school principals to coordinate presentations to high school Parent Teacher Associations and other high school events where parents and students are receiving information about career and technical education programs as well as career and job opportunities.

Concluding Thoughts

As a Georgia Technical College Vice President of Economic Development, I and my team continuously work with businesses and industries in a four county service area. The workforce development requirements for current employees and new employees is a real challenge involving specific on-the-job industry tasks, mathematics and reading capabilities, and teamwork and problem-solving skills. Businesses and industries are willing to pay above average salaries to attract new employees with these career and technical education skills as well as to current employees to encourage them to enroll in higher education training programs and learn new skills and capabilities. Businesses and industries are also stating that people with career and technical education skills are scarce and difficult to find. Therefore, this demand creates the need to encourage more high

school students to enroll in secondary career and technical education curriculums that are aligned with business workforce requirements. This demand also creates the need to further encourage high school graduates of these high school curriculums to continue their education and training at local technical colleges. The career and technical education focus of high school education make graduates attractive to businesses and industries that potentially hire them, and the technical college program enables the now employed individual to continue an educational track that provides additional skills for promotional opportunities. The demand for a 21st Century technically educated and trained workforce exists. Career and technical education curriculums exist at secondary and postsecondary institutions. Career and Technical Education Coordinators, counselors, and parents are ready to continue serving in an influential role for students. Businesses and industries are prepared to partner with high schools and technical college.

However, there appears to be too many roadblocks to successfully achieving a well synchronized career and technical education focus among secondary and postsecondary institutions, businesses, parents, chambers of commerce and county economic development entities. In short, no one organization or individual is in charge. Each organization approaches such a challenge with a parochial view of protecting turf, budgets, or power. Although initiatives between high schools and technical colleges exist like Dual and Joint Enrollment as well as curriculum articulation agreements, they are not nearly numerous enough to capture significant numbers of high school students. The Georgia Department of

Education and The Georgia Department of Technical and Adult Education operate under different state mandates, boards of directors, and laws, rules, and policies. This operating situation is necessary for legal and practical reasons pertaining to both organizations, but more leadership and joint work must be generated to accomplish what seems to be obvious.

This researcher is simultaneously amazed and frustrated about high school graduation rates; essentially, it has not changed significantly since the 1970s. And, with over 37% of high school graduates immediately entering the workforce upon graduation, why is the process of rigorously implementing career and technical education curriculums essentially de-emphasized? True, pockets of success exist around Georgia and the nation. However, with the ever changing technology presented to every individual in a variety of methods each day, we must organize these 21st Century realities into viable, functional, and purposeful career and technical education curriculums and then promote them with a properly designed process in high schools. These curriculums will be significantly enhanced with high school partnerships with technical colleges to improve upon materials, the learning environment, and correlations to businesses and industries.

Finally, what really is the intent of the federal program, No Child Left Behind? Is it simply a list of testing criteria by grade and topic that students must achieve before advancing to the next level of secondary education? Is it simply a annual benchmark score that secondary institutions must achieve or else face some form of academic penalty? This researcher believes it is those things and more,

but also an opportunity to develop and implement an array of curriculums that appeal to a body of students who is more complex and more technologically savvy than any previous generation. Secondary institutions should eliminate the notion that their primary purpose is to prepare students for college. What is college? What kind or level of college? The first priority of high schools should be to teach high school students high school material and increase the graduation rate and decrease the dropout rate. Then, present opportunities for courses and programs of higher education that are woven throughout the high school curriculum. These opportunities should be both rigorous academic programs as well as equally important career and technical avenues. How many students might graduate if only their attention and desire to learn is captured early in the high school experience through a technical program that interests those students? And, if technical college programs are integrated into these high school curriculums with enthusiastic, promotional marketing, are these students not being prepared for college? Perhaps for more technical college, an institution of higher education, but nonetheless still college. We must not let rules and policies stop institutions from making this a reality. Strong leadership is a must to overcome bureaucratic barriers. This researcher has the passion and desire to put all of these elements together to finalize an effective and efficient implementation process for a career and technical education curriculum in Georgia high schools.

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APPENDICES

APPENDIX A
FOCUS GROUP DISCUSSION QUESTIONS

Focus Group Questions	Supporting Literature	Research Question
1. Tell me about the first time you heard about CTE programs and what were some of your initial thoughts?	Griffith & Wade Hardy	2
2. Are CTE programs important for graduates to find career oriented jobs?	Harnish & Lynch Stone, Kowske & Alfeld	1, 2
3. Can you describe the type of student you think might choose a CTE program?	Harnish & Lynch Blanco & Prescott	1, 2
4. What professions do you think could use/employ graduates of that CTE program?	Lewis MacAllum & Johnson	2
5. How does a parent or counselor encourage a student to pursue a CTE curriculum?	MacAllum & Johnson	1,2
6. To what extent do you think a Technical College is involved with high schools developing and implementing CTE programs?	Harnish & Lynch Stone, Kowske & Alfeld	1, 2
7. How do parents react to their children's interest in CTE programs?	Lewis Hardy Blanco & Prescott	2
8. What are the benefits of CTE programs in preparing students for careers and high paying jobs?	Lewis Griffith & Wade	2
9. How are CTE programs promoted/discussed when choosing classes?	Hardy	1, 2
10. What is your involvement in any way with CTE programs?	MacAllum & Johnson Harnish & Lynch Stone, Kowske & Alfeld	2
11. What is your understanding of what a Technical College in Georgia is about, it's purpose?	MacAllum & Johnson Harnish & Lynch	1, 2
12. What opportunities does a technical college provide for good, solid higher education (i.e., college) programs?	Blanco & Prescott Griffith & Wade	1, 2
13. Can you share a story about someone who has benefited from a CTE program?	Griffith & Wade Hardy	1, 2

APPENDIX B
IRB APPROVAL LETTER

Georgia Southern University Office of Research Services & Sponsored Programs		
Institutional Review Board (IRB)		
Phone: 912-681-5465		Veazey Hall 2021
		P.O. Box 8005
Fax: 912-681-0719	Ovsight@GeorgiaSouthern.edu	Statesboro, GA 30460

To: Kenneth D. Boyd
236 Stephanie Avenue
Rincon, GA-31326

CC: Dr. Linda Arthur
P.O. Box-8131

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

Date: November 19, 2007

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

After a review of your proposed research project numbered: H08081, and titled "A Career and Technical Education Curriculum: The Implementation Process in Southeast Georgia High Schools", 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 approval 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,



N. Scott Pierce
Director of Research Services and Sponsored Programs

APPENDIX C
PARTICIPANT CONSENT LETTER

COLLEGE OF EDUCATION

DEPARTMENT OF LEADERSHIP, TECHNOLOGY AND HUMAN DEVELOPMENT

INFORMED CONSENT

1. My name is Kenneth D. Boyd, and I am conducting this research as part of doctorate requirements for my dissertation.
2. Purpose of the Study: The purpose of this research is to understand the implementation process of a career and technical education curriculum in Southeast Georgia High Schools.
3. Procedures to be followed: Participation in this research will include participation in a focus group where discussion will focus on developed questions vetted by my dissertation committee.
4. Benefits:
 - a. The benefits to participants include information for more informed decision making concerning participation in high school career and technical education curriculums. Participants will also be able better understand and promote these curriculums as appropriate.
 - b. The benefits to society include a better understanding of career and technical education curriculums by educators as well as business and industry leaders in that employers are seeking potential employees with skills taught in these curriculums. Additionally, this research will assist in filling the void in existing research and available literature on the topic of implementing career and technical education curriculums.
5. Duration/Time: November 2007 through January 2008
6. Statement of Confidentiality: Names, job titles, and high school affiliation of the three focus group participants will be captured data; **captured data means that these three items of information will be recorded.** Specific names of the participants or specific high school will not appear in my dissertation. Data will be correlated only to the identification of the three groups: Career & Technical Education Partnership Managers, High School Counselors, and Parents of high school students. Once my dissertation has been accepted and approved, all individual and high school names as well as job titles will be destroyed. **Thorough measures will be taken to destroy identifying information:**
 - a. **Absolute confidentiality during data collection cannot be promised since participants are exposed to other people thus knowing of their participation;**
 - b. **Audio tapes do produce a “likeness” of participants, with confidentiality in use of tapes assured.**

7. **Right to Ask Questions:** Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the researcher named above or the researcher's faculty advisor, whose contact information is located at the end of the informed consent. For questions concerning your rights as a research participant, contact Georgia Southern University Office of Research Services and Sponsored Programs at 912-681-0843.
8. **Voluntary Participation:** Participants don't have to participate in this research; they may end their participation at any time by telling the researcher who will serve as the focus group facilitator.
9. **Penalty:** There is no penalty for deciding not to participate in the study; any participant may decide at any time if they don't want to participate further and may withdraw without penalty or retribution.
10. You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below.
11. Your involvement time in this study will be limited to the time of one (1) focus group meeting, approximately 90-120 minutes. There is no plan to have additional focus group meetings for this study.

You will be given a copy of this consent form to keep for your records.

Title of Project: A Career and technical Education Curriculum: The Implementation Process in Southeast Georgia High Schools.

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Participant Signature

Date

I, the undersigned, verify that the above informed consent procedure has been followed.

Investigator Signature

Date

APPENDIX D
STUDIES RELATED TO CTE CURRICULUMS

Study	Purpose	Participants	Design/Analysis	Outcomes
MacAllum and Johnson 2002	A study on Career & Technical Education and its role as an engine of economic development.	Teachers, administrators, and community leaders of Central Educational Center (CEC) in Newnan, GA.	Qualitative: Interviews.	<ol style="list-style-type: none"> 1. Dual enrollment between high school and technical college. 2. Workplace competencies. 3. Partnerships with local technical colleges attract high school students.
Harnish and Lynch 2005	To better understand the processes, outcomes, facilitators, and barriers to high school student access to and continuation in postsecondary.	Three Georgia Technical Colleges and two high schools associated with each college; a total of 43 high school students along with 14 teachers and three high school counselors.	This exploratory study used a qualitative, descriptive case study method.	<ol style="list-style-type: none"> 1. Some dual enrollment courses are not transferable to higher education programs. 2. Technical Colleges tend to be lab equipment heavy and thus makes the teaching of certain courses better adapted for technical college campuses. 3. Parents and high school counselors were not a factor in the student's decision to enroll in dual enrollment programs.

Study	Purpose	Participants	Design/Analysis	Outcomes
Stone, Kowske, and Alfeld 2004	Address the prevalence of specific career and technical education programs and activities in American high schools in the late 1990s.	Survey #1 (1996): 5,253 returned surveys. Survey #2 (2000): 6,393 returned surveys.	Qualitative: Interviews and surveys.	<ol style="list-style-type: none"> 1. Nationwide, 66.5% of high schools offer at least 1 CTE program. 2. 67.35% of high schools offered dual enrollment for academic courses, but only 43.62% offered it for CTE courses. 3. CTE programs continue to focus on 11th and 12th grades.
Blanco and Prescott 2007	Examine the progress of Ohio's Post secondary Enrollment Options (PSEO).	Public school students who participated in PSEO at public or private postsecondary institutions during 2003-2004.	Qualitative: data analysis	<ol style="list-style-type: none"> 1. 83% of students who participated in PSEO courses in 2004-2005, took courses at two-year institutions. 2. The rate of participation in PSEO remained almost constant, 1.2% to 1.7% of public high school students from 1998-2004. 3. In 2004-2005, 64.6% of students who took part in PSEO at public institutions were female.

APPENDIX E
STUDIES RELATED TO BUSINESS AND INDUSTRY

Study	Purpose	Participants	Design/Analysis	Outcomes
Lewis 2000	Assessing the needs of career and technical education (CTE) in 2000.	149 representatives from 5 regions of the United States.	Qualitative: Interviews.	<ol style="list-style-type: none"> 1. The image of CTE is a concern; perception of a CTE program is that it is an inferior curriculum. 2. Partnerships with businesses and industries was essential for successful CTE programs. 3. Employers cited difficulties of finding workers with appropriate skills.
Griffith and Wade 2001	Analyze the impact of career and work related secondary education (CWE) programs.	High school graduates from a large, suburban school district on the east coast of USA.	Qualitative: survey.	<ol style="list-style-type: none"> 1. CWE graduates earned more than non-CWE graduates. 2. CWE graduates were just as prepared for higher education as non-CWE graduates. 3. More VWE graduates were employed in trades than non-CWE graduates.