

2016

Career and Technical Education Completers' Perspectives of College and Career Readiness

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Dandi L. Daniels

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Walden University
2016

Abstract

Career and Technical Education Completers' Perspectives of
College and Career Readiness

by

Dandi L. Daniels

MED, Charleston Southern University, 2001

BS, Clemson University, 1996

Doctoral Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

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November 2016

Abstract

At a southeast United States high school career center, career and technology education (CTE) programs failed to meet the state career and college readiness benchmarks.

Meeting these benchmarks is necessary for students who transition from high school to the workplace or a postsecondary education program. Bandura's social learning theory served as the conceptual framework for this study. The purpose of this bounded, qualitative case study was to explore students' perspectives of their career and college readiness or nonreadiness after completing a CTE program. Purposeful sampling was used to identify 10 participants who had completed a vocational technical center (VTC) CTE program. Data were collected using semi-structured interviews composed of open-ended questions. Interview data were analyzed thematically using open coding.

Participants stated that CTE diversity and leadership training did not prepare them for a career or a college degree. They determined they would benefit from project-based learning, collaborative work groups, on-site work experiences, technology integration, creating and developing ideas and products, and interpersonal skills in CTE programs. Based on the findings of this study, a 9-week CTE curriculum was designed to increase career and college readiness outcomes grounded on the Secretary's Commission on Acquiring Necessary Skills (SCANS) framework. This endeavor may contribute to positive social change by assisting administrators and teachers in the decision-making process for CTE courses and programs; ultimately, improving career and college readiness for CTE program completers.

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Dedication

I dedicate my project study to my family and my many students over the years. Special thanks to my husband, James, and children, Daja and JJ, for their patience on family vacations, while I worked on my project study instead of enjoying the beach. My sincere gratitude and affection goes to my husband for his words of encouragement when I felt defeated by the process. To my sister, Toni, for understanding when our phone conversations were cut short, because I was revisiting a draft of my proposal or completing a literature review. Most of all, to my late mother, Curley Mae Davis, for instilling in me a drive and determination that cannot be subdued.

Acknowledgments

I would like to thank Dr. Donald Poplau (Chair) and Dr. Lynn Varner (Second Committee Member) for their guidance and support. They would not let me give up on my work, and for that, I am eternally grateful. A special thank you to my former dissertation chairs, Dr. Elsie Szecsy and Dr. John Hendricks; my mentors and advisors, Dr. Cassandra A. Jenkins, Dr. Kenneth Jenkins, and Dr. Vashti Washington, you are epitomes of great mentors and, moreover, my dear friends.

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Section 1: The Problem

Introduction

Students today are able to participate in career and technical education (CTE) programs of study that deliver the necessary skills to prepare them for related careers or related postsecondary programs (Alfeld & Bhattacharya, 2013). According to the South Carolina Department of Education (South Carolina Department of Education [SCDOE], 2005), students leaving high school and entering the workforce need to possess the necessary workplace skills employers are seeking. The CTE programs in high schools and career centers provide career and employment related experiences that assist students in gaining workplace readiness skills. Students who complete all courses as outlined in a CTE curriculum are recognized as CTE program completers and receive a completer certificate. Success in a career and in college requires students to be sufficiently prepared (Smith, 2012). The educational learning experience of students while they are enrolled in school serves to better prepare them for employment upon graduation and successful experiences in a postsecondary education program (Smith, 2012).

The CTE programs in a career center located in the southeast United States have failed to meet state career and college readiness benchmarks. In examining the past 3 years' data, the VTC is faced with a problem that the average percentage of CTE completers meeting *technical skill attainment* (a measure of career and college readiness) is 80%, which fails to meet established federal guidelines (as reported in the school's 2015 profile). State CTE competencies are used in all CTE courses. The career center does not use a course survey or course evaluation instrument of any kind to determine the

perspective of CTE completers on college or career readiness (career guidance counselor, personal communication, 2012). The career center lacks data on the effectiveness of the CTE curriculum in regards to career and college readiness. This project study addressed the problem of low employment and postsecondary enrollment rates of CTE completers at this career center. It is crucial that graduates are career and college ready.

According to former U.S. Secretary of Education Arne Duncan, in order to increase the United States' economic standing, stakeholders must ensure that U.S. high school graduates' educational experiences have provided them with the necessary employment skills and skills that are transferable to a college or university setting (U.S. Department of Education [USDOE], 2012b). Strengthening the core of the U.S. education system will serve to provide employment readiness skills for students (USDOE, 2012b). Business and industry leaders indicate there remains a shortage in skilled laborers in job markets such as healthcare, manufacturing, and technology-(USDOE, 2012b). The U.S. Department of Education, Office of Vocational and Adult Education (USOVAE, 2012a) reported that persons who have completed courses or participated in CTE programs generally tend to stay employed over the course of their lifetime. The CTE programs should prepare students for the workforce and postsecondary programs with the vocational and academic skills needed to compete successfully in the job market (Aims Community College, 2014).

The economy and technology are rapidly changing and evolving; therefore, workers continually need to learn new skills and to match those skills to jobs (Chicago Metropolitan Agency [CMA], 2014). A qualified workforce is needed to strengthen the

economy and to ensure a high quality of life. Education should provide social, civic, and personal development, and build a skilled workforce (CMA, 2014).

The CTE programs contribute significantly to 21st century career readiness by promoting employability, technical knowledge, academic improvements, and developing students into lifelong learners (Fala, Strouse, Tully, & Viviano, 2012). These principles should be the basis of an educational program where pedagogy and technical programs are combined to ensure that students are career and postsecondary ready (Fala et al., 2012). CTE is changing daily. School administrators and teachers must maintain pace with these changes. A major factor that leads to the success of CTE programs is for school administrators and teachers to identify innovative concepts, technologies, and diverse methods of teaching that meet the current and future need of the program's implementation (Fala et al., 2012).

Career and college preparation is the new course for K-12 systems of education (Partnership for 21st Century Skills [P21], 2010). Educational policies, initiatives, and funding from both federal and state levels are intended to provide CTE programs to students that will reduce the amount of remediation needed for students who are transitioning into postsecondary programs or the workplace (P21, 2010). The CTE programs must prepare students for various careers in diverse fields. Effective CTE programs must combine academic and technical standards that are rigorous and include necessary workplace skills, since the careers students pursue with their CTE experience often require a postsecondary credential or degree (New Hampshire Department of Education [NHDOE], 2014). The CTE programs offered at career centers are built around

the core program competencies that are consistent throughout the United States. These competencies describe the minimum content to be covered in each program and are designed to provide every student with a solid foundational skill set that will prepare students for success in their given field (NHDOE, 2014).

A trained workforce is essential to growing jobs, as well as improving the economic stability of families and guaranteeing the financial health of a state, town, city, or community (Economic Progress Institute, 2014). Community stakeholders are looking to CTE programs to prepare students for related careers or related postsecondary degree programs (Association of Career and Technical Education [ACTE], 2014). Today's cutting edge, rigorous, and relevant CTE programs prepare students for a variety of high demand careers that offer competitive wages and require a high technical skill set (ACTE, 2014).

A more technically advanced and better educated workforce is required in today's economy (American Institute for Research [AIR], 2013); therefore, current jobs require more multifaceted skills and knowledge than jobs did in the past (AIR, 2013). Industries across the United States continue to create new jobs that require employees with related technical skills, education, and training (Brand, Valent, & Browning, 2013; Carnevale, Smith, & Strohl, 2010). To meet the needs of the workforce, every American needs education and training to gain the skills needed to meet workforce demands.

According to the Center for Education and the Workforce at Georgetown University, approximately two out of every three jobs created in the United States will require postsecondary education of some sort by the year 2018 (Brand et al., 2013;

Carnevale et al., 2010). Secondary schools have a role in the multi-tiered strategy of providing the skills, education, and training needed to prepare a workforce in America (Brand et al., 2013). To increase the number of Americans with the necessary knowledge and training, school administrators and teachers in the secondary schools must (a) increase classroom rigor and levels of engagement, (b) increase students' college and career readiness skill attainment outcomes, (c) increase opportunities for work-based learning experiences, (d) provide drop-out prevention for low-achieving students; and (e) decrease barriers in transitioning to postsecondary programs (Balfanz, Bridgeland, Bruce, & Hornig Fox, 2013; Brand et al., 2013).

The CTE programs are electives that are part of the general curriculum available to all high school students. Students can be prepared for postsecondary programs or the workforce by participating in CTE programs that develop academic and technical skills (NHDOE, 2014). Students who were not successful in traditional academic programs may be successful in CTE programs, which may serve as a last chance effort for low-achieving students (Middleton, 2012; Mndebele & Diamini, 2008).

Students should transition from high school with the technical skills and education to prepare them for an immediate start in the workplace or college, as well as citizenship (American Diploma Project Network [ADP], 2012). In 2005, the ADP network in 35 states committed to the following four actions:

- Align high school standards and assessments with the knowledge and skills required for the demands of college and careers.

- Establish graduation requirements that require all high school graduates to complete a college- and career-ready curriculum so that earning a diploma assures a student is prepared for postsecondary education.
- Develop statewide high school assessment systems anchored to college- and career-ready expectations.
- Create comprehensive accountability and reporting systems that promote college and career readiness for all students. (ADP, 2012, p. 1)

The site of this study was a career center, Voc Tech Complex (VTC, pseudonym), in a school district located in the southeastern part of South Carolina. The VTC is located on a separate site from the high school in the school district. High school students in grades 10, 11, or 12 may attend the career center. The VTC serves approximately 800 high school students each semester. Approximately 49% of the students participate in at least one course at the VTC (as reported in the 2015 school's profile). The demographics of VTC consist of predominately African American students who live in a low socioeconomic, rural area (as reported in the 2015 school's profile).

This qualitative study used interviews to gather information regarding participants' perspectives on career and college readiness after participating in a high school CTE program. In this era of performance-based funding and the increase of accountability in schools, school administrators and teachers at VTC must ensure that the school achieves the Technical Skill Attainment standards, follows the federal and state mandates, and ensures that high school students graduate and meet the requirements of their CTE programs.

The VTC offers 16 CTE programs. Students are required to select a career major during their eighth grade Individualized Graduation Plan (IGP) process. Based on that selection, the student's focus is more narrowly defined to one of the 16 CTE programs (SCDOE, 2005). To be identified as a CTE completer, a student must complete four courses in a CTE program area (SCDOE, 2005). State certified instructors teach CTE courses. Certain programs (e.g., finance, accounting, marketing, and graphic communication) require a bachelor's degree in order to receive state certification in a CTE area (SCDOE, 2011). Other programs (e.g., automotive technology, electricity, law enforcement services) require at least 3 years of experience directly related to the CTE program; a formal education is not required (SCDOE, 2011).

Individuals in the industry do not teach CTE program courses; however, many instructors have a background in a related industry. Instruction is a combination of classroom lecture and project-based lab activities. There are opportunities available for those students who want to participate in work-based learning, where they may tour a job site, job shadow, or intern. Health science is the one program in which students are required to earn clinical contact hours in order to complete the program (SCDOE, 2011). Students enrolled in a health science program are assigned to a clinical setting, partnered with a mentor, and apply medical skills with patients under direct supervision.

Definition of the Problem

The VTC annually graduates an average of 125 CTE program completers (as reported in the school's 2015 profile). The past 3 years of data reveal that VTC is faced with a problem that the average percentage of CTE completers meeting Technical Skill

Attainment (a measure of career and college readiness) is 80%, which fails to meet established federal guidelines (as reported in the school's 2015 profile). Curricula focused on college and career readiness and participation in related work-based learning activities are designed to facilitate Technical Skill Attainment upon completion of a CTE program (Fala et al., 2012). Previous researchers found that participation in CTE is associated with positive career and college readiness outcomes for CTE program completers (Fala et al., 2012).

In my research conducted for this study, former graduates provide information concerning their experiences, perspectives, and needs and how the school setting and programs of the career center helped them or did not help them prepare for postsecondary programs and their career fields. Participation in CTE programs may help students make decisions regarding careers or college after high school. Whether the students decide to select a career immediately upon graduation from high school or once they complete college, these students must develop interpersonal skills, which include problem solving, conflict resolution, communication, teamwork, and work-based learning skills that are highly valued in their future careers (Rogers-Chapman & Darling-Hammond, 2013).

Current research is limited on the actual impact and measurement of the process of developing postsecondary and career characteristics in high school. The results of this study will assist school and building administrators in improving the CTE program. No Child Left Behind requires an annual performance rating; the study could also assist schools in improving their school's report card rating (NCLB, 2002), and as well as add to the research literature.

There is a lack of research-based findings on CTE completers' perspectives of their college and career readiness (Green, 2012). The VTC has not conducted an investigation that may have presented findings to stakeholders that would explain the gap in technical skill attainment at the career center. This study explored the perspectives of CTE graduates and program completers. The findings of this study may help school districts, schools, and school administrators with decision-making processes for preparing students for careers or postsecondary programs, assist with student placement in CTE courses, and help with curriculum initiatives that may improve the CTE courses at the career center.

Rationale

Evidence of the Problem at the Local Level

The Carl D. Perkins Career and Technical Education Act (2006), known as Perkins IV, calls for a state performance system of accountability to support the continuous improvement of CTE program improvement (SCDOE, 2014a). Federal funding is reliant on the state meeting minimum performance goals that address the eight core indicators indicative of student achievement as defined in the federal law (SCDOE, 2014a). Perkins IV (2006) increases accountability for the academic industry credentialing and postsecondary training.

Each year the eight performance indicators, referred to as Perkins Accountability Indicators, are used to assess the performance of local school districts and multi-district career centers (SCDOE, 2014a). The following are explanations of the terms used in the South Carolina's state plan to define the populations measured:

(a) participant - a secondary student enrolled in a state-approved CTE course, (b) concentrator - a secondary student with an assigned CIP (Classification of Instructional Programs) code who has earned 3 Carnegie units of credit in a state-recognized CTE program, and (c) completer - a CTE concentrator who has earned all of the required 4 units in a state-recognized CTE program identified by the assigned CIP code. (SCDOE, 2011, p. 7)

The Technical Skill Attainment level is one of eight performance goals used to assess career centers. Performance goals are established annually through a partnership with the USOVAE (2012a). The Technical Skill Attainment goal for South Carolina is 99%, which is the total of CTE completers who passed an industry recognized technical assessment and CTE completers who maintained a 2.0 grade average, divided by the total number of CTE program completers. The 2.0 grade average is considered in calculating Technical Skill Attainment because not all CTE programs have an industry recognized assessment available (SCDOE, 2014a).

A review of the past 3 years of Perkins IV Performance Reports at VTC indicated that, on the average, 79% of CTE program completers met the Technical Skill Attainment Indicator and 20% of program completers did not meet the Technical Skill Attainment Indicator (as reported in the 2015 school's profile). The Technical Skill Attainment measurement indicates a *Met* status to mean that CTE students earned a 2.0 GPA and a 79% average in all program-related coursework or passed program-related industry certification exams (as reported in the 2015 school's profile). The *Not Met* status indicates that CTE students did not earn a 2.0 GPA and a 79% average or did not pass

program-related industry certification exams. Even though the VTC's performance goal was 79% of students meeting the Technical Skill Attainment standard, the performance goal did not meet the state's 99% performance goal; therefore, VTC did not meet the Technical Skill Attainment standard for the 2012-2013 school year (as reported in the 2015 school's profile). There has been no investigation conducted at VTC to provide stakeholders with research-based findings on why the skill attainment gap exists.

With 20% of CTE completers graduating without meeting minimum Technical Skill Attainment levels, there may be a problem at the local level in preparing students for careers or postsecondary programs. In April 2011, the Office of Career and Technology Education (OCTE) negotiated with the USOVAE to reach an agreement on South Carolina's adjusted performance levels for the Perkins IV secondary performance indicators (SCDOE, 2012). Since this agreement, school districts and multi-district career centers must meet the Technical Skill Attainment standard determined by the state.

The SCDOE State's Plan for Perkins IV (2006) requires the state to use Technical Skill Attainment under Perkins Indicator 2S1 (SCDOE, 2013a; 2013b). The OCTE supports the use of valid and reliable technical skill assessments for Indicator 2S1 Technical Skill Attainment and for career center and high school report cards and must report annually on the state's progress in this area.

Perkins Indicator Technical Skill Attainment 2S1 (Table 1) shows the percentage of state performance versus VTC performance for a 3-year timeframe, 2010-2012. For 2010, the state's performance goal on the Technical Skill Attainment was 87% and VTC performance was 76%; VTC failed to meet the state's performance goal. For 2011, the

state's performance goal on the Technical Skill Attainment was 89% and VTC performance was 84%; VTC failed to meet the state's performance goal. For 2012, the state's performance goal on the Technical Skill Attainment was 88% and VTC performance was 79%; VTC failed to meet the state's performance goal and a gap exists. Over a 3-year period, VTC did not meet the state's Technical Skill Attainment performance goal (see Table 1).

Table 1

Perkins Indicator Technical Skill Attainment 2S1

Year	State performance measure %	VTC actual performance %
2010	87	76
2011	89	84
2012	88	79
3-year average	88	80

Note: Adapted from SCDOE (2014a). Website undisclosed to maintain school anonymity.

To meet the required Technical Skill Attainment standard and the legislation requiring exposure for all high school students to CTE courses, VTC has required that all students select a CTE program-related career major. As a requirement for graduation, students must complete at least three courses in the same career major, which is a state requirement for graduation. This legislation was fully implemented in 2011 (SCDOE, 2005).

Evidence of the Problem from the Professional Literature

The National Career Development Association (NCDA) reported that high school students are ill prepared to enter the workplace, with little or no understanding of the needed workplace skills or the career skills necessary to complete entry-level

requirements (ACTE, 2009). Additionally, the NCDA reported that 25% of college graduates do not have the necessary interpersonal or soft skills to be successful in the workplace.

According to the National Center for Educational Statistics (NCES, 2011), as reported in the USDOE's 2011 Issue Tables, CTE is a component of high school education that provides a pathway to the workforce and postsecondary education. The report indicated that 70% of CTE concentrators are enrolled in a postsecondary degree program, compared to 80% of nonconcentrators. Additionally, CTE completers joined the labor force at a rate of 29% compared to 18% of nonconcentrators. According to NCES (2011), 61% of all students who received four or more CTE credits while enrolled in high school are enrolled in a related CTE postsecondary program.

The State of the Workforce Report - Putting South Carolinians Back to Work (South Carolina Department of Employment and Workforce [SCDEW], 2012) also indicated that business and industry are seeking new employees who have the prerequisite skills and knowledge to complete their job functions. The report suggested that the current educational and skill levels of potential employees must be increased if employees want to compete for jobs. The report further adds that in addition to the related skills, industry licensure, and education, employees need to perform the task.

Business and industry seek potential employees who have soft skills and interpersonal skills required in the work place. Soft skills are personal attributes such as employee attendance, teamwork, professional dress, and effective communication. What continues to be a challenge for the youth of South Carolina entering the workforce is

having the necessary training and education for the jobs that are available and having the soft skills needed to compete for these jobs. The report indicated a need for increased collaboration between business and industry and high schools to address the deficiencies in career readiness of recent graduates, as it relates to hands-on skill application and soft skills (SCDEW, 2012).

Ensuring that all students graduating from high school or career centers are career and college ready is a goal that has been adopted by every state in the United States (Meeder & Suddreth, 2012). CTE programs are modeled after real careers that students may one day enter. CTE programs demonstrate the answer to questions such as, “How am I ever going to use this?” and “Why should I learn this?” (Meeder & Suddreth, 2012, p. 9).

The transition to work from school can be difficult for students if they do not receive the required skill sets and abilities to become work ready (Hutchins, Meece, Byun, & Farmer, 2012). In order for students to transition to the workplace with the prerequisite skills and knowledge employers seek, improvements must be made in educational opportunities. Student experience in related CTE programs directly impacts success in the work place and in higher education settings (Hutchins et al., 2012).

There is little information regarding the unique experiences and needs of those CTE completers who enter the workplace or a postsecondary program after completing high school at VTC. Using the research-based findings from VTC will help school administrators and teachers in the decision-making process with the CTE courses and programs.

Purpose

The purpose of this study was to explore students' perspectives of their career and college readiness after completing a CTE program. The research-based findings will guide school administrators and teachers in their decisions about retaining successful CTE courses, implementing new courses, or eliminating unsuccessful courses. Schools that receive federal and state funding must be able to provide data that show they are achieving positive results (USDOE, 2003). The 2002 NCLB Act uses the term "scientifically based research," meaning there are credible and reliable data that suggest the program or practice works (USDOE, 2003).

Definitions

Career clusters guide: South Carolina-specific documents that guide school guidance personnel, career specialists, students, and parents in course-taking choices and career decision making (SCDOE, 2014b)

Career and technical education (CTE): "A program of study that involves a multiyear sequence of courses that integrates core academic knowledge with technical and occupational knowledge to provide students with a pathway to postsecondary education and careers" (California Department of Education, 2014, p. 1).

Career and Technology Education (CTE): South Carolina grade-level, standards-based curricula through the incorporation of academic and CTE in Grades 7-12 (SCDOE, 2014c).

Completer: A student who has met the requirements to earn all four of the required Carnegie units of credit in a recognized CTE program of study (SCDOE, 2014a).

Concentrator: A student who has met the requirements and has completed at least three Carnegie units of credit in a recognized CTE program of study (SCDOE, 2014a).

Individual graduation plan (IGP): A curriculum map that assists students in identifying their education, career, and employment goals (SCDOE, 2012).

Nonreadiness: In the context of SCANS (Secretary's Commission on Achieving Necessary Skills, 1991), nonreadiness is failing to meet SCANS competencies.

Participant: A student who attended the career school and did not complete any courses or did not earn Carnegie units of credit in an identified CTE program of study (SCDOE, 2014a).

Program of study (POS): A defined career cluster or program in which students take a series of related courses designed for a specific career field (SCDOE, 2014a).

Readiness: In the context of SCANS, readiness is meeting SCANS competencies.

Secretary's Commission on Achieving Necessary Skills (SCANS): A framework of competencies that is necessary for entry-level employment (SCANS, 1991).

Work-based learning (WBL): A career awareness and exploratory work experience program, which may include structured training or mentoring at a work site (Utah State Office of Education, 2014).

Significance

The significance of this study lies in the understanding of students' perspectives of their CTE program and VTC preparation for a career or a postsecondary program. Perspectives of former students of the research site may provide data that can assist local educational leaders, school administrators, and teachers to develop CTE programs that will result in an increased number of students placed in a related career or postsecondary program. Additionally, the data may assist VTC in obtaining a passing score on the Technical Skill Attainment standard and closing the skill attainment gap. New accountability measures will require CTE programs to provide a curriculum that provides students with skills and experiences that will lead to successful placement after high school graduation (South Carolina Education, Economic, and Development Act [SCEEDA], 2006).

The findings of this study may help school administrators and teachers at VTC identify CTE courses that will help students meet their career goals. School administrators and teachers need to identify the prevailing perspectives of former graduates when implementing a CTE program so that VTC students' needs are met. By identifying and examining the findings, school administrators and teachers will have a better understanding of how the CTE programs at VTC may or may not be preparing students for careers and postsecondary programs. This study will contribute to the research literature on CTE programs. This study will also extend current research beyond the existing knowledge of CTE programs and provide a more thorough understanding of CTE programs for CTE students in regards to their career and postsecondary readiness.

Students who participate in a CTE program at VTC are provided an opportunity to become skilled in a related career field; therefore, it is imperative that CTE programs provide opportunities that lead to students' successful placement after graduation.

Guiding Research Questions

Today, CTE is about more than teaching students a set of entry-level job skills, it is about preparing students for careers. (Brand et al., 2013). CTE has replaced vocational education, which was comprised of low-level courses, single electives, and job training. Career and technical education now includes rigorous academics and integrated and tiered programs of study aligned with postsecondary education. At VTC, school administrators and teachers need to know if the CTE programs are providing students the opportunities to attain the course standards that are vital in the workplace, such as collaboration, teamwork, communication, and innovation, and the ability to solve problems and to think critically (Brand et al., 2013).

Career and technical education addresses students' goals for career and college readiness. This education should provide learning outcomes that appeal to low-achieving students who might otherwise leave high school prior to graduation (Brand et al., 2013). Research has shown that high-quality CTE programs have reduced the drop-out rates, encouraged involvement in postsecondary education, and increased availability and access to dual credit programs. CTE programs have also increased the number of students earning endorsed certificates, and high school diplomas bearing technical endorsements (Brand et al., 2013; NCES, 2011; Plank, DeLuca, & Estacion, 2005). Considering what skills are needed in the workplace and postsecondary programs, and how VTC is meeting

the goals and standards; The following research question was designed to explore the perspectives of the CTE completers: What are the CTE completers' perspectives of their CTE program in regard to their CTE preparation for career or postsecondary readiness?

Review of the Literature

The literature review includes discussions of related theories that serve as the foundations for CTE, as well as research literature from CTE journals, policy studies, state and national publications, and enrollment trends and records from a career center located in the southeastern part of South Carolina. In the review of the literature, I was concerned with the following topics relative to the theoretical foundation: research on CTE, CTE reform, career and college readiness, practitioner-based research, and the SCANS (1991). A detailed review of current, peer-reviewed journal articles on research in CTE is also provided. A review of various CTE publications was completed to investigate the benefits of CTE programs in providing career and college readiness skills to students. Search terms included: *career education, technology education, workforce readiness, Education and Economic Development Act (EEDA), career and technology education (CTE), vocation, vocational education, learning, learning styles, hands-on learning, mentoring, career pathways, and career clusters.*

I gathered research on these topics from multiple sources. These sources included scholarly journals and articles, online databases such as ProQuest and EBSCO Host, books, the World Wide Web, the United States Department of Education, the SCDOE, peer-reviewed journals, and dissertations that mentioned or focused on the aforementioned topics. The information received from these sources provided insight into

the effectiveness of CTE programs and their impact on completers' perspectives in regard to their preparation for careers and postsecondary readiness.

Theoretical Foundation

The processes by which career readiness skills are acquired and applied through CTE programs are essential to this research project. The most influential theory associated with this process is the cognitive theory of social development and learning proposed by Bandura (1977). The social learning theory states that people use observation, imitation, and modeling to learn from one another. Bandura argued that people learn through observation of others' behaviors and attitudes. Additionally, knowledge is acquired based on the outcomes of those behaviors. "Most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977, p. 87). The social learning theory explained the behavior of humans in terms of interaction that is continuous and reciprocal with cognitive, behavioral, or environmental influences (Bandura, 1977).

Bandura's (1977) social learning theory suggested that many of the behaviors humans learn are learned through observation and modeling. Career and technical education courses afford students WBL experiences where they are able to model instructors' behaviors and then apply those behaviors that were modeled into work-related skills. Mentors are afforded an opportunity to spend time with students over an extended period to share skill-related job requirements and interpersonal skills that are necessary for successful employment. Mentor relationships also allow for conversations

concerning job readiness and performance expectations for students' careers of interest. Bandura's (1977) social learning theory comprises three learning concepts: (a) learning can occur by observing others, (b) one's mental state is important in the learning process, and (c) learning may not lead to behavioral changes. I used the concept that learning can occur through observation in this study.

Bandura (1977) suggested that observational learning has three models: (a) live models, (b) verbal instructional models, and (c) symbolic models. The live model of observational learning involves the demonstration or portrayal of a specific behavior by an individual. Descriptions and explanations of certain behaviors are examples of the verbal instructional model. Symbolic models are those in which individuals utilize various forms of media to exhibit behaviors. The live model and verbal model are consistent with what students experience in both the CTE classroom and related WBL activities. Instructors in CTE programs utilize lecture (verbal instructional model) and provide demonstrations for students on live projects to model processes and skill application techniques (live model).

Research on Career and Technical Education

Rigorous and relevant CTE programs prepare youth and adults for various high demand and high wage employment options that require a high level of skill (ACTE, 2014). Through the participation in CTE programs, high school students are more involved, have higher levels of engagement, show increases in academic performance, and graduate at higher rates. Postsecondary CTE also promotes postsecondary completion and prepares participants for in-demand careers. According to ACTE (2014),

CTE serves approximately 94% of high school students nationwide and this percentage is heterogeneous, from diverse backgrounds.

Career and technical education has a significant role in the continual growth and value of workforce readiness (ACTE, 2008). Career and technical education exploration and experiences are critical for a student to receive a relevant and rigorous education for success in the 21st century. The CTE programs serve high school students who are in need of technical and career related skills to transition to the workplace, those current employees striving to increase employability skills, older adults who need to acquire new innovative skills for ongoing success, or college graduates who desire to enhance their technical skills (ACTE, 2008). Teachers of CTE programs provide training that is essential to students' participation in real-world simulations that may serve to increase workforce readiness and technical skills attainment (ACTE, 2008).

With a strengthening global economy and increased demand from business and industry for high-skilled labor, there is a need for a steady supply of skilled employees in the United States (ACTE, 2008). Business and industry leaders and state workforce development organizations are using workforce readiness credentials to assess the technical skills and abilities of current employees, as well as those seeking employment (ACTE, 2008).

The research included in this section addresses CTE from four perspectives: CTE reform, career readiness, practitioner-based research, and the SCANS (1991). The CTE reform section will examine the status of CTE in relation to the Perkins IV (2006), the goal of which was to make improvements in the level of quality of technical education

programs in schools. The career readiness perspective will be examined regarding how CTE program teachers prepare students for related careers or postsecondary programs. The practitioner-based research perspective will convey the perspectives of practitioners who are actively involved in CTE policy and the development and implementation of CTE programs. Competencies will be discussed from the SCANS perspective.

Career and Technical Education Reform

The establishment of CTE programs, formerly referred to as vocational and technical education, came as a result of the first authorization of the Carl D. Perkins Vocational and Technical Education Act of 1984 (Dortch, 2012). The purpose of the 1984 Perkins Act was to improve the quality of technical education provided to students in the United States. A reauthorization of the Act in 2006 became known as the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV). The most recent reauthorization of the Act earmarks \$1.3 billion in funds annually to CTE programs in all 50 states until 2016. Accountability measures outlined in the Perkins IV Act require the development of effective strategies in developing programs that measure both performance and success of students enrolled in CTE programs.

As Perkins IV ushers in a new era of rigorous, relevant, and results-driven CTE programs, school administrators and teachers must identify effective programs, as well as support and extend those programs that have a record of success (USOVAE, 2012a). School administrators and teachers must increase opportunities for students to gain exposure to rigorous college preparatory and work-based career and technical curricula (USOVAE, 2012a).

Stipanovic, Lewis, and Stringfield (2012) studied the current and historical trends concerning the development of CTE program requirements from the implementation of the Smith-Hughes Act of 1917 and the Tech-Prep Education Act of 1985, through the Perkins IV. Stipanovic, Lewis et al. (2012) noted that the workforce market demand for advanced skilled workers was accelerating. The increased demand for skilled workers demonstrates the need for CTE programs to enroll and graduate qualified students to meet industry demands. The CTE programs are designed to teach students employability skills, provide exposure to careers and career pathways, and connect high school to postsecondary education and training (Stipanovic, Shumer, & Stringfield, 2012). Stipanovic et al. (2012) asserted that students who completed a CTE program are more likely to be successful than their peers who did not complete a CTE program.

Aliago, Kotamraju, and Stone (2012) examined the benefits of CTE programs in preparing students for postsecondary education or career related experiences. The report indicated that the enrollment in CTE programs had steadily risen since the establishment of the Smith-Hughes Act of 1917, which required the incorporation of the vocational curricula in the public school system (Aliago et al., 2012). Additionally Aliago et al (2012) purports from their inception, CTE programs were designed to provide technical skills to blue-collar workers.

In 2011, Georgetown University's Center on Education and the Workforce (GUCEW) released its executive summary on career clusters. The GUCEW researchers suggested that schools should regularly implement CTE program career clusters to assist students in preparing for careers and locating employment opportunities. The GUCEW

identified the CTE programs most in demand by employers and addressed the need for schools to offer CTE programs that offer current career and technical job skills in order to meet industry needs.

The GUCEW (2011) published two briefs in which researchers suggested that academic skill attainment in secondary-level CTE courses appeared to be beneficial in providing students with the necessary technical skills as they related to various programs. Successful academic performance in mathematics is essential in 15 of the nationally identified CTE programs (Phelps, Durham, & Camburn, 2009). Career academies are designed with CTE in the core curriculum. With the integration of the core academics, these programs provide a collective approach to overall instruction of students that increases academic performance, skill retention, and career readiness (ACTE, 2009).

In 2005, South Carolina passed the EEDA into law, and it was implemented in 2006 (SCEEDA, 2006). This law seeks to increase student achievement and academic performance through the incorporation of CTE programs and career exploration at all grade levels. Withington et al. (2012) conducted a longitudinal study of the South Carolina Personal Pathways to Success Initiative. Withington et al. suggested that, in addition to preparing students for college, students should also be prepared for careers. It was further noted that high-quality WBL experiences, sufficiently correlated to workplace needs, are essential components of CTE programs in preparing students for related careers. Withington et al. additionally suggested that CTE programs, in their design and application, could provide a model for meeting the industry needs. Transforming CTE programs is essential (USDOE, 2012b). The CTE programs:

(a) represent a critical investment in our future, and (b) offer students many opportunities for career awareness and preparation by providing student with the academic and technical knowledge and work-related skills that are necessary to be successful in postsecondary, training, and employment (USDOE, 2012b, p. 3).

Effective, high-quality CTE programs align with employer, industry, and labor needs, as well as with college- and career-readiness standards (USDOE, 2012b).

Career and College Readiness

Castellano, Sundell, Overman, and Aliaga (2012) conducted a longitudinal study on the impact of POS on the academic success of students. A POS is a component of CTE that outlines a career major or field of study. Castellano et al. explained that the U.S. economy requires a different skill set for the new United States workforce to be successful. Students leaving high school and entering the workforce need related career skills and employability skills to achieve success in the workplace (Castellano et al., 2012). Asunda (2011) noted the shift in employers' needs is not unique to the United States. Asunda asserted that CTE programs are a means to ensure all students are receiving the training and skills they need to be successful in their careers.

There are various workplace readiness skills for students participating in a CTE program to be successful in the workplace (Roberts, 2012). Roberts (2012) noted that CTE students must be able to make a connection between WBL experiences and those experiences that may actually occur in the workplace. Students who enroll in CTE programs engage in meaningful WBL experiences that require them to recall skills they learned in the classroom and apply them as needed (Roberts, 2012).

In order for CTE students to experience success in industry, they need to develop employability skills that will prepare them for related careers in the industry (Ramsey & Edwards, 2011). Through participation in CTE programs, students acquire the workplace readiness skills needed to be successful on the job. The CTE programs train students in various pathways that can prepare them for related entry-level positions (Ramsey & Edwards, 2011). Students who enroll in CTE programs are exposed to an enhanced learning experience through web-based learning that creates a better and more qualified workforce (Murphrey, Miller, Harlin, & Rayfield, 2011).

The technical education job market is expanding. There is an increased need for individuals with the technical skills or postsecondary education in related fields to fill vacant positions (Slusher, Robinson, & Edwards, 2011). Teachers in CTE programs can provide participants with the necessary entry-level skills that lead to success in related careers (Slusher et al., 2011). In addition, CTE programs afford students the opportunity to both gain workplace readiness skills and prepare for postsecondary degree programs (Slusher et al., 2011).

Students enrolled in CTE programs learn valuable technical skills, as well as thinking skills that assist them with success in the workplace (Pate & Miller 2011a). Students who participated in an agriculture science CTE program focused on students' self-questioning and problem solving and used standards and competencies that helped them learn required technical skills (Pate & Miller, 2011b). Employers are seeking employees who have both technical skills and analytical skills (DuPre & Williams, 2011). Therefore, students need to participate in well-established

CTE programs that prepare them with the necessary skills through participation in WBL experiences (DuPre & Williams, 2011).

Foster (2010) examined the benefits of student enrollment in dual credit CTE program courses where high school students were able to enroll in CTE programs through the Technology Center program of Oklahoma (Cooperative Alliance Program [CAP]), with the option to matriculate into a postsecondary degree program on the college's main campus to complete the program. The retention rate of students enrolled in CTE dual credit program was higher than those students who did not enroll in the CTE dual credit program (Foster, 2010). The benefits of dual credit courses offered as a component of CTE programs, which included completing high school courses and postsecondary courses simultaneously, helped to improve the academic achievement and technical skill attainment of high school students (Bishop-Clark et al., 2010). This analysis concluded that higher academic achievement and technical skill attainment can be reached with full integration of academics and CTE programs. The CTE courses offered as dual enrollment courses were beneficial in preparing students for related postsecondary degree programs (Bishop-Clark et al, 2010.).

Benjamin, Hyslop-Margison, and Taylor (2010) investigated various CTE programs that provided students with the requisite knowledge and technical skills required to experience success in the workplace. Through CTE participation, students can experience authentic workplace situations they may encounter. Also noted was that WBL opportunities afforded students hands-on experiences under the guidance of a trained adult or mentor in the field (Benjamin et al., 2010).

The CTE programs offer diverse options for students to assist in their career development efforts for schools to produce graduates prepared for related postsecondary programs, to serve as fully functional members of the workforce, and to compete in a global market (Evers, 2010). The CTE programs evolved on local levels in order to meet more immediate needs of local business and industry employers (Evers, 2010). Additionally, CTE programs had supplementary benefits, which included improved academic performance in core subject areas, such as mathematics and science, as well as increased graduation rates (Evers, 2010).

Threton and Walter (2009) found that CTE programs allowed students to apply related technical skills in hands-on settings. The CTE programs exposed students to classroom instruction and technical skills that afforded them a holistic CTE experience (Threton & Walter, 2009). Kelley and Kellam (2009) explored efforts to advance CTE programs with a focus on reshaping technology skills instruction education. The CTE programs were valuable for all learners (Kelley & Kellam, 2009). When students participated in CTE courses, they increased their technological skills set, as well as their preparation for the workplace. Infusing CTE programs with core academics and technology prepares students to compete globally for employment in an increasingly technological world (Kelley & Kellam, 2009).

In order to address the current economic and social climate, CTE must offer programs that prepare students with the right knowledge and skills in order to secure a job and to succeed in the global economy (Green, 2012). These high school and college programs must be appropriately paced, use a rigorous curriculum model, and be aligned

to the current demands of industry (Green, 2012). The challenge educators face in the preparation of students for college and career readiness is for students to have more mathematics and science, as well as to require more academics to raise the bar on academic achievement (Stone, 2012). The emergent workplace (a) needs more scientists and engineers; (b) needs good jobs, which require college; and (c) outsources only routine factory jobs and low-skilled jobs (Stone, 2012).

Kantrov (2014) conducted a nationwide survey of 850 CTE teachers and interviews with 11 state leaders to identify the current challenges and opportunities in the CTE field. The researcher found that interest and enrollment in CTE were rising; however, investments in the support and expansion of CTE programs remained low. The Common Core State Standards underscore the importance of career and college readiness (Kantrov, 2014).

Practitioner-Based Research

The U.S. Office of Vocational and Adult Education Connection reported that students who completed CTE programs were more employable by industry standards than those who did not complete a CTE program (USDOE, 2012a). Students who completed CTE programs had an increased full-time employability opportunity in the labor force, as compared to those students who had not participated in CTE programs. Additionally, these postsecondary graduates displayed higher levels of job satisfaction and experienced fewer periods of unemployment (USDOE, 2012a).

The National Research Center for Career and Technical Education (NRCCTE, 2013) published a technical report on Personal Pathways based on data from South

Carolina. Personal Pathways has at its core CTE and serves essentially the same functions – to design and implement career programs that prepare students for related careers or related postsecondary programs. The report included responses from participants based on CTE job and career related activities. Students who participated in CTE programs researched various types of jobs at a rate of 86%, as opposed to the 80% of non-CTE program participants who researched different jobs (NRCCTE, 2013). Additionally, students participating in CTE programs were more likely to have researched institutes of higher education, spoke with individual representatives of a career in which they were interested, and toured a local business than their non-CTE program participant peers (NRCCTE, 2013).

The CTE programs are needed to develop a clear operational infrastructure of internal assessment (Manley & Price, 2011). Local educational agencies are tasked with developing and implementing a means of assessing the infrastructure of their CTE programs due to federal legislation and regulations (Manley & Price, 2011). Developing and maintaining an effective CTE program will require input and action from all stakeholders, local educational agencies, school leaders, instructors, and the community. Employers must be involved in the process of continued development of CTE programs in order to provide insight on present and future employment needs and trends. This information will be valuable for CTE programs stakeholders to adequately prepare students in CTE programs for the workplace (Manley & Price, 2011).

Since America is lacking the competitiveness necessary to prepare students for careers in a quickly changing global market when compared to other countries, the CTE

programs must prepare students to enter the workplace (Threeton & Pellock, 2010).

Business and industry leaders must identify legitimate weaknesses in workplace core skills needed by students entering the workforce (Threeton & Pellock, 2010). Through participation in CTE programs, students will acquire and develop the required career skills and soft skills to be successful in the workplace (Threeton & Pellock, 2010).

Slusher et al. (2010) researched the benefits of CTE programs and suggested that CTE programs provided necessary work readiness skills. Business and industry were identified as a real demand for a workforce with basic employability skills and specialized technical skills. Additionally, the knowledge base for these skills should begin in high school. The integration of CTE programs throughout a student's high school career and curricula could afford students an opportunity to explore multiple courses related to their intended career. The CTE programs should have a dual focus, in that they should prepare students for the workplace and postsecondary degree programs. Many of the same employability skills students learn as a part of their CTE programs, such as teamwork, responsibility, and critical thinking, are beneficial to their success in a postsecondary degree program (Slusher et al., 2010).

Secretary's Commission on Achieving Necessary Skills (SCANS)

In 1991, the United States Department of Labor released *What Work Requires of Schools: A Report for America 2000* from a committee consisting of industry leaders, institutions of higher learning, and governmental entities (SCANS, 1991). U.S. Secretary of Labor Lynn Martin created the committee. The committee's purpose was to assess the needs of business and industry and explore the career and college readiness of

high school graduates. The committee's mission was "to encourage a high performance economy characterized by high-skills" (SCANS, 1991, p. 1). From the SCANS report, five competency areas were identified as important education areas for youth: resources, interpersonal, information, systems, and technology.

Resources: Identifies, organizes, plans, and allocates resources

- A. Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules
- B. Uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives
- C. Acquires, stores, allocates, and uses materials or space efficiently
- D. Assesses skills and distributes work accordingly, evaluates performance and provides feedback

Interpersonal: Works with others

- A. Participates as a member of a team – contributes to group effort
- B. Teaches others new skills
- C. Serves clients/customers – works to satisfy customers' expectations
- D. Exercises leadership – communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies
- E. Negotiates – works towards agreements involving exchange of resources, resolve divergent interests
- F. Works with diversity – works well with men and women from diverse backgrounds

Information: Acquires and uses information

- A. Acquires and evaluates information
- B. Organizes and maintains information
- C. Interprets and communicates information
- D. Uses computers to process information

Systems: Understands complex inter-relationships

- A. Understands systems – knows how social, organizational, and technological systems work and operates effectively with them
- B. Monitors and corrects performance – distinguishes trends, predicts impacts on system operations, diagnoses deviations in systems' performance and corrects malfunctions
- C. Improves or designs systems – suggests modifications to existing systems and develops new or alternative systems to improve performance

Technology: Works with a variety of technologies

- A. Selects technology – chooses procedures, tools, or equipment, including computers and related technologies
- B. Applies technology to task – understands overall intent and proper procedures for setup and operation of equipment
- C. Maintains and troubleshoots equipment – prevents, identifies, or solves problems with equipment including computers and other technologies

(SCANS, 1991, p. 10).

Implications

Increasing the number of students placed in a related career field or postsecondary program is crucial in developing the workforce. Many recent graduates are not prepared to enter the workplace (Dupre & Williams, 2011). An investigation of students' perspectives regarding their career readiness may lead to improved CTE curricula program evaluation. Based on the study results, the project may be a program evaluation. Using information from students' perspectives, program administrators may begin the process of evaluating program outcomes.

The program evaluation may provide local administrators of CTE programs valuable information on if and to what extent CTE programs are providing students with relevant workplace readiness training. This research study may contribute to positive social change in that it may provide CTE administrators with insight into CTE program processes in helping to implement, improve, or eliminate courses from CTE programs. Results from this study may also provide opportunities for pre-K through 12th grades and college to begin implementation of pedagogical and programmatic changes.

Summary

Career and technical education stakeholders require evidence that justifies continual funding of CTE programs and demonstrates CTE program benefit in developing career and college readiness skills. While students are enrolled in high school, CTE program administrators seek ways to increase academic achievement, as well as employability skills. This study explored the perspectives of students regarding CTE programs preparing them for careers or postsecondary degree programs. Based on the

results of this study, this project may be program evaluation. This research study may serve to inform other researchers, as well as fill a gap and void that may exist in the CTE literature concerning CTE programs.

Section 2 of this study addresses the methodology used for this study. This section includes support for selecting a qualitative research design. A description of the participants, justification for participant selection, data collection procedures, and data analysis are discussed. Section 3 of this study addresses the project of the study. This section includes the description and goals, rationale, a review of the literature, implementation, project evaluation, implications including social change, and a conclusion. Section 4 addresses the reflections and conclusions. This section also includes project strengths, recommendations for remediation of limitations, scholarship, project development and evaluation, leadership and change, analysis of self as a scholar, analysis of self as practitioner, analysis of self as project developer, the project's potential impact on social change, implications, applications, and directions for future research, and a conclusion.

Section 2: The Methodology

Introduction

This study described and examined the perspectives of high school graduates and completers regarding career and postsecondary readiness. Specifically, this study examined CTE completers' perspectives of their preparation for careers or postsecondary program readiness while attending a career school (VTC) in a school district located in the southeastern part of South Carolina. This study offers insight into how these students perceive their CTE experiences in shaping their career readiness or postsecondary program readiness. The study describes the impact of students' high school experiences in relation to their academic and personal relationships with their high school faculty and staff, preparation in acquiring and using information in the workplace or in a postsecondary program, and preparation in selecting and using a variety of technology in the workplace or in a postsecondary program.

To address the knowledge and skill gaps that may exist, high school faculty must encourage and prepare students for careers and postsecondary education programs. Section 2 presents the framework that supports the decision to use qualitative descriptive methods to collect and analyze data. Section 2 provides an introduction, research design and approach, justification of the research design, setting, participants, data collection, and data analysis.

Research Design and Approach

I used a qualitative research design with a descriptive case study approach to address the research question: What are the CTE completers' perspectives of their CTE

program in regards to their CTE preparation for career or postsecondary readiness? This study offers insight into how these students perceive their CTE experiences in shaping their career readiness or postsecondary program readiness.

According to Strider (2014), “descriptive research provides an answer to the questions of how something happened and who was involved” (p. 1). Descriptive research also provides an in-depth profile of a condition, situation, or event using qualitative methods (Strider, 2014). Creswell (2009) pointed out that qualitative methods should be used to develop a detailed understanding of a central phenomenon.

This research study examined the perspectives of CTE completers to derive meaning from their individual experiences using a qualitative research design and incorporated a case study approach. This was a justified approach because, according to Creswell (2013), a qualitative approach “explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information ... and reports a case description and case themes” (p. 97). Case studies seek to derive meaning and an understanding of groups, individuals within a group, or a situation (Lodico, Spaulding, & Voegtle, 2010). This case study was descriptive in nature and asked participants about their perspectives regarding their participation in CTE programs and their preparation for careers or postsecondary degree programs.

I used a descriptive case study design to provide a thorough explanation of participants’ perspectives on CTE programs and their ability to prepare completers for careers or postsecondary programs. There are numerous data collection approaches

suitable for a case study: document analysis, interviews, artifacts, and observations (Creswell, 2013). I used telephone interviews as the single data collection source for this research. This study focused on 10 graduates who were CTE program completers in the 2012-2013 school year. I attempted to understand the participants' perspectives on the quality of preparation they received while in the CTE program. I used the case study approach, as it is considered the most appropriate approach to explore participants' perspectives regarding their preparation for careers or postsecondary programs upon completing a CTE program.

I used one research site (VTC) in this study. The participants in the study were graduates from the local high school and completers from VTC in a school district located in the southeastern part of South Carolina. The interview questions were developed based on career and postsecondary constructs that were found in the research literature, theoretical framework, and SCANS (1991).

Ciceu (2014) concluded that methods and data in qualitative research consist of interviews of participants and observation of the social life of participants. Qualitative research allowed me to understand the meanings of individual behaviors and social aspects of observed behaviors, which can be through words or participants' opinions (Ciceu, 2014). In qualitative research, data are collected via personal and private data collection sessions during observations of participants and in-depth interviews with participants (Lapan, Quartaroli, & Riemer, 2012). In qualitative design, the research is always participant-driven, and the researcher conducts the interviews (Ciceu, 2014).

Justification of the Research Design

I used a qualitative case study approach to explain issues in regards to career and postsecondary readiness. Yin (2009) suggested a case study as a preferred research method when the researcher seeks to answer *how* and *why* questions and when the researcher has minimal control over events. Creswell (2009) concluded that qualitative studies relied on the perspectives of people who were directly involved in the study phenomena and that data could be obtained by asking general questions about the topic. Qualitative research design focuses on a narrow scope of generalizations for a specific population (Ciceu, 2014). Qualitative research puts emphasis on the participants and what they believe about a certain topic, which might or might not affect them directly (Cook & Farmer, 2011); therefore, qualitative research focuses on individuals' perspectives of their world and phenomena (Ciceu, 2014).

I selected a qualitative research design approach for this project study. In qualitative research, the researcher generates data from collected fieldwork. The collection of data is usually from in-depth interviews, observation of participants, field notes, and opened-ended questions. The nature of the data includes words, categories, and images; in the data analysis, the researcher looks for patterns, themes, and holistic features (Johnson & Christensen, 2012). A qualitative research approach is one in which the researcher explores a central phenomenon by asking participants questions that are broad and general in scope (Creswell, 2009). Qualitative research is usually used to define a problem or to develop a solution to a problem, while quantitative research seeks

to quantify a problem and understand how prevalent the problem is when generalized to a larger population (Mora, 2010).

A quantitative design method was not appropriate for this study. Quantitative methods seek to measure variables and test theories (Creswell, 2009). Quantitative research relies primarily on the collection of quantitative data (e.g., closed-ended items, rating scales, and behavioral responses; uses variables; and identifies statistical relationships (Johnson & Christensen, 2012).

A mixed-methods research design was not appropriate for this study. A mixed-methods research design employs both a quantitative and a qualitative research design (Creswell, 2013). The mixed-methods research design is reserved for research in which neither a quantitative research approach alone nor is a qualitative research approach alone adequate to develop an understanding of the research question (Creswell, 2013). In mixed-methods research, the researcher collects, analyzes, and mixes both quantitative and qualitative research and methods in a single study in order to better understand a research problem (Creswell, 2012). A mixed-methods research design was not selected for this study because both qualitative and quantitative research approaches were not necessary to develop an understanding of the research question.

Colby (2010) pointed out that qualitative research focuses on the observation of people and the interview process in order to learn about people's societal and cultural context and, in the process, to record as many descriptive details as possible. Whereas the context of a quantitative research design approach is numerical, qualitative research design is descriptive (Colby, 2010). By studying people or individuals in their natural

contexts, qualitative research seeks to comprehend more about how particular cultures impact how and why people behave in a certain manner. Employing data from the participants' experiences related to career and postsecondary readiness is an example of observing the social phenomenon, the participants in their natural context. From interviews with the participants, it was possible to find out more about why this social phenomenon occurred (Colby, 2010).

Creswell (2013) discussed three variations of case study research: a single instrumental case study, collective or multiple case studies, and the intrinsic case study. The intent of this project was to explore a single case study. The results from this study met case study design conditions given it was a single case study. Yin (2009) described case studies as the appropriate research method when the researcher had little or no power over the circumstances that may impact the participants of the study.

Lodico et al. (2010) identified four qualitative research approaches: narrative inquiry, phenomenological research, ethnographic research, and case study research. I considered these qualitative approaches prior to selecting the case study design. Narrative inquiry was one design method I considered, but did not use. Narrative inquirers are interested in how storytelling activities are embedded in social settings, what they consist of, and how we can take their form, content, and context as cues toward an interpretation of what a particular story means, what it was used for, and what functions it was supposed to serve (Bamberg, 2012). Trahar (2009) concluded that narrative inquiry is the manner in which the researcher makes sense out of life as humans experience it.

Lodico et al. (2010) suggested that narrative inquiry studies the human experience by examining personal and social stories. Narrative inquiry is characterized by autobiographies, memoirs, and oral history. I did not select this approach for this research because it largely explored the life of an individual participant from artifacts and retells it as a story. This purpose is not in line with the intended purpose of this research, which was to explore participants' perspectives as they relate to the ability of CTE programs to prepare them for careers or postsecondary programs. Therefore, the narrative inquiry research design was rejected as a possible research design approach for this study.

Phenomenological research was another design method I considered, but did not use. The goal of phenomenological research design is “to fully understand the essence of some phenomenon ... to describe and interpret the experiences of participants in order to understand the essence of the experience as perceived by the participants” (Dubose, 2010, p. 1). Usually, the researcher gathers data from in-depth interviews over several long interview sessions. The researcher should be skilled at interviewing and the interviews should be recorded for analysis (Dubose, 2010). Phenomenological research is considered a narrative study that reports on the life of one individual and provides a description of the meaning of several individuals of their lived experiences (Ballad & Bawalan, 2012). The intended focus of this study was not to study individuals' lived experiences. Therefore, I rejected the phenomenological research design as a possible research design approach for this study.

Ethnography research was another design method I considered, but did not use. Dubose (2010) defined ethnography as a detailed explanation and interpretation of

traditional patterns and meanings that are a part of a culture or social group. Once the researcher has selected a site and has become familiar with it after spending some time there, ethnography might be considered (Dubose, 2010). A purposeful sample of no less than five and no more than 10 participants are selected to provide in-depth understandings of those cultures included as a part of the study and are reflective of the culture undergoing study (Dubose, 2010). Intensive interviews and observations are conducted once individuals are selected as study participants (Dubose, 2010).

Ethnographic research examines cultural groups to provide narratives and descriptions. Ethnographic research is characterized by the use of key informants who are knowledgeable about the cultural group studied (Lodico et al., 2010). Ethnographic research generally occurs in a natural setting for the participants and seeks to understand cultural norms and perspectives. The intended focus of this study was not to examine cultural groups. Therefore, I rejected the ethnographic research design as a possible research design approach for this study.

All of these qualitative research approaches allowed for data collection and analysis that would allow the researcher to categorize themes and patterns (Lodico et al., 2010). Though narrative inquiry, phenomenological, and ethnographic research are qualitative research approaches, they were not selected for this study. None of the aforementioned methods allowed for the same focus on a single group or bounded system as does the case study method (Lodico et al., 2010).

Setting

The site of this study was the VTC career center in a school district located in the southeastern part of South Carolina. The rural school district is comprised of seven elementary schools, a middle school, a high school, and the VTC career center. The VTC is located on a separate site from the high school. Students in Grades 10, 11, and 12 attend the VTC. The VTC is one of the schools of study under the high school. Under South Carolina's state plan, students are classified and coded in the high school database and at VTC as participant (a secondary student enrolled in a state-approved CTE course), concentrator (a secondary student with an assigned Classification of Instructional Programs [CIP] code who has earned three Carnegie units of credit in a state-recognized CTE program), or completer (a CTE concentrator who has earned all of the required four units in a state-recognized CTE program identified by the assigned CIP code) (SCDOE, 2011).

The VTC serves students in one or more instructional labs. Program offerings include 16 South Carolina career clusters and 20 of the 29 IGPs. Academic teachers in mathematics, English, and social studies are housed at the VTC campus as part of the school district's initiative to integrate instructional lessons with the CTE courses. Students can choose to take academic courses at the high school and/or at VTC; the CTE courses are held at the VTC. The 16 CTE courses are grouped into six programs of study (Business/Marketing, Health Science, Hospitality and Tourism, Agriculture Science, Engineering and Architecture, and Manufacturing/Construction Trade).

For the 2012-2013 school year, the high school reported an approximate enrollment of 1,600 students. Of this number, 825 students attended VTC. Of the number of students at VTC, 102 students finished as graduates and completers, and 27 students finished as graduates or concentrators. Ethnicity, gender, socio-economics, and career programs heterogeneously grouped students enrolled in career programs at VTC. Of the six CTE programs offered, Business/Marketing had the highest student enrollment (see Table 2). Based on the student enrollment at VTC, 61% of the student population qualified to receive free or reduced-price lunch meals. Table 2 shows the number of students enrolled in each POS at VTC during the 2012-2013 school year.

Table 2

Enrollment in CTE Programs at VTC 2012-2013

Program of Study	<i>N</i>	%
Business/Marketing	206	25
Health Science	181	22
Hospitality and Tourism	156	19
Agriculture Science	148	18
Engineering and Architecture	82	10
Manufacturing/Construction Trade	49	6
Total	825	100

Of the number of students enrolled in CTE courses at VTC, 51% were African Americans; the other 49% were Caucasians, Latinos, or Other. Table 3 shows the ethnic make-up of the students at VTC during the 2012-2013 school year.

Table 3

VTC Enrollment by Ethnicity 2012-2013

Ethnicity	<i>N</i>	%
African American	421	51
Caucasian	388	47
Latino	8	1
Other	8	1
Total	825	100

Of the 825 students, 355 were male and 470 were female. Table 4 shows the gender make-up of the students at VTC for the 2012-2013 school year.

Table 4

*VTC Enrollment by Gender 2012-2013**

Gender	<i>N</i>	%
Male	355	43
Female	470	57
Total	825	100

*SCDOE (2014c)

Participants

Participants should be selected who best understand the research problem that is presented in the study (Merriam, 2009). Merriam (2009) suggested that it was important to select a participant group from which the most information can be learned.

Additionally, Merriam suggested selecting a purposeful sample of participants who have in-depth information about the phenomenon to be explored. A purposeful sample allows the researcher to select participants with same or similar characteristics (e.g., high school graduates who are employed or in a postsecondary program) that will aid in answering the research question (Creswell, 2013). The sample for this study was 10 CTE completers who graduated from the local high school in 2013 and who were at least 18 years of age.

Criteria for Selecting Participants

The researcher should use the number of participants deemed necessary or appropriate for the study (Yin, 2009). The choice of research participants should be determined by the focus of the research, the research aim, and the research questions (Saunders, 2012). For this study, I used purposeful sampling to select participants who completed and were familiar with CTE programs offered at VTC. Using purposeful sampling, Dubose (2010) suggested 5 to 10 participants provide a thorough understanding of the study's population. These 10 CTE program completers had to be working in their career field or enrolled at a postsecondary school. The size of the study sample was small, which led to more depth in the inquiry process on how CTE completers perceived their career readiness or postsecondary readiness. This study was confined to the information supplied by the selected participants collected from their telephone interviews.

Gaining Access to Participants

Walden University Institutional Review Board (IRB) approved this study. The relevance of IRB approval starts with a simple principle that research requiring human participants should be reviewed and approved from an ethical standpoint (Yin, 2011). After approval from Walden IRB, I submitted a copy to the superintendent of the school district, along with a letter describing a brief overview of the study, explanation of any anticipated risks, and request for permission to conduct research at the career center. The superintendent of the school district granted permission to conduct research at the career center. I also sent a letter to the director of the career center and the guidance counselor

requesting information on file (addresses, email addresses, telephone numbers, and whether the students were in the workforce or postsecondary program) for the 2013 CTE completers. The Family Educational Rights and Privacy Act (FERPA) is a federal law that prohibits the disclosure of personal identifiable student information; therefore, I was not directly provided student information. I provided VTC with the letters of invitation to participate in the research study in sealed, stamped envelopes, and VTC mailed the invitations to the students at their last known home address.

Guidance counselors were responsible for keeping data on graduates and completers in the Student Placement Follow-up Report for the state department of education; therefore, I was able to receive data regarding the number of 2013 CTE completers employed or enrolled in a postsecondary program.

A letter of invitation was sent to the 2013 CTE completers of the career center. Graduate CTE completers who were at least 18 years of age in the school term 2012-2013 were invited to participate in this study via email. All students' names, addresses, email addresses, and telephone numbers were kept confidential. Information regarding voluntary participation in the study was included in the letter of invitation.

Students who were interested in participating in the study contacted me via email or telephone, as specified in the letter of invitation. Eighteen students indicated interest in participating in the study. The researcher sent consent forms to those students who agreed to participate in the study via email. I selected the first 10 consent forms received from CTE program completers to participate in this study. I then telephoned all selected participants informing them that they were selected to participate in the study. I used a

notification selection script to generate feedback, information, or answer any questions the participants had in preparation of the interview. The participants selected the date and time for the phone interview. Prior to beginning the interview, I reminded each participant of their right to privacy that all interview responses remained confidential, and that participation was strictly voluntary and they could opt out at any stage of the interview process. I conducted all research via telephone. Individual interviews with participants allowed dialogue to occur that led to discussion and descriptions that provided insight into their perspectives regarding CTE program participation (Lodico et al., 2010).

I informed the CTE program completers via email or telephone of the details of the study, which included confidentiality, objectives, protection, data collection methods, and the informed consent process (Merriam, 2009). I informed the participants as to the purpose of the study and the extent of their participation. Included in the letter of invitation was a summation of the research process and sample interview questions. Through this written and electronic communication with the participants, I established a researcher-participant relationship. Participants did not receive gifts or compensation of any kind and agreed to consent to participate in the study prior to data collection.

I used an alpha-numeric code to identify participants. Participant 1 was assigned the alpha-numeric code P-1, Participant 2 was assigned the alpha-numeric code P-2, and so forth. Participants' names were not recorded on the interview protocol or recording form. Their assigned alpha-numeric code was the only identifier. This coding technique maintained confidentiality. I was solely responsible for the collection of all data. The

instructors, school administrators, and district personnel did not have access to the completed interview protocol or raw data.

Protection of Participants' Rights

In research, ensuring confidentiality and ethical protection of participants is important. All participants must be protected from any harm or deception from the researcher by adhering to strict ethical guidelines (Yin, 2009). I discussed ethical protection and measures to ensure confidentiality with the participants in the letter of invitation and during the first telephone call to the participants. I was solely responsible for the collection and security of the data. The data were accessible only by me and were placed on an external hard drive and stored in a locked file cabinet in my home. I secured hard copies of the data in a locked file cabinet in my home. I mailed the consent forms, with the directive to maintain a physical copy of the signed consent form for their personal record. Protecting the rights of participants in qualitative research is imperative (Yin, 2011). After five years, I will destroy the data.

Data Collection Methods

Qualitative interviews are useful in collecting data of participants' experiences (Merriam, 2009). I used semi-structured interviews in this study. According to the Community Sustainability Evaluation Toolbox (CSET, 2010), a semi-structured interview is "a qualitative method of inquiry that combines a predetermined set of open questions with the opportunity for the interviewer to explore particular themes or responses further" (p. 1). Semi-structured interviews also provided valuable information from the context of the participants' experiences, and the use of predetermined questions

allow for uniformity (CSET, 2010). Harvey (2014) posited that a semi-structured interview is based on outline structure or key questions with a degree of latitude for the researcher to explore the topic in more detail. The intention of using the semi-structured interview procedure is for the respondents to talk in their own terms (Harvey, 2014).

I used telephone interviews to interview the participants. Telephone interviews allowed me to gather information rapidly (Valenzuela & Shrivastava, 2010). There is a range of potential advantages in qualitative research projects when the researcher uses interviews conducted via telephone, including the need for travel, which reduces both cost and time, and the physical safety advantage for both the researcher and the participant (Irvine, 2010). According to Irvine (2010), prior to the initial interview, the researcher should send an invitation to participate to the participants in a written format through a personal letter or email, followed by a first phone call to make the initial introductions, and then the actual interview. In following the process suggested by Irvine, prior to the interview, I mailed a letter of invitation to each CTE completer, corresponded via email, and mailed consent forms to those CTE completers interested in participating in the study. I contacted each CTE completer who consented to participate in the research via phone to schedule a convenient date and time for the individual phone interview.

I created an interview protocol to conduct the interviews (Appendix B). My interview protocol utilized open-ended questions based on the five SCANS competencies, which are considered best practices in CTE, according to my review of the literature. The interview included questions that pertained to the participants' perspectives of the CTE programs at VTC that they completed in preparation for a related

career or related postsecondary program. There were 10 focused questions. Each interview session took approximately 45 to 60 minutes to complete. I asked the participants about their thoughts on their experiences in the CTE program and on how well they thought they were prepared for a career or postsecondary program. I asked additional probing questions to prompt participants to clarify their responses. Probes allowed me to extract additional information from participants to fully understand their responses in relation to the interview questions (Seidman, 2013) and to yield a rich, thick dataset required for analysis (Merriam, 2009).

I contacted the participants three times: (a) letter of invitation; (b) the pre-interview phase, which was a telephone call to plan and set up for the interview; and (c) the actual interview. During the pre-interview phase, which was during the first telephone call to the participants, I informed the participants again about the goals and purpose of the interview, why they were chosen to participate, the expected duration of the interview, and then made the appointment for the actual interview at a time convenient for the participant. I kept a daily log of whom I called and the result of the phone call (e.g., left a message, set up the interview).

During the interview, I asked each participant for his or her permission to record the conversation. I recorded the interview with the use of a digital recorder. I took field notes while the participant spoke, in addition to tape recording the conversation. In case the audio malfunctioned, I still had the hand-recording information. I transcribed the field notes and stored them with the audio tape information immediately after each interview.

The interviews took place from my home office, where I could not be disturbed or interrupted during each interview. I interviewed each participant once.

Role of the Researcher

I am a former business education instructor and administrator at VTC. I was an instructor for nine years from 2000-2009 and an administrator during the school term 2011-2012. During my time as a business education instructor, I taught an integrated business applications course to high school students (Grades 10 through 12). As an administrator, I served as the director of VTC. My duties included supervision (students, faculty, and staff), school safety, classroom observations, discipline, and curriculum development. My former roles as instructor and administrator at VTC may affect data collection, in that, I have firsthand knowledge of what CTE programs were designed to do in preparing students for careers or postsecondary programs. I used probes to gain a clear understanding of what participants were communicating with their responses. There was no conflict in my relationship with participants that affected the collection of data. I did not serve as a past instructor for any of the study participants.

I am biased in regards to the benefits of CTE programs in preparing students for careers and postsecondary education programs based on years as a classroom instructor. There are five ways a researcher can eliminate bias in qualitative research: (a) check yourself – do not lead the respondents' answers, (b) ask follow-up questions – ask for clarification if the respondent is vague, (c) research the respondent, (d) include other information, and (e) corroborate with other qualitative research (Allen, 2014). During the interview process, I made every effort to reduce bias in this study. To mitigate potential

researcher bias, I used a standardized interview protocol with each participant (see Appendix B). I used open-ended interview questions, which helped me check myself and not lead the participants to respond based on my point of view. I asked clarifying questions when needed, and I conducted all interviews in the same format (via phone) and during the same established time frame for each participant.

Data Analysis

According to the U.S. Department of Labor Employment and Training Administration (DOLETA, 2009), SCANS competencies are considered best practice for preparing students for career and college readiness. Therefore, I am operationalizing readiness for career and college as these SCANS competencies. The SCANS competencies were developed based on necessary employment skills identified in the 1991 Secretary's Commission on Acquiring Necessary Skills report and serve as the seminal source for essential workplace readiness skills. There are five workplace SCANS competencies: "resources, interpersonal, information, systems, and technology" (DOLETA, 2009, p. 26).

The resources competencies are those workplace skills in which one demonstrates the ability to identify, organize, plan, and allocate resources, such as time, money, materials and facilities, and human resources. The interpersonal competencies are those workplace skills in which one demonstrates the ability to work with others while participating as a member of a team, teach others new skills, serve clients and customers, exercise leadership, negotiate, and work with others. Information competencies are those workplace skills in which one demonstrates the ability to acquire and use information to

acquire and evaluate information, organize and maintain information, interpret and communicate information, and use computers to process information. Systems competencies are workplace skills in which one demonstrates an understanding of complex inter-relationships in understanding systems, monitoring and correcting performance, and improving or designing a system. Technology competencies are those workplace skills in which one demonstrates the ability to work with a variety of technologies, such as selecting technology, applying technology to a task, and maintaining and troubleshooting equipment. I analyzed the participants' responses from the interviews for themes consistent with the U.S. Department of Labor Employment and Training Administration SCANS competencies (DOLETA, 2009, p. 26). I analyzed the data as they were collected.

To initially evaluate the data, I examined interview transcripts and identified and compared commonalities in participants' responses. I used the information gathered during my transcript reviews to label participants' responses as SCANS or Non-SCANS. I identified the SCANS responses as those indicative of best practices in the five SCANS competencies (resources, interpersonal, information, systems, and technology) in participants' CTE programs. Non-SCANS were those participants' responses not indicative of best practices, experiences that were not helpful, or insufficient exposure in the five SCANS competencies in CTE programs. I continued the data analysis using an open-coding process.

A researcher can use several strategies to code data. Creswell (2013) suggested using an open-coding strategy to label the information into themes. Esterberg (2002)

suggested open coding is a multi-stage process that begins with the researcher reviewing the transcript and documenting emergent categories and themes. Open coding allows the researcher to “induce themes from text” (Ryan & Bernard, 2013, p. 2). Ryan and Bernard (2013) suggested that there are many variations of open coding, of which, I employed the *word repetition* method. Word repetition, according to Ryan and Bernard, allows the researcher to explore verbatim participant responses from interview transcripts and record the words and phrases used most often.

According to Esterberg (2002), the following steps are involved in the open coding of data:

1. Read and re-read each interview transcript.
2. Take notes to become familiar with the content.
3. Identify commonalities and patterns in individual participant’ responses (at this stage of data analysis the researcher should shift to reviewing notes and not transcripts).
4. Identify emergent themes in individual participant responses and begin to make connections.
5. Repeat the process for each case, treating each one independently of the others.
6. Look for themes across cases.

Using this process allowed me to make connections of commonalities in participants’ responses, leading to the identification of themes (Esterberg, 2002).

As indicated in Step 1, I read and re-read each participant's interview transcript. During the process of reviewing the transcriptions, I applied Step 2, in which I took notes written directly on the transcripts to help me become familiar with the information that was included in the transcripts. Once I was familiar with the content of the transcribed interviews, I moved to Step 3 in the Esterberg process and began to focus on the notes I created in Stage 2 of the process to continue the analysis of the data. In Step 4 of the process, I reviewed my notes for emerging themes in participants' responses that were indicative of SCANS or Non-SCANS. I repeated the steps in the Esterberg for each of the remaining nine participants' interview transcripts. Once Steps 1 through 5 were completed for all 10 participants, I applied Step 6 in Esterberg's process by looking for themes across participants. Based on the comparison of themes across individual participant responses, I was able to draw conclusions from the analysis of the data.

Data Organization and Coding

I identified 10 former CTE students to participate in the study and assigned each participant an alpha-numeric code: P-1 (Participant 1) through P-10 (Participant 10). I recorded the date, time, and participant's alpha-numeric code on all research related documents to track data. Prior to contacting each participant, I logged the date and time of the phone call on the Participant Notice of Selection Script. I conducted the participants' interviews following the Interview protocol (Appendix B). I interviewed each participant individually, and each interview was digitally recorded. Interviews included 10 questions, and the approximate time to complete each interview was 45-60 minutes. Prior to beginning each interview, I logged the date, time, and participant's

alpha-numeric code on the Interview protocol, on which I also recorded handwritten notes to document my initial interpretation of participants' responses. Preceding the participant interview, I spoke the date, time, purpose, and participant's alpha-numeric code into my recorder. Once interviews were transcribed, I labeled each transcription with the date, time, and participant's alpha-numeric code.

Once I completed the interview transcription, I emailed each participant a copy of his or her transcript for review. A transcript review allowed participants an opportunity to verify the accuracy of interview transcription correctness or provide clarification (Patton, 2015). Seidman (2013) also suggested that transcript review can be used to provide participants an opportunity to verify accuracy and explain responses in further detail. The interviewee transcript review can also serve as an internal audit to ensure the participants' responses were accurately recorded (Miles & Huberman, 2013). An interview transcript review limits the credibility of my study given the disadvantage of using the process due to "the potential loss of data when the interviewee decides to remove valuable material" (Hagens, Dobrow, & Chafe, 2009, p. 1); however, there are also advantages to using the process. Including participants in the transcription process, according to Polit and Beck, "ensure(s) the validity of the transcript and ... avoids significant errors that may have an impact on the quality of the transcript and, as a result, on the quality of the entire research" (as cited in Mero-Jaffe, 2011, p. 234). According to Poland (1995) and Davidson (2009), interviewee transcript reviews also allow me to take additional measures to ensure the "trustworthiness" of the transcript (as cited in Mero-Jaffe, 2011, p. 234), but limits the trustworthiness of the study. Considering the

advantages and disadvantages, I used the interviewee transcription process because I felt it preserved the integrity of the transcript.

I used a word processing program to create a document to record my handwritten notes from my review of the participants' interview transcripts. I again used a word processing program to create a new document in which I created a table for recording participants' responses regarding their perspectives on CTE programs preparing them for careers and college. Participants' responses, in which they perceived CTE programs as preparing them for careers and college, were identified as SCANS; the participants' responses in which they perceived CTE programs as not preparing them for careers and college were identified as Non-SCANS. I used the phrase SCANS competencies to create the heading for column 1 in the table, and the headings SCANS and Non-SCANS to create the headings for columns 2 and 3 in the table. To establish the rows, I entered each of the five SCANS competencies (resource, interpersonal, information, systems, and technology) under the SCANS competencies heading. Each competency was entered on a separate row, to create five rows. I examined participants' responses for words and phrases that are also found in the five SCANS competencies and indicators to determine to which category, SCANS or Non-SCANS, each response belonged. Based on my examinations, I entered participants' verbatim responses in the table under the appropriate column and row indicating SCANS or Non-SCANS for each of the five SCANS competencies. I coded each participant's response to interview questions line-by-line using formatting features in my word processing computer program. Once the participants' responses were identified as SCANS or Non-SCANS, I began the open-

coding process. The open-coding process helped me to examine commonalities and to develop a pattern of meaning from participants' responses.

More specifically, this stage of the data analysis process was my interpretation of participants' responses regarding SCANS and Non-SCANS based on my preliminary analysis of data. I placed participants' responses in the SCANS to which the response was applicable; one response could be recorded as SCANS and Non-SCANS in relation to any one of the five competencies. I shared this early data analysis with participants for review to ensure I captured the essence of their perspective in regards to SCANS and Non-SCANS. This process of modified member checking allowed me to afford the participants an opportunity to review data analysis in the early stages of the process, noting any errors in my analysis (Creswell, 2009). This process continued for all participants. There were no errors reported by participants in my preliminary analysis of the data, which included categorizing participants' responses as indicative of SCANS or Non-SCANS.

Working within the SCANS column, I used a thick, yellow underline format to identify the CTE completers' verbatim responses regarding experiences participants perceived to have prepared them for careers and college. Working within the Non-SCANS column, I used a thick, orange underline format feature to identify participants' responses regarding learning opportunities not experienced and perceived as not preparing participants for career and college. The double line formatting was applied to allow me to distinguish my comments from those verbatim responses of participants when the data were merged. Once all participants' responses were coded individually, I

merged them into one document. This allowed me to examine all verbatim responses for commonalities in participants' perspectives regarding career and college readiness and nonreadiness.

Using predetermined codes from SCANS indicators, I completed the next level of coding. Working within the SCANS and Non-SCANS columns, I used the Find/Replace feature of the word processing program to locate words and phrases indicative of SCANS indicators and replaced the default font with a unique color, bold, italic font format. I used a different color font for each set of SCANS indicators (Resource – green, Interpersonal – blue, Information – red, Systems – brown, and Technology – teal). After coding was complete, I began the process of combing through the data for patterns and emergent themes. Within each category (resources, interpersonal, information, systems, and technology), SCANS indicators were used as sub-categories.

Within the Resources category, I used the SCANS indicators *allocating time, money, materials, and staff*. Within the Resources category, I grouped words and phrases, such as *allocating time, providing time to work, giving time, money, funds, materials, resources, supplies, needs, staff, people, team, and group*.

Within the Interpersonal category, I used the SCANS indicators *working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds*. Within the Interpersonal category, I grouped words and phrases such as, *working on teams, working in groups, group work, team projects, group activities, group projects, teaching others, teaching, learning from each other, customer service, customers, clients, mock clients, fictitious clients, group leader,*

team leader, class leader, project leader, role, field trip, class trip, tour, mentor, give and take, negotiating, negotiations, team work, work together, and respect for others.

Within the Information category, I used the SCANS indicators *acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information*. Within the Information category, I grouped words and phrases, such as *collecting data, acquiring data, sorting data, data analysis, data discussion, critical thinking, organization, storage, keeping information, filing, computers, computer programs, computer aided, computer assisted, electronically, technology, communication, communicating, and sharing ideas*.

Within the Systems category, I used the SCANS indicators *understanding social, organizational, and technological systems; monitoring and correcting performance; and designing or improving systems*. Within the Systems category, I grouped words and phrases, such as *society, social group, public, company, organization, business, trip, field trip, shadow, job shadow, observe, observe in the workplace, work, summer job, part-time job, technology, technology integration, technology use, observing, watching, monitoring, make changes, correct performance, suggest, suggestion, submit quality work, create, make, and creating a product*.

Within the Technology category, I used the SCANS indicators *selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies*. Within the Technology category, I grouped words and phrases, such as *equipment, tools, materials, supplies, using technology, technology, computer, copier, fax, office machines, repair, maintenance, maintain, fix, troubleshoot,*

find answers, seek solutions, collaborate, collaboration, on the job training, mentor, mentored, live project, plant tour, business tour, and technical assistance.

Evidence of Quality

For this project study, I used audio recordings of interviews, interview notes, interview transcriptions, interview transcription reviews, modified member checking, and rich data descriptions to ensure the quality and transferability of this case study. A researcher can evaluate evidence of quality and accuracy in qualitative research using various strategies (Patton, 2015). I created an audio recording of each participant's interview. Audio recordings capture all responses during the interview and can be used for future reference (Miles & Huberman, 2013). I handwrote notes during each participant's interview. Note taking adds accuracy to the data collection process (Miles & Huberman, 2013). A transcript for each completed interview was prepared. Interview transcriptions enable the researcher to prepare a full written version of the interview (Miles & Huberman, 2013).

Once my preliminary analysis of the data was completed, I mailed the participants a copy of the document I created with their individual responses categorized as indicative of career and college readiness and career and college nonreadiness. Participants were only allowed access to their personal responses taken from audio interview recordings and interview transcripts. This afforded participants the opportunity to review my analysis of their comments as either indicative of SCANS or Non-SCANS. Modified member checking improves credibility and validity of data recorded during the interview process (Harper & Cole, 2012). This review process was how I analyzed the transcript,

which allowed the participants an opportunity to verify the transcript information accuracy (Davidson, 2012). The participants needed no adjustments to my interview transcripts after individual review.

Discrepant data would have been information participants provided that were unrelated to their CTE program participation and how program participation prepared participants for college and careers. Creswell (2009) suggested that researchers evaluate findings for accuracy from the “standpoint of the researcher, the participants, or the reader” (p. 190). Creswell (2009) further suggested researchers support the accuracy of their research findings by including negative and discrepant data. The negative and discrepant data are considered data that are negative or discrepant in relation to the main data (Sorensen, n.d.).

Kaplan and Maxwell (1994) pointed out that identifying and analyzing discrepant data and negative cases is an important part of logic of validity testing in qualitative research. It is imperative that the researcher examine both supporting and discrepant data and not ignore the data that do not fit prior themes or conclusions (Kaplan & Maxwell, 1994). However, in some cases, the only solution for the researcher is to report the discrepant evidence and allow the readers to draw their own conclusions (Kaplan & Maxwell, 1994; Wolcott, 1990).

After the themes or categories are determined, researchers should search for any data that would disprove the established themes or data that do not fit into one of the categories (Lewis, 2009). Any supporting and discrepant data need to be examined carefully to determine if the themes or categories support it (Creswell & Miller, 2000;

Lewis, 2009; Maxwell, 1996). These are data that may contradict emerging categories or patterns, which is a negative case. There were no discrepant data, because the interview protocol design kept the participants on topic. No participant stated anything that was not helpful to their preparation or was not in the five SCANS categories.

Data for this project study were gathered and analyzed according to the Walden University IRB. Transcriptions of participants' interviews, audio recordings of the interviews, and my interview notes ensured integrity of the data. Participants' interview responses, interview notes, and interview transcriptions revealed data that support the reliability of the study. I conducted in-depth interviews with CTE completers, and the study participants represented various CTE programs taught at VTC. I established credibility of my data by reviewing the interview audio recordings, preparing accurate interview transcriptions, using transcript review, and modified member checking.

Summary

Identifying SCANS competencies taught successfully and those SCANS competencies that needed instructional improvements was beneficial in analyzing participants' responses. Based on my assessment of participants' responses to each interview question, I categorized responses as SCANS or Non-SCANS and coded responses within each category. The following six themes emerged:

Theme 1: Project-Based Learning

Theme 2: Collaborative Work Groups

Theme 3: On-Site Work Experiences

Theme 4: Technology Integration

Theme 5: Creating and Developing Ideas and Products

Theme 6: Diversity and Leadership

As soon as the data were collected, I processed and recorded the information in detailed notes and analyzed for themes or patterns that were exhibited. A data reduction process was used to help categorize and focus on what was meaningful in the research. It is the researcher's job to comb through all of the data to conclude what data are significant, as well as to convert the data to a simplified format that can be more easily understood within the context of the study (Evaluation Toolkit, 2016; Krathwohl, 1998; Miles & Huberman, 1994). The next process was to identify and group the data into meaningful patterns and/or themes. According to Evaluation Toolkit (2016), identifying meaningful patterns and themes can be conducted in two ways: (a) content analysis – coding the data for particular words or content, identification of word and content patterns, and interpreting their meanings; and (b) thematic analysis – grouping the data into themes that serve to answer the research questions.

Coding the data is a qualitative analysis process of breaking data into smaller units and organizing them in an interpreted form (Sorensen, n.d.). In order to facilitate the sorting and reviewing of data, the researcher develops and refines a system of coding, sorts the data into categories as the data are collected and analyzed, and then merges the categories into patterns. I grouped and analyzed the patterns in participants' responses that aligned with SCANS competencies and then identified patterns in participants' responses that were further analyzed and reduced to the six emerging themes, which

indicated the degree to which participants perceived SCANS were integrated in CTE programs leading to career and college readiness and nonreadiness.

Analyzing text and qualitative data involves five complex tasks: “discovering themes and subthemes, describing the core and peripheral elements of themes, building hierarchies of themes or codebooks, applying themes – attaching them to chunk of actual text, and linking themes into theoretical models” (Ryan & Bernard, 2003, p.88). After coding was complete, I obtained patterns and themes from the data. The themes included the following categories: Resources, interpersonal, information, systems, and technology.

Within each of these categories, I used SCANS indicators as sub-categories. The Resources category included allocating time, providing time to work, giving time, money, funds, materials, resources, supplies, needs, staff, people, team, and group; Interpersonal category: working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds. The Information category included acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information. The Systems category included understanding social, organizational, and technological systems; monitoring and correcting performance; and designing or improving systems. The Technology category included selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies (DOLETA, 2009, p. 26).

Coding in qualitative research is sometimes just a word or short phrase that “symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute

for a portion of language-based or visual data” (Saldaña, 2009, p. 3). When attempting to identify patterns or themes in the data, sometimes there are several to many of the same codes that may be used repeatedly throughout (Saldaña, 2009). This can be both natural (most of the patterns of action and consistencies in human affairs that are repetitive) or deliberate (finding patterns of action and consistencies that are repetitive in human affairs as documented in the data (Saldaña, 2009).

I read and re-read the transcript of each participant’s interview. During the process of reviewing the transcriptions, I took notes written directly on the transcripts to help me become familiar with the information that was included in the transcripts. I focused on the notes that I had created to continue the analysis of the data. I reviewed my notes for emerging themes in participants’ responses that were indicative of SCANS or Non-SCANS. Based on the comparison of themes across individual participant’s responses, I drew conclusions from the analysis of the data.

I gained an enhanced understanding of the perspectives of CTE completers in regard to their perceived preparation for careers and postsecondary programs, perspectives of CTE skills on which they received instruction, and perspectives of those CTE skills on which instruction was limited or non-existent. Based on my interpretation of the six identified themes – project-based learning, collaborative work groups, on-site work experiences, technology integration, creating and developing ideas and products, and interpersonal skills – participants were most pleased with project-based learning opportunities, participation in collaborative work groups, on-site work

experiences, and interpersonal skill development. Participants were less pleased with their experiences in technology integration and developing ideas and products.

Assumptions

I assumed CTE completers would provide truthful information regarding their preparation for careers and postsecondary program preparation. I informed all participants of the confidentiality of the study. I will make the results of the study available to the school; however, specific comments from specific individuals will remain confidential. It was my assumption that an explanation of the level of security provided during the data collection process would encourage participants to speak freely and honestly.

Delimitations

The scope of this study focused on CTE completers from one career center in a single school district in the southeastern United States. The results of this study may apply to other student career centers in other parts of the United States; additional research may be needed prior to making that generalization.

This project study is bound by the research question. The question focused on the perspectives of CTE completers concerning CTE program preparation for careers and postsecondary programs. The research question was the central focus of the study and was used to guide the development of the research questions asked during the interviews. Other factors could have been involved with research questions and participants' responses that were unknown to me.

Research Limitations

The research data were obtained from the interviews of 10 VTC CTE program completers. There were several limitations inherent in this project study. There was no way to determine if CTE completers were being honest in their responses to interview questions. Though it seems likely that participants provided truthful responses, I cannot be certain. Participation in this study was voluntary; therefore, the findings may not be representative of all CTE completers at VTC, and the results of the study may not be generalizable.

Protection of Human Rights

In order to protect the human rights of study participants, I completed the National Institute of Health (NIH) training on January 18, 2015 (Certificate # 1653816). The Walden University IRB approved this project study (approval number: 03-18-15-0014067) prior to the collection of any data. Prior to conducting interviews, I received informed consent forms via mail from study participants. I included my contact information in the event a study participant had additional questions or concerns. I explained information relevant to the study, such as the purpose and data collection methods, via mail in the Letter of Invitation and the Participant Consent Form prior to signing consent forms. I explained the purpose of the research study and the data collection methods via phone call during the Notification of Selection and during the interview as a part of the Interview protocol (see Appendix B). I conveyed information relevant to the study via the Invitation Letter and Participant Consent Form. I provided study participants information that assured confidentiality would be preserved by me

during the entire process. An alpha-numeric code was assigned to each participant by me as the identifier to further protect participant privacy. Security was maintained of all interview notes, recordings, and data files on a password-protected flash drive. All interview notes and data files were stored in a locked file cabinet in my home. Participants were not obligated to participate, and I explained there were no repercussions if a participant decided not to continue in any phase of the research process.

Ethical Considerations

This project study focused on the perspectives of CTE completers on CTE program preparation for careers and postsecondary programs. I aimed to ensure the participants were fully informed via mail and telephone on the purpose and methods of the study prior to signing of consent forms by including the purpose and methods of the study in the Invitation Letter and Participant Consent Form. Participants were reminded four times (via Invitation Letter, Notice of Selection, Participant Consent Form, and with the Interview protocol, see Appendix B) that participation was voluntary. Participants' recorded interview responses, interview transcriptions, and my handwritten interview notes were confidentially maintained by me and secured in a locked drawer. Additionally, my NIH approval indicates my understanding and agreement to do no harm to study participants before, during, and after conducting my research. Participants received the same treatment. I contacted all participants using the same documents, via mail or telephone, and made no deviations from the scripts. This was done in an effort to ensure participants were treated the same. I maintained complete confidentiality for participants in an effort to ensure they were not harmed by participating in this research study. I

securely maintained all participants' identifying information and interview responses. I attempted to maintain a stress-free environment during the selection and interview process by reminding participants they were free to withdraw from the study at any time.

Data Analysis

I completed an analysis of the data by using open coding of participants' responses to identify patterns indicative of one or more of the five SCANS competencies. I used the SCANS indicators as predetermined codes to identify the frequency of SCANS indicator terms and phrases found in the participants' language in their responses. Based on participants' responses, perspectives on CTE experiences perceived as best practice were placed in the SCANS column; experiences perceived as not best practice or not helpful were placed in the Non-SCANS column. I coded repeated words and phrases to identify and isolate emerging themes.

Themes emerged based on whether the coded, repetitive word or phrase was an example of CTE programs preparing CTE completers for career and college readiness (SCANS) or career and college nonreadiness (Non-SCANS). Emerging themes helped the researcher answer the question: What is this an example of? (Ryan & Bernard, 2003). *A priori* themes identified were professionally agreed upon characteristics related to CTE instruction.

The SCANS include characteristics of a career and college ready student. A survey of 227 CTE programs conducted at 164 institutions found that, "demonstrations, hands-on activities/projects, practice of new skills, relevant examples, cooperative learning techniques such as small groups, team based assignments, etc. are

professionally agreed upon characteristics of CTE instruction” (Fletcher, Djajalaksana, & Eison, 2012, p. 71). Characteristics of CTE instruction include activities that expose students to “critical thinking, problem solving, innovation, teamwork and communication” (Brand et al., p. 2). According to a report prepared by the Partnership for 21st Century Skills, Association for Career and Technical Education (ACTE) and the National Association of State Directors of Career Technical Education Consortium, CTE instruction includes “practical applications such as hands-on activities, projects and problem-based learning, simulations, teamwork and collaboration” (P21, 2010, p. 17). *A priori* themes emerged from participants’ responses and were identified and aligned with one or more of the five SCANS competencies, as indicative of SCANS or Non-SCANS.

Interview Analysis

Interviewing is a basic mode of inquiry (Seidman, 2013). Therefore, the purpose of interviewing was to get the understanding of individual’s lived experiences and the meaning to which they attach to those experiences (Seidman, 2013). Interviewing provides the researcher access to the framework of people’s behavior and therefore, provides a way for researchers to comprehend the meaning of that behavior (Seidman, 2013).

The role of the researcher was to be a facilitator, allowing the interview participants to communicate their beliefs, feelings, individual points of view, and personal experiences (Legard, Keegan, & Ward, 2003). This means that the researcher manages the interview process to safeguard that the required topics are addressed to the required depth, while ensuring to not influence the actual views articulated (Legard et al.,

2003). Participants were reassured of the confidentiality factor to agreeing to participate in the study. I also reminded the participants of the nature of the study and the importance of their truthfulness and candid responses to accurately depict their experiences in the CTE program. I held the protection of the participants' identity and responses in strict confidence throughout the course of the study.

Ten interview questions were aligned with the five SCANS competencies. I developed interview questions that explicitly asked how CTE teachers taught the SCANS indicators for each competency. Inherent in the process would have been the presence of the five SCANS categories in all participants' responses to the interview questions. Identified themes emerged from participants' responses that aligned with one or more of the five SCANS competencies, as indicative of SCANS or Non-SCANS. The following research question was designed to explore the perspectives of the CTE completers: What are the CTE completers' perspectives of their CTE program in regard to their CTE preparation for career or postsecondary readiness?

Theme 1: Project-Based Learning

The data indicated participants perceived project-based learning in CTE programs prepared them for careers and college. In general, participants recognized project-based learning activities were necessary for career and college readiness. All SCANS competencies were represented in this theme, as SCANS are comprised of career and college readiness indicators.

P-3 noted, project-based learning in CTE programs supported career and college readiness, stating,

Allocation of time is a skill I learned in my CTE courses and have been able to apply it daily in my military service. We had class projects with deadlines all the time. Time allocation is very important when other people are counting on you to get your job done. I remember working in groups a lot to complete assignments.

P-2 stated, “My CTE program equipped me to prepare and use a budget through different class assignments.” P-8 stated, “When class projects were assigned, we were given a rubric that included a due date; this gave the students an idea on how to pace ourselves to complete our work.”

P-5 stated, “Our project-based learning was mostly done for the teacher. We worked as a team, but we never had real clients.” P-6 did not indicate preparation in CTE programs in creating or developing a budget. From my data analysis, project-based learning was perceived as having the most impact on career and college readiness in project-based learning for the participants.

Theme 2: Collaborative Work Groups

Participants perceived collaborative work groups in CTE programs prepared them for careers and college. In general, participants recognized collaborative work groups were necessary for career and college readiness. All SCANS competencies were represented in this theme, as SCANS are comprised of career and college readiness indicators. When collaborative work groups are incorporated in CTE programs, students can learn how to work as members of a team, use resources, locate and analyze information, and integrate technology as appropriate.

P-5 stated, “Our project-based learning was mostly done for the teacher. We worked as a team but we never had real clients.” P-3 stated,

I remember that project, I did Mexico and we all had to bring a dish or something representing our country. This was somewhat helpful in meeting new people at work. I guess I learned how to appreciate other people’s values.

Additionally, P-10 stated,

Working in groups helped me with diversity. There are so many different people I meet at work, and it (diversity) is always on the news. I worked in groups with people that I never saw outside of school. It was cool.

From my data analysis, participants held perspectives of both career and college readiness and nonreadiness in collaborative work groups.

Theme 3: On-Site Work Experiences

The data indicated participants perceived on-site work experiences in CTE programs prepared them for careers and college. In general, participants recognized on-site work experiences were necessary for career and college readiness. On-site work experiences emerged as a theme in the SCANS Systems competency. Though on-site work experiences were used, it was not indicated from the data that on-site work experiences were used on a large scale. Most participants mentioned an on-site work experience (e.g. field trip, job shadowing), but responses did not include much detail or depth, suggesting not much of an emphasis was given to the importance of the experience in relation to career and postsecondary program readiness.

P-1 shared, “I was a group leader when we visited the BWM dealership. I also led the group presentation to the class about the department my group toured. I am comfortable speaking up in a group of people.” P-5 shared, “I loved field trips because it was a chance to get out of class.” From my data analysis, participants held perspectives of both career and college readiness and nonreadiness on on-site work experiences.

Theme 4: Technology Integration

The data indicated participants perceived technology integration in CTE programs did not prepare them for careers and college. In general, participants recognized technology integration was necessary for career and college readiness. Technology integration emerged as a career and college nonreadiness theme in the SCANS Information competency. Based on participants’ responses, some SCANS Information competencies were incorporated to use technology to locate and organize information. Technology competencies, such as “interpret and communicate information, maintain and troubleshoot equipment, use technology to evaluate information, interpret information, and communicate information” (DOLETA, 2009, p. 26), were not perceived to have been incorporated to prepare CTE completers for careers or college. There were perceived deficits in career and postsecondary preparation from CTE programs in the areas of information and technology competencies, based on the data.

P-5 indicated,

CTE courses provided exposure to various computer programs, I learned there was more than Word and Power Point. I learned how to use Publisher and Access.

These were programs I never heard of until I was a junior in high school. I used at least two of these programs every semester in college.

P-2 stated,

I used flash drives to organize and maintain research information and files. I still do this now. I did not learn how to fix computer hardware, but I do know that rebooting a system can help and I know how to prevent electrical surges. I guess it is a skill I can use at work if I need too.

P-5 shared,

We fixed small problems like paper jams and loading the printers and that's pretty much it. It would have been helpful to learn how to troubleshoot my computer. I was enrolled in online classes one semester due to an illness and I really had a hard time. I had some problems with my operating system and could not figure it out and it was frustrating trying to get help over the phone from a representative from the school. I was not prepared at all on how to help myself solve any computer related problems.

From my data analysis, participants held perspectives of both career and college readiness and nonreadiness in technology integration. Participants also indicated inadequate exposure in technology integration themes.

Theme 5: Creating and Developing Ideas and Products

The data indicated participants perceived their training in creating and developing ideas and products in CTE programs, such as creating and developing budgets and how to keep records in the various business positions, did not prepare them for careers and

college. In general, participants recognized creating and developing ideas and products was necessary for career and college readiness, but the instruction they received was insufficient in preparing them for a career or college. Creating and developing ideas and products emerged as a nonreadiness theme in the SCANS Resource and Systems competencies. When CTE completers are not exposed to the necessary skills, they may not be prepared to enter the workforce and college. Lack of exposure to necessary skills leaves CTE completers vulnerable; they may not be as successful on the job or in college as other CTE completers with the necessary skills.

P-8 stated, “This (keeping records) was not an activity that was covered in my career courses.” P-7 stated,

I found it difficult to hear my supervisor deny request and say items were not included in the budget and the purchase would have to wait. I thought if we need it and we have the money then why not buy what we need? I was given a quick lesson on budgets and expenses. This was not something we talked about in school. The school or school district provided the materials we needed in shop class. The students never asked about cost and it was not taught. This would have been good information to learn.

From my data analysis, participants held perspectives of both career and college readiness and nonreadiness in creating and developing ideas and products. Participants also indicated inadequate exposure in the creating and developing ideas themes. None of the participants indicated having experienced developing or improving upon a design in their

CTE courses in preparation for careers.

Theme 6: Diversity and Leadership

The data indicated participants perceived diversity and leadership training in CTE programs did not prepare them for careers and college. In general, participants recognized diversity and leadership were necessary for career and college readiness. Diversity and leadership emerged as a nonreadiness theme in the SCANS Interpersonal competency. Based on the data, SCANS indicators teamwork and working with diverse people were included in CTE programs to a certain degree, while the SCANS indicators exercising leadership and serving clients were not perceived by participants to have been incorporated in CTE programs. Participants noted most project-based learning activities were for a fictitious client, which meant CTE completers rarely served actual clients. Having the ability to work with actual clients would afford CTE completers the opportunity to serve customers and address their needs in a live environment, thus building upon their interpersonal skills in preparation for careers and college.

P-4 indicated working together as members of a team was often required in completing CTE projects. P-9 shared the experience of completing a diversity project as a requirement in a CTE program. From my data analysis, the participants held perspectives of both career and college readiness and nonreadiness in diversity and leadership.

Conclusion

In this project study, I explored perspectives of CTE program completers regarding career and postsecondary program readiness. The guiding research question was: What are the CTE completers' perspectives of their CTE program in regard to their

CTE preparation for career or postsecondary readiness? The findings of this project study revealed six themes participants related to career and college readiness and nonreadiness (project-based learning, collaborative work groups, on-site work experiences, technology integration, creating and developing ideas and products, and diversity and leadership). The findings concluded that CTE program completers perceived participating in CTE programs prepared them for careers and postsecondary programs by incorporating project-based learning, collaborative work groups, and on-site work experiences in all SCANS, while creating and developing ideas and diversity and leadership were either not incorporated or inadequately incorporated. Technology integration was perceived to have been a strength and a weakness in CTE programs preparing students for careers and college. The SCANS indicators that were not incorporated or inadequately incorporated, according to participants' responses, lead to the development of a curriculum to improve career and college readiness outcomes for CTE completers.

In this section, I discussed the methodology and analysis of data of my project study to identify the perspectives of CTE program completers' on CTE programs preparing CTE completers for careers or postsecondary programs. I analyzed participants' responses regarding their perspectives of career and postsecondary program readiness and nonreadiness using open coding for each interview. I was able to gain insight into the perspectives of CTE completers regarding CTE programs preparation for careers and postsecondary programs. An understanding of CTE program completers' perspectives on preparedness for careers or postsecondary education is vital, as the need for workforce readiness skills increases.

The perspectives of the participants in relation to the SCANS competencies supports Bandura's (1977) social learning theory, which suggests "(P)eople learn from one another by observing, imitating, and modeling" (p. 53). The data indicated incorporation of opportunities for CTE completers to engage in activities that allow them to observe, imitate, and model behaviors (e.g., project-based learning, collaborative work groups, on-site work experiences, and technology integration and use) is instrumental in preparing participants for careers and postsecondary programs. Knowledge of activities and assignments that could be used to prepare CTE completers for careers or postsecondary programs was important in helping me evaluate participants' responses for themes related to CTE career and postsecondary program readiness and nonreadiness.

Based on my data analysis, I learned participants held perspectives of both career and college readiness and nonreadiness across all five SCANS categories. The themes project-based learning and collaborative work groups were perceived as having the most impact on career and college readiness across all SCANS categories. Participants indicated inadequate exposure in the creating and developing ideas and technology integration themes, which led to participants' perspectives of career and college nonreadiness in the SCANS categories resource, information, and systems and technology.

Themes were derived based on participants' perspectives on how SCANS competencies were or were not incorporated in their CTE programs to provide career and college readiness or as to why they perceived CTE programs as not providing readiness for careers and college. The themes derived logically from a review of the participants'

responses. Review of my notes and transcripts included key words in context of the SCANS. I examined participants' responses for commonalities and compared those responses to the SCANS indicators. I further grouped the commonalities in participants' responses to isolate the emergence of six themes that best captured participants' perspectives on CTE programs preparing for careers and college: project-based learning, collaborative work groups, on-site work experience, diversity and leadership, technology integration, and creating and developing ideas. The following section provides the complete project design for a SCANS CTE curriculum.

Section 3: The Project

Introduction

There was a low number of CTE completers from a local career center located in South Carolina who reported employment in a related field, enlistment in the military, or enrollment in a secondary program. These completers were not career or postsecondary ready (as reported in the 2015 school profile). No data were available at the career center to explain why CTE completers were not often career or postsecondary ready. The CTE programs are designed to increase students' readiness skills for careers or postsecondary education programs (SCDOE, 2014c). The school district used CTE program curricula to prepare students for careers and postsecondary programs. A curriculum for each CTE POS is available from the SCDOE (2014c).

Each CTE POS has standards, a co-curricular student organization, and a list of SCDOE-approved textbooks and resources. Additionally, SCDOE has assigned employees who specialize in the CTE POS (education associates) to assist teachers, schools, and districts with implantation of CTE programs. The SCDOE provides professional development for new and veteran CTE teachers and administrators. The SCDOE is also responsible for updating and maintaining the course standards and program requirements for all CTE programs (SCDOE, 2014c). The SCDOE does not provide a pacing guide for CTE teachers to utilize in instructional planning of the CTE course standards.

The purpose of this study was to explore the perspective of 10 participants on career and college readiness training received in CTE programs at VTC. Through

interviews, I examined the perspectives of CTE completers in regards to CTE programs preparing students for careers or postsecondary programs. An analysis and evaluation of the data indicated CTE completers were not prepared in several SCANS competency domains: Resources, Information, Interpersonal, Systems, and Technology. The project I developed is a 9-week, noncredit curriculum plan called Career and Postsecondary Student Success Seminars (C.A.P.S.³) (see Appendix A).

Description and Goals

Findings suggested SCANS competencies integration in CTE programs could be improved through a noncredit career and postsecondary readiness curriculum for high school students enrolled in a CTE program. The goal of this project is to provide a 9-week, noncredit career and postsecondary readiness curriculum for high school students enrolled in CTE programs at VTC. The curriculum will be offered during monthly advisory sessions. I developed the curriculum design based on the SCANS competencies domains of Resource, Information, Interpersonal, Systems, and Technology in an effort to prepare students for careers or postsecondary programs.

This proposed career and postsecondary readiness curriculum is based on the data analysis from the CTE completers who participated in my qualitative case study. Participants' responses indicated areas in which they perceived that they were ready for careers or postsecondary programs based on CTE program participation and areas in which they perceived they were not ready for careers or postsecondary programs. Findings suggest areas of perceived nonreadiness for CTE completers are creating/developing ideas and products, diversity and leadership, and technology

integration/use. Based on participants' responses, nonreadiness skills were prevalent in all SCANS domains. Participants also expressed concerns regarding the lack of instruction in SCANS, negatively impacting their preparation for careers and postsecondary programs. There is a continued effort to increase student success as they transition from high school to careers or postsecondary programs (Barnes & Slate, 2011). After analyzing the data, I decided a 9-week, noncredit curriculum would provide the necessary instruction for students to become competent in SCANS domains, thus increasing career and postsecondary readiness.

The proposed 9-week, noncredit curriculum plan is called C.A.P.S.³ (see Appendix A). The proposed seminar series will be conducted in-person during advisory at VTC. Advisory sessions are held each month September through May of each school year for 35 minutes in a traditional classroom setting under the supervision of a faculty member. A certified CTE instructor from VTC will facilitate the C.A.P.S.³ sessions. Students identified as CTE completers for the upcoming school year will attend nine sessions during the course of the school year. Offering the seminar during advisory will afford students the opportunity to increase their exposure to career and postsecondary readiness skills.

Rationale of Project Genre

The case study interview analysis provided information that led to the development of the proposed curriculum. Based on the data analysis in Section 2, participants' responses suggested that CTE programs alone may not be sufficient in providing the necessary skills and knowledge to be career and postsecondary program

ready. Classroom instructors and school and district level administrators should utilize data in the development and implementation of courses and curricula and in the decision-making process regarding funding allocations (Barnes & Slate, 2011). When instructional leaders consider data when assessing student performance outcomes and program effectiveness, they establish a clear course of action as to the needs of both students and staff in an effort to inform the decision-making process (Tokmak, Baturay, & Fadde, 2013).

In review of the areas identified as career/postsecondary nonreadiness, participants indicated some competencies were not addressed in their CTE program. Participants discussed the importance of career and postsecondary readiness and identified skills that were transferable from the classroom to real-life situations in both their career and postsecondary programs. Though CTE courses are counted as elective credits for graduation, it is not mandatory that a student complete a CTE POS (Symonds, Schwartz, & Ferguson, 2011). The C.A.P.S.³ will afford CTE students an opportunity to learn necessary skills to be career and postsecondary program ready.

According to a state department education associate, state developed CTE programs were created to provide a course guide or curriculum as a starting point for districts to incorporate into their course offerings; nothing prevents districts from adding additional learning opportunities to their CTE programs (Personal communication, June 23, 2015). Upon careful review and analysis of the qualitative data obtained for this project study, the findings indicated there was a need for additional learning opportunities.

I considered other genres for the project, but felt they were less appropriate for developing a curriculum. I examined a training plan or professional development plan as a possible choice. A professional development plan is designed to change and sustain faculty beliefs and instructional practices in order to improve opportunities for student learning (Ebert-May et al., 2011). As I conducted the research from the perspectives of CTE completers and not faculty, a training plan or professional development plan was not appropriate for this study. I did not consider an evaluation report for this project, as the study was not itself a program evaluation. An evaluation serves as a transparent form of accountability for results and a source of information for decision making on policies and programs (Weik, Withycombe, & Redman, 2011). I also considered a policy, but deemed inappropriate. Policy recommendations serve as a recommendation or support of a public policy (Bjork, 2012). This research study did not address public policy.

Scholarly Rationale of How the Problem was Addressed

The curriculum plan project addressed the problem identified in Section 1 of the study, that the VTC CTE program lacked data substantiating whether or not the programs prepared CTE completers to be career or postsecondary program ready. A curriculum plan applied across all CTE programs, with an end-of-course evaluation, will provide data to VTC as to whether or not students have been exposed to the necessary skills to be career or postsecondary program ready. A competency-based education plan that focuses on the needs of business and industry will assist in employee readiness to enter the workforce (Feng, Lu, & Yao, 2015). Developing a competency-based curriculum allows for the assessment of the curriculum (Venezia & Jaeger, 2013). A good curriculum plan

should include clearly identifiable objectives and student assessments, and it should help students gain knowledge and skills (Khan & Law, 2015). With a curriculum plan validated with data collected from end-of-course evaluation, local stakeholders can utilize that information to guide the future development of the curriculum. The current educational landscape places a great emphasis on testing as a means to measure student success. Testing and assessment data are crucial in the decision-making process of any instructional program (Lange, Range, & Welsh, 2012). A competency-based curriculum that includes data collection and evaluation will address the problem VTC has with lack of data regarding students' preparation for careers or postsecondary programs.

My analysis of the data presented in Section 2 indicated a curriculum plan could address the lack of data VTC has to substantiate whether or not CTE programs prepare CTE completers to be career or postsecondary program ready. The proposed curriculum plan includes SCANS competencies identified by participants as not addressed in their CTE program and includes an end-of-course evaluation. The C.A.P.S.³ program evaluation instrument will provide data to VTC administrators regarding CTE completers' perceived preparation for careers and postsecondary programs.

In the analysis, I identified and coded emerging themes based on participant responses. I coded and categorized these themes based on the SCANS competencies for CTE. The participants' responses and identification of emerging themes provided me with rich, contextual information that was beneficial in assisting me to determine whether the CTE programs were achieving their intended outcomes, as indicated by the SCANS.

Themes were derived based on participants' perspectives on how SCANS competencies were or were not incorporated in their CTE programs to provide career and college readiness. Themes were also based on participants' perspectives of whether or not CTE programs provided readiness for careers and college. The themes derived logically from a review of the participants' responses. Review of my notes and transcripts included key words in context of the SCANS. I examined participants' responses for commonalities and compared those responses to the SCANS indicators. I further grouped the commonalities in participants' responses to isolate the emergence of six themes that best captured the participants' perspectives on whether or not CTE programs prepared them for careers and college. These themes were: project-based learning, collaborative work groups, on-site work experience, diversity and leadership, technology integration, and creating and developing ideas (see Table 5).

The rationale for the development of the project is that, based on participants' responses, CTE programs were not preparing students for careers and college in all SCANS indicators. A curriculum aligned with SCANS would provide participants with the experience and exposure needed to be career and college ready upon completion of their CTE program. Participants stated that not all SCANS indicators were incorporated in CTE programs to prepare them for careers and college. A logical conclusion would be to develop and implement a curriculum aligned with SCANS to cover all SCANS indicators to prepare students for careers and college. In C.A.P.S.³, I developed specific activities based on participants' responses that identified which indicators were not addressed in CTE programs in preparing participants to be career and college ready.

Table 5

CTE Completer Career and College Readiness and Nonreadiness Perspectives

SCANS Competencies Categories	Career and College Readiness Themes	Career and College Nonreadiness Themes
Resource Competencies (e.g. time allocation, how to prepare a budget, prepare and follow a schedule, and keep records)	Project-based learning Collaborative work groups	Creating/developing ideas/products
Interpersonal Competencies (e.g. teamwork, exercise leadership, work with diversity, serve clients)	Project-based learning Collaborative work groups	Interpersonal (diversity and leadership)
Information Competencies (e.g. how to acquire and evaluate information, how to organize, and maintain information, how to interpret and communicate information, and how to use computers to process information)	Project-based learning Collaborative work groups	Technology integration/use
Systems Competencies (e.g. how to understand systems, monitored and corrected performances, and to develop or improve design systems)	Project-based learning Collaborative work groups On-site work experience	Creating/developing ideas/products
Technology Competencies (e.g. how to select technology, how to apply technology to a task, and how to maintain and troubleshoot equipment)	Project-based learning Collaborative work groups Technology integration/use	Technology integration/use

I designed this project study based on findings from the analysis of data collected from participants' interviews and included: (a) an implementation timeline, (b) course syllabus, (c) learning activities, and (d) curriculum evaluation instrument (see Appendix A). The curriculum plan instructional modules and learning activities will provide

students with the knowledge and skills necessary to be career and postsecondary program ready. The challenge in preparing students to be career and postsecondary program ready is incorporating a curriculum designed for that singular purpose. The SCANS CTE curriculum project provides learning modules and activities for effective SCANS competency integration in CTE programs for high school students enrolled in CTE programs at VTC. The following section provides the complete project design for a SCANS CTE curriculum.

The program curriculum plan addressed the problem by utilizing the data analysis to inform school and district administrators. The VTC is responsible for improvement of the Technical Skill Attainment of its CTE completers. Data-driven instruction continues to be at the forefront of educational change and improvement (Tillema, Leenknecht, & Segers, 2011). It is beneficial to VTC instructors, building level administrators, and district administrators to determine what aspects of CTE programs are working and where there are deficiencies, considering VTC receives federal and state funds to operate CTE programs. The VTC's current CTE programs are not meeting the needs of the students; therefore, the current CTE program expected outcomes of preparing students for careers and postsecondary programs are not being met. The C.A.P.S.³ curriculum plan will inform school and district administrators on the students' perceived preparation for careers and postsecondary programs.

Review of the Literature Addressing the Project

Literature Related to the Genre and Search Terms

I conducted this literature review using the Walden University online library, SCDOE official site, U.S. Department of Education official site, and the local career center. I selected a curriculum plan as the project genre based on the research findings. The findings revealed VTC did not meet its intended outcomes of preparing participants to be career or postsecondary program ready. A variety of sources contributed to this review of the literature. A search of multiple databases included ERIC, EBSCO, Walden dissertations, and ProQuest Central. I used the following keywords: *curriculum development, curriculum assessment, curriculum models, curriculum evaluation, data-driven instruction, career development programs, career readiness, college readiness, program evaluation, and educational evaluation*. The searches produced articles, books, journals, and government reports related to the research topic.

The Need for CTE Curricula

While the research used in the project study suggests there is a need for CTE curricula, Packer and Brainard (2003) do not propose there is one curriculum model preferred over another. A capstone curriculum was developed that includes SCANS and relevant hands-on, project-based learning. A capstone course curriculum can provide students an opportunity to merge career and college skills learned in individual courses. The U.S. Department of Labor, Employment and Training Administration completed their report on the state of CTE in the U.S. in 1992. The *Learning a Living: A Blueprint for High Performance* report “outlines the instructional implications of SCANS”

(USDOE, 2009, p. 15). The report incorporating simulated, project-based learning activities related to situations that occur in the workplace. When students complete project-based learning activities that require certain career skills, they are more likely to succeed in the workplace. It is essential to incorporate all SCANS in the CTE learning environment. The SCANS are not applied individually or one-at-a-time in the workplace and neither should they be taught in isolation of each other (DOLETA, 2009).

Based on the negative program perspectives of students who completed a paramedic training program, authors Thompson, Grantham, and Houston (2015) developed a capstone course curriculum to increase career readiness skills for program participants. A capstone course curriculum ties together the necessary skills graduates need to be successful in their chosen career fields (Thompson et al., 2015). Youth education and training programs can help prepare graduates for careers and college (Lerman, 2013). The teaching of “employability and occupational skills” is essential to a student’s success (Lerman, 2013, p. 2).

The needs of business and industry fuels the interest in employability skills training to have graduates enter the workforce career ready. There is also a necessity for recent high school graduates to be college ready for the U.S. economy to remain competitive economically (Packer & Brainard, 2003). “(O)rganizations use SCANS competencies and foundation skills as a curriculum foundation for secondary and postsecondary CTE and workforce development” (Packer & Brainard, 2003, p. 1). The authors suggested SCANS competencies are enduring and generalizable in many

organizations and postsecondary settings. I utilized the SCANS competencies to create a 9-week CTE curriculum with clearly identified student learning objectives and modules.

Analysis of Research

State and federal education authorities hold the programs they support to high standards of accountability, as decisions on continued program funding and support are often based on positive program outcomes. The CTE is not a new component of the public education system, but assessment of the effectiveness and positive outcomes of CTE programs have not, historically, been given as much attention as core academics, such as reading, math, and science. Implementation of a curriculum plan with an end-of-course evaluation can assist evaluators in determining if the curriculum meets its expected outcomes (Davidson, 2005).

Benefits of CTE Curriculum Plans

The articles used in this literature review suggested that CTE curricula were beneficial in preparing students for careers and college. Additionally, preparation for careers and college comes in many forms, such as workplace readiness training (Bartholomew, Papay, McConnell, & Cease-Cook, 2015), developing marketable skills (Flannery, Benz, Yovanoff, Kato, & Lindstrom, 2011), and improving awareness and career decision making (Salleh et al., 2013), leading to career advancement (Tucker, 2011).

Many transitions in curricula standards offered in schools have integrated CTE standards with academic standards. A curriculum dedicated to post-high school transition should be “embedded” in the Common Core State Standards (Bartholomew et al., 2015).

A curriculum that incorporates CTE competencies aids in assisting students to become postsecondary and workplace ready (Bartholomew et al., 2015). The authors purported that all graduates should leave high school with skills that are indicative of career and college readiness. The required knowledge and skills set that potential employers require can be obtained by implementing a CTE-based curriculum. The CTE curriculum used should “establish learning targets for all students” and employ a “variety of instructional strategies” to support student learning (Bartholomew et al., 2015, p. 329).

The CTE training programs can provide students with the necessary skills to prepare them for the workplace. Flannery et al. (2011) investigated the outcomes of a vocational rehabilitation program designed to provide necessary CTE skills for individuals seeking to re-enter the workforce. Participants were provided a short-term CTE skills training to “learn marketable job skills” (Flannery et al., 2011, p. 107). Career-based training programs use curriculum and focused modules to incorporate needed CTE soft skills and focused job skills. Such CTE programs benefit the participants, as well as the job market. The CTE program curricula should “focus on specific occupations and offering hands-on instruction and worksite-based training” (Flannery et al., 2011, p. 107).

Development of CTE curricula can provide career and college preparation to students who struggle in school. Salleh et al. (2013) conducted a quasi-experimental study on the benefits of a 2-week CTE curriculum in developing career skills. Salleh et al. found the 2-week CTE curriculum served to improve “career awareness, career decision-making processes, career decisiveness, (and) career information exploration

behavior” (p. 209). The authors suggested structured CTE curriculum models implemented as a part of a CTE program have a significant impact on participants’ “learning experiences ... and career development” (Salleh et al., 2013, p. 210). Brown and Ryan (2000, in Salleh et al., 2013), suggested CTE curricula provide “in-session occupational information exploration ... guest speakers, and interaction with appropriate models” (p. 210).

Obtaining job-related skills while in high school is not out of reach for students. The path to career and college readiness is participating in programs that are aligned to CTE standards for learning (Tucker, 2011). The trend in public education in the United States has shifted its focus dramatically in the past 30 years to that of career readiness and to “prepare students for the next level of education” (Tucker, 2011, p. 115). This goal is accomplished by creating and implementing CTE curricula across academic content areas (Tucker, 2011). Gewertz (2011) examined the ability of states to assess CTE readiness programs and found that, “High school completion does not equal college readiness” (Gewertz, 2011, p. 1). The CTE curricula provide the necessary exposure to both the expectation of future employers and the academic requirements of colleges and universities, thus reducing the need for student remediation after high school (Gewertz, 2011).

While much of the research suggested CTE curricula is beneficial in preparing students for careers and college, the forms of benefits vary. The CTE curricula benefits students in such areas as providing essential career and college readiness skills (Chapa, Galva-De Leon, Solis, & Mundy, 2015), providing exposure to required job skills

(Anderson, 2015), improving career decision efficacy (Grier-Reed & Ganuza, 2012), and acquiring skills to increase workplace competitiveness (MacPherson, 2014).

Using Conley's (2010) framework for developing college readiness, Radcliff and Bos (2013) explored career and college readiness programs in secondary schools, finding that career and college readiness curricula in secondary schools should focus on developing college and career readiness skills among adolescents. Radcliff and Bos concluded that the implementation of CTE curricula would provide exposure to requirements for successful transition into a postsecondary program and lead to higher rates of postsecondary completion.

Though the research in this section share the same main idea that CTE curricula can be beneficial in career and college readiness preparedness, they differ in suggesting the types of activities necessary for students to receive the most success in preparing them for careers and college. Mohamed, Bakar, Sulaiman, Salleh, and Sern (2015) and Wessels and Sumner (2014) suggested hands-on activities are a needed component of CTE curricula. The CTE program curricula should provide exposure to CTE skills that are necessary for a successful transition from high school to a postsecondary education program or a career.

Mohamed et al. (2015), in a study involving 301 vocational college teachers, applied a research design approach and utilized a questionnaire to answer their research questions regarding instructional practices in technology courses. Career and college readiness was determined based on the measures of the Malaysia Skill Certification requirements. Mohamed et al. purported that CTE program curricula can expose students

to the hands-on and soft skills necessary for career and college readiness. When CTE curricula are applied in CTE programs, the outcome is a more prepared pool of entry-level employees who are skilled, reliable, and have required technical skills and that an evaluation of CTE curricula was necessary in planning and guiding the program (Mohamed et al., 2015).

Senior capstone CTE-based curricula projects can also be utilized to increase career and college readiness outcomes for students. Wessels and Sumner (2014) suggested students can gain a competitive edge in the job market and be “better prepared for college” after participating in a CRE curricula-based program (p. 21). The authors suggested, CTE curricula should consist of “classroom presentation ... and hands-on applied experiences” (p. 21). Wessels and Sumner recommended, “A senior capstone course ... to integrate discipline specific content and employment skills” (p. 22). A CTE curriculum should include “a series of integrated career development activities” (Wessels & Sumner, 2014, p. 23). The authors further claimed that such CTE-based curriculum aids students in overall career development.

What students learn in CTE programs can develop career and college readiness skills. Sumanasiri, Yajid, and Khatibi (2015) explored the impact of a curriculum framework on employability. Sumanasiri et al. suggested that career development curricula benefit students in their preparation for career and postsecondary education programs of study. Increased efforts have been made to develop “more effective pedagogical tools” (p. 53) in the area of CTE (Sumanasiri et al., 2015). Training and career development are necessary components of CTE curricula that lead to increased

employment transition skills from high school to work. Additionally, Sumanasiri et al. suggested the following are some components that should be included in CTE curricula in preparing students for career and college: “working in a team, good oral communication, time management, assumption of responsibility and for making decisions, planning ... and organizing ability, ability to use technology” (p. 59). The authors purported, the learning that occurs as part of a CTE curriculum-embedded program should ultimately serve to provide the necessary exposure and skills for participants to increase employability outcomes (Sumanasiri et al., 2015).

Byrom and Aiken (2014) conducted a case study utilizing staff reflections and student evaluations to evaluate the Joint Honours in Education programme in providing meaningful job-related opportunities to students. The authors suggested a WBL program can have positive impacts on student learning and career related skill acquisition and development. A curriculum should include a “set of core modules” (Byrom & Aiken, 2014, p. 273) that will be used to increase career and college preparedness.

Mitchell and Allen (2014) conducted a qualitative analysis of a career-ready curriculum. Implementation of changes in CTE curricula can “ensure career-ready graduates are prepared to succeed in a global economy” (Mitchell & Allen, 2014, p. 100), and add that schools are responsible for teaching students “the skills and competencies necessary ... to succeed in a global economy” (p. 101). The CTE programs should provide a curriculum focused on career readiness for all students, and the curriculum should expose students to “problem-based learning, group presentations, and real-world simulations” supported by business and industry (Mitchell & Allen, 2014, p. 114).

Students attain the most benefits from participating in a CTE program utilizing a standards-based CTE curriculum (Mitchell & Allen, 2014). Considering the work of Sumanasiri et al (2015), Byrom and Aiken (2014), and Mitchell and Allen (2014), I designed my CTE curriculum plan as a capstone course. The curriculum includes a variety of activities that prepare students for careers and college, requiring students to work as a member of team, manage time to complete assignments, learn how to plan, and learn to assume responsibility in the decision-making process.

Curriculum Design

Though the research included in the section suggested a curriculum is important, there are some differences as to what should be included. Olasehinde (2015) purported identified competencies are important; the USDOE (2013a; 2013b) adds to that the importance of incorporating business and industry competencies. Olasehinde designed a curriculum plan to increase career and postsecondary readiness skills and to evaluate the English language curriculum offered in Nigerian Polytechnics, to see what level the identified curriculum objectives were met, and to identify to what extent the curriculum meets the students' needs. The study was aimed at evaluating the curriculum's context, inputs, processes, and products. Olasehinde reported that the curricula should be continuously monitored to maintain standards. A competency-based curriculum plan lends itself to evaluation that is methodical and scientific and can be applied to the assessment of learning outcomes in a classroom environment (Azhar, 2013). An educational program with identified, recommended competencies and standards seeks to determine how well the objectives of the program are being met.

Discussions about CTE curricula design and how programs are preparing students for careers or postsecondary programs are crucial for school districts (Barnes & Slate, 2011). The *High Schools and Career Readiness: Strengthening the Pipeline to the Middle Class* report indicated that there is disengagement in the educational process for many high school students, which resulted in their failure to achieve college and career success (USDOE, 2012b). President Obama's administration has structured a plan to redesign high schools and CTE programs in an effort to produce graduates with technical skills and abilities needed to be competitive in a global society (USDOE, 2012b). There is a need to design CTE program curricula aligned with the needs of employers and postsecondary requirements (USDOE, 2012b). The government has allocated \$1.1 billion for the reauthorization of the Perkins Career and Technical Education programs as an incentive to states to better align CTE curricula with the requirements of business and industry in order to graduate students who are career and college ready (USDOE, 2012b). Additionally, acceptance of the funds would require states to "create a better accountability system for improving academic outcomes, technical skills, and employability outcomes" (USDOE, 2012b, p. 1). Many current CTE curricula design models may leave high school students earning a diploma but lacking the requisite technical knowledge, hands-on skills, and critical thinking strategies necessary for success in postsecondary programs (Barnes & Slate, 2013).

The design of the CTE curricula should be guided at least in part to meet the needs of local business and industry and be developed locally (Alvior, 2014; USOVAE, 2012b). The USOVAE (2012b) prepared the brief *Promoting College and Career*

Readiness: Bridge Programs for Low-Skilled Adults in 2012 as one of four briefs in a series to identify and distribute policies and practices that demonstrated effectiveness in meeting the challenges inherent in preparing the country's workforce. The brief indicated there is a low rate of student completion of postsecondary programs and an inadequate alignment of education standards and workplace expectations. In an effort to prepare students for careers and postsecondary programs, state and federal educational agencies are collaborating with school districts to improve outcomes for students (USOVAE, 2012b). One component of the collaboration process may be increased efforts to design CTE curricula on the local school district level to improve student career and college readiness outcomes.

A curriculum development process that is systematically planned and purpose driven served to create positive improvements in an educational system (Alvior, 2014). The curriculum should be considered as the curriculum frameworks and courses of study that are set forth by the state and school district personnel to be taught by teachers and learned by students (Alvior, 2014). Developing and implanting a CTE curriculum will lead to improved career and college readiness outcomes for CTE completers.

The CTE curricula should also include necessary materials and resources, hands-on industry related training, pacing guides, assessments, evaluations, and a variety of instructional approaches. A curriculum should be designed to support successful translation of instruction and hands-on application (Liu, Lee, Lin, & Tseng, 2013). Additionally, a good curriculum changes with the needs of the industry and the students (Liu et al., 2013). In Liu et al.'s (2012) study of curriculum design, participants indicated

there was a gap in the content offered in the current curriculum and the skills they needed in the workplace. A curriculum plan intended to prepare students for a specific job or career field must be developed with the matching skill set required for students to be successful.

In designing a curriculum, Heard (2014) noted that the development of the course syllabi, instructional pacing or lesson plans, and the accompanying assessments and evaluations must be considered. A curriculum design allows for a consistent instructional model for educators. A curriculum with the same content shared by all instructors guarantees students are exposed to the same skill set; although, a curriculum does not guarantee all students will receive the same intensity in instruction (Heard, 2014).

Inherent in a curriculum is the design of a course syllabus, identifying and securing materials and resources, standards-based instruction, and course or program evaluation (Li, 2014). Li (2014) suggested these items are crucial in the design and development of a course or program curriculum.

The practices of the educators involved in the curriculum design process might impact the outcome of the curriculum (Mugimu & Mugisha, 2013). “Contemporary curriculum design and implementation require the use of appropriate educational practices to enhance positive teaching and learning outcomes” (Mugimu & Mugisha, 2013, p. 2). Many educational practices are aligned with educational theorists’ perspectives on instruction and learning (Mugimu & Mugisha, 2013). Strategies and activities should be included in a curriculum plan that will foster the education of participants in the course. Strategies and activities needed to implement a curriculum

include a timeframe, teaching and learning activities to test knowledge and apply skills, and a plan for implementation. Prior to curriculum development, an understanding of the culture of the organization, instructor competence, and the structure of the learning environment must be considered. Curriculum development should be based on need, as indicated by reliable research data (Mugimu & Mugisha, 2013).

School districts and schools should have an effective and dynamic curriculum as the foundation of their instructional program, which shows ongoing evidence-based instructional success (Spicer & Macula, 2014). The triad of curriculum, instruction, and assessment should drive and affect student achievement (Spicer & Macula, 2014). Students play an integral part in the curriculum development process (Bron & Veugelers, 2014). Student input allows curriculum developers to incorporate the perspective of students as it pertains to their learning. Additionally, incorporating student perspectives assists with the development of a curriculum that will increase student engagement (Bron & Veugelers, 2014). Though there appears to be benefits to having students' perspectives considered prior to curriculum development, it is not a common practice.

Curriculum Evaluation to Improve Outcomes

Aroian and Brown (2015), Wode and Keiser (2015), Vanderbilt University (n.d.), and the University of California at Berkeley (n.d.) extol the importance of evaluating a curriculum. There are a variety of evaluation instruments available, and the implementation of an evaluation instrument can lead to course and program improvements. Curriculum evaluation is as important to learning as the implementation of a new curriculum (Aroian & Brown, 2015). An end-of-course evaluation is a

component of many courses and programs. These end-of-course evaluations are to be honest and open responses to questions regarding the recently completed course or program. In some cases, participants may respond to questions from an emotional realm of retaliation, if their experience with the professor was not positive (Aroian & Brown, 2015). A necessary component in developing a program evaluation instrument is to create questions based on the content, pacing, and assignments.

There are three methods to collecting data from participants upon completion of a course: in-class feedback forms, online forms, and small group analysis (Vanderbilt University, n.d.). Each method has pros and cons. An online evaluation instrument allows participants to remain anonymous, thus increasing the likelihood of open and honest responses. On the contrary, online evaluation forms are less likely to be completed by participants than in-class feedback forms. According to the University of California Berkeley Center for Teaching and Learning (n.d.), course evaluations are utilized to solicit informative feedback that will lead to improvements in instruction and program development.

Student evaluations are both reliable and valid (Wode & Keiser, 2011). There is historically a low response rate for completion of online course evaluations; however, students provided more in-depth responses in online evaluations (Wode & Keiser, 2011). Students do not believe evaluation responses have an impact on teacher performance, but are more likely to complete evaluations if they see the importance of doing so for development of the course (Wode & Keiser, 2011).

Implementation

Appendix A is a detailed curriculum plan. The timetable to develop and implement the curriculum plan will be one semester or nine months (August through May). Approval from the VTC director, input from the curriculum planning committee, identified objectives, and course syllabi will be discussed at VTC leadership team and faculty meetings. Once approved, I will share the curriculum plan with all other VTC faculty and staff. The VTC director will determine who will chair the C.A.P.S.³ committee.

Potential Resources and Existing Supports

The project was a curriculum plan developed for a career center located in the southeastern part of South Carolina. The resources needed for implementation of the curriculum plan were human resources, physical resources, and technology resources. The human resources required for the curriculum plan implementation will be a curriculum planning team, which includes VTC faculty and staff, such as administrators, instructors, the career guidance counselor, career development facilitators, and administrative assistants.

Essential to the implementation of any new curriculum or program is the guidance and support of local stakeholders (Lange et al., 2012). In order to ensure the curriculum planning team functions effectively and efficiently to meet student needs, the VTC director will have the final decision on who will serve on the committee. The physical resources required to implement the curriculum plan are access to VTC and access to individual classrooms at VTC.

Curriculum planning members will also need access to storage areas and file cabinets in order to secure resources utilized in the sessions. Physical resources will be needed, such as paper, notebooks, and writing instruments. Technological resources will include telephone access, Internet access, computers, scanners, and printers. Additionally, the committee members and students may need access to external data storage devices, folders, or binders to maintain documents and records.

Potential Barriers

Each year, there are approximately 125 students identified as CTE completers who could participate in the C.A.P.S.³ course. A barrier could be how to manage 125 students effectively in one C.A.P.S.³ class. To address this potential barrier, I will divide the estimated 125 students identified as CTE completers into smaller, more manageable advisory groups or cohorts. The school counselor and designated staff will assign students alphabetically by last name in a C.A.P.S.³ cohort. There will be an enrollment cap of 30 students applied to each advisory group or C.A.P.S.³ cohort. Therefore, each year, there could be at least 10 C.A.P.S.³ cohorts running simultaneously. There will be nine sessions, each lasting 35 minutes. All teachers are currently required to facilitate an advisory session as a part of their workload. Monthly sessions will be held in the same designated room at VTC during regularly scheduled, school-wide advisory sessions.

Students who will be VTC seniors next school year and those identified as CTE completers for the upcoming year will be informed of the new C.A.P.S.³ course prior to the end of their junior year. The VTC director will communicate information via announcements. The CTE instructors will share the information with students enrolled in

their classes, as directed by the VTC director. Notices will be placed in the guidance suite and on student information boards, and printed notices will be given to all future senior CTE completers from the career guidance counselor.

Roles and Responsibilities of Student and Others

The VTC faculty and staff will serve as members of the C.A.P.S.³ planning committee. The VTC director will be responsible for general supervision of the C.A.P.S.³ program and budget allocations. The career guidance counselor and career development facilitators will provide specific information related to career and postsecondary program readiness. The career guidance counselor will also be responsible for establishing the C.A.P.S.³ cohorts and creating the students' schedules. Instructors will be responsible for providing the knowledge base directly related to the CTE completer's career path or area of study. Instructors will also serve as the lead facilitator for each C.A.P.S.³ session. Administrative assistants will provide secretarial support, as needed, to ensure the materials and resources are available for the C.A.P.S.³ sessions.

Students enrolled in the C.A.P.S.³ will be responsible for actively participating in each C.A.P.S.³ session based on directions given by the facilitators. Students will also be required to complete four essays (one for each SCANS domain) and monthly journal entries, maintain a portfolio of information and provided resources, and complete an evaluation at the conclusion of the C.A.P.S.³

Project Evaluation

The CTE completers participating in the C.A.P.S.³ will be asked to complete an evaluation. This evaluation will assist the C.A.P.S.³ committee in determining if the

objectives of the program were met (Creswell, 2012). The evaluation will reflect the participants' perspectives of the material covered by identifying the curriculum's quality, strengths, and weaknesses. Evaluations will be used by school and district personnel to improve the instruction during the program implementation. Formative evaluations allow for the continuous examination of data collected in an effort to improve the program or process (Ebert-May et al., 2011).

The C.A.P.S.³ evaluation will include a 5-point Likert scale and open response format. The instructor will ask participants to respond to the following questions, with the response options: strongly disagree (1), somewhat disagree (2), neither agree nor disagree (3), somewhat agree (4), and strongly agree (5) (see Appendix A).

1. C.A.P.S.³ developed my career or postsecondary readiness in organizing, planning, and allocating resources (Resource Competencies).
2. C.A.P.S.³ developed my career or postsecondary readiness in working with others (Interpersonal Competencies).
3. C.A.P.S.³ developed my career or postsecondary readiness in acquiring and using information (Information Competencies).
4. C.A.P.S.³ developed my career or postsecondary readiness in understanding complex relationships (Systems Competencies).
5. C.A.P.S.³ developed my career or postsecondary readiness in working with a variety of technologies (Technology Competencies).

The evaluation includes questions regarding delivery of the modules by the facilitator. Participants will access the C.A.P.S.³ evaluation form online via the VTC

website beginning one week prior to the conclusion of the program through the final C.A.P.S.³ session. The participants will direct completed C.A.P.S.³ evaluation forms to an email address established for the C.A.P.S.³ The VTC director will assign a designee responsible for monitoring the C.A.P.S.³ email system. The facilitator will share the results of the C.A.P.S.³ evaluation with the VTC director. The VTC director will then share the information with the C.A.P.S.³ planning committee. As a whole, the C.A.P.S.³ committee will review and discuss the information and make decisions regarding the future of the C.A.P.S.³

The data collected during this process are summative. I will prepare and present an evaluation report from the data collected from the first year of implementation to local stakeholders (e.g., board of trustees, superintendent, school administrators, etc.). Frye and Hemmer (2012) posited that evaluation reports should include (but are not limited to) an introduction, a description of the program, and evaluation data. I will use the summative data collected to determine if the C.A.P.S.³ met its objectives and what changes need to be implemented if objectives were not met. Summative data could be used to identify new objectives (Moscoso, Chavers, Vidal, & Argilaga, 2012).

Implications Including Social Change

Possible Social Change

As the basis of this study, I designed the CTE program to develop career or postsecondary program readiness skills. The CTE programs' courses were designed with a competency-based format to address the skills and knowledge required to be career or postsecondary program ready. The school counselor and designated staff heterogeneously

enrolled students enrolled in CTE programs. Possible social change resulting from this curriculum plan could include VTC improving the design of its CTE programs to address perceived gaps in career or postsecondary program readiness. The VTC staff, district administration, and other stakeholders can use the results from this evaluation to modify the CTE program curricula, expand CTE program-related activities, or otherwise improve the overall experience and successful learning outcomes for CTE program participants.

A CTE program that provides training and a support system to participants is needed in order to prepare students for the workforce or college (McMullin, 2014). Many high school students desire to attend college, but lack the basic content knowledge or skills to be successful (McMullin, 2014). Educational programs and interventions improve college readiness skills and increase opportunities for success (Venezia & Jaeger, 2013). These positive outcomes are important to local school districts, community stakeholders, and business and industry in providing necessary information that supports the need for continued access to and support of CTE programs.

Far-Reaching: Importance of Project to Local Stakeholders

This curriculum plan will be extremely valuable to local stakeholders. The CTE programs have been the focus of much state and federal attention in the past decades. The rural county where VTC is located has experienced an increase in unemployment rates. As reported in the *South Carolina Department of Workforce 2015 Community Profile* report, the local community experienced an unemployment rate of 7.3% in 2004 that nearly doubled to 14.1% by the year 2011 (SC Works, 2015), compared to the state unemployment rate of 6.8% in 2004 and 10.5% in 2011. It is also worth noting that the

area in which the VTC is located also experienced a significantly higher unemployment rate than the nation; the national unemployment rate in 2004 was 5.5% and 8.9% in 2011. It is significant to note, 21.18% of the population have not earned a high school diploma, while 35.39% have earned at least a high school diploma. The 21.8% of the population who are not earning a high school diploma are also not completing CTE programs designed to prepare them for careers or postsecondary programs, which may likely be the cause leading to the high unemployment rates (SCDEW, 2012; 2013).

The VTC was established in 1969 to meet the vocational education and training of the students located in its rural school district. The VTC is still committed to the community and the continued need for such a center. The VTC must demonstrate to district level administrators, community stakeholders, and business and industry leaders its value to the community. Implementation of this curriculum plan will add value to the work done at VTC and its efforts to improve the economic landscape of the community by producing students who are career or postsecondary program ready.

Conclusion

Section 3 began with the project description and discussion of the curriculum plan project, goals, and rationale for the project genre and a relevant literature review to support the project. I identified project goals based on the research findings. The review of literature included information related to the analysis of research and theory and an explanation on how the genre was appropriate to the research problem. Section 3 concluded with a discussion of the components needed for project implementation. A review of needed resources, existing support, and potential barriers were included in the

discussion. For successful implementation, project parameters and a timetable were included, roles and responsibilities were identified and defined, possible social change was addressed, and discussion of the importance of the project to local stakeholders was included.

Based on the data findings, a SCANS CTE curriculum plan project is the most appropriate option for increasing career and postsecondary program readiness for CTE program completers. The need for high school graduates who are career and postsecondary program ready has increased based on state and federal accountability requirements and the needs of business and industry for work-ready employees (Symonds et al., 2011). The opportunity to participate in a course providing SCANS CTE instruction may assist students enrolled in CTE programs to be career and postsecondary program ready. A content-based curriculum plan provides students the chance to engage in deeper learning and to develop skills that are transferable outside of a classroom setting (Yurdakal, 2015).

The rationale for the development of the project is that based on participants' responses, CTE programs were not preparing students for careers and college in all SCANS. Therefore, a curriculum aligned with SCANS would provide participants with the experience and exposure to be career and college ready upon completion of their CTE program. Participants indicated all SCANS indicators were not incorporated in CTE programs to prepare them for careers and college. A logical conclusion would be to develop and implement a curriculum aligned with SCANS to cover all SCANS indicators to prepare students for careers and college. The C.A.P.S.³ curriculum includes specific

activities based on participants' responses identifying those indicators that were not addressed in CTE programs in preparing participants to be career and college ready.

I designed this project study based on findings from the analysis of data and included (a) an implementation timeline, (b) course syllabus, (c) learning activities, and (d) curriculum evaluation instrument. The curriculum plan instructional modules and learning activities will provide students with the required knowledge and technical skill set necessary to be career and postsecondary program ready. The challenge in preparing students to be career and postsecondary program ready is incorporating a curriculum designed for that singular purpose. The SCANS CTE curriculum project provides learning modules and activities for effective SCANS competencies integration in CTE programs for high school students enrolled in CTE programs at VTC. Section 4 will include reflections, conclusions, and future recommendations.

Section 4: Reflections and Conclusions

Introduction

This project study focused on improving career or postsecondary program readiness skills. Phelps, Durham, and Wills (2011) suggested national attention be given to the need to establish a workforce capable of meeting business and industry needs. Preparing graduates for the workforce or college is crucial in supporting economic stability in the United States (Phelps et al., 2011). Labor market changes in recent years have led to an increased interest in transitions from high school to careers or college. Hynes, Greene, and Constance (2012) posited that youth today are not prepared for the challenges of a competitive workplace. With the transition from the 20th to the 21st century comes the need for a new set of skills for postsecondary success (Kivunja, 2015). A lack of the necessary skills will lead to stagnation and failure (Kivunja, 2015).

This final section provides a concise overview of the project strengths and recommendations for future studies. Section 4 also includes an analysis of me as a scholar, learner, and project developer. Section 4 concludes with the project's impact on social change.

Project Strengths

VTC lacked data on CTE program completers perspectives on career or postsecondary readiness. It was hypothesized that CTE program curricula were not meeting the needs of students in preparing them for careers or postsecondary programs. This researcher addressed the problem by implementing a competency-based CTE curriculum plan (C.A.P.S.³) and an end-of-course evaluation. The foremost strength of

the project was that it addressed the lack of career and postsecondary program readiness for CTE completers at VTC. Project strengths also included incorporation of SCANS competencies learning modules, instruction by certified CTE teachers, career guidance counselor and career development facilitators, and learning activities. These project strengths support the long-term goal of increasing levels of CTE career and postsecondary program readiness.

As a former CTE instructor and director, I am fully committed to increasing students' career or postsecondary program readiness, which also serves as a project strength. The creation of a local curriculum to address CTE career or postsecondary readiness could result in a local, board approved, for-credit course offering. The VTC would be able to demonstrate it is working to address the needs of the community, which would serve to garner additional support from local stakeholders, business, and industry.

Recommendations for Remediation of Limitations

This project attempted to increase career or postsecondary program readiness for CTE completers, but it does have limitations. As with any course implementation, there are also weaknesses. One clear weakness is that the initial project implementation only involves those CTE students who are on track and identified to be CTE completers in the upcoming school year. The proposed curriculum plan was not developed for all students enrolled in a CTE course regardless of grade level or completer status. To address this limitation, it is recommended that the C.A.P.S.³ be further developed for use with CTE concentrators, as well as CTE completers.

Another weakness of the project is that it does not include input from community stakeholders in this implementation phase. To address this limitation, a future recommendation in establishing the C.A.P.S.³ planning committee would be to include business and industry partners in the decision-making processes. Business and industry partners are needed on school committees to bring insight into what is needed in the business and industry arena to help teachers develop new skills and to learn about the labor market in their fields. Business and industry partners can improve their public image when working directly with a school, while at the same time increasing an understanding of their services.

Limitations of the project findings were also an issue, as project implementation at one career center narrowed the ability to generalize the findings and apply them to other career centers. Therefore, a second phase of research is required in order to implement the curriculum on a larger scale to determine if the C.A.P.S.³ had a clearly identifiable impact on improving career or postsecondary program readiness skills. Additional sessions and increased time would allow facilitators to pursue the modules with greater depth and provide additional activities for learning.

If the project were deemed unsuccessful in meeting its goal, other options and alternatives would need to be explored. An alternative approach to this project could be to make it a self-directed online course for CTE completers. The CTE instructors could incorporate the learning activities and assignments into the syllabus for their face-to-face class sessions. This could leave some students at a disadvantage if access to a computer or the Internet was limited outside of school. Secondly, VTC could offer the C.A.P.S.³ in

an after-school format. The problems with this alternative to the project are conflicts with after-school extra-curricular activities, transportation, after-school tutoring sessions, or after-school detention. The C.A.P.S.³ is designed to improve outcomes for students, but so are many other programs offered after school.

Scholarship

The process of researching and developing the project was enlightening. My investigative skills were enhanced by researching articles and sources to support my work and the development of the project. The most essential lesson in scholarship that developed from the completion of the research and project development was learning the importance of reaching saturation of supporting reference material. Crucial to the process was an exhaustive investigation of related research and theory in developing the project. An in-depth review and analysis of scholarly, peer-reviewed references and citations lend to the credibility of the research and the project development. As the researcher, I felt it was necessary for me to adhere to scholarly research and writing practices in order to develop the project. As advice to future researchers, the beginning of any sound research must begin with a scholarly approach to the investigation and dissemination of information.

Project Development and Evaluation

In the development of the study, there were many opportunities for reflection. The development of a deliverable project proved to be challenging. There was both professional and personal development that resulted from the reflection process. Reflective practice has many benefits; most importantly, reflection is a valuable tool for

learning across multiple disciplines (Watson & Kenny, 2014). In developing the curriculum plan for this project, it was important to ensure the focus of the curriculum supported students' improvement in career or postsecondary program readiness. It was also important in developing the curriculum plan that the goal of the study project was measurable. The curriculum plan needed to be clear and concise to ease its implementation.

Several drafts of the study project were needed before it was finalized. The project had to be considered on several bases: delivery system, time allocations, resources, and development of the planning committee. I had to reflect on the project development from the perspective of the students, facilitators, committee members, and other VTC faculty and staff. Though I felt the project would serve to increase the career or postsecondary program readiness of CTE completers, limitations had to be considered. Identifying limitations of the project was an extremely important task. Addressing limitations appropriately would most certainly provide information concerning their impact on project outcomes. Continuous reflection was given to the project's learning objectives and the project evaluation. It was essential to the process to have a valid evaluation instrument that aligned with the learning objectives and project goals.

Leadership and Change

The entire process supported my evolution as a leader and an agent of change. I learned that in order to be a good leader, you must be a good learner. The entire research and project development process required me to be a learner and to develop scholarly research and writing skills.

My approach to article reviews has changed after conducting the study research and developing the project. Now, when reading articles while conducting research, I look for connections in the analysis of data and the research problem and consider projects that would address the problem. Historically, there have been few opportunities in my career to dedicate the time and resources to conduct a thorough research project on a local problem. Development of this project provided evidence that school leaders can address their local problems from a theoretical framework and implement projects to affect positive change.

Analysis of Self as Scholar

As a part of the research and project development process, I have become a scholar, practitioner, and project developer. In reflecting on scholarship, it is important to consider what I have learned about myself during this process. I have a background in CTE and felt confident that I was well versed in this specialization. I learned that, although I had a solid background in my CTE content area, I lacked knowledge concerning current research in the area of CTE or project development. I also learned that I did not have any knowledge concerning theories that frame the study of CTE programs and education. Therefore, I concluded that my experience as scholar of CTE was more limited than I first thought.

The research process required me to consider such things as qualitative and quantitative designs, validity, credibility, participant selection, and participant protection, as well as numerous other scholarly concerns about research design and development. I learned how to systematically approach the literature review process by considering the

research framework selected, the participant selection process, the data instrumentation process, and data analysis. I completed this process each time an article, book, dissertation, or report was selected for review. I learned that the literature review is a thorough process and necessary for sound research.

Analysis of Self as a Practitioner

As a practitioner, I was able to apply scholarly research and writing techniques throughout the development of this project study. Scholarly application was required in searching and selecting peer-reviewed articles for research and the C.A.P.S.³ curriculum plan development. Scholarly references and sources need to be relevant and recent (published within the past 5 years). It is also worth noting that I learned that one must also consider and include the seminal sources of theories when conducting a study, as they provide the earliest theoretic work or background information on the research.

Analysis of Self as Project Developer

The final component of the self-evaluation is for the researcher to conduct an analysis of themselves as a project developer. Much effort went into developing the project, as curriculum development has not been a primary responsibility for me in any of my professional roles. Though the development of the curriculum project was a relatively new experience, I learned a tremendous amount about the importance of clear course objectives, student assessment, and course/program evaluation. As a project developer, I also learned that the outcome of my curriculum project could impact the larger educational community.

As the developer, I had to research the problem and determine a solution. Upon reflection of what I learned throughout the research conducted to complete Section 1 and Section 2 of the study, I felt competent in conducting scholarly research to locate resources that would support the development of a curriculum plan designed to increase career or postsecondary readiness skills for CTE completers. I also learned that I could work independently to determine a solution to the problem based on information obtained through my research. Having worked in the public education arena prior to beginning this project study, I already had the knowledge base that allowed me to identify appropriate faculty and staff to participate in the project implementation and to identify their roles and responsibilities in the implementation process.

The Project's Potential Impact on Social Change

Upon reflection on the significance of the project, it is clear that the project has the potential to effect social change on both the local level and a broader, further reaching level. I deem the project will support local efforts in increasing the career or postsecondary readiness skills for CTE completers. This project provided instruction on SCANS modules that addressed career and postsecondary readiness skills deemed necessary by business and industry and included a course evaluation. This was not previously a practice at the VTC. Moreover, I learned this project would provide valuable data to the VTC regarding the success of their CTE programs in preparing CTE completers for careers or postsecondary programs. The data collected could help the VTC guide the development of current programs and provide career or postsecondary ready graduates, thus supporting the improvement of the local economic landscape.

Implications, Applications, and Directions for Future Research

This project provided an option for the VTC to address its lack of data on the CTE programs' successes and address the gaps in identified readiness skills. The project also provided an option for the VTC that was generalizable across all CTE programs of study; thus, there was no need to create a separate project for each program.

The project does imply there is a need for future research on CTE program effectiveness. There is a tremendous amount of research that has been conducted on the importance of CTE programs, career and college readiness, and transitions from high school to the workforce. What became apparent throughout this project was that considerably less focus has been given to providing solutions to the problem of a lack of a prepared workforce. I believe successful implementation of this project could lead to additional studies that attempt to replicate the project's implementation on a larger scale or lead to the development of other possible solutions to address the problem.

Conclusion

This case study resulted in the development of a noncredit course for CTE completers (C.A.P.S.³). The course will be available to all identified CTE completers at the local career center. I identified areas of perceived readiness and nonreadiness of the case study participants in regards to SCANS career or postsecondary readiness skills from the case study and incorporated them into the curriculum as the learning modules. As suggested by the data presented in Section 2 of the research study, gaps in CTE readiness need to be addressed.

Improvements in CTE programs will impact the CTE completers, business and industry, and the local economic profiles. In order to meet the needs of business and industry and meet the requirements of postsecondary programs, students must obtain necessary career or postsecondary readiness skills. Additionally, CTE completers must have a clear understanding of career or postsecondary program requirements and their application. The ability of CTE completers to participate in a course that will provide identified business and industry readiness skills will improve upon their employment and postsecondary options as they transition out of high school. This curriculum plan provided modules and learning activities for students to develop necessary characteristics of a career or postsecondary program ready graduate.

References

- Aims Community College. (2014). *Career and technical education*. Retrieved from <http://www.aims.edu/about/faqs/27#193>
- Alfeld, C., & Bhattacharya, S. (2013). Programs of study: What “mature” sites tell us. *Techniques*, 87(1), 32-35. Retrieved from <http://files.eric.ed.gov/fulltext/EJ976603.pdf>
- Aliaga, O. A., Kotamraju, P., & Stone, J. R., III. (2012). *A typology for understanding the career and technical education credit-taking experience of high school students*. Louisville, KY: National Research Center for Career and Technical Education, University of Louisville.
- Allen, M. (2014). How to reduce bias in qualitative studies? Retrieved from http://www.ehow.com/how_8500008_reduce-bias-qualitative-studies.html
- Alvior, M. G. (2014). The meaning and importance of curriculum development. Retrieved from <http://simplyeducate.me/2014/12/13/the-meaning-and-importance-of-curriculum-development/>
- American Diploma Project Network. (2012). *The ADP network*. Retrieved from <http://www.achieve.org/adp-network>
- American Institute for Research. (2013). *How career and technical education can help students be college and career ready: A primer*. Retrieved from <http://www.aypf.org/wp-content/uploads/2013/04/CCRS-CTE-Primer-2013.pdf>
- Anderson, C.L. (2015). FCS and the synchrony of extinction. *Journal of Family and Consumer Science*, 107(3), 66-68.

- Aroian, M., & Brown, R. (2015). The whistleblower effect. *Academe*, 101(5), 16-20.
Retrieved from <http://www.aaup.org/article/whistleblower-effect#.VuRJoNCWcil>
- Association for Career and Technical Education. (2008). *Career and technical education's role in workforce readiness credentials*. Retrieved from <https://www.acteonline.org/WorkArea/DownloadAsset.aspx?id=2107>
- Association for Career and Technical Education. (2009). *The role of career academies in education improvement*. Retrieved from <http://www.acteonline.org/issuebriefs/#.VuRIyNCWcik>
- Association for Career and Technical Education. (2014). *What is CTE?* Retrieved from <http://www.acteonline.org/general.aspx?id=120#.VC09gE3u3IU>
- Asunda, P. (2011). Open courseware and STEM initiatives in career and technical education. *Journal of STEM Teacher Education*, 48(6), 6-37. Retrieved from <http://scholar.lib.vt.edu/ejournals/JSTE/v48n2/asunda.html>
- Azhar, F. (2013). Class-based performance evaluation: An evaluation. *Asian Social Science*, 9(12), 187-194. doi:10.5539/ass.v9n12p18
- Balfanz, R., Bridgeland, J. M., Bruce, M., & Hornig Fox, J. (2013). *Building a grad nation: Progress and challenge in ending the high school dropout epidemic*. Retrieved from http://www.civicenterprises.net/MediaLibrary/Docs/Building-A-Grad-Nation-Report-2013_Full_v1.pdf
- Ballad, C. G., & Bawalan, R. J. (2012). *Methods of qualitative research: Phenomenological research*. Retrieved from <http://www.slideshare.net/RalphBawalan/qualitative-research-phenomenology>

- Bamberg, M. (2012). Why narrative? *Narrative Inquiry*, 22(1), 202-210. Retrieved from <https://benjamins.com/#catalog/journals/ni.22.1/main>
- Bandura, A. (1977). *Social learning theory*. Upper Saddle River, NJ: Prentice Hall.
- Barnes, W., & Slate, J. R. (2011). College-readiness rated in Texas: A statewide, multiyear study of ethnic differences. *Education and Urban Society* 45(1), 59-87. doi:10.1177/0013124511423775
- Barnes, W., & Slate, R. (2013). College-readiness is not one-size fits all. *Current Issues in Education*, 16(1), 1-13.
- Bartholomew, A., Papay, C., McConnell, A., & Cease-Cook, J. (2015). Embedding secondary transition in the common core state standards. *Teaching Exceptional Children*, 47(6), 329-335. doi:10.1177/0040059915580034
- Benjamin, A., Hyslop-Margison, E., & Taylor, J. (2010). Democratic learning in U.S. career education. *Journal of Career and Technical Education*, 25(2), 120-130. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/506/486>
- Bishop-Clark, C., Hurn, J., Perry, S., Freeman, M., Jernigan, M., Wright, F., & Weldy, N. (2010). High school teachers teaching college courses to CTE students: A story of success. *Journal of Career and Technical Education*, 25(2), 78-93. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/503>
- Bjork, B. (2012). The hybrid model for open access publication of scholarly articles: A failed experiment? *Journal of the American Society for Information Science and Technology*, 63(8), 1496-1504. doi:10.1002/asi.22709

- Brand, B., Valent, A., & Browning, A. (2013). *How career and technical education can help students be college and career ready: A primer*. College & Career Readiness & Success Center. Retrieved from <http://www.aypf.org/wp-content/uploads/2013/04/CCRS-CTE-Primer-2013.pdf>
- Bron, J., & Veugelers, W. (2014). Why we need to involve our students in curriculum design. Five arguments for student voice. *Curriculum and Teaching Dialogue*, 16(1), 125-159A. Retrieved from <http://search.proquest.com/docview/1566612671?accountid=14872>
- Byrom, T., & Aiken, V. (2014). Doing it differently: Re-designing the curriculum to face the challenges of student work-based learning opportunities. *Higher Education, Skills, and Work-based Learning*, 4(3), 271-283. doi:10.1108/HESWBL-05-2014-0017
- California Department of Education. (2014). *Career technical education*. Retrieved from <http://www.cde.ca.gov/ci/ct/>
- Carl D. Perkins Career and Technical Education Act of 2006, Pub. L. No. 109-270, § 120 Stat. 6831 (2006).
- Carnevale, A., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. Washington, DC: Georgetown University,
- Castellano, M., Sundell, K., Overman, L., & Aliaga, O. (2012). Do career and technical education programs of study improve student achievement? Preliminary analyses from a rigorous longitudinal study. *International Journal of Educational Reform*, 21(2), 98-118.

Chapa, M., Galva-De Leon, V., Solis, J., & Mundy, M. (2015). College readiness.

Research in Higher Education Journal, 25, 1-4.

Chicago Metropolitan Agency. (2014). *Improve education and workforce development*.

Retrieved from <http://www.cmap.illinois.gov/about/2040/>

Ciceu, R. C. (2014). When is qualitative research most suitable for a research design?

IDEATE: The Undergraduate Journal of Sociology, 12(Summer 2014). Retrieved from

http://www.essex.ac.uk/sociology/documents/research/publications/ug_journal/vol12/2014SC101_Raluca%20Ciceu_3final.pdf

Colby, R. (2010). *Qualitative research: Interpreting observations and interviews*.

Retrieved from <http://wow.richardcolby.net/wp-content/uploads/2010/03/Chapter7.pdf>

Community Sustainability Evaluation Toolbox. (2010). *Semi-structured interview*.

Retrieved from <http://evaluationtoolbox.net.au/>

Conley, D. T. (2010). *College and career ready: Helping all students succeed beyond high school*. San Francisco, CA: Jossey-Bass.

Cook, D., & Farmer, L. (2011). *Using qualitative methods in action research: How librarians can get to the why of data*. Chicago, IL: Association of College and Research Libraries.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Thousand Oaks, CA: Sage.

- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson Education.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice, 39*, 124–134.
- Davidson, E. J. (2005). *Evaluation methodology basics*. Thousand Oaks, CA: Sage.
- Davidson, L. Y. J. (2012). *Teachers' perspective on using technology as an instructional tool*. (Doctoral dissertation). ProQuest Dissertations and Theses, 149. Retrieved from <http://search.proquest.com.library.capella.edu/docview/1282649070?accountid=27965> (1282649070).
- Dortch, C. (2012). *Carl D. Perkins career and technical education act of 2006: Implementation issues*. Retrieved from <http://fas.org/sgp/crs/misc/R42863.pdf>
- Dubose, K. (2010). *Ethnographic vs. phenomenological research designs*. Retrieved from <http://kellydubose.wordpress.com/2010/04/06/ethnographic-vs-phenomenological-research-designs/>
- Dupre, C., & Williams, K. (2011). Undergraduates' perceptions of employer expectations. *Journal of Career and Technical Education, 26*(1), 8-19. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/513/499>

- Ebert-May, D., Derting, T. L., Hodder, J. Momsen, J. L., Long, T. M., & Jardeleza, S. E. (2011). What we say is not what we do: Effective evaluation of faculty professional development programs. *BioScience*, *61*(7), 550-558.
doi:10.1525/bio.2011.61.7.9
- Economic Progress Institute. (2014). *A skilled workforce*. Retrieved from <http://www.economicprogressri.org/Issues/SkilledWorkforce/tabid/187/Default.aspx>
- Esterberg, K. G. (2002). *Qualitative methods in social research*. Columbus, OH: McGraw-Hill.
- Evaluation Toolkit. (2016). *Analyze qualitative data*. Retrieved from <http://toolkit.pellinstitute.org/evaluation-guide/analyze/analyze-qualitative-data/>
- Evers, T. (2010). *Learning that works for Wisconsin*. Retrieved from <http://cte.dpi.wi.gov/files/cte/pdf/ctebrochure.pdf>
- Fala, J., Strouse, K., Tully, C., & Viviano, T. (2012). Educating 21st century students: An up-close look at a successful career and technical education center. *Techniques*, *87*(7), 1-23.
- Feng, X., Lu, G., & Yao, Z. (2015). Professional task-based curriculum development for distance education practitioners at master's level: A design-based research. *International Review of Research in Open and Distributed Learning*, *16*(2), 288-310. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/2011>
- Flannery, K. B., Benz, M. R., Yovanoff, P., Kato, M. M., & Lindstrom, L. (2011).

Predicting employment outcomes for consumers in community college short-term training programs. *Rehabilitation Counseling Bulletin*, 54(2), 106-117.

doi:10.1177/00343552120368432

Fletcher, E. C., Jr., Djajalaksana, Y., & Eison, J. (2012). Instructional strategy use of faculty in career and technical education. *Journal of Career and Technical Education*, 27(2), 69-83. Retrieved from <http://files.eric.ed.gov/fulltext/EJ995896.pdf>

Foster, R. (2010). Cooperative and concurrent enrollment and college retention. *Journal of Career and Technical Education*, 25(2), 38-45. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/500/474>

Frye, A., & Hemmer, P. (2012). Program evaluation models and related theories: AMEE guide no. 67. *Medical Teacher*, 34(5), 288-299.
doi:10.3109/0142159x.2012.668637

Georgetown University Center on Education and the Workforce. (2011). *Jobs, skills, people*. Retrieved from <http://cew.georgetown.edu/jobs2018>

Gewertz, C. (2011). College readiness program hard to gauge. *Education Week*, 30(18), 1, 14-15. Retrieved from http://www.edweek.org/ew/articles/2011/01/20/18eap_ep.h30.html

Green, K. (2012). *Common career technical core: Common standards, common vision for CTE*. Retrieved from http://www.nxtbook.com/ygsreprints/ACTE/g28433_acte_techniques_sep2012/index.php#/44

- Grier-Reed, T., & Ganuza, Z. (2012). Using constructivist career development to improve career decision self-efficacy in TRIO students. *Journal of College Student Development, 53*(3), 464-471. Doi:10.1353/csd.2012.0045
- Hagens, V., Dobrow, M. J., & Chafe, R. (2009). *Interviewee transcript review: Assessing the impact on qualitative research*. Retrieved from <http://bmcmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-9-47>
- Harper, M., & Cole, P. (2012). Member checking: Can benefits be gained similar to group therapy? *The Qualitative Report, 17*(2), 510-517. Retrieved from <http://www.nova.edu/ssss/QR/QR17-2/harper.pdf>
- Harvey, L. (2014). Semi-structured interview. *Social Research Glossary*. Retrieved from <http://www.qualityresearchinternational.com/socialresearch/interview.htm>
- Heard, M. (2014). Repositioning curriculum design: Broadening the who and how of curricular invention. *College English, 76*(4), 315-336. Retrieved from <http://search.proquest.com/docview/1504173068?accountid=14872>
- Hutchins, B., Meece, J., Byun, S., & Farmer, T. (2012). Planning for the future: An investigation of work-bound rural youth. *Rural Educator 33*(2), 7-19. Retrieved from <http://epubs.library.msstate.edu/index.php/ruraleducator/article/view/144>
- Hynes, K., Greene, K. M., & Constance, N. (2012). Helping youth prepare for careers: What can out-of-school time programs do? *Afterschool Matters, 16*, 21-30. Retrieved from <http://eric.ed.gov/?id=EJ992134>
- Irvine, A. (2010). *Using phone interviews*. Retrieved from <http://eprints.ncrm.ac.uk/1576/1/14-toolkit-phone-interviews.pdf>

- Johnson, R. B., & Christensen, L. B. (2012). *Quantitative, qualitative, and mixed approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Kantrov, I. (2014). *White papers: Opportunities and challenges in secondary career and technical education*. Retrieved from <http://ltd.edc.org/resource-library/CTEwhitepaper>
- Kaplan, B., & Maxwell, J. A. (1994). Qualitative research methods for evaluating computer information systems. In J. G. Anderson, C. E. Aydin, & S. J. Jay (Eds.), *Evaluating Health Care Information Systems, Methods and Applications* (pp. 45-68). Thousand Oaks, CA: Sage.
- Kelley, T., & Kellam, N. (2009). A theoretical framework to guide the re-engineering of technology education. *Journal of Technology Education, 20*(2), 37-49. Retrieved from <https://scholar.lib.vt.edu/ejournals/JTE/v20n2/kelley.html>
- Khan, M. A., & Law, L. S. (2015). An integrative approach to curriculum development in higher education in the USA: A theoretical framework. *International Education Studies, 8*(3), 66-76. doi:10.5539/ies.v8n3p66
- Kivunja, C. (2015). Teaching students to learn and to work well with 21st century skills: Unpacking the career and life skills domain. *International Journal of Higher Education, 4*(1), 1-11. doi:10.5430/ijhe.v4n1p1
- Krathwohl, D. R. (1998). *Methods of educational and social science research: An integrated approach* (2nd ed.). New York, NY: Longman.
- Lange, C., Range, B., & Welsh, K. (2012). *Conditions for effective data use to improve Schools: Recommendations for school leaders*. Retrieved from

<http://creativecommons.org/licenses/by/3.0/>

- Lapan, S. D., Quartaroli, M. T., & Riemer, F. J. (Eds). (2012). *Qualitative research: An introduction to methods and designs*. San Francisco, CA: John Wiley & Sons.
- Legard, R., Keegan, J., & Ward, K. (2003). In-depth interviews. In J. Ritchie & J. Lewis *Qualitative research practice: A guide for social science students and researchers* (138-169). Thousand Oaks, CA: Sage.
- Lerman, R. I. (2013). Are employability skills learned in U.S. youth education and training programs? *Journal of Labor Policy*, 2(6), 1-20. doi:10.1186/2193-9004-2-6
- Lewis, J. (2009). Redefining qualitative methods: Believability in the fifth moment. *International Journal of Qualitative Methods*, 8(2), 1-14.
- Li, J. (2014). Needs analysis: An effective way in business English curriculum design. *Theory and Practice in Language Studies*, 4(9), 1869-1874.
doi:10.4304/tpls.4.9.1869-1874
- Liu, S., Lee, Y., Lin, Y., & Tseng, C. (2013). Applying quality function deployment in industrial design curriculum planning. *International Journal of Technology and Design Education*, 23(4), 1147-1160. doi:10.1007/s10798-012-9228-2
- Lodico, M., Spaulding, D., & Voegtle, K. (2010). *Methods in educational research: From theory to practice* (2nd ed.). San Francisco, CA: Jossey-Bass.
- MacPherson, K. (2014). *Career development and education in the digital age*. Retrieved from <https://www.questia.com/magazine/1P3-3507622761/career-development-and-education-in-the-digital-age>

- Manley, R., & Price, W. (2011). The operational infrastructure of secondary-level CTE: Definition, validation, and application. *Journal of Career and Technical Education, 26*(1), 20-31. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/514/500>
- Maxwell, J. A. (1996). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.
- McMullin, K. (2014). Identifying perceptions that contribute to the development of successful project lead the way pre-engineering in Utah. *Journal of Technology Education, 26*(1), 22-46.
- Meeder, H., & Suddreth, T. (2012). *Common core state standards & career and technical education: Bridging the divide between college and career readiness*. Retrieved from <http://www.achieve.org/files/CCSS-CTE-BridgingtheDivide.pdf>
- Mero-Jaffe, I. (2011). Is that what I said? Interview transcript approval by participants: An aspect of ethics in qualitative research. *International Journal of Qualitative Methods, 10*(3), 231-247.
- Merriam, S. (Ed.). (2009). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco, CA: Jossey-Bass.
- Middleton, D. T. (2012). *The perceptions of high school graduates of career and technology education courses*. (Order No. 3499647, Walden University). Available from *ProQuest Dissertations and Theses*, 113.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis*. (2nd ed.). Newbury Park, CA: Sage.

- Miles, M. B., & Huberman, A. M. (2013). *Qualitative data analysis: A methods source book*. Thousand Oaks, CA: Sage.
- Mitchell, A. M., & Allen, S. (2014). A qualitative analysis of the curriculum for career-ready graduates from the perspective of academics and business professionals: China, Europe, and the United States. *Journal of Higher Education Theory and Practice* 14(1), 100-117.
- Mndebele, C. S., & Diamini, E. (2008). High school vocational programs: Self-reported perceptions of vocational teachers in Swaziland. *Journal of Vocational Education and Training*, 60(3), 315-325. doi:10.1080/13636820802305660.
- Mohamed, M. M., Bakar, N. A., Sulaiman, N. L., Salleh, K. M., & Sern, L. C. (2015). Applying standard competency assessment in vocational teaching practices. *Asian Social Science*, 11(24), 216-223.
- Mora, M. (2010). Quantitative vs. qualitative research: When to use which? [Web log post]. Retrieved from <http://www.surveygizmo.com/survey-blog/quantitative-qualitative-research/>
- Moscoso, S. C., Chavers, S. S., Vidal, M. P., & Argilaga, M. T. A. (2012). Reporting a program evaluation: Needs, program plan, intervention, and decisions. *International Journal of Clinical and Health Psychology*, 13(1), 58-66. doi:10.1016/S1697-2600(13)70008-5
- Mugimu, C. B., & Mugisha, W. R. (2013). Educational practices, curriculum design and implementation at the MLT diploma program in Uganda. *Creative Education*,

4(12), 105-115. Retrieved from

<http://search.proquest.com/docview/1491015815?accountid=14872>

Murphrey, T., Miller, K., Harlin, J., & Rayfield, J. (2011). Collaboration as a tool to

improve career and technical education: A qualitative study of successful

collaboration among extension agents and agricultural science teachers. *Journal*

of Career and Technical Education, 26(2), 57-67. Retrieved from

<https://ejournals.lib.vt.edu/index.php/JCTE/article/view/527/524>

National Center for Educational Statistics. (2011). *The condition of education*. Retrieved

from <http://nces.ed.gov/pubs2011/2011033.pdf>

National Research Center for Career and Technical Education. (2013). *Programs of study*

as a state policy mandate: A longitudinal study of South Carolina personal

pathways to success initiative. Retrieved from [http://www.nrccte.org /sites/default](http://www.nrccte.org/sites/default)

[/files/publication-files/nrccte_sc_personal_pathways_final_report.pdf](http://www.nrccte.org/sites/default/files/publication-files/nrccte_sc_personal_pathways_final_report.pdf)

New Hampshire Department of Education. (2014). *What is career and technical*

education? Retrieved from <http://www.education.nh.gov/career/career/>

No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425

(2002).

Olasehinde, M. (2015). An evaluation of the English component of the general studies

curriculum for Nigerian polytechnics. *English/Language and Literature Studies*

5(2), 123-135.

- Packer, A. C., & Brainard, S. (2003). *Implementing SCANS*. Retrieved from http://www.channelingreality.com/un/education/SCANS_NCCTE_Background_1.pdf
- Partnership for 21st Century Skills. (2010). *Up to the challenge: The role of career and technical education and 21st century skills in college and career readiness*. Retrieved from http://www.p21.org/storage/documents/CTE_Oct2010.pdf
- Pate, M., & Miller, G. (2011a). Effects of think-aloud pair problem solving on secondary-level students' performance in career and technical education courses. *Journal of Agriculture Education*, 52(1), 120-131. Retrieved from <http://files.eric.ed.gov/fulltext/EJ955681.pdf>
- Pate, M., & Miller, G. (2011b). Effects of regulatory self-questioning on secondary-level students' problem-solving performance. *Journal of Agriculture Education*, 52(1), 72-84. Retrieved from <http://files.eric.ed.gov/fulltext/EJ955673.pdf>
- Patton, M. Q. (2015). *Qualitative research and evaluation methods: Integrating theory and practice*. Thousand Oaks, CA: Sage Publications.
- Phelps, A., Durham, J., & Camburn, E. (2009). *Engineering the math performance gap*. University of Wisconsin, Center on Education and the Workforce. Retrieved from http://cew.wisc.edu/docs/resource_collections/CEW_PTLW_Brief_UWMadison.pdf
- Phelps, L. A., Durham, J., & Wills, J. (2011). Education alignment and accountability in an era of convergence: Policy insights from states with individual learning plans and policies. *Education Policy Analysis Archives*, 19(31), 1-33.

doi:10.14507/epaa.v19n31.2011

Plank, S., DeLuca, S., & Estacion, A. (2005). *Dropping out of high school and the place of career and technical education: A survival analysis of surviving high school*.

St. Paul, MN: National Research Center for Career and Technical Education.

Radcliff, R. A., & Bos, B. (2013). Strategies to prepare middle school and high school students for college and career readiness. *The Clearing House*, 86, 136-141.

doi:10.1080/00098655.2013.782850

Ramsey, J., & Edwards, M. (2011). Entry-level technical skills that agricultural industry experts expect students to learn through their supervised agriculture experiences:

A modified Delphi study. *Journal of Agricultural Education*, 52(2), 82-94.

doi:10.5032/jae.2011.02082

Roberts, A. (2012). Beyond the lecture: Interactive strategies in the health profession education curriculum. *Journal of Career and Technical Education*, 27(1), 48-55.

Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/541/550>

Rogers-Chapman, M. F., & Darling-Hammond, L. (2013). *Preparing 21st century citizens: The role of work-based learning in linked learning*. Stanford Center for

Opportunity Policy in Education. Retrieved from [https://edpolicy.stanford.edu](https://edpolicy.stanford.edu/sites/default/files/publications/preparing-21st-century-citizens-role-work-based-learning-linked-learning.pdf)

[/sites/default/files/publications/preparing-21st-century-citizens-role-work-based-learning-linked-learning.pdf](https://edpolicy.stanford.edu/sites/default/files/publications/preparing-21st-century-citizens-role-work-based-learning-linked-learning.pdf)

Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes in qualitative data.

Field Methods, 15(1), 85-109. doi:10.1177/1525822X02239569.

- Saldaña, J. (2009). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage.
- Salleh, A., Mohamad, S., Abdullah, S., Mahmud, Z., Ghavifekr, S., & Ishak, N. (2013). A structured career intervention program for academically challenged students. *Asia Pacific Education Review, 14*(2), 209-214. doi:10.1007/s12564-013-9259-8
- Saunders, M. N. K. (2012). Choosing research participants. In G. Symon & C. Cassell, (Eds.). *The practice of qualitative organizational research: Core methods and current challenges*. London, England: Sage.
- SC Works. (2015). *2015 community profile*. Retrieved from <http://lmi.dew.sc.gov/lmi%20site/>
- Secretary's Commission on Achieving Necessary Skills. (1991). *What work requires of schools: A SCANS report for America 2000*. Retrieved from <http://wdr.doleta.gov/SCANS/whatwork/whatwork.pdf>
- Seidman, I. (2013). *Interviewing as qualitative research: A guide for researchers in education and social sciences* (4th ed.). New York, NY: Teachers College Press.
- Slusher, W., Robinson, J., & Edwards, M. (2010). Animal science experts' opinions on the non-technical skills secondary agricultural education graduates need for employment in the animal science industry: A Delphi study. *Journal of Career and Technical Education, 25*(1), 8-20. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/487/450>
- Slusher, W., Robinson, J., & Edwards, M. (2011). Assessing the animal science technical skills needed by secondary agriculture education graduates for employment in the

- animal industries: A modified Delphi study. *Journal of Agriculture Education*, 52(2), 95-106. Retrieved from <http://files.eric.ed.gov/fulltext/EJ955699.pdf>
- Smith, B. (2012). *Defining college and career readiness: Take action now*. Retrieved from <http://www.asccc.org/content/defining-college-and-career-readiness-take-action-now>
- Smith-Hughes Act, Pub. L. No. 64-347 § 39 Stat. 929 (1917).
- Sorensen, A. (n.d.). *Principles supporting qualitative research*. Retrieved from <http://www.cedu.niu.edu/~sorensen/502/powerpoint/topicD/qlnotes.htm>
- South Carolina Department of Education. (2005). *How EEDA Works for South Carolina: An educator's guide to develop and implement the EEDA curriculum framework and individual graduation plan*. Columbia, SC: Author.
- South Carolina Department of Education. (2011). *Perkins IV accountability indicators for career and technology education*. Retrieved from <https://ed.sc.gov/agency/programs-services/136/documents/PerkinsIVAccountabilityIndicatorsforSCposted110808.pdf>
- South Carolina Department of Education. (2012). *Individual graduation plan (IGP)*. Retrieved from <http://blog.recs.sc.gov/2012/07/individual-graduation-plan-igp/>
- South Carolina Department of Education. (2013a). *Perkins performance level negotiations for 2012-2013*. Retrieved from <https://ed.sc.gov/agency/programs-services/136/documents/FY13PerkinsPerformanceLevelNegotiations.pdf>
- South Carolina Department of Education. (2013b). *Technical skill assessments approved for measuring technical skill attainment for CATE program*. Retrieved from

<https://ed.sc.gov/agency/programs-services/136/documents/201213SouthCarolinaCATEAssessments.pdf>

South Carolina Department of Education. (2014a). *Perkins accountability*. Retrieved from <https://ed.sc.gov/agency/programs-services/136/>

South Carolina Department of Education. (2014b). *Career cluster guide*. Retrieved from <https://ed.sc.gov/agency/ac/Career-and-Technology-Education/CareerClusterGuides.cfm>

South Carolina Department of Education. (2014c). *Career and technology education*. Retrieved from <http://ed.sc.gov/agency/ac/Career-and-Technology-Education/>

South Carolina Department of Employment and Workforce. (2012). *Workforce Investment Act (WIA) annual report program year 2011*. Retrieved from <http://www.doleta.gov/performance/results/AnnualReports/PY2011/SouthCarolinaAnnualReport2011.pdf>

South Carolina Department of Employment and Workforce. (2013). *Workforce Investment Act annual report: Program year 2013*. Retrieved from <http://www.doleta.gov/performance/results/AnnualReports/PY2013/SouthCarolinaAnnualReport2013.pdf>

South Carolina Education, Economic, and Development Act S. C. Code Ann. § 59-59-30 (2006).

Spicer, W., & Macula, A. T. (2014, April). *Implementing curricula and assessments that integrate common core and PARCC: Increasing student outcomes*. Presentation at the New Jersey Common Core Leadership Summit, Monroe Township, NJ.

Retrieved from

<http://www.ascd.org/ASCD/pdf/siteASCD/policy/2014/MaculaSpicer-Integrating-Curricula-Assessments-Integrate-Common-Core-PARCC.pdf>

Stipanovic, N., Lewis, M., & Stringfield, S. (2012). Situating programs of study within current and historical career and technical educational reform efforts.

International Journal of Educational Reform, 21(2), 80-97. Retrieved from

http://www.nrccte.org/sites/default/files/external-reports-files/12-008_ijer_v21_no2_fnls_2.pdf#page=4

Stipanovic, N., Shumer, R., & Stringfield, S. (2012). Lessons learned from highly implemented programs of study. *Techniques*, 87(1), 20-23. Retrieved from

<http://files.eric.ed.gov/fulltext/EJ976600.pdf>

Stone, J. R., III. (2012). *Rising in leadership: CTE, college career readiness, and making high school matter*. Retrieved from <http://www.nrccte.org/sites/default>

[/files/publication-files/az_rising_in_leadership_handouts.pdf](http://www.nrccte.org/sites/default/files/publication-files/az_rising_in_leadership_handouts.pdf)

Strider, C. (2014). *Qualitative descriptive research*. Retrieved from

http://www.ehow.com/info_8687891_qualitative-descriptive-research-method.html

Sumanasiri, E. G. T., Yajid, M. S. A., & Khatibi, A. (2015). Conceptualizing learning and employability “Learning and employability framework.” *Journal of*

Education and Learning, 4(2), 53-63. doi:10.5539/jel.v4n2p53

- Symonds, W. C., Schwartz, R. B., & Ferguson, R. (2011). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Boston, MA: Harvard.
- Tech-Prep Education Act Pub. L. No. 88-210, 20 U. S. Code § 2373 (1985).
- Thompson, J., Grantham, H., & Houston, D. (2015). Paramedic capstone education model: Building work-ready graduates. *Australasian Journal of Paramedicine, 12*(3).
- Threton, M., & Pellock, C. (2010). An examination of the relationship between SkillsUSA, student contest, preparation, and academics. *Journal of Career and Technical Education, 25*(2), 94-108. Retrieved from <https://ejournals.lib.vt.edu/index.php/JCTE/article/view/504/482>
- Threton, M. D., & Walter, R. A. (2009). Automotive technology student learning styles and their implications for faculty. *Journal of Industrial Teacher Education, 46*(3), 7-33. Retrieved from <http://scholar.lib.vt.edu/ejournals/JITE/v46n3/threton.html>
- Tillema, H., Leenknecht, M., & Segers, M. (2011). Assessing assessment quality: Criteria for quality assurance in design of (peer) assessment for learning: A review of research studies. *Studies in Education Evaluation, 37*, 25-34.
doi:10.1016/j.stueduc.2011.03.004
- Tokmak, H. S., Baturay, H. M., & Fadde, P. (2013). Applying the context, input, process, product evaluation model for evaluation, research, and redesign of an online master's program. *International Review of Research in Open and Distance*

Learning, 14(3) Retrieved from

<http://www.irrodl.org/index.php/irrodl/article/viewFile/1485/2605>

Trahar, S. (2009). Beyond the story itself: Narrative inquiry and autoethnography in intercultural research in higher education. *Journal of Qualitative Social Research*, 10(1). Retrieved from <http://www.qualitative-research.net/index.php/fqs/article/view/1218/2653>

Tucker, B. (2011). The dream deferred: How “college and career readiness looks from below. *English Journal*, 100(3), 115-116. Retrieved from <http://www.ncte.org/library/NCTEFiles/Resources/Journals/EJ/1003-jan2011/EJ1003Dream.pdf>

U.S. Department of Education. (1992). *Learning a living: A blueprint for high performance: A SCANS report for American 2000*. Retrieved from <https://wdr.doleta.gov/SCANS/lal/lal.pdf>

U.S. Department of Education. (2003). *Proven methods: Questions and answers on No Child Left Behind – Doing what works*. Retrieved from <http://rps.sagepub.com/content/28/3/126.full.pdf>

U.S. Department of Education. (2012a). *Expanding successful career and technical education through career academies*. Office of Vocational and Adult Education. Retrieved from <http://www2.ed.gov/about/offices/list/ovae/news/index.html>

U.S. Department of Education. (2012b). *Investing in America’s future: A blueprint for transforming career and technical education*. Office of Vocational and Adult

Education. Retrieved from <https://www2.ed.gov/about/offices/list/ovae/pi/cte/transforming-career-technical-education.pdf>

U.S. Department of Education. (2013a). *National assess of career and technical education report*. Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service. Retrieved from http://www.researchgate.net/publication/234567166_National_Assessment_of_Vocational_Education_Interim_Report_to_Congress

U.S. Department of Education. (2013b). *High Schools and career readiness: Strengthening the pipeline to the middle class*. Retrieved from <http://www.ed.gov/highschool>

U.S. Department of Labor Employment & Training Administration. (2009). *Policy and research publications online reports*. Retrieved from <http://wdr.doleta.gov/opr/fulltext/document.cfm?docn=6140>

U.S. Office of Vocational and Adult Education. (2012a). *Career and technical education: Expanding successful career and technical education through career academics*. Retrieved from <http://www.allgov.com/departments/department-of-education/office-of-vocational-and-adult-education?agencyid=7374>

U.S. Office of Vocational and Adult Education. (2012b). *Promoting college and career Readiness: Bridge programs for low-skill adults*. Retrieved from <http://www.USDOE/ovae>

- University of California Berkeley, Center for Teaching and Learning. (n.d.). *Course evaluations question bank*. Retrieved from teaching.berkeley.edu/course-evaluations-question-banxfxgk
- Utah State Office of Education. (2014). *Work based learning program*. Retrieved from <http://www.schools.utah.gov/cte/wbl.html>
- Valenzuela, D., & Shrivastava, P. (2010). *Interview as a method for qualitative research*. Retrieved from <http://www.public.asu.edu/~kroel/www500/Interview%20Fri.pdf>
- Vanderbilt University. (n.d.). *Gathering feedback from students*. Retrieved from cft.vanderbilt.edu/guides-sub-pages/student-feedback/
- Venezia, A., & Jaeger, L. (2013). Transitions from high school to college. *The Future of Children*, 23(1), 117-136.
- Watson, G. P. L., & Kenny, N. (2014). Teaching critical reflection to graduate students. *Collected Essays on Learning and Teaching*, 7(1). Retrieved from <http://windsor.scholarsportal.info/ojs/leddy/index.php/CELT/article/viewFile/3966/3258>
- Weik, A., Withycombe, L., & Redman, C. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability Science*, 6(2), 203-218. doi:10.1007/s11625-011-0132-6
- Wessels, S. B., & Sumner, D. F. (2014). Integrating career development into the accounting curriculum. *American Journal of Business Education*, 7(1), 21-30. doi: <http://dx.doi.org/10.19030/ajbe.v7i1.8316>. Retrieved from <http://www.cluteinstitute.com/ojs/index.php/AJBE/article/view/8316/8345>

- Withington, C., Hammond, C., Mobley, C., Stipanovic, N., Sharp, J., Stringfield, S., & Drew, S. (2012). Implementing a statewide mandated career pathways/program of study school reform model: Select findings from a multisite case study. *International Journal of Educational Reform*, 21(4), 138-158. Retrieved from http://www.nrccte.org/sites/default/files/external-reports-files/12-008_ijer_v21_no2_fnls.pdf#page=62
- Wode, J., & Keiser, J (2011). *Online course evaluation literature review and findings*. Retrieved from <http://facultysenate.mst.edu/media/campussupport/facultysenate/documents/cet/2012/Course%20Evaluation%20Literature%20Review%282011%29.pdf>
- Wolcott, H. (1990). *Writing up qualitative research*. Thousand Oaks, CA: Sage.
- Yin, R. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.
- Yin, R. K. (2011). *Qualitative research from start to finish*. New York, NY: Guilford Press.
- Yurdakul, B. (2015). Perceptions of elementary school teachers concerning the concept of curriculum. *Education Sciences: Theory & Practice*, 15(1), 125-139. doi:10.12738/estp.2015.1.2168

Appendix A: The Project

Career and Postsecondary Student Success Seminar (C.A.P.S.³) Schedule

FALL SEMESTER	Action Steps
August 20XX	Curriculum Approved by Director Form C.A.P.S. ³ Planning Committee
September 20XX	Planning Committee Meeting * C.A.P.S. ³ Curriculum Review/Reflection
October 20XX	Planning Committee Meeting *Select/Inform Facilitators *Facilitators are now team members
November 20XX	Planning Committee Meeting *Begin identification of CTE Completer Cohorts
December 20XX	Planning Committee Meeting *Finalize CTE Completers Cohorts *Begin CTE Completers Cohorts Scheduling
SPRING SEMESTER	Action Steps
January 20XX	Planning Committee Meeting *Identify C.A.P.S. ³ needs (resources, materials, speakers, etc.) *Begin announcing C.A.P.S. ³ to students *Assembly with CTE Completer Cohort to introduce C.A.P.S. ³
February 20XX	Planning Committee Meeting *Final review of C.A.P.S. ³ *Secure materials and resources *Mail C.A.P.S. ³ notification to students/parents
March 20XX	Planning Committee Meeting *Assign facilitators to cohorts *Continue notification process (announcements, email alerts, Remind 101, etc.)
April 20XX	Planning Committee Meeting *Distribute materials to facilitators/team members *Assign classroom/lab locations
May 20XX	Planning Committee Meeting *Final push of information to students/parents *Address questions/concerns *Implement C.A.P.S. ³ in August of next school term

Proposed Project Curriculum

Career and Postsecondary Student Success Seminar (C.A.P.S.³)

Proposed Curriculum Plan Syllabus

I. Rationale:

The proposed nine-week C.A.P.S.³ course is designed for students enrolled in CTE programs. The purpose of C.A.P.S.³ is to increase career and postsecondary program readiness for CTE completers. C.A.P.S.³ will use learning modules developed from SCANS to provide instruction in resource competencies, interpersonal competencies, information competencies, systems competencies, and technology competencies. Based on research conducted with former VTC CTE completers, participants indicated they were not career and postsecondary program ready in all competencies.

*Materials and resources needed are: a notebook/journal, classroom, and computer lab access, student unofficial transcript for each student, learning activities prompts, and handouts as needed.

II. Format and Procedures:

Students will meet during their regularly scheduled advisory sessions. There are nine sessions embedded during the school year, from September to May. Each session will meet for 35 minutes. During each session, 25 minutes will be allocated for direct instruction/learning activities; and five to ten minutes will be allocated for the journaling requirement. Each C.A.P.S.³ advisory group will be referred to as a cohort. A C.A.P.S.³ facilitator will be assigned to each cohort to develop each C.A.P.S.³ module into a meaningful learning experience with accompanying learning activities designed to prepare cohort participants for careers or postsecondary programs. Participants are required to maintain a C.A.P.S.³ portfolio to include:

- ✓ All materials presented by the facilitator or guest for each module
- ✓ Reflective Journal entries
- ✓ (Optional) Four word-processed essays on the C.A.P.S.³ modules: Resources, Information, Systems, and Technology

III. C.A.P.S.³ Curriculum Learning Modules and Learning Activities

Module 1: Resources Competencies Learning Module - Identifies, organizes, plans, and allocates resources

- A. *Time*--Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules
- B. *Money*--Uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives
- C. *Material and Facilities*--Acquires, stores, allocates, and uses materials or space efficiently
- D. *Human Resources*--Assesses skills and distributes work accordingly, evaluates performance and provides feedback

Number of sessions required – 2

Length of each session – 35 minutes

Number of participants per session- 30

Resources Module Learning Activities:

Time

- Give students a fictitious job and relevant job description. Provide students with a list of 10 activities to be completed in an 8 hour work day. Have students: identify the activities related to their job description, rank the activities in order of importance, allocate the expected time to complete each activity, and prepare their daily schedule to complete the identified activity.
- Give students a position and job description. Have them create a daily work schedule for the selected position.

Money:

- Give students a prepared budget and a list of anticipated expenses they will incur during the school year. Students should keep track of expenses during the school year and keep accurate records.
- Give students a fictitious organization and have them prepare a budget for a department or company event.

Material and Facilities:

- Have students work in a group to review a prepared organization's plan that details how materials and facilities are acquired, stored, allocated, and how space is used efficiently. Students are to identify three perceived strengths and three perceived weakness of the organization's plan.
- Give students a fictitious organization and have them prepare a list of needed materials and resources to effectively manage the organization.

Human Resources:

- Provide students with job descriptions for vacant positions and completed applications and resumes for those positions. Have students systematically review the applications and approve hires for vacant positions.
- Provide students with job descriptions and performance evaluations of individuals who hold the positions. Have students make decisions about continued employment, termination, improvement plans, etc. of those employees.

Module 2: Interpersonal Competency Learning Module: Works with others

- A. *Participates as Member of a Team*--contributes to group effort
- B. *Teaches Others New Skills*
- C. *Serves Clients/Customers*--works to satisfy customers' expectations
- D. *Exercises Leadership*--communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies
- E. *Negotiates*--works toward agreements involving exchange of resources, resolves divergent interests
- F. *Works with Diversity*--works well with men and women from diverse backgrounds

Number of sessions required – 2

Length of each session – 35 minutes

Number of participants per session- 30

Interpersonal Module Learning Activities

The competencies in the Interpersonal Module will be combined to develop one project-based learning activity. Students are to be assigned to a three or four member heterogeneous group (*Participates as Member of a Team competency*) to ensure diversity (*Works with Diversity competency*). The facilitator will assign each group member a role in which they can experience leadership (*Exercises leadership competency*) i.e. chair, co-chair, secretary, and reporter. Students will work together as a team to complete the following tasks (using the *Negotiates* and *Serves Clients competencies*):

Negotiates – Each group will be given a handout that includes information regarding goods or service they have for sale. Each group is to present briefly their product whole class. Each group will then be allowed 5 minutes to establish a plan to negotiate the cost of the goods or service offered by other groups in the class.

Serves Clients – Students will participate in a skit in which some groups will be assigned the role of clients and other groups will be providing the goods or service. The facilitator will select groups that will be given a prompt regarding their concerns with the goods or services provided by the company. The groups serving as the provider of the goods or service will have to work together to determine how best to serve the needs of the clients.

Module 3: Information Competency Learning Module - Acquires and uses information

- A. *Acquires and Evaluates Information*
- B. *Organizes and Maintains Information*
- C. *Interprets and Communicates Information*
- D. *Uses Computers to Process Information*

Number of sessions required – 2

Length of each session – 35 minutes

Number of participants per session- 30

Information Module Learning Activities

The Information Module competency *Organizes and Maintains Information* is embedded in the program, students are required to maintain a notebook with journal entry assignments, and all other materials, resources, and information provided by the program facilitator or guest speaker. Students will work to complete the following task (using *Acquires and Evaluates Information, Interprets and Communicates Information, and Uses Computers to Process Information* competencies):

Acquires and Evaluates Information, Interprets and Communicates Information, and Uses Computers to Process Information competencies – Students will use computers to locate the South Carolina requirements for completer status in their CTE program. Students will review their unofficial high school transcript to determine which courses they have successfully completed and which courses need to be completed in order to be a CTE completer in their selected CTE program of study. Once the review is complete and the students have interpreted the requirements for completer status, they will communicate their findings whole class.

Module 4: Systems Competency Learning Module - Understands complex inter-relationships

- A. *Understands Systems*--knows how social, organizational, and technological systems work and operates effectively with them
- B. *Monitors and Corrects Performance*--distinguishes trends, predicts impacts on systems operations, diagnoses deviations in systems' performance and corrects malfunctions
- C. *Improves or Designs Systems*--suggests modifications to existing systems and develops new or alternative systems to improve performance

Number of sessions required – 1

Length of each session – 35 minutes

Number of participants per session- 30

Systems Module Learning Activities

The high school Cafeteria Manager will join the class as a guest speaker. He/She will explain the process of how the cafeteria functions as a system in the high school to prepare lunch for approximately 1800 students, faculty and staff members. Information provided will assist students in understanding how the cafeteria functions (*Understands Systems competency*). Students will work to complete the task (using *Monitors and Corrects Performance* and *Improves or Designs Systems competencies*):

Monitors and Corrects Performance- Students will be required to monitor the cafeteria systems during their assigned lunch on three separate occasions prior to the next class session. Students are to journal their observations regarding areas where they perceive improvements are needed in the system.

Improves or Designs Systems – Students will record in their journal any ideas they have on how the cafeteria system could be approved. Ideas for system improvement will be shared whole class during the next session.

Module 5: Technology Competency Learning Module - Works with a variety of technologies

- A. *Selects Technology*--chooses procedures, tools or equipment including computers and related technologies
- B. *Applies Technology to Task*--Understands overall intent and proper procedures for setup and operation of equipment
- C. *Maintains and Troubleshoots Equipment*--Prevents, identifies, or solves problems with equipment, including computers and other technologies

Number of sessions required – 2

Length of each session – 35 minutes

Number of participants per session- 30

Technology Module Learning Activities

A member of the high school's Computer Technology Department will serve as the facilitator for the Technology Module. Students will report to the computer lab for demonstration and hands-on activities in the Technology Competencies: *Selects Technology*, *Applies Technology to a Task*, and *Maintains and Troubleshoots Equipment*. Students will journal the experience.

IV. Extended Learning Activities:

Journal entries – Students will be required to maintain a journal for the program. One reflective journal entry is required after each C.A.P.S.³ session (see **V. Tentative Schedule**).

**Time Commitment – 5-10 minutes allocated during each session*

Essays – To enhance the learning experience, facilitators may assign essays. Essays must be word-processed, 150 to 200 words in length, and relate to the assigned learning module (**see V. Tentative Schedule**).

**Time Commitment – 10 minutes (to be completed as homework assignments)*

Essay Prompts

- Resource competencies are important to develop career or postsecondary readiness skills. Discuss how the C.A.P.S.³ helped you to be able to identify, organize, plan, and allocate resources.
- Interpersonal competencies are important to develop career or postsecondary readiness skills. Discuss how the C.A.P.S.³ helped you to be able to work with others.
- Information competencies are important to develop career or postsecondary readiness skills. Discuss how the C.A.P.S.³ helped you to be able to acquire and use information.
- Systems competencies are important to develop career or postsecondary readiness skills. Discuss how the C.A.P.S.³ helped you to be able to understand complex inter-relationships.
- Technology competencies are important to develop career or postsecondary readiness skills. Discuss how the C.A.P.S.³ helped you to be able to work with a variety of technologies.

V. Tentative C.A.P.S.³ Schedule of Learning Modules and Activities

C.A.P.S. ³ Module	Essay	Journal Entry
September, 20XX Resource Module Session 1	NA	Module 1/Session 1 Journal Entry Due
October, 20XX Resource Module Session 2	Resource Module Essay Due	Module 1/Session 2 Journal Entry Due
November, 20XX Interpersonal Module Session 3	NA	Module 2/Session 1 Journal Entry Due
December, 20XX Interpersonal Module Session 4	Interpersonal Module Essay Due	Module 2/Session 2 Journal Entry Due
January, 20XX Information Module Session 5	NA	Module 3/Session 1 Journal Entry Due
February, 20XX Information/Systems Module Session 6	Information Module Essay Due	Module 3/Session 2 Journal Entry Due
March 5, 20XX Systems Module Session 7	Systems Module Essay Due	Module 4/Session 1 Journal Entry Due
April, 20XX Technology Module Session 8		Module 4/Session 2 Journal Entry Due
May, 20XX Technology Module C.A.P.S Evaluation Session 9	Technology Module Essay Due C.A.P.S ² Evaluations Due	C.A.P.S ² Evaluation Due

Proposed Curriculum Evaluation

C.A.P.S.³ Student Evaluation

(Evaluation to be completed by students online)

We appreciate your help in evaluating the C.A.P.S.³ Please indicate your rating of the modules in the categories below by selecting the appropriate number, using a scale: 1 (Strongly disagree), 2 (Disagree somewhat), 3 (Neutral), 4 (Agree somewhat), 5 (Strongly agree).

(Please provide any comments that you feel will help improve the C.A.P.S.³ program)

Overall Evaluation	Rating	Comments
C.A.P.S. ³ developed my career or postsecondary readiness in organizing, planning, and allocating resources.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
C.A.P.S. ³ developed my career or postsecondary readiness in working with others (Interpersonal Competencies).	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
C.A.P.S. ³ developed my career or postsecondary readiness in acquiring and using information (Information Competencies).	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
C.A.P.S. ³ developed my career or postsecondary readiness in understanding complex relationships (Systems Competencies).	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
C.A.P.S. ³ developed my career or postsecondary readiness in working with a variety of technologies (Technology Competencies).	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
Facilitator	Rating	Comments
Knowledge of career and postsecondary readiness skills	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
Knowledge of business and industry needs	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	

What are the C.A.P.S.³ strengths?

What are the C.A.P.S.³ weaknesses?

What specific skills did you gain from participating in the C.A.P.S.³?

THANK YOU.

Appendix B: Interview protocol

Hello and thank you for your participation today. My name is Dandi L. Daniels. I am a graduate student at Walden University conducting my research study in partial fulfillment of the requirements for the degree of Doctor of Educational Leadership. The purpose of this study is to increase an understanding of how CTE program completers perceive how they were prepared for related careers and/or related postsecondary degree programs.

The interview should take approximately 45-60 minutes. The interview will include ten questions in regards to your experiences in a Career and Technology Education Program. The interview will be recorded electronically. All responses will be kept confidential. This means that your interview responses will not be shared with anyone else. Any information I include in my data collection and analysis will not identify you as the respondent.

At this time, I would like to remind you of your written consent to participate in this study.

I am the responsible investigator, specifying your participation in the research project: *Career and Technology Completers' Perspectives of College and Career Readiness*. You and I have both signed and dated each copy, certifying that we agree to continue this interview.

Remember, you do not have to answer any question, if you do not want to answer. You may end the interview at any time that you may choose.

Are there any questions about what I have just explained?

Are you willing to participate in this interview?

Thank you.

1. How did your CTE teachers incorporate the resources competencies (e.g., time allocation, how to prepare a budget, prepare and follow a schedule, and keep records) in your CTE course to prepare you for your career field?
2. How did your CTE teachers incorporate the resources competencies (e.g., time allocation, how to prepare a budget, prepare and follow a schedule, and keep records) in your CTE course to prepare you for your postsecondary program?
3. How did your CTE teachers incorporate the interpersonal competencies (e.g., teamwork, exercise leadership, work with diversity, and how to serve clients) in your CTE course to prepare you for your career field?
4. How did your CTE teachers incorporate the interpersonal competencies (e.g., teamwork, exercise leadership, work with diversity, and how to serve clients) in your CTE course to prepare you for your postsecondary program?
5. How did your CTE teachers incorporate the information competencies (e.g., how to acquire and evaluate information, how to organize and maintain information, how to interpret and communicate information, and how to use computers to process information) in your CTE course to prepare you for your career field?
6. How did your CTE teachers incorporate the information competencies (e.g., how to acquire and evaluate information, how to organize and maintain information, how to interpret and communicate information, and how to use computers to

process information) in your CTE course to prepare you for your postsecondary program?

7. How did your CTE teachers incorporate the systems competencies (e.g., how to understand systems, monitored and corrected performances, and to develop or improve design systems) in your CTE course to prepare you for your career field?
8. How did your CTE teachers incorporate the systems competencies (e.g., how to understand systems, monitored and corrected performances, and to develop or improve design systems) in your CTE course to prepare you for your postsecondary program?
9. How did your CTE teachers incorporate the technology competencies (e.g., how to select technology, how to apply technology to a task, and how to maintain and troubleshoot equipment) in your CTE course to prepare you for your career field?
10. How did your CTE teachers incorporate the technology competencies (e.g., how to select technology, how to apply technology to a task, and how to maintain and troubleshoot equipment) in your CTE course to prepare you for your postsecondary program?