A PHENOMENOLOGICAL STUDY EXAMINING THE EXPERIENCES OF HIGH SCHOOL

GRADUATES WHO PARTICIPATED IN A CAREER AND TECHNICAL EDUCATION

PROGRAM OF STUDY

by

Camille Locklear Goins

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Career and Technical Education (CTE) programs are designed to help prepare students to become effective workers by equipping them with college and career readiness skills needed for the 21st century workplace. Students who participate in a CTE Program of Study (POS) have the potential for greater success during and after high school because they have achieved academic success in meeting the college and career readiness targets that lead to success in post-secondary and career training. The purpose of this phenomenological study was to describe the experiences of graduates from one high school in the southwest region of North Carolina who participated in a CTE POS. Through the use of documents, interviews, and a focus group the perceptions from 10 participants who participated in a CTE POS during high school were examined. The data gathered in this study was analyzed using the procedures of a hermeneutical phenomenology to gain a thick, rich understanding of participant experiences. Four themes emerged during the research process. The four themes were (a) The learning process was enhanced; (b) Influences on decision-making; (c) Learning with understanding supports knowledge use in new situations; and (d) Guidance and advisement needs to be purposeful. This study found that the participant's learning process was enhanced through participation in a CTE POS, they were able to transfer learning to a variety of context that increased their readiness for college and their future career. The implications are discussed and recommendations are provided to educators along with recommendations for further research.

Keywords: college and career readiness, career development, Career and Technical Education (CTE), career pathways, dual enrollment, experiential learning, career theory, constructivism, guidance and advisement, programs of study (POS), secondary and post-secondary education.

Dedication

I dedicate this dissertation to my family. Without your unwavering love, support, and encouragement, I never could have achieved this milestone in my life. To my husband Kevin, who is my best friend. You have stood by me, celebrated with me, and have been a shoulder for me to cry on. I never could have achieved this goal without you there and this is as much your accomplishment as it is mine. To my four children Brittany, Emily, Caleb, and Kennadie. Thank you for the many kisses, hugs, and whispers of "I Love You", when you saw me overwhelmed from working many late nights and knew that I just needed to feel the love of my children. To my mother and father who have instilled in me a strong work ethic and have helped me to persevere even in the face of adversity. Thank you for believing in your little girl. To my sister and brother, who have taken care of your little sister over the years. Thank you for always looking out for me to ensure that I was doing well. To all my extended family and friends. Thank you for always being there when I needed you.

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First, I thank my Lord and Savior Jesus Christ. I could not have begun or completed this journey without His presence in my life and with Him, I believe all things are possible. My faith in God has helped me to believe that we all have a designed purpose in this life and that one person can make a difference; I hope to be that person in Christ. Philippians 4:13, "I can do all things through Christ which strengthens me".

This dissertation would not have been possible without the guidance and support of so many instrumental people in my life. To my committee, this group has truly been a Godsend during this process. I truly believe that God placed my committee together because He knew that I needed a strong group of individuals who have faith in Him and could provide the guidance I needed to ensure that this work was mastered. To my chair, Dr. Tracey Pritchard, committee members Dr. Dan Pritchard, Dr. Patricia Powell, and Dr. Frederick Milacci, thank you for all that you have done to see that I was successful on this journey.

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ultimately helped me to become the writer I am today. Thank you for allowing me to share my

story!

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List of Abbreviations

Annual Measurable Objective (AMO)

Advanced Placement (AP)

Adequate Yearly Progress AYP)

Comprehensive Articulation Agreement (CAA)

Computer-aided Drafting (CAD)

Career and College Promise (CCP)

College and Career Readiness (CCR)

Common Core State Standards (CCSS)

Common Career Technical Core (CCTC)

Career Development Plan (CDP)

Certified Nursing Assistant (CNA)

Center for Occupational Research and Development (CORD)

Career and Technical Education (CTE)

Career and Technical Student Organization (CTSO)

Elementary and Secondary Education Act (ESEA)

End of Grade (EOG)

Family Education Rights and Privacy Act (FERPA)

Future Business Leaders of America (FBLA)

CTE Student Organization for Agricultural Education students (formerly known as Future

    Farmers of America) (FFA)

Health Occupations Student Association (HOSA)

High School That Works (HSTW)

Local Education Agency (LEA)

National Association of State Directors of Career and Technical Education Consortium

(NASDCTEc)

National Center for Construction Education Research (NCCER)

National Education Association (NEA)

National Technical Honor Society (NTHS)

Project Lead the Way (PLTW)

Program of Study (POS)

Pathways to Prosperity (PtP)

CTE Student Organization for Trades and Industry students (formerly known as VICA – the

Vocational Industrial Clubs of America) (Skills USA)

Standards of Learning (SOL)

Science, Technology, Engineering, and Mathematics (STEM)

CHAPTER ONE: INTRODUCTION

Overview

Career and Technical Education (CTE) Programs, formerly known as Vocational Education, help to prepare students for a variety of post-secondary opportunities, equipping students in high school with the necessary knowledge and skills that prepare them for high-tech, high-wage careers available in today's workforce. According to Harvard's Pathways to Prosperity Report (2011),

> One of the most fundamental obligations of any society is to prepare its adolescents and young adults to lead productive and prosperous lives as adults. This means preparing all young people with a solid enough foundation of literacy, numeracy, and thinking skills for responsible citizenship, career development, and lifelong learning. (p. 1)

A comprehensive Program of Study (POS) that encompasses CTE and academic courses as well as a variety of opportunities to earn college credits and certifications, provides students with relative college and career readiness skills that are necessary for 21st century careers.

The CTE POS presents students with multiple pathways to success. The Harvard Graduate School of Education Pathways to Prosperity Report (2011) describes a POS as an essential component of public education that prepares students for career opportunities in a variety of avenues. The reauthorization of Perkins IV (Carl D. Perkins CTE Act of 2006) requires each CTE program to offer at least one pathway and/or program of study that leads to careers and post-secondary opportunities (Lewis, Kosine, & Overman, 2008; Meeder & Suddreth, 2012; U.S. Dept. of Education, n.d.a). Providing students with the opportunity to earn industry-recognized credentials and post-secondary credits are a part of the program of study

model and is necessary for a successful POS (Alfeid & Bhattacharya, 2013; Hammond, Mobley, Sharp, Stipanovi, Stringfield, & Withington, 2012).

As the nation progresses towards the need for a more comprehensive program to be available in the public school system, failure to recognize the significance of CTE programs continues to be a growing problem (Meeder & Suddreth, 2012). Failing to recognize the value of CTE threatens to eliminate up to 15% of the federal funds that are provided to CTE through the Perkins Act (National Skills Coalition, 2013). According to the Association of Career and Technical Education (ACTE) North Carolina State Profiles (2013), "North Carolina received $32,524,684 for Fiscal Year 2013, $3 million less than in 2012 and $6.4 million less than in 2010. Of funds distributed to local programs, 67% go to secondary recipients and 33% to postsecondary recipients" (p. 1). The reauthorization of the Elementary and Secondary Education Act (ESEA) will provide formula grants that will require all states to provide high quality assessments that align with the college and career readiness standards for math and reading in addition to providing rigorous assessments in career and technical courses (Meeder & Suddreth, 2012; US Dept. of Education, 2010).

In addition, the data supports the continuous improvement and offerings of CTE programs in secondary education by examining the experiences of students who have successfully participated in a CTE POS. This study also provides data to support the successful implementation of a POS within public schools that better prepares students for post-secondary opportunities and post-graduation options to increase CTE enrollment and completion.

Background

The need for a trade school that focused on providing students with skills was established during the 19th century. During this time, private schools began offering opportunities for

students to focus on business while public schools began to include vocational programs that focused on manual training, commercial training, domestic science, and agriculture (Barlow, 1976). The beginning of CTE programs began in Europe with the development of some of the most progressive educational movements throughout the world. John Jacques Rousseau advocated that manual arts could serve as a means of mental training and thus paved the way to a new era in vocational education, while Johann Heinrich Pestalozzi, thought children should learn not only to think, but be able to do, and hence that education should consist largely of manual labor (as cited in Gutek, 2011). Pestalozzi thought that vocational training should be in all school curricula (as cited in Gutek, 2011).

The constructivist theory suggests that individual experiences are developed when they come in contact with existing knowledge (Ultanir, 2012). Dewey, one of the early constructivists, believed that while it is impossible to prepare a child for a precise set of life conditions, educators have the capacity to prepare students for their future by equipping them with a set of skills to work economically and efficiently (as cited in Gutek, 2011). Being conscientious of their surroundings can help students understand the demands of the workforce, therefore grasping the content of the curricula. Since CTE programs provide real-world applications, the curricula can expand curiosity that builds upon their interests.

Dewey, Pestalozzi, and Rousseau have inspired public schools to develop a comprehensive structure that encompasses the arts, humanities, academics, and career education that prepare students for a variety of opportunities beyond high school (as cited in Gutek, 2011). Comprehensive high school programs charge educators with the responsibility of affording students the opportunity to gain a greater perspective on all subjects in effort to increase comprehension and applicable skills (Gutek, 2011). Along with the advances in vocational

education, renowned programs have been introduced in CTE such as Project Lead the Way

(PLTW) which is the nation's leading educational curricular program for Science, Technology,

Engineering, and Mathematics (STEM) education for middle and high school (PLTW, n.d.).

There is a movement toward career academies that focus on personalized learning communities

within a high school that centers on a career theme such as a Health Science Academy or

Information Technology (Harvard Pathways to Prosperity Report, 2011; U.S. Dept. of Education,

2012).

Experiential learning suggests that an individual will learn from doing or from partaking

in a direct experience with an activity. Kolb and Kolb (2005), drawing from the ideas of John

Dewey, popularized the experiential learning theory and the idea that an individual will learn

best by doing. Haltinner (2012) explains, "Engaging students by applying theory to practice is a

cornerstone of career and technical education" (p. 50). CTE programs are representative of the

experiential learning theory, where students are involved in project-based learning activities and

work-based learning. Work-based learning can include school-based enterprises, career-related

internships, field associated apprenticeships, and correlated volunteer opportunities that provide

a hands-on approach to learning by doing.

The reauthorization of the Carl D. Perkins Act of 2006 requires that eligible recipients of

funding provide at least one program of study that better prepares students for college and career

success. The components of Perkins better align secondary and post-secondary education

through the implementation of a POS for a diverse population by providing opportunities to gain

meaningful workplace readiness skills, college credits, and stackable credentials (National Skills

Coalition, 2013; US Dept of Education-Carl D. Perkins Act, n.d.). Bachofer, Betts, and Zau,

(2014) found in their study when evaluating the outcomes of a CTE program, student

participants in the focus group indicated that there was not a typical CTE student, but that CTE classes consist of a diverse population providing them with practical and personable skills, while helping them to discover career options.

Alfeid and Bhattacharya's (2013) study of a mature POS examined the implementation of the policy at the local level by tracking a group of students as they progressed through their POS. Over a three year period, 213 participants in this study were examined. According to Alfeid and Bhattacharya (2013), "Thirty percent of the sample students continued in the same POS in either college or work" (p. 28). They go on to say that participants indicated the benefits of their participation in a POS during high school. Evidence was revealed through transcript analysis that illustrated a positive correlation between academic and POS credits and their grades (Alfeid & Bhattacharya, 2013).

In recent years, greater emphasis has been placed on the positive influence that CTE programs afford to students. "Today's best CTE programs do a better job of preparing many students for college and career than traditional academics-only programs" (Harvard Pathways to Prosperity Report, 2011, p. 25). In a report conducted by the Association for Career and Technical Education (ACTE) State Profiles (2013) it was found that in North Carolina 94% of students who completed the four-credit CTE pathway graduated from high school, as compared to 80.4% for all graduates statewide. The effectiveness of CTE programs can be enhanced through POS by aligning a rigorous academic course of study with career and technical instruction (Brand, Browning, & Valent, 2013; Lewis et al., 2008; Meeder & Suddreth, 2012). Castellano, Sundell, Overman, Richardson, and Stone (2014) found in their study of three school districts that the increased number of CTE credits earned by students was associated with graduation. Alfeid and Bhattacharya (2013) found in their study that the majority of the

participants reported that they were motivated to stay in school by being enrolled in a POS, which also helped them to make informed choices regarding college and career. According to Jacques and Potemski (2014), "CTE teachers can prevent high school dropout by engaging students in real-world learning opportunities and relevant, skill-based instruction; likewise, students who participate in CTE courses and programs are less likely to drop out of school" (p. 5).

Advocates of CTE continue to face challenges in finding support for the program (Pawlowski, 2014), which could be due primarily to the perception of CTE, once labeled as vocational education or trades school (Hammond et al., 2012). CTE programs are underrepresented where CTE leaders have not been given the opportunity to become directly involved with the "Common Core State Standards (CCSS) implementation teams" (Meeder & Suddreth, 2012, p. 7). On the other hand, as individuals continue to experience changes in the economic structure where skills and abilities trump academic credits (Harvard Pathways to Prosperity Report, 2011; Meeder & Suddreth, 2012), CTE will need to be viewed as a vital part of the educational system because the program "serves the needs and interests of individuals and the nation as a whole" (Martinez, 2007, p. 77).

CTE courses complement academic courses through structured POS that are relative to the college and career readiness skills necessary for post-secondary education and employment (Jacques & Potemski, 2014; Meeder & Suddreth, 2012; Strohschein, 2012; U.S. Dept. of Education, 2012). With the implementation of the Common Core State Standards (CCSS), educators have the opportunity to improve their instructional practice by digging deeper into the content to make relative connections to the real-world where CTE plays a crucial role in enhancing student's literacy, math, and technical skills (Boccanfuso, Byrnes, & Neild, 2013;

CCSS, n.d.; Meeder & Suddreth, 2012; U.S. Dept. of Education, n.d.). This approach to learning provides the prospect for continuous integration of math, literacy, and technical content to develop project-based learning along with college and career preparation. In North Carolina, nearly 800,000 seats are filled daily with students in CTE programs (ACTE NC State Profiles, 2013), and across the United States up to 96% of students will complete at least one CTE course in high school (Aliaga, Kotamraju, & Stone, 2012).

The purpose of a POS is to provide a seamless transition from secondary to post-secondary and the workforce by closely relating students' high school programs to align with the career and college goals. When examining student experiences within a POS, Alfeld and Bhattacharya (2013) found that students believed that the courses taken within their POS would be useful to them later in life. Alfeld and Bhattacharya (2013) also found that students who took more CTE courses within their chosen POS earned more math and science credits as well as an increase in English standardized test scores.

The options offered in a POS present early opportunities for students to begin their college studies. Castellano et al., (2014) found when examining student participants of a POS that 60% of students indicated their chosen POS was closely related to their chosen college pathway. According to Castellano et al., (2014), "less than half (48%) of comparison students indicated that their post-high school studies would relate to their high school program" (p. 50). According to Bachaofer et al. (2014), "The benefits of taking CTE coursework listed by students were acquiring useful skills, making contacts, discovering career options, hands-on experience, getting a jump start, clarifying college plans, and acquiring job experience" (p. 92).

Students typically work part-time jobs during high school, however, most of these roles do not align with the students' future career goals. Alfeld and Bhattacharya (2013) found that

there was an increase in work-based learning opportunities such as internships or co-operative education for students within their POS that was closely or somewhat related to their desired career choice. Bachofer et al. (2014) found when asking students to describe the best ways to offer career exploration and guidance opportunities, students suggested internships, job shadowing, and field trips. Castellano et al. (2014) found that students who participated in a POS were provided with experiences and opportunities that better prepared them for post-graduation. Since work-based learning experiences can help to guide students when making career choices later in their lives, these opportunities are incorporated into a POS.

In January 2013, North Carolina's Governor Pat McCrory signed Senate Bill 14 that establishes college and career endorsements as part of a high school student's graduation process beginning with the 2014-15 school year. Senate Bill 14 states,

> A bill to be entitled an act to direct the state board of education to develop career and college endorsements for high school diplomas, increase access to career and technical education teachers in public schools, and to work with the state board of community colleges to increase the number of students enrolling in Career and Technical Education in high need employment areas (General Assembly of North Carolina Session, 2013).

There are a variety of reasons students enroll in CTE programs including self-direction, guidance, and counseling programs (Allen, 2010) as well as family members, friends, and effective communication regarding the advantages of CTE (Alfeid & Bhattacharya, 2013; Gene, 2010). On the other hand, POS offer more than just a program, but provide students with college and career preparation aligning a rigorous course of study that spans from secondary to postsecondary education (Castellano et al., 2014). Bachofer et al. (2014) found that students viewed CTE pathway completers as having a greater advantage and being a step ahead upon

graduation. Castellano et al. (2014) found that POS serves as a way to keep kids coming to school while connecting to their future career interest. When examining the graduation rates of CTE Concentrators, Shadden (2011) findings suggested a significant increase in the graduation rate of CTE concentrators.

While research pertaining to the impact of CTE programs on student outcomes is not new, studies regarding the impact of CTE POS are relatively new to the education arena. A review of literature from multiple research databases yielded seven research studies concerning the impact and outcomes of CTE programs (Aliaga, Castellano, Overman, & Sundell, 2012; Alfeid & Bhattacharya, 2013; Bachofer et al., 2014; Boccanfuso et al., 2013; Castellano et al., 2014; Hammond et al., 2012; Shumer, Stipanovic, & Stringfield, 2012). Of these studies, only two examined student experiences in a CTE POS with a focus on student outcomes and policy implementation and were quantitative in nature (Alfeid & Bhattacharya, 2013; Castellano et al., 2014). This qualitative study took an in-depth look into the lived experiences of participants' who participated in a CTE POS during high school. In doing so, this study examined the factors that influenced their decision to participate in a CTE POS along with how those experiences have impacted them since graduation.

By conducting a qualitative analysis of student experiences who participated in a CTE program of study, this gained a greater perspective into the participants' lived experiences (Van Manen, 1990). Additionally, by examining student experiences, the results of this study adds to the existing literature, providing resources to educators to increase participation in a CTE POS that increases students' college and career readiness while improving the overall educational experience during high school.

Situation to Self

I am passionate about education and the CTE Program. I enjoy working with school personnel, students, and parents to help them gain a greater understanding regarding the importance of making career goals early in life. I strongly believe that career development provided to students early in life will help students make better informed decisions in the future regarding their careers. Cinamon and Dan (2010) found that providing information about career development to parents of preschool aged children could have a positive impact. Gandhi expressed the belief that vocational education is an important part of the curriculum because it accentuates the dignity of work (as cited in Gutek, 2011). Gene (2010) recommends that a career development plan along with a CTE course sequence should be considered as a high school requirement for graduation. The ultimate goal as educators is to ensure that students are able to become productive members of society with regards to employability and self-sustainability. Therefore, I believe CTE affords students the opportunity to learn and to gain the necessary skills to be successful in whichever career they choose for their future.

As the researcher in this study, I used a qualitative hermeneutical phenomenological approach to allow me to interpret the lived experiences of the participants who participated in a CTE POS. The worldview framework was based upon social constructivism with a philosophical belief system of ontological research (Creswell, 2013). This philosophical belief allowed the researcher to embrace multiple realities from different perspectives of the participating individuals in the study in efforts to begin to develop themes (Creswell, 2013) and to capture the understanding of the phenomenon that was being studied (Van Manen, 1990).

Problem Statement

Advances in technology have created a more demanding labor market. Recent studies reveal that although there are currently 13 million unemployed Americans, nearly three million jobs remain unfilled due to a lack of skills necessary for employment in highly advanced fields such as engineering, advanced manufacturing, and technology (Daggett, 2013; U.S. Dept. of Education, 2012). The writers of the Harvard Pathways to Prosperity Report (2011) discovered that the once highly sought after four-year college degree may need to be reexamined and the public school system should place focus on providing students with the knowledge and skills that helps them to become college and career ready. Approximately half of the students graduate from college within six years, while students from lower-income families have a completion rate much lower at only 25% (Harvard Pathways to Prosperity Report, 2011; U.S. Dept. of Education, 2012). While student high school transcripts indicate students are college-ready, more than 60% of college freshmen are required to take remedial courses in reading and math that are non-credit bearing (Castellano et al., 2014).

CTE Programs that offer credentials, certifications, and pathways to college are essential to creating a highly skilled future workforce. Most students who receive vocational training during high school have an increased chance of obtaining employment post-graduation (Allen, 2010; Harvard Pathways to Prosperity, 2011; U.S. Dept. of Education, 2012). Tillman and Tillman (2008) found in their study of 1,066 members of the National Technical Honor Society across the US, 57.1% CTE graduates are employed in their CTE career field explored in high school. According to Kalchick and Oertle (2010), "While POS are articulated from secondary through postsecondary education, there are multiple entry and exit points with numerous opportunities for students to earn stackable credentials, certificates, and degrees" (p. 2).

Despite numerous studies that suggest students who participate in a CTE POS have positive outcomes (Alfeid & Bhattacharya, 2012/2013; Harvard Pathways to Prosperity Report, 2011; Kalchick & Oertle, 2010; Lekes et al., 2007), of the 500,000 students who participate in CTE programs annually in grades 6-12, the problem is less than 50% of high school seniors graduate as a CTE completer (ACT Career Solutions, 2014; NCDPI News Release, 2014) fulfilling one of the requirements of a program of study. There were 92,106 students who graduated from high in North Carolina in 2014 with approximately 40,000 of those students graduating as a CTE Completer (ACT, 2014; NCDPI News Releases, 2014). There are other studies that have focused on the effects of CTE programs on academics and career placement (Aliaga, Castellano et al., 2012; DiCocco, Leach, Nelson, Packard, & Ruiz, 2012; Fletcher & Zirkle, 2009; Garland, Jonas, & Yamaguchi, 2014), few studies (Alfeid & Bhattacharya, 2013; Bachofer et al., 2014; Castellano et al., 2014) have taken an in-depth look into the experiences of students who have completed a CTE pathway in combination with a rigorous course of study that is found in a CTE POS. The crux of the problem is that while there is a high number of students who are enrolled in CTE courses, few students participate in a CTE Program of Study and complete a CTE concentration. The researcher of this study sought to address the gap in literature that examined the experiences and perceptions of graduates who have successfully participated in a CTE POS during high school and completed a CTE concentration. Additionally, the researcher explored factors that contributed to their participation in a CTE POS along with how those experiences have impacted them since graduation.

Purpose Statement

The purpose of this phenomenological study was to describe the experiences of graduates from one high school in the southwest region of North Carolina who participated in a CTE POS.

This research study focused on the subjective beliefs, attitudes, and values of CTE completers at one high school in the southwest region of North Carolina who participated in a CTE POS during high school. The researcher of this study attempted to gauge the underlying principles that led to student participation in a CTE POS while emphasizing their perceptions and experiences. The information gathered can add to the existing quantitative data relative to the positive impact of CTE completion. In this study the phenomenon of the experiences of CTE completers as students and later as high school graduates were explored.

Significance of the Study

High-quality CTE programs afford students with the benefits of an integrated curriculum of academic and technical content with focus on employability skills that aligns with employer and labor market trends (Jacques & Ptemski, 2014; Meeder & Suddreth, 2012; U.S. Department of Education, 2012). DiCocco et al. (2012) found that CTE programs provide students with a skill therefore, immediate employment could be gained upon graduation. The increase in employment opportunities for completers validates that a CTE POS can have a significant increase in post-secondary options and workforce preparedness as opposed to non-CTE program completers. The Perkins IV Act (2006) Performance Indicator Six (5S1) for secondary placement proposes that 93.5% of CTE concentrators who left secondary education in the previous school year will be in post-secondary education or advanced training, in military service, or in employment in 2013-14; North Carolina's state average for 2012-13 was 90% (NCDPI Local Planning System, 2014). If more students while in high school participated in a CTE POS this number could increase since a POS directly connects to post-secondary education as well as the workforce through industry-recognized credentials.

Although CTE programs are noted for their potential to offer students a variety of post-graduation opportunities, CTE programs continue to face challenges from individuals indirectly involved because curriculum and instruction is often isolated from the implementation process (Meeder & Suddreth, 2012). In spite of the challenges, Martinez (2007) notes that CTE programs should be viewed as an integral part of the educational system because the program works to meet the needs and interest of individuals. CTE programs have been noted to play a critical role in retaining students in school because they answer the questions that many students have regarding the relevance and application of the content while making the connection to realistic and profitable career goals (Castellano et al., 2014; Davis, 2012; Jacques & Ptemski, 2014; Meeder & Suddreth, 2012).

Since there is little empirical research examining student experiences and influences, the results of this study could provide a deeper understanding of student experiences before, during, and after their involvement with CTE while also determining if participation in a CTE POS positively impacts student outcomes beyond high school. This study also explored the contributing factors that helped to inform student decisions and choices in high school in relation to student participation in a CTE POS. The findings from this study could prove beneficial to schools in supporting student participation in a CTE program of study and increase the number of CTE completers.

Research Questions

The following questions guided this study:

Research Question 1: How do high school graduates who participated in a Career and Technical Education (CTE) POS in North Carolina describe their experiences in high school? POS provide participants with a rigorous course of study that includes opportunities to earn post-

secondary credits and credentials aligned to the national 16 career cluster areas (CORD and NASDCTEc 2012). POS provide multiple opportunities for participants to develop knowledge and skills through exploration and an organized course selection that aids in transition (Kalchik & Oertle, 2012). Jacques and Potemski (2014) found that students who are enrolled in CTE programs have a decreased chance of dropping out of school. Students who have participated in a CTE program of study will help to facilitate a better understanding of the overall high school experience because of their potential to enter into post-secondary education, workforce, military, and advanced training post-graduation leading to a variety of career pathways.

Research Question 2: What factors influenced the participants' decision to participate in a Career and Technical Education Program of Study? CTE course offerings are elective courses and are self-selected by participants (Jacques & Potemski, 2014). Participation in a CTE POS is not required for graduation purposes, therefore, gauging participant influences to participate in a CTE POS will help to understand what factors contribute to student enrollment in CTE programs and completion of a CTE concentration area.

Research Question 3: How do participants perceive Career and Technical Education's role in their secondary education experience? Past research suggest that students who participate in CTE programs have increased engagement in school (Alfeid & Bhattacharya, 2013; Allen, 2010) through hands-on learning (Braley & Handy, 2012). Additionally, CTE programs provide opportunities to a diverse population of students (Bachofer et al., 2014). Examining the perception of CTE from a graduate's point of view will add to our understanding how participants view the program and its impact on their secondary educational experience during and after participation.

Research Question 4: What do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school? Participation in a CTE POS has been known to produce positive outcomes for graduates (Alfeid & Bhattacharya, 2012/2013; Kalchick & Oertle, 2010; Harvard Pathways to Prosperity Report, 2011; Lekes et al., 2007). Participants have an increased opportunity to earn post-secondary credits as well as industry-recognized credentials (Castellano et al., 2014). Therefore, gaining a deeper perspective of the factors that helped participants become college and career ready will provide insight into what aids students in gaining immediate and successful entrance to a post-secondary institution and the workforce. These factors could provide additional data to educators in this field and enhance their pedagogical practices.

<div align="center">

Research Plan

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Since there is little research available on student experiences in a CTE POS, a qualitative research design was used for this study. In a qualitative study, the researcher attempted to answer a question through an in-depth examination of the subject (Creswell, 2013; Moustakas, 1994). Through the use of documents, interviews, and a focus group the perceptions of 10 participants who participated in a CTE POS during high school was examined.

This qualitative study used a hermeneutic phenomenological approach (Creswell, 2013; Van Manen, 1990) to describe the experiences of graduate who participated in a CTE POS at one high school in the southwest region of North Carolina. During the study, I examined participant perceptions regarding their experiences with the program of study and influences on their decision to enroll in CTE programs that led to the completion of a CTE career cluster pathway. A qualitative approach to this study was the best approach since the study intended to examine the experiences of students' participation in the program rather than report data regarding student

performance within CTE from a quantitative approach (Moustakas, 1994). This study included a thorough analysis of multiple sources of literature to provide resources to stakeholders that will increase knowledge and understanding of the CTE program that often goes under-recognized in spite of efforts being made to increase support (Pawlowski, 2014). The experiences of participants were examined by focusing on the wholeness and essence of the experiences and shared phenomenon that could not be measured through quantitative means (Moustakas 1994).

Delimitations and Limitations

This study is delimited by the chosen methodology, participants, and site selection. The site selection was restricted to one site location and this study was dependent on participants who participated in a CTE POS while in high school at the chosen site location. Polkinghorne suggest that 5-25 participants should be used when conducting phenomenological research (as cited in Creswell 2013). Therefore, the researcher was able to include 10 participants. The selected participants had completed four or more CTE courses within one CTE pathway with one of those courses serving as the completer/second level course of a career cluster. Additionally, each of these participants earned an industry-recognized credential and completed an articulated course and/or a dual enrollment course. Selection criterion served to facilitate the understanding of student experiences after participating in a CTE POS.

Definitions

1. *Articulated Course* – For the purpose of this study an articulated course consist of high school CTE courses that are included in the North Carolina statewide articulation agreement because the knowledge and skills taught within the curriculum are similar to community college courses (North Carolina High School to Community College Articulation Agreement, 2012).

2. *CTE Concentrator* – For the purpose of this study CTE concentrators are those students who have completed four courses within one CTE career cluster pathway with one of the courses being a second level course (NC CTE Planning Guide, 2012).

3. *Career Cluster Pathway* – For the purpose of this study a career cluster are those courses within the CTE program that focus on occupations in the same field of work that require similar skills and knowledge (O*NET Online, 2014).

4. *College and Career Ready* – For the purpose of this study college and career ready are those students who have met the minimum academic readiness targets as demonstrated by the ACT College Readiness Benchmarks for grades 8-12 on the EXPLORE, PLAN, ACT and WorkKeys Assessment test and are more likely to be successful in post-secondary education and training that leads to a career (ACT, 2010/2014).

5. *CTE Completer* – For the purpose of this study CTE completers are those students who have completed four courses within a CTE career cluster pathway with one of the courses being a second level course and have graduated from high school (NC CTE Planning Guide, 2012).

6. *CTE Programs of Study (POS)* – For the purpose of this study CTE POSs are those programs that integrate CTE courses with focus on a particular career cluster pathway concentration area while also incorporating a rigorous academic curriculum, opportunities to earn post-secondary credits through articulation and dual enrollment, opportunities for work-based learning, and earned industry-recognized credentials. CTE POS participants will be identified by the completion of a CTE career cluster pathway, completion of an articulated and/or dual enrollment course and have earned at least one

industry-recognized credential during high school. POS's are central components of the Carl D. Perkins Act 2006 for CTE (Shumer et al., 2012).

Summary

Research studies suggest that CTE programs have a positive impact on student outcomes (Alfeid & Bhattacharya, 2012/2013; Kalchick & Oertle, 2010; Harvard Pathways to Prosperity Report, 2011; Lekes et al., 2007). In recent years, CTE programs have placed greater emphasis on not only encouraging student participation and increased engagement (Allen, 2010), but providing students with knowledge and skills that expand beyond high school. CTE POS align a rigorous secondary education plan that spans to college and career by offering students opportunities to earn college credits as well as industry-recognized credentials (Castellano et al., 2014).

The Carl D. Perkins CTE Act of 2006 requires each CTE program offer at least one program of study that leads to careers and post-secondary opportunities (Alfeid & Bhattacharya, 2013; Lewis et al., 2008; Meeder & Suddreth, 2012; U.S. Dept. of Education, n.d.). Although, participation in CTE programs is relatively high, the completion rate of a CTE program is less than 50% (ACT, 2014; NCDPI News Release, 2014). Changes in the economy along with the increasing demands of a qualified workforce will require that students upon graduation have increased transferable employability skills that can provide immediate employment (as cited by U.S. Department of Education Office of Vocational and Adult Education, 2012). Since there is little research that examines student experiences in CTE POS, this qualitative research study provides resources that could increase participation in CTE programs.

CHAPTER TWO: LITERATURE REVIEW

Overview

Career and Technical Education (CTE) programs are designed to provide students with real-world experiences that equip them with the necessary skills that better prepares them for their future career. The negative stigma that was once attached to CTE programs is now a thing of the past. In recent years the view of CTE has improved and this improvement can primarily be attributed to the increase of CTE students who have increased post-secondary opportunities through participation in a CTE program of study (Hammond et al., 2012). The Carl D. Perkins Career and Technical Education Improvement Act of 2006 proposes, "By 2013-2014, 93.5 percent of CTE Concentrators who left secondary education in the previous school year will be in postsecondary education or advanced training, in military service, or in employment", North Carolina reported 90% of CTE Concentrators in 2012-13 (as cite in the NCDPI CTE Local Planning System, 2014). CTE programs have also shown an increase in the credentials and certifications awarded to students who participate in CTE programs because CTE provides quality technical and rigorous academic content (Aliaga, Kotamraju et al., 2012; NCDPI, n.d.; US Dept. of Education, 2012).

Theoretical Framework

Learning is a continuous and life-long process that builds upon previous knowledge and experiences. The way an individual learns is critical to their approach to various aspects within their life. Information is not always retained, therefore, understanding different approaches to the learning process can help to guide instruction and program offerings within the educational system. Levin (2011) argues "Academic achievement is not the only important outcome of schooling; we also value students' ongoing ability to learn, interest in learning, abilities to work

with others, and citizenship skill" (p. 90). This study is based on three influential theories in history that are relative to the intensive nature of a CTE POS primarily because students are engaged in hands-on learning that is practical and meaningful (Dewey, 1897). These theories consist of the constructivist theory, the career theory, and the experiential learning theory.

Constructivist Theory

The constructivist theory suggests that experiences develop when students come in contact with existing knowledge. John Dewey, one of the early constructivists, "believed that children's curiosity, interests, and activities led them to experimentation. Curious about their environment, children are eager to explore it" (as cited in Gutek, 2011, p. 360). Dewey (1897) also believed that observing the interests and abilities of children could help adults to understand what the student was ready for, therefore, aligning curricula and work that the child could be fruitful in accomplishing. CTE programs provide real-world applications that engage students in hands-on activities, expanding their curiosity, and building upon their interests, while successfully integrating academic core areas. These programs also present students with accurate mental constructions of reality that coincide with the thoughts of cognitive constructivists (Doolittle & Camp, 1999).

The constructivist learning theory is critical to education because educators have the opportunity to help students begin to understand the content of the curriculum through experiences. Cooperstein and Kocevar-Weidinger (2003) found that the constructivist approach to learning can be defined in four general aspects: "Learners construct their own meaning; new learning builds on prior knowledge; learning is enhanced by social interaction; and meaningful learning develops through 'authentic' tasks" (p. 142). In a constructivist learning environment students will be engaged in an activity in an effort to solve a problem where the instructor

facilitates learning by providing the problem, but allowing the students to work (Cooperstein &

Kocevar-Weidinger, 2003). CTE classrooms are good illustrations of a constructivist learning

environment where students are actively engaged in real-world, project-based learning that

incorporates 21st century skills such as critical thinking, analyzing, and problem solving

(Castellano et al., 2014). According to Holzer, Linn, and Monthey (2013) "What really

distinguishes CTE from a more traditional academic program is the strong emphasis placed on

'contextualized learning,' in which even academic material is presented in the context of projects

or workplaces" (p. 10). Brand et al. (2013) posit "Through contextualized learning, students'

core content knowledge is enhanced and augmented, and they can immediately apply it to

problem solving" (p. 6).

Career Theory

Donald Super, a profound contributor to career development, espoused the original self-

concept career theory (as cited in Savickas, 2001). Three broad perspectives of career

development were approached by Super including the development to self-concept, the life

stages and developmental tasks that make up a career, and the breadth and richness of a career

(as cited in Salomone, 1996). However, Salomone (1996) notes the career development theory

began with Frank Parsons in the early 20th century and he was one of the first to use the term

vocational guidance when working with younger individuals. Super and Holland have produced

models of career development and social learning theories have stemmed from such theorist as

Albert Bandura (as cited in Salomone, 1996).

Career theories have provided the framework to help guide the career development

process in efforts to understand an individual's career process over time (Lewis et al., 2008).

Super has contributed more than any other concerning vocational psychology and the

development of career patterns (as cited in Savickas, 2001). In support of Super's self-concept career theory, Ochs and Roessler (2004) explain, that adults can face difficulty when transitioning into their career role when they have failed to successfully complete the tasks needed for career development during their adolescence. McComb-Beverage (2012) found that students as young as 11 can actively engage in the career development process through career exploration activities. Lewis et al., (2008) and Nevill (1997) found that an increase in career development during the growth stage (age 13) can help students with identifying a wide range of compatible occupations in the future. The career decision-making process continues to present challenges; therefore, adaptability is necessary to career development as emphasized by Super (as cited in Nevill, 1997; as cited in Lewis et al., 2008).

Emphasis on career development at an earlier age could positively impact students. While there is limited research on the study of career development in preschool, Cinamon and Dan (2010) found that parents need to believe that career development at the preschool age is important. Planned activities with parents such as career week, exposing children to their world of work, and guidance from counselors who assist students with decision making, anger management, conflict resolution, self-esteem, and teamwork, are used to help parents understand the importance of early emphasis on career development can help to achieve this goal. The early stages of life, the growth stage, indicate that a child is in the curiosity stage that is often satisfied through exploration. "Super defined the young developmental stage, the preschool age, as one where the foundations for an individual's vocational choices are formed. According to Super, self-concept during this stage is developed through identification with key persons in the family and school" (as cited by Cinamon & Dan, 2010, p. 520). Magnuson and Star (2000) found that based on Super's definition, the developmental theory and career development theory are

interrelated and should be combined to encompass both career and education in preschool/elementary (as cited by Cinamon & Dan, 2010).

In the article "Tracing Super's Theory of Vocational Development", Salomone (1996) discusses the history and development of Donald Super's Theory of Vocational Development. Super has been instrumental to the career development practice with over 40 years making valuable contributions to career development and vocational psychology (Salomone, 1996). His most important contributions into career development is the career model based upon the belief that an individual's self-concept changes over time and is developed as a result of experiences. The model is depicted as a rainbow that "portrays the interaction of personal and situational determinants that explain one's career" (Salomone, 1996, p. 169).

Salomone (1996) explains, "A focus on the meaning of career from a sociological role perspective was the essence of Super's life-career rainbow model" (p. 178). The focus of a career is concentrated on the sequences or roles played throughout a person's lifetime. Careers can also be described as a person's work experiences evolved over time. Salomone (1996) traces Donald Super's theory of career development from 1953 to 1992 through published propositions. Changes have occurred in the definition of career development over time as the conception of the career has been constructed. The definition of career that was adopted by Arthur et al. (1989) is "the evolving sequence of a person's work experience over time" (as cited by Salomone, 1996, p. 181). However, Super (1992) defines careers as the sequence of occupations, jobs, and positions throughout a person's working life.

Experiential Learning Theory

Experiential learning suggests that an individual will learn from doing or from partaking in a direct experience with an activity. The experiential learning theory applies

theory to practice through career and technical education programs (Haltinner, 2012). Therefore, CTE programs are representative of the experiential learning theory, where students are involved in project-based learning activities and work-based learning to include school-based enterprises and apprenticeships that provide this hands-on approach to learning by doing.

Experiential learning theory stems from prominent theorists who studied human learning and development including John Dewey, Kurt Lewin, Jean Piaget, and Paulo Freire (Gutek, 2011). According to Kolb and Kolb (2005), the experiential learning theory is built on the following six propositions:

1. Learning is best conceived as a process, not in terms of the outcome.

2. All learning is relearning.

3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.

4. Learning is a holistic process of adaptation to the world.

5. Learning results from synergetic transactions between the person and the environment.

6. Learning is the process of creating knowledge. Experiential learning theory proposes a constructivist theory of learning whereby social knowledge is created and re-created in the personal knowledge of the learner.

Focusing on the learning preference of individuals, mindfulness brings to light how individuals understand and process information. Kolb and Yeganeh (2009) describe that mindfulness prevents individuals from sleep walking through their lives. Mindfulness allows an individual to view a situation from many perspectives. Generalizations are how the mind

makes sense of complex environments. According to Kolb and Yeganeh (2009),

"Mindfulness can free the mind to intentionally think and create in a new way" (p. 16).

Mindfulness learning is important because an individual can cognitively represent and

manipulate their ideas. Mindfulness helps us understand processes by which the mind is aware,

intentional, and accepting. Kolb and Yeganeh (2009) explain "Engagement in thinking can be

enhanced by practicing theoretical model building and the creation of scenarios for action" (p.

17). Mindfulness learning can help to enhance career development by allowing individuals to

purposively consider their career choices. CTE, which is often stigmatized (Aliaga, Kotamraju

et al., 2012), will benefit from the mindfulness learning because this process will allow

individuals to view the program from a different perspective, which can aid in the process of

identifying a program of study that is relative to their career aspirations.

Related Literature

This literature review examines the experiences of high school students who have

participated in a CTE program of study by perusing related literature that identifies how students

perceive the program. I will also review related sources of literature in the area of career

development and other educational programs. The literature review will allow me to create a

platform that suggest the importance of CTE programs in secondary education when combined

with a rigorous academic course of study that enhances the learning process. Additionally,

creating a discussion that would examine other academic programs could help to explain the

resistance and limitations that CTE programs continue to face.

Background of CTE

The vocational age emerged in the late 19th century with agriculture and industrial arts.

U.S. Commissioner of Education Sidney Marland, Jr. popularized the term career education in

1971 to express the need for reform to secondary education (as cited in Barlow, 1976). The reauthorization of the 1998 Carl D. Perkins Vocational and Technical Education was first authorized in 1984 formerly known as the Smith Hughes Act of 1917. In 2006 when the act was reauthorized under the Bush Administration, the act was renamed to the Carl D. Perkins Career and Technical Education Act of 2006 (U.S. Dept. of Education, n.d.a). Perkins is funded from federal dollars with one of the requirements of the Perkins Act to ensure at least one program of study is offered.

POSs are a growing movement for at least two-thirds of America's youth whose long term goals do not include graduating from a four-year college. Following the tech prep programs, which was a mixture of secondary and post-secondary education, has evolved the career clusters and career pathways initiative that aligns occupations into 16 national career cluster areas (Center for Occupational Research & Development (CORD) and NASDCTEc, 2012). The requirements of Perkins IV continue to face challenges, therefore, in order for a POS to be successful, four of the challenges specifically must be addressed. Those four challenges include secondary and postsecondary elements, academic content alignment with career and technical education, dual enrollment programs, and programs that lead to industry-recognized credentials (Lewis, Stipanovic, & Stringfield, 2012). Addressing these challenges can help to design a framework for a POS within educational institutions. Alfeid and Bhattacharya (2013) suggest that while legislation requires the implementation of POS, the process could be challenging, but worth the efforts when focusing on student success in post-secondary.

The current labor market has increased the need for school districts to focus on high quality vocational education programs (NEA, 2012). NEA (2012) examined three quality vocational educational programs to include Southeast Career Technical Academy in Clark

County, Nevada; New Castle County VoTech School District in Delaware; and Greater New Bedford Regional Vocational Technical High School in Massachusetts. Each of the districts provide students with a career-focused program that offers work-based learning opportunities including internships and work study. Southeast Career Technical Academy and New Castle County VoTech School District offer students the opportunity to earn a high school diploma in addition to college credits and career and technical certifications or professional licensure college credits (NEA, 2012).

21st century America. During the 20th century, the structure of schools centered on preparing students for acceptance into a four-year college. Concentrated efforts were made to ensure students were able to perform on the end-of-grade standard achievement tests as well as college readiness placement tests to meet the minimum college admission requirements. Santoro (2011) found that good teaching was once hallmarked by connecting a student's prior learning experiences with new knowledge providing educators with a way to help students develop higher-order thinking skills and to become problem solvers. However, this form of teaching has been replaced by the demands of passing a test and pressures of achieving average yearly progress (AYP). As a result, programs such as vocational education that accentuates hands-on learning that provides a strong foundation in technical and career oriented skills, received less focus. This lack of focus on our schools' vocational programs have been attributed to our current workforce where individuals have successfully obtained a college degree, yet they remain ill equipped with advanced technical skills to meet the growing demands of the 21st century labor market (Daggett, 2013; Harvard Pathways to Prosperity, 2011; US Dept. of Education, 2010).

Since 2012, there has been a growing effort to increase educational programs that can help to prepare students for the increased demands of the workforce. As a result, the Center for Occupational Research and Development (CORD) and the National Association of State Directors of Career and Technical Education Consortium (NASDCTEc) has encouraged CTE directors across the nation to develop strong CTE programs through the development of multiple career pathways (CORD & NASDCTEc, 2012). These pathways would align academic and technical studies that lead to post-secondary institutions through the development of partnerships between secondary educators, post-secondary institutions and business and industry.

Career and Technical Education

Career and Technical Education are those programs that prepare students in secondary and post-secondary education with a wide range of skills to prepare them for high-wage, high-wage careers (ACTE, n.d.). A successful CTE program that prepare students for high-tech, high-wage career fields that integrates College and Career Readiness Standards would include rigorous academic and technical content, project-based learning, student internships, the opportunity for students to earn college credit, online career exploration and career and academic guidance (Partnership for 21st Century Skills, 2010).

Career clusters and pathways. CTE concentrators focus on courses that are grouped into career clusters and pathways that lead to a career. Career clusters consist of a group of occupations with related skills and knowledge that are categorized into one of the 16 National Career Clusters. The 16 National Career Clusters consist of the following:

- Agriculture, Food, and Natural Resources.

- Architecture and Construction.

- Arts, A/V Technology, and Communications.

- Business Management and Administration.

- Education and Training.

- Finance.

- Government and Public Administration.

- Health Science.

- Hospitality and Tourism.

- Human Services.

- Information Technology.

- Law, Public Safety, Corrections, and Security.

- Manufacturing.

- Marketing.

- Science, Technology, Engineering, and Mathematics.

- Transportation, Distribution, and Logistics.

The national perspective of career clusters are that they should connect career development and guidance to delivery systems requiring CTE programs to quit thinking as stand-alone and begin thinking as part of a seamless system (NASDCTEc, n.d.). Career clusters require long-term commitment of every partner in its role within the system and support workforce preparation and economic development. There are more than 79 career pathways within the 16 national career clusters that prepare works for a variety of occupations (CORD & NASDCTEc, 2012). Since all careers fall within one of the career clusters, the pathways help to bring focus to an individual's career path and future career goals.

CTE has significantly increased its focus on science, technology, engineering, and mathematics (STEM), becoming heavily invested in STEM concepts. Such program areas

names reflect STEM including agriscience, family and consumer science, health science, and technology engineering and design. About 80% of CTE courses include a significant STEM component in the essential standards and about 25% of those are composed primarily of STEM essential standards (North Carolina Department of Public Instruction, 2012). Association for Career and Technical Education (2009) found that many students have not pursued STEM related courses because they were unaware of individuals who are employed in these areas. Therefore, academic and career advising in middle grades can help to shed light on these underrepresented, but highly demanding career fields.

Students who participate in CTE programs have a greater advantage of obtaining knowledge and skills to be successful for today's demanding workforce saving business and industries time and resources that would be normally dedicated to training. Wilson (2010) explains "since the mid-1990s, businesses have been spending between $46 billion and $54 billion per year on job training, including trainee salaries, but excluding administrative and overhead costs" (p. 1). Students who are given the opportunity to earn industry-recognized credentials during high school are able to support the demands of the workforce. Educational institutions that provide multiple opportunities for students to earn these credentials are promoting a positive and sustainable economic system.

The definition of a CTE concentrator varies in different states across the nation (Aliaga, Kotamraju et al., 2012). For federal reporting purposes, North Carolina defines a CTE concentrator as a student who completes four CTE courses within one career cluster pathway, with at least one of the courses being a level II course (North Carolina Department of Public Instruction, 2012; NC State Plan, 2008). Therefore, the number of credits and sequence of courses play a major role in a student's high school years. To guide in the process of planning

for high school, students are encouraged to complete a career interest inventory at the middle

school level. Guidance from school counselors and career development coordinators that clarify

instructional programs according to Perkins legislation can help students to begin to recognize

which courses in high school will best match their skills and abilities (Fedorchake, Shellhorn,

Wales, & Washer, 2013).

Nearly 96% of students complete a CTE course during high school (Aliaga, Kotamraju et

al., 2012), in 2013, North Carolina had over 800,000 seats filled each day in CTE classrooms.

With so many students participating in CTE programs, it is difficult to believe that the number of

CTE completers is dismally low. Boccanfuso et al., (2013) found in their study of the academic

impact of career and technical schools that approximately 15% of the students within each cohort

completed three or more CTE courses during high school in the district, although 80% of

students attended a CTE school. With so many students participating in CTE programs, one

would assume that the CTE completion rate of CTE programs would be much higher. Therefore,

concentrated efforts to increase not only CTE participation, but completion are necessary to

ensure students are career ready as well as college ready.

College and career readiness. College and career readiness is a term that has been

widely used over the past few years in regards to our educational systems. College and career

ready students have the necessary knowledge and skills in reading and math without the need for

remediation in a postsecondary or job training institution necessary for their selected career. The

Common Core State Standards (CCSS) were designed to build a foundation towards college and

career readiness through the development of a common set of academic standards (CCSS, n.d.).

Effective with the 2013-2014 school year, the North Carolina State Board of Education

introduced the new achievement levels for End-of-Grade (EOG) assessments that measure a

student's college and career readiness beginning in grade three for reading and math that meet the Annual Measurable Objectives (AMOs) for federal reporting purposes (NCDPI Accountability, 2014). The new measures help educators to identify students who may need additional help to meet the college and career readiness standards in primary grades when scoring below achievement levels four or five. Beginning in the eighth grade, North Carolina uses ACTs College Readiness Assessment Explore (8th Grade), PLAN (10th Grade), and ACT (11th Grade) and all CTE completers as seniors are assessed using the Career Readiness Assessment WorkKeys (NCDPI Accountability, 2014).

With the introduction of the Common Core State Standards (CCSS), educational systems across the nation have a common set of standards and benchmarks to ensure students are on track to graduate college and career ready. Similar to the Common Core State Standards, the National Association of State Directors of Career Technical Education Consortium (NASDCTEc) has developed the Common Career Technical Core (CCTC). As the nation progresses to a highly skilled workforce, having a common set of benchmarks within programs of study can ensure that students in CTE programs are competitive. An overarching set of Career Ready practices are included in the CCTC that are not limited to a single pathway, but apply to all programs of study. NASDCTEc (2012) describes these twelve practices as follows:

- Act as a responsible and contributing citizen and employee.

- Apply appropriate academic and technical skills.

- Attend to personal health and financial well-being.

- Communicate clearly, effectively and with reason.

- Consider the environmental, social and economic impacts of decisions.

- Demonstrate creativity and innovation.

- Employ valid and reliable research strategies.

- Utilize critical thinking to make sense of problems and persevere in solving them.

- Model integrity, ethical leadership and effective management.

- Plan education and career path aligned to personal goals.

- Use technology to enhance productivity.

- Work productively in teams while using cultural/global competence.

Students who graduate from high school without meeting the college and career readiness targets could be costly to our country's global competitiveness (Blumenthal & Sambolt, 2013; Daggett, 2013; Wilson, 2010). Therefore, career development and counseling to secondary students is essential to college and career readiness. Spielmaker (2013) argues "Career choices affect our personal finances and our free time—greatly impacting and influencing how our life goals are achieved and the economic security of the state and nation" (p. 1).

Factors Influencing CTE

Career development and advisement. The Carl D. Perkins Act (2006) specifies that local education agencies applying for federal funding illustrate in their local planning systems how career guidance and academic counseling be provided to CTE students including linkages to future education and training opportunities (US Department of Education, n.d.a). A career development coordinator can work with CTE students to develop realistic plans of study, assist with registration, and serve as an advocate for CTE students. During middle school students begin to explore and understand a variety of careers while developing a student portfolio that includes career interest inventories, learning style inventories, and the development of four year plans.

The transition from middle to high school can present challenges for students due to the increase in rigorous coursework and student expectations (Breakthrough Collaborative, 2011). Therefore, effective career development and advisement activities are an influential factor in CTE course selections in secondary education. Career development and advisement activities can be provided from a variety of individuals including parents, educators, and counselors. In their study, Manzi, Palma, and Schultheiss (2005) found that "in order to strengthen the connection between school and future occupations, teachers and school counselors could provide children with experiences that more clearly link academic subject areas with various occupations" (p. 259). This concept supports the notion of a POS that combines a rigorous CTE and academic curriculum directed by a student's career interest. According to Kalchik and Oertle (2012) "POS actually provide a means for exploring options, organizing course selections and planning for transition while developing knowledge and skills" (p. 23).

School counselors have been tasked with the responsibility of ensuring that students have a plan of study throughout high school. Promoting growth and development for all students can help to improve a student's academic performance (Stloukal & Wickman, 2011). However, according to Alfeid and Bhattacharya (2013) "High school guidance counselors were often more focused on testing, scheduling, and college applications than on helping students choose a POS" (p. 20). Due to extra roles placed on school counselors little time is devoted to advising and counseling students that could have a major impact on their course selections regarding careers and post-secondary opportunities. According to Johnson, Ott, and Rochkind (2010), "Under the current system, public schools often seem to assume that counselors can juggle a whole roster of duties and still effectively assist hundreds of students in planning their futures" (p. 76). As a result, ensuring that the requirements of a POS are being met and that students are following a

specified course sequence found in a POS, Alfeid and Bhattacharya (2013) found that CTE teachers and the local community colleges have provided much of the guidance to students in this area.

Despite the presumed relationship between CTE and career development, a gap continues to exist between the two because CTE courses alone do not provide the essential components available within a career development program (Kalchik & Oertle, 2012). Therefore, comprehensive career development plans that incorporate academic and career courses meet the college and career readiness goals currently outlined in the Common Core State Standards (CCSS, n.d.). A comprehensive career development program assists with the development of programs of study that are generally developed at the eighth grade with the assistance of the school counselor and parents with the student prior to transitioning to high school. However, emphasis on career development that could help steer CTE programs have not been greatly emphasized in our educational systems, although early educators stressed the importance of vocational skills to a child's overall development (Gutek, 2011; Lewis et al., 2008). McComb-Beverage (2012) suggest that when career development programs are not put into place during the adolescent stage, students may face difficulty making career choices upon graduation from high school.

Mei, Newmeyer, and Wei (2008) conducted a study on the factors that influence a student's career choices by analyzing the relationships among learning experiences, career self-efficacy, career interest, and career choices. Mei et al. (2008) found that interventions are needed to provide students with a "comprehensive career development program that helps students develop self-efficacy in their desired careers through practical learning activities" (p. 295). In a study to understand the factors that influence enrollment in CTE programs at an

occupational center, Gene (2010) examined the human and other factors while exploring the most effective communication strategies that accurately present the advantages of CTE. Gene (2010) found the "factors that influenced students to enroll were having a high school career plan, earning credits toward high school graduation, and a job shadowing someone in the field in which they were interested" (p. 103). McComb-Beverage (2012) found that self-efficacy can be an influential component to an adolescent's career planning process.

There are many individuals who contribute to the career development of a student. Since most counselors are trained in career development and career services, Stipanovic (2010) suggested "they can help students to effectively engage in career exploration and academic decision-making" (p. 35). However, most students receive guidance from those closest to them which help guide their course selections in high school. Gene (2010) found that of the students reporting, 76% stated that their mother or female guardian influenced them, while only 66% stated that their father or male guardian influenced their decision. On the other hand, Gene (2010) found that friends had a great impact with 73% while only 54% credited a guidance counselor and 42% credited high school teachers as those who influenced their enrollment decisions. Alfeid and Bhattacharya (2013) found that students who participated in a POS attributed the advice they received regarding course selection from friends and parents. Since parents and guardians play a crucial role in the guidance of course selections during high school for students, effective communication with parents and guardians regarding CTE programs is necessary.

Super's (1992) life span theory depicts his life-span rainbow as a model for the practice of career development and counseling. The life span theory helps to develop conceptual design instruments for career assessments. A model of Career Development, Maturity, and

Adaptability, Model of Importance and Determinants "seeks to draw on matching theory and its knowledge base, on developmental theory and its wisdom, and on phenomenology or personal construct theory. It seeks, too, to portray what we know about person-environment interaction" (Super et al., 1992, p. 75). Career assessments including The Strong Inventory, The Career Development Inventory, The Adult Careers Concern Inventory, and the Saliency Inventory conceptualize the career interest of an individual (Super, Osborne, Walsh, Brown, & Niles, 1992). North Carolina CTE Programs are required to provide a Career Development Plan (CDP) on all students when they are transitioning to post-secondary education that includes a variety of inventories to gauge the students' career interests and learning abilities (NC 5-Year CTE State Plan, 2008). Career counseling to enhance career development can be implemented within programs and institutions with the use of assessments and inventories as designed by Super (1992). McComb-Beverage (2012) found that life span coupled with an effective career development program can assist adolescents in creating realistic goals for the future.

The learning style of individuals can also play a vital role in their course selections as well as their career and college goals because style of learning determines how an individual processes each new experience. As a result, choices and decisions are influenced through lived experiences. Kolb and Yeganeh (2009) explain, "For many, this learning style choice has become relatively unconscious, comprised of deeply patterned routines applied globally to learning situations. Mindfulness can put the control of learning back in the learner's hands" (p.15). Therefore, assessing student learning styles during the career development process can help guide students in making informed decisions during and after high school. Career guidance and a variety of inventories are essential tools for transition from school to work in which

Friedman (2007) suggests that individuals should be provided with tools that make them lifetime employable.

      Teacher-student relationships. The relationships that are developed between students and teachers are a crucial component to increase student success. "Because many students self-select to pursue a CTE career pathway or program of study, the teacher–student relationship and interactions may be more meaningful to students enrolled in CTE programs and have a significant impact on student learning" (as cited in Jacques & Potemski, 2014, p. 26). Jacques and Potemski (2014) found that students value the relationships with their CTE teachers because of the practical knowledge that is provided in the classroom along with sharing similar interests. "The real-world experience that CTE teachers bring to the classroom and the perspectives they can share can make learning more meaningful and beneficial to students" (Jacques & Potemski, 2014, p. 13). This type of learning environment aids in increased student engagement that can strengthen student outcomes because engagement can be linked to relationships (Allen, 2010). Additionally, stronger relationships can develop over time within CTE programs as students' progress within a given pathway which increases a sense of belonging within the school structure.

      Kouzes and Posner (2007) suggest, "When people are a part of something that raises them to higher levels of motivation and morality they develop a belonging to something very special" (p. 122). Students who participate in a CTE POS have the advantage of being grouped with others with similar interest, therefore increasing the sense of belonging (Castellano et al., 2014). Students should respond well to motivation because they will feel a sense of belonging that raises them to a high level of achievement. Therefore, teachers have an innate ability to help

their students achieve within the classroom by developing a sense of community through motivation.

     Student perceptions. Although CTE is a widely used term in the educational realm, many students do not fully understand which courses are associated with CTE. Hollenbeck (2008) conducted a study on eighth and ninth grade students to gain a greater perspective of their understanding of CTE. The study revealed that less than half of the students could provide significant information regarding their knowledge of CTE or the students could not recall having taking classes within this program (p. 19). Alfeid and Bhattacharya (2012) conducted a study on mature programs of study to gain a greater perspective of their success. Of the 219 juniors who participated, most agreed that their program made them more engaged and interested in school. In a subsequent report Alfeid and Bhattacharya (2013) found when examining mature programs of study that students were more engaged when they were instructed by teachers who were experts in their subject matter.

     In their study, Gentry, Mann, and Peters (2007) examined six students from nine different program areas to understand their perceptions of their CTE experiences as compared to their traditional high school experiences. Since CTE courses are elective courses, many students who are identified as academically gifted are not encouraged to participate. However, students who are considered talented in a CTE program would not generally be viewed as talented in their traditional classroom environment. Gentry et al. (2007) found that of the sixteen talented students only two were identified as gifted from their base school.

     The student learners' experiences in school are crucial to their future success; however, most gifted and talented students are not encouraged to attend CTE. CTE Programs can be

beneficial to the gifted and talented as well as the traditional high school student. In their study, Gentry et al. (2007) conclude,

>   Our research indicates that CTE offers students qualitatively different educational
>
>   experiences from those they experience in traditional high school settings. Perhaps
>
>   traditional high school educators could learn from this CTE center and incorporate these
>
>   findings as they strive to educate today's youth. (p. 395)

While most CTE programs are located on the traditional high school campus, in some cases, there are CTE centers that allow a select group of students to attend programs at an off-campus location for part or half of the day. Bachofer et al. (2014) found when examining student perceptions of CTE programs at their school, participants indicated there were times when fitting CTE courses into their schedule was difficult. On the other hand, students who participated in CTE programs indicated that they believed they were a step ahead and more prepared than their peers because of their CTE coursework through their selected pathway (Bachofer et al., 2014).

Gentry, Peters, Rizza, and Saiying (2008), conducted a study to examine the talents that are found in students who are enrolled in an exemplary CTE center. In their study, Gentry et al. (2008) examined the experiences of sixteen gifted and talented students in CTE programs in comparison to their traditional classroom settings from nine different program areas. The students at the center consisted of primarily juniors and seniors that had chosen to attend the CTE center due to their disinterest in their traditional high school courses (Gentry et al., 2008). The study revealed that CTE programs offered the gifted and talented students real-world experiences relevant to their talents and interests, suggesting that CTE programs should be used as an effort to identify gifted and talented students. Aliaga, Kotmraju, and Stone (2012) argue,

CTE should be seen as a vital component of all students' experiences in high school, in

which all students take a wide variety of courses in different amounts that suit their

personal interests-whether the courses are mainly academic, mainly CTE, or a

combination of the two. (p.12)

Allen (2010) found in the study to examine the perceptions of CTE teachers influence on

students that nearly 98% of the participants interviewed agreed or strongly agreed that through

the skills learned in CTE courses, students gained confidence and their self-esteem improved.

Effective communication. In regards to effective communication for CTE programs,

Gene (2010) found that students found the following most effective, "(a) presentation at your

high school (75%); (b) career day held at your high school (66%); (c) information from a friend

(61%); and (d) brochures (56%)" (p. 102). Whereas social media, websites, and public

broadcasts have been attributed to projecting information to a vast majority, Gene's (2010) study

found that students tend to need a more one-to-one personal connection with an individual when

receiving information regarding CTE programs. As a result, career development

coordinators/advisors and CTE teachers can provide a variety of career exploration activities to

students beginning in middle school that extends to high school which involves career planning,

career days, and work-based learning opportunities that include job shadowing, student

internships, and business/industry field trips.

Career development plays a vital role in a CTE POS because this process provides

opportunities for students to make informed decisions regarding their college and career goals.

Kalchick and Oertle (2010) suggest "Career development in association with a POS can provide

students with a combination of coursework, innovative instruction including work-based learning

experiences, and support services that are aligned with career clusters and career pathways" (p.

3). Since a POS integrate academics, CTE, post-secondary, and careers, career development will need to be the cornerstone in helping to increase student enrollment.

While continuous support of CTE POSs is vital to secondary education, students should not be forced into to choosing a POS. Understanding a student's learning style and interest can help to guide the program selection. Braley and Handy (2012) found that CTE students followed certain career paths and appreciate a hands-on approach to learning. On the other hand, most students were academically unsuccessful when placed in programs rather than selecting a POS based on student abilities and interest suggesting that an individualized approach to learning is necessary (Braley & Handy, 2012). In their study, Shumer et al. (2012) found from the lessons learned from highly implemented programs of study that successful implementation of a POS depends heavily upon effective communication and collaboration.

The Influence of CTE Programs of Study in Secondary Education

POSs are designed to integrate CTE courses with a particular concentration area with a rigorous academic curriculum. The North Carolina Department of Public of Instruction for Career and Technical Education (n.d.) explains,

> The Carl Perkins Career and Education Act of 2006 requires that recipients of federal CTE funds offer Programs of Study – a coordinated, non-duplicative progression of courses that connect secondary and postsecondary education. Programs of Study can include dual and concurrent programs and should lead to an industry-recognized credential or to further education. (para. 1)

North Carolina offers the Career and College Promise program that provides a clear pathway to postsecondary education through dual enrollment at the community college that increases

opportunities to CTE students to participate in a program of study (NC Community Colleges, 2014).

Lewis et al. (2012) suggest "POS can be viewed as a concrete extension of the goals and ideals of John Dewey" (p. 80). Additionally, POS are central components of the Carl D. Perkins Act for CTE (Shumer et al., 2012; U.S. Dept. of Education, n.d.a). Drawing from Dewey's educational philosophy, a POS points to providing students with relevant, real world experiences that are practical to the 21st century (Partnership for 21st Century Skills, 2010). Since POSs are relatively new to America's educational system there is not sufficient data to support the academic effects of students who have completed a POS (Alfeid & Bhattacharya, 2013). Therefore, gaining information on student experiences who have participated in these programs in regards to a traditional high school program can provide educators with best practices for educational improvements.

Due to the rigorous nature of POS the potential to increase student opportunities in gaining the necessary college and career skills needed in the 21st century workplace exist. Castellano, Sundell, Overman, & Aliaga (2012) found that in "POS classrooms, students were building wind tunnels, determining the course schedule in real time by responding to online surveys, constructing computers and networks, isolating DNA samples, and analyzing fingerprints to solve crimes" (p. 103). High-quality CTE POSs present students with real-world challenges that are relevant to today's workforce and aligns with the nations college and career readiness standards (U.S. Dept. of Education, 2012). Research suggests that students who complete a CTE POS in high school are better prepared for post-secondary options including college and careers because they have had the opportunity to gain college credits and certificates during high school (Castellano et al., 2014; Lekes et al., 2007).

Students who participate in CTE Programs have the opportunity to gain industry-recognized credentials in such areas as Microsoft, National Center for Construction Education Research (NCCER), ServSafe, AutoDesk Computer Aided Drafting (CAD), and the nationally recognized Career Readiness Certification (North Carolina State Plan, 2008). Certifications are becoming an important aspect for employees to gain meaningful employment in most jobs that certify workplace skills and success; CTE concentrators also have the opportunity to earn the National Career Readiness Certification which is recognized at businesses and industries across the United States with over one million certifications issued in 2013 (ACT, 2014). Allen (2010) found that industry credentials are considered when hiring new employees by HR executives. Castellano et al., (2014) found of the school districts examined that 94% of the students who sat for a credentialing exam passed with three quarters of those credential earned by completers of a POS.

North Carolina also offers students who participate in CTE programs an opportunity to gain post-secondary credits through the Career and College Promise initiative commonly known as dual enrollment that are available to students during and after high school as well as through an online format (NCDPI, n.d.). According to ACTE (2009), "High-quality CTE programs can help more students persist in and complete high school, preparing them for the postsecondary education and training that will be critical to future economic successes" (p. 1). Allen (2010) found that offering industry-recognized credentials increased classroom engagement while adding value to their program.

CTE programs are representative of the knowledge and skills necessary to succeed in the workforce. Career guidance and counseling are crucial components of a CTE POS in addition to work-based learning opportunities that center on developing those soft skills necessary in today's

workplace (Hammond et al., 2012). A POS presents multiple pathways to success. Tying in to the Harvard Pathways to Prosperity Report (2011), POSs are essential to preparing students for career opportunities in a variety of avenues. Additionally, with the reauthorization of Perkins IV, each CTE program must offer at least one pathway and/or program of study that leads to careers and postsecondary opportunities (U.S. Department of Education, n.d.). Aliaga, Castellano et al. (2012) concluded in their study that student enrollment is expected to increase in POS because students will take more CTE courses "because 97% of all U.S. high school students take at least one CTE course during high school" (as cited by Levesque, Lauen, Teitelbaum, Alt, & Librera, 2000, p. 115).

As part of the program of study model, credentials and postsecondary opportunities are major requirements of a successful POS. In the Aliaga, Castellano, et al. (2012) study, the control group fell short in these areas, which could affect the overall academic success of students enrolled in these programs at these particular school districts. Integration of high-tech technology and project-based learning are also elements of POS and are noted in this study. With the potential to earn certifications and credentials in addition to college credits, students who participate in a CTE POS, have the potential to have increased earnings over their life span. Fletcher and Zirkle (2009) found that the high school curriculum tracks could greatly impact occupational earnings noting that CTE completer tracks were found to receive higher earnings than their counterparts.

Academic integration. The Federal Carl D. Perkins CTE Improvement Act of 2006 requires schools to link career and technical studies with a rigorous academic core curriculum, in order to add meaning and relevance to students' academic studies. Local Education Agencies (LEAs) are to provide comprehensive professional preparation and staff development for career

and technical education teachers in collaboration with academics that have a positive and lasting impact on classroom instruction. The institution of a CTE POS can help to accomplish this goal through the promotion and development of services and activities that integrate rigorous and challenging academic skills into CTE instruction.

Although career and technical education is a federally funded and supported program, participation into the program at the secondary and post-secondary level is voluntary. While there have been concentrated efforts to increase participation including the integration of career and technical studies with academics, individual school systems have the option whether or not to fully implement academic and CTE integration. According to Flournoy, Hall, and Wolsic (2010), "Many administrators stated CTE as an elective was a disadvantage to the program" (p. 7). The rigorous nature of CTE courses are dependent upon individual courses with many upper level CTE courses viewed as rigorous, but lower level not so much when compared to core classes (Flournoy et al., 2010). Herian (2010) found when examining the public perceptions of CTE in Nebraska, that of the 535 respondents where 52% consisted of a rural community that CTE courses tend to be very rigorous stressing both academic and technical skills. Urban respondents which represented 48% of participants expressed the importance of employer involvement in the development of CTE courses (Herian, 2010).

To strengthen integration of academic core curriculum and to ensure students are college and career ready, an ongoing focus on CTE programs will continue to be necessary. Additionally, to be successful in meeting Perkins IV Federal performance standards this must occur both at the high school and middle school level because the measures for CTE academic attainment are the same as for No Child Left Behind which occur in the ninth and tenth grade for math and reading. Aliaga, Castellano et al. (2012) found that even in the event of decreased

funding, a school system that is supportive of CTE can ensure that the elements of a program of study can continue to exist.

CTE requires students to have advanced academic skills as they prepare student for college and growing careers. Daggett (2013) found in a study conducted by MetaMetrics that some of the highest Lexile reading levels are necessary for CTE textbooks in high school. Entry-level occupations were found to have the highest Lexile reading levels (Daggett, 2013) confirming that teaching literacy in CTE courses is a critical component to the program. Pellock and Threeton (2010) found while examining the relationship between SkillsUSA student contest preparation and academics that reading is a primary component to understanding the safety guidelines regarding SkillsUSA competitions. According to CORD (n.d.),

> Many students have a difficult time understanding academic concepts (such as math concepts) as they are commonly taught (that is, using an abstract, lecture method), but they desperately need to understand the concepts as they relate to the workplace and to the larger society in which they will live and work. Traditionally, students have been expected to make these connections on their own, outside the classroom.

Therefore, implementing such models as Math-in-CTE where CTE and math teachers work together to develop math enhanced CTE lessons could help students contextualize their learning by making connections to the real-world (NRCCTE, n.d.).

Collaborative learning is necessary; therefore, blended curricula could prove to be beneficial in this effort (Flournoy et al., 2010; Meeder & Suddreth, 2012). Braley and Handy (2012) found that many of the participants agreed that blended learning is needed, but that there is not enough time to work together to effectively provide integration. Additionally, there is a need for additional curricula support because of the lack of skills on how to effectively integrate

academics and CTE courses (Meeder & Suddreth, 2012). Anderson and Anderson (2012) found

when researching the integration of mathematics within the Agricultural Education curriculum,

teachers indicated that while they teach the skill or principle prior to linking to the Standards of

Learning (SOL) standards; to effectively ingrate math into the curriculum, additional resources

are needed. The collaboration between academics and CTE can help teachers to develop skills to

effectively implement activities within classroom instruction that aid in student mastery of key

concepts (Lewis et al., 2012). Allen (2010) suggested that successful strategies and practices

implemented by CTE teachers could be utilized by core teachers and applied in academic courses

to increase student engagement. Essentially, academic and CTE teachers need time to work

together in efforts to begin the integration process (Braley & Handy, 2012; Fuhrman, Morgan, &

Parr, 2011). Incorporating cross-curricular project-based learning opportunities for students can

help to close the gap and enhance the integration process. Castellano et al., (2014) suggests

common planning or informal lunch planning between core academic and CTE teachers could

help to facilitate project-based learning across multiple disciplines.

     Inclusion. CTE programs are provided to offer all students an opportunity to enhance

their skills towards their future goals. A CTE POS, while rigorous, can also serve the needs of

students within an inclusion setting. As with CTE and academic integration, CTE and special

education teachers must also collaborate to ensure the success of students. Casale-Giannola

(2012) found student performance is higher when teachers develop a respectful and positive

rapport with their students. Many of the changes that are taking place in CTE programs may

limit students who receive special education services. While CTE can support the needs of

exceptional children, the growing demands of the workforce, high stakes testing, and increase

performance objectives, may inhibit students from being successful in CTE programs. Casale-

Giannola (2012) concluded that special education teachers and CTE teachers lack a repertoire of resources to support the needs of students with disabilities within the inclusive setting. Therefore, collaboration between academic and CTE teachers to include co-teaching strategies could help to support inclusion in CTE programs. Foundational skills in math, reading, and science are critical in CTE programs, which further validates the importance of CTE and academic integration to ensure students with disabilities are successful.

Academic programs (post-secondary opportunities). CTE courses are often overlooked because of the competitiveness to go to college, which tends to decrease student enrollment in the CTE program. Flournoy et al., (2010) found "With such competitive, cut-throat entrance requirements of certain universities, higher achieving students have been directed away from CTE courses by college representatives" (p. 8). On the other hand, schools that offer CTE courses at a separate school rather than the student's home school can inhibit student enrollment (Lewis et al., 2012). Davis (2012) study found that the increased focus on college readiness, incoming freshman were not given an option to participate in CTE programs.

Advanced placement. Advanced placement (AP) courses were developed to allow students to participate in college level courses at the high school level. In their study, Lee, Scott, and Tolson (2010) found that students who enroll in AP courses in high school and pass the AP examinations are more likely to be successful in their college years and graduate within six years. Math was the most common AP credit awarded to high school students. Regardless of the benefits of AP courses, in their study, Moore and Slate (2008) found that exceptional children and minority students are often underrepresented as AP courses were traditionally offered to the academically gifted. Moore and Slate (2008) suggested that "teachers and administrators should engage in curriculum alignment in all subject areas that prepare all

students for taking more rigorous course work prior to their first enrollment in AP classes" (p. 64). CTE POSs that integrate a rigorous CTE and academic curriculum could better prepare students for enrollment in AP courses. While AP courses are not always available to the underrepresented individuals, CTE offers free and public access to all populations.

North Carolina articulation agreements. North Carolina has provided articulation agreements between high schools and community colleges and between community colleges and public universities that will provide a seamless transition between secondary and postsecondary education. According to the NC High School to Community College Articulation Agreement (2012), "This statewide articulation agreement is comprised of approximately 50 high school CTE courses that match the knowledge and skills taught in similar community college courses" (p. 1). Students may earn the articulated credit that is transferrable to one of the NC Community Colleges by illustrating proficiency on the NC statewide post assessment (a score of 93) in addition to earning an overall grade in the course of no less than a B. Additionally, North Carolina offers a comprehensive articulation agreement (CAA) which is a statewide agreement that governs the transfer of college credits between NC Community Colleges and the NC public university (NC Community Colleges, 2014). According to the NC Community Colleges (2014),

> The CAA provides certain assurances to the transferring student; for example: -- Assures admission to one of the 16 UNC institutions (Transfer Assured Admissions Policy) -- Enables NC community college graduates of two-year Associate in Arts and Associate in Science degree programs who are admitted to constituent institutions of the university of NC to transfer with junior status. (para. 1)

Dual enrollment (Career and College Promise [CCP]). Dual enrollment courses allow students to enroll in college courses while completing high school courses simultaneously. Dual

enrollment courses provide options to students to better prepare them for post-secondary because they are offered to students who plan to attend a four-year college or a community college (Klopfenstein & Lively, 2012). This program has become popular among CTE and community colleges because students can complete many of their required college readiness standards through this avenue. Additionally, the enrollment process in a dual enrollment course is less strenuous than many college courses such as Advanced Placement without the requirement of passing a College Board exam. Klopfenstein and Lively (2012) express that most schools reserve AP courses for their top performing students. Therefore, student participation with dual enrollment has allowed schools to close the achievement gap in an effort to offer rigorous college course work to all students that promotes equity and equality to increase opportunities for students regardless of background or circumstances (U.S. Dept. of Education, 2012). Castellano et al. (2014) suggest that dual enrollment programs should be reexamined so that more students can participate. While Alfeid and Bhattacharya (2013) suggest that students who participate in dual enrollment courses could reduce the need for remedial courses in college.

North Carolina introduced a new approach to dual enrollment in 2011 by implementing Career and College Promise (CCP). CCP provides multiple opportunities for students to enhance their career and college goals by providing tuition free college courses to qualified juniors and seniors in three pathways: college transfer, technical careers, and innovative high schools (NC Community Colleges, 2014). Fletcher and Zirkle (2009) found "one approach utilized to increase the likelihood of high school students to pursue postsecondary education is through dual enrollment programs. Dual enrollment programs enable students to earn college credit by taking high school courses" (p. 3). Additionally, while we have seen a decline in the United States economic structure, the benefit of CCP courses are that secondary education in collaboration

with post-secondary institutions can boost the economy and meet the needs of the community by providing a well-prepared workforce. CCP courses can work in combination with the North Carolina Articulation Agreements affording students multiple opportunities to earn post-secondary credits tuition free. Alfeid and Bhattacharya (2013) found that in successful POS sites, students taking dual enrollment courses were enrolled at their affiliated college to allow transcripts to indicate college credits to provide a solution of students losing paper certificates or escrowed credits.

Summary

Career and Technical Education has evolved over the centuries from agriculture and industrial arts to advanced manufacturing, engineering, and technology. CTE programs are required to adjust curricula and develop new programs in order to meet the needs of the current labor market. High-quality programs provide students with a set of employable and transferable skills that are essential to ensure students are able to thrive in the workforce (U.S. Dept. of Education, 2012). With less than 50% of the high school graduates completing a CTE concentration, examining those experiences of completers will provide insight into a CTE POS and how participation links to future success.

The ESEA requires that states begin to provide high quality assessments that meet the national college and career readiness standards. While the reauthorization of the Carl D. Perkins Act of 2006 requires that CTE programs must provide at least one program of study that leads to post-secondary or training and President Obama's blueprint for transforming CTE outlines four principles that should guide the future reauthorization of Perkins including accountability, collaboration, alignment, and innovation (National Skills Coalition, 2013; US Dept. of Education, 2012). A CTE POS provides a rigorous plan of study that aligns academics with a

career and technical program to better prepare students for college and a career by providing

opportunities to earn post-secondary credits, certifications, and credentials. A student has

demonstrated that they are college and career ready when they have succeeded academically in

their coursework, which is demonstrated through college and career readiness assessments; this

achievement indicates students are more likely to have success in a post-secondary institution

and have acquired the necessary technical training that leads to a career (ACT, 2010).

Understanding what educational processes could increase college and career success for students

could enhance pedagogical practices.

Accountability is a necessary means that the educational system must be held to as a way

to ensure the success of students while also continuing to receive federal, state, and local

funding. Schools are measured based on the quantitative data that derives from state and local

assessments as a measurement of success. However, Bonaiuto and Johnson (2009) suggest that

accountability must stem from the local context with "roots in what the community values" (p.

26).

CTE programs are centered on the needs of the national and state labor market data. CTE

course offerings and pathways at individual schools and communities are based primarily on the

needs of the local labor market; therefore, students gain academic and technical skills necessary

to be successful in their future career within their community. Dewey (1897) believed that the

education of children was the community's moral duty. Friedman (2007) conceded that those

cultures that embrace change would have a greater advantage at success in this world. Alfeld

and Bhattacharya (2012) posits the offering of a POS in secondary education can expose students

to a range of education and career options that are beyond secondary education to help them

adequately gain the skills and preparation to achieve their goals for the future.

Guidance and counseling is a critical component to a student's overall high school experience. Alfeld and Bhattacharya (2012) found that many school counselors are not knowledgeable in understanding the components of a POS, which has substantially limited their ability to provide guidance to students in selecting appropriate courses. Examining the experiences of students who participated in a CTE POS could enlighten educators on how to educate students to be successful and productive citizens within the context of their own communities while focusing on the social, mental, academic, and vocational development.

CHAPTER THREE: METHODS

Overview

In this study, I examined the experiences of graduates who participated in a CTE Program of Study while in high school from Southwest School District (pseudonym) in North Carolina. A qualitative research design was used to examine the experiences of student graduates who participated in a CTE POS at one high school in the southwest region of North Carolina. Through the use of documents, interviews, and a focus group the experiences of 10 graduates who participated in a CTE POS during high school is described.

Design

A phenomenological approach was used to examine individual experiences of graduates who participated in a CTE POS during high school. Since phenomenology is more than just a description, this approach was chosen over a case study to allow the researcher the opportunity to make interpretations regarding the experiences with the individuals that were used in this study regarding the phenomenon. The study occurred within one year of gathering data from graduates of one high school. The data gathered was analyzed using the procedures of a hermeneutical phenomenology (Van Manen, 1990).

A phenomenological study helps to point out the essential elements of a phenomenon (Kafle, 2011). A hermeneutical phenomenological method intends to describe participant experiences that have participated or shared the same experiences. I used a qualitative hermeneutical phenomenological instead of a transcendental approach to allow me to interpret the lived experiences of the participants who participated in a CTE POS. To complete a thorough analysis of participant experiences while correctly understanding the essence of the phenomenon, a hermeneutic approach helped to reveal the full meaning behind what is often

thought to be understood (Van Manen, 1990). Therefore, this study was aimed at understanding how participants felt about their experiences in a CTE POS that could not be measured quantitatively by studying the essence of the phenomenon to gain a fuller understanding of what this particular experience was like for the participants (Van Manen, 1990). The phenomena under study were the experiences of participants who participated in a CTE POS during high school.

Research Questions

This hermeneutical phenomenological approach describes the following:

Research Question 1: How do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?

Research Question 2: What factors influenced the participants' decision to participate in a Career and Technical Education Program of Study?

Research Question 3: How do participants perceive Career and Technical Education's role in their secondary education experience?

Research Question 4: What do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school?

Setting

This study was conducted in a rural school district in the Southwest region of North Carolina from one comprehensive high school. The school has an approximate student population of 1,521 in grades 9-12. The ethnic breakdown of the school consists of 37% white, 51% black, 12% Native American, and 2.4% Hispanic. In 2013, over 78% of the district's students qualified for free and reduced lunch. Approximately 3% of the student population were

enrolled in AP courses and 17% participated in dually enrolled CTE courses in correlation with

the community college system for the 2012-13 school year (NC School Report Cards, 2013).

Less than 2% of the students participating in AP courses completed or passed the College Board

exam in an effort to gain college credit for the course in the 2014 school year (NCPDI, 2014).

Approximately 44% of the 2012-2013 graduating class completed a four-credit CTE program of

study known as CTE Completers (NCDPI, 2014). Each local education agency (LEA) can

determine program availability and additional educational opportunities that are provided in their

school district. Since CTE POS are relatively new, the availability and requirements for

participation vary across the state of North Carolina in each school district. As a result, the

decision was made to conduct this study in one school district. The school district selected has

only one comprehensive high school that was included in this study.

Participants

When conducting a phenomenological study, Polkinghorne notes "researchers interview

from 5 to 15 individuals who have all experienced the phenomenon" (as cited by Creswell, 2013,

p. 81). According to Polkinghorne (2005), "The focus of qualitative inquiries is on describing,

understanding, and clarifying a human experience. It requires collecting a series of intense, full,

and saturated descriptions of the experience under investigation" (p. 139). In this study I

conducted 10 in-depth interviews individually with participants who graduated within the last

three years from one comprehensive high school. Participants were selected purposively with a

specified criterion (Polkinghorne, 2005), based on their participation in a CTE POS from school

years 2011-12, 2012-13, and 2013-14 to include completion of a career cluster concentration,

completion of an articulated and/or dual enrollment course, and had earned at least one industry-

recognized credential. Maximum variation was used to include male and female participants

selected from a variety of the 12 available CTE Career Clusters within this school district that included (Agriculture, Food & Natural Resources, Architecture & Construction, Arts A/V Technology & Communications, Business Management & Administration, Finance, Health Science, Hospitality & Tourism, Human Services, Information Technology, Manufacturing, Marketing, and Science, Technology, Engineering & Mathematics (STEM).

After receiving approval from IRB, participants were identified by a designated third party school official using the selected criterion. Participants were solicited through a mailed invitation to participate in the study to their last known mailing address and by e-mail (if available) that included a copy of the invitation letter, which provided contact information for those interested. A total of 10 graduates, meeting the selected criterion, responded to the researcher's request to participate in the study. Participants were requested to consent to the study by signing a statement of consent form which included the purpose of the study. The consent form contained a confidentiality statement to protect the identities of the participants and protect them from any harm. The total number of participants was 10. Table 1 provides the participant information.

Table 1

Participant Information

Participants	Gender	Ethnicity	Graduation Year	CTE Program of Study
P1-Alexis	Female	African American	2013	Hospitality & Tourism (Culinary Arts)
P2-Connor	Male	Caucasian	2014	Architecture & Construction and STEM
P3-Hannah	Female	Native American	2014	Health Sciences and Business, Management, & Administration
P4-Ethan	Male	African American	2013	Business, Management, & Administration
P5-Victoria	Female	African American	2014	Health Sciences
P6-Kayla (Skype)	Female	African American	2012	Health Sciences
P7-Emily	Female	Native American	2014	Hospitality & Tourism (Culinary Arts)
P8-Kiera (Skype)	Female	African American	2014	Hospitality & Tourism (Culinary Arts)
P9-Tyler	Male	Caucasian	2014	Agriculture & Natural Resource; Architecture & Construction; and Manufacturing
P10-Elizabeth (Skype)	Female	Native American	2013	Health Sciences

Procedures

Prior to beginning the research, I secured Institutional Review Board approval (see Appendix A) to reduce the risk of harmful impact to the participants since I was using human subjects in this study (Creswell, 2013). I also secured permission from the school district in which I planned to conduct the study prior to gathering or obtaining data (see Appendix B). Participants for this study were selected based on their participation in a CTE POS.

As an employee of the school district where the study was conducted, I requested permission from the superintendent and his cabinet. Prior to approval, the superintendent requested that a third party be responsible for accessing the data requested for this study by the primary investigator to preserve the privacy of student's personal information. Southwest High School (pseudonym) administration designated a third party school official who works with school support personnel and has regular access to data of CTE participants to identify these graduates who met the research study criterion. The participant criterion for this research study was provided to the designated school official by the researcher along with the participant invitation letter and consent form.

Participants were selected by the school official utilizing the CTE completer list from the past three school years consisting of 2011-12, 2012-13, and 2013-14. The school official contacted potential participants by letter of invitation (see Appendix C) to their last known mailing address and last known e-mail address that was available. The invitation letter included instructions to prospective participants if they wish to participate in the study to directly respond to the primary investigator indicating his/her desire to participate in the study. Participants were requested to sign an informed consent prior to participation in the study (see Appendix D). A

FERPA release form was requested from participant's that could not provide the requested documentation (see Appendix E).

The procedures for collecting data through interviews was conducted by selecting multiple individuals who had experienced the same phenomenon (Creswell, 2013). I conducted interviews with 10 participants using open-ended questions (see Appendix F). A focus group was conducted with five of the participants using a guided set of open-ended questions (see Appendix G). Interviews were recorded and then transcribed by the researcher. Data collection will remain confidential with the identities of the participants remaining confidential; the use of pseudonyms are employed throughout this study.

I recorded detailed notes highlighting significant incidences during these interviews. Interviews of the participants were also coded to identify group experiences relative to the phenomenon. An exhaustive description was created from the discussions in order to describe the essence of the phenomenological experience. Participants were provided a copy of the typed transcriptions to review for accuracy by email as part of the member checking process (see Appendix H).

The Researcher's Role

As an educator I conducted qualitative research using a phenomenological research design from an ontological perspective. I identified the nature of reality from the views of the participants. Understanding the individual experiences of students who participated in a CTE program of study from multiple realities allowed the researcher to assemble these views into themes in an effort to identify the differences between the individual experiences. Due to my extensive background in education primarily in CTE and a vested interest in the success of the program, I was conscientious in bracketing my ideas in order not to influence the information

relayed from the participants and to identify the phenomenon (Creswell, 2013). Selected interview quotations from the participant interviews are provided in the appendices (see Appendix I). Through the use of reflexivity (see Appendix J) and reflective journaling (see Appendix K), I was able to bracket my own suppositions by recording personal thoughts and insights, throughout the study in order to objectively examine the participants' experiences (Van Manen, 1990) and to epoch my personal thoughts and opinions regarding the phenomenon through journal entries (see Appendix L).

I currently serve as the CTE Director for Southwest School District (pseudonym). I was not a traditional education major and obtained a Bachelor of Science Degree in Business Administration from UNC-Pembroke prior to getting certified as a Business Education Teacher and Career Development Coordinator. After entering into a career in education, I completed the Master of Public Administration from UNC-Pembroke. Later I realized that in order to progress in the educational field I must pursue an advanced degree in an education field, therefore, I enrolled at Liberty University earning an Education Specialist Degree in Educational Leadership in 2012 and continued to pursue the doctoral degree in Educational Leadership. I am certified in the areas of Business Education (6-12), Career Development Coordinator, Special Populations Coordinator, and CTE Administration. I have been employed with the public schools for fifteen years as a bookkeeper, middle grades and high school Business & Information Technology Teacher, Special Populations and Career Development Coordinator, CTE Coordinator and CTE Director.

I am passionate about education. I enjoy working with school personnel, students, and parents to help them gain a greater understanding regarding the importance of making career goals early in life. I strongly believe that career development provided to students early in life

will help students make better informed decisions in the future regarding their careers. Gandhi expressed the belief that vocational education is an important part of the curriculum because it accentuates the dignity of work (as cited in Gutek, 2011). Our ultimate goal as educators is to ensure that students are able to become productive members of society with regards to employability and self-sustainability. Therefore, I believe CTE affords students the opportunity to learn and to gain the necessary skills to be successful in whichever career they choose for their future.

I informed participants of my past role as a CTE Coordinator at the site location in addition to my current role as the CTE Director for Southwest School District. Informing the participants and ensuring their awareness about my role in education was important in order maintain confidentiality throughout the study. I was more concerned with gaining a greater understanding of the participants' experiences in a CTE POS and how those experiences have helped to shape their views of the CTE program. When presenting myself to the participants, I wanted my personal image to be representative of a researcher while also informing them of my role in education (Gall, Gall, & Borg, 2007). My prior educational experience of twelve years was completed in another school district.

During the interviews, I assured the participants highest confidentiality and built a rapport with them prior to beginning the questions (Gall et al., 2007). Since the participants are graduates, my current role in the district did not have an effect on their experiences during high school. However, developing relationships with the individuals in the study was an important aspect of laying the groundwork prior to beginning the study. Spending a little more time developing these relationships allowed the researcher to gain the participants trust, permitting

them to become more comfortable in sharing their experiences and ideas regarding their

participation in a CTE POS.

Data Collection

The philosophical assumption that guided this study was ontological. An ontological

assumption allowed the researcher an opportunity to assemble multiple forms of reality into

themes representing the differences between each individual experience (Creswell, 2013).

According to Polkinghorne (2005), "The purpose of data collection in qualitative research it to

provide evidence for the experience it is investigating" (p. 138). I collected data through

interviews, a focus group, and text analysis, and assembled this data based on participants'

individual views. The worldview that guided this study was social constructivism. According to

Creswell (2013), "In social constructivism, individuals seek understanding of the world in which

they live and work. They develop subjective meanings of their experiences-meanings directed

toward certain objects and things" (p. 24).

This qualitative study used a hermeneutical phenomenological method in order to

describe and fully understand participant experiences who participated in a CTE POS

(Moustakas, 1994). Although I work with the district and could have possibly gained access to

information, I secured IRB approval before collecting data. According to Creswell (2013),

"Gaining access to sites and individual also involves several steps . . . permissions need to be

sought from a human subjects review board, a process in which campus committees review

research studies for their potential harmful impact on and risk to participants" (p. 152). After

receiving IRB approval, I collected data through documents, individual interviews, and a focus

group. The descriptive interview process allowed the researcher to examine the conscious

experiences of the participants in order to interpret the text to "achieve a fuller, more meaningful understanding" of the participant experiences with the phenomenon (Moustakas, 1994, p. 10).

Interviews

In hermeneutical phenomenological research, the interview process was designed to gain a deeper understanding of the experience (Van Manen 1990). Individual semi-structured interviews were conducted with 10 participants who participated in a CTE POS. Interviews with seven of the participants were held at a location suggested by the researcher and agreed to by the participants while three of the interviews were conducted through the computer program Skype due to them being several miles away, which made traveling difficult and were unable to participate in person. A signed informed consent form was received prior to beginning the interviews. Participants were informed that the interviews were being tape recorded for transcription purposes by the researcher. Throughout the interview process, I followed the interview guide which contained 15 open-ended questions, but probed deeper in areas to elicit additional information or clarification. Polkinghorne (2005) suggests, "Access to one's experiences is not straightforward; it often requires assistance and probing to discover and explore areas of the experience that did not emerge initially" (p. 143). The individual sessions with the participants were scheduled for at least one hour. Considerable time was spent with each participant talking prior to the interview to build a rapport and to answer any additional questions related to the study before and after the interview process. The participants were ensured that confidentiality would be stressed throughout the research process.

The participant interview questions were designed to gain a rich, thick description of their experiences in a CTE POS and to discover the experiences of the participants.

Open-Ended Interview Questions
1. How would you describe your high school experiences?

2. How would you describe your experiences with the Career & Technical Education program?

3. What motivated you to participate in your selected CTE Program of Study?

4. What motivated you to choose your course selections in high school?

5. What specific guidance and advisement were you provided prior to and during high school?

6. What activities did you participate in prior to and during high school that encouraged you to select your chosen program of study and why?

7. Which courses did you find the most challenging in your program of study?

8. How would you describe the importance of your participation in a CTE program of study on your future plans?

9. Who do you believe CTE courses are designed to serve?

10. How would you describe the importance of CTE programs in secondary education?

11. How did concentrating in (insert CTE Program of Study here) better prepare you for your college and career goals?

12. Do you feel you have an advantage over non (insert CTE Program of Study here) graduates? Why?

13. Why do you think so few students participate a program of study?

14. What could be done to alter that decision for others?

15. Considering your academic and career history, if you could have done anything differently in high school, what would that have been?

The purpose of the first two questions was to gain information about the participants' experiences during high school who participated in a CTE POS. These two broad open-ended

questions, allowed the participants to share their experiences so that the researcher could gain an in-depth view into their lived experiences (Van Manen, 1990). Questions three, four, five, and six were designed to gather information on factors that influenced the participants' decision to participate in a CTE POS. Studies have shown that career development opportunities provided to students can contribute to making informed choices during high school (Gene, 2010, McComb-Beverage, 2012). When deciding on course selections in CTE Programs, Alfeid and Bhattacharya (2013) found parents and friends provided advice to students. Effective communication regarding programs can also provide information relevant to CTE programs (Gene, 2010).

Providing rigorous academic and CTE integration is an essential component of a CTE POS as outlined in the reauthorization of Perkins IV so that students are exposed to challenging subject matter while making real-world connections. Prior research suggested that lower level CTE courses did not present a high level of rigor (Flournoy et al., 2010), therefore question seven sought to understand the rigorous nature of the courses within each participants' CTE POS. Questions eight, nine, and ten sought to understand the perception of CTE programs from the participants. Participants of CTE programs are often more engaged in school (Alfeid & Bhattacharya, 2013), however, since CTE courses are electives, not all students are encouraged to participate (Flournoy et al., 2010; Gentry et al., 2007). Questions 11 and 12 aimed to address the attributing factors to participants' college and career readiness post-graduation. Students who participate in CTE programs have been shown to have positive outcomes, however there was limited information on participants' who have participated in a CTE POS. Questions 13, 14, and 15 sought to gain insight into participants' experiences that could potentially encourage participation in a CTE POS for future students through participant recommendations.

As each interview was transcribed, I listened to each recording at least two times to ensure that I had accurately transcribed the information presented and to gain greater insight. Smith, Flowers, and Larkin (2009) explain,

> Each reading and listening to the recording may provide some new insights. At this stage, the researcher can make notes about his or her observations and reflections about the interview experience or any other thoughts and comments of potential significance. (p. 12)

After the transcriptions, I reviewed each transcription to correct any errors prior to sending a copy through e-mail to the interviewees for review of their typed transcript. Interviewees had the opportunity to review the transcripts to ensure that information was accurately documented as part of the member checking process. I assigned each participant a pseudonym and participant identification number and placed all printed transcripts in the individual participants file folder. Recordings of transcripts were removed from the two recording devices used and the researcher's personal computer and placed on a USB drive also stored in the locked filing cabinet in the researcher's home.

Focus Group

A focus group with participants was conducted to gain additional data (Gall et al., 2007). In qualitative research, focus groups help to stimulate interaction among the participants that may not be revealed when interviewed individually by the researcher such as feelings and perceptions (Gall et al, 2007). Employing the focus groups aided in the process of horizonalization because each perception added "something important to the experience" (Moustakas, 1994, p. 53). After the individual interviews, all participants were invited by email to participate in the focus group, in which five participants agreed to participate (Appendix H).

A location that was familiar to participants was chosen and agreed to by the participants. A standardized open-ended interview format was used, utilizing a set of guided questions (Appendix I). The focus group session was audio and video recorded for transcription purposes. Once again, the transcription involved multiple reviews of the recordings and readings of the transcribed interview to ensure accurate transcription. Focus group participants were allowed to review the transcription of the focus group session as part of the member checking process. The video and audio recording of the focus group session were deleted off of each recording device and the researcher's computer and stored on the USB drive with the other recordings.

Document Analysis

As part of this process, I requested the participants to provide a copy of their academic transcript that included completion of a CTE career cluster and participation in a CTE Program of Study. Participants were able to retrieve this information from the district data coordinator prior to each individual interview. Three of the participants were unable to provide the documentation, therefore a FERPA (US Department of Education (n.d.b) release form was signed by the participants and returned to the researcher prior to the interview (Appendix E). The consent to release information allowed the researcher to request the documentation from the appropriate district personnel for the purpose of this study. These documents were used to verify the CTE concentration pathway of completion, CTE and academic coursework, as well as certifications/credentials earned by the participants. I requested a FERPA release form for an additional four of the participant's so that I could request documentation from the appropriate personnel regarding their credentials/certifications earned during high school that was not available through their transcript. This process ensured that the participants had documentation of their participation in a high school CTE POS. I maintained a separate file folder for each

participant separate from the data that contained identifiable information throughout the data collection process.

Data Analysis

Data analysis procedures followed Van Manen's (1990) recommendations for conducting a hermeneutical phenomenological study. The following data analysis steps were used.

Epoche/Bracketing

Since I have a direct relationship with the CTE program, bracketing my own presuppositions were necessary throughout the study. According to Kakkori (2009) "The phenomenological epoche or reduction works in two ways: it reduces our prejudices about things and leads us back to the things themselves" (p. 21). Suspending my personal beliefs allowed me to view the data collected from a fresh perspective investigating the program through the lenses of others. My personal experiences with educational programs were irrelevant in this study and were necessary to be set aside in order to collect meaningful data that is rooted on the question at hand (Moustakas, 1994). In doing so, my presentation to the participants included information regarding my background in education along with my current role working in the school district. Describing my role in education gained trust with the participants and built a rapport prior to beginning the interview process (Gall et al., 2007). Reflexivity was employed throughout the research (Appendix J) process by remaining consciously aware of my own experiences and values that I brought to this study (Creswell, 2013).

Memoing and Coding

I began the initial coding process also known as open coding using a selective or highlighting approach by reading and re-reading each individual transcript text searching for an overall understanding and meaning from the lived experiences (Van Manen, 1990). During this

phase, I coded the data by circling and highlighting words and phrases on the printed transcripts

so that I could begin to break down the data into manageable segments (Bailey, 2007; Saldana,

2009), looking for statements and phrases that were essential to the phenomenon (Van Manen,

1990). This process allowed me to immerse myself in the data or to "step into the participants'

shoes as far as possible" (Smith et al., 2009, p.11) and to fully comprehend each interview prior

to dissecting the data (Creswell, 2013). After the initial coding process, I began a focused

coding method by reducing the data from the initial coding by identifying and combining the

data into larger groups (Bailey, 2007; Creswell, 2013; & Saldana, 2009). I noted and highlighted

significant statements using in vivo and descriptive coding (Saldana, 2009). I followed this

process until I had completed all individual transcripts and focus group transcript. By grouping

the highlighted statements, I began to identify recurring themes to understand the structures of

the experience (Van Manen, 1990). I used paper and computer files during this process.

Using Microsoft Word's Insert Comment feature, I was able to insert memos in the coded

transcripts. This process allowed me to view the codes and memos in a more useful view. Since

memoing allows researchers to reflect analytically on their thoughts (Chenail, Chanail, Cox,

Liscio, McLean, Mowzoon, & Spong, 2006), the memo log was used to record information that

derived from the coding (Bailey, 2007). Van Manen (1990) explains "The insight into the

essence of a phenomenon involves a process of reflectively appropriating, of clarifying, and of

making explicit the structure of meaning of the lived experience" (p. 77). As each theme

emerged, I began to write up each theme and analyze to illustrate a pattern that each participant

shared with the phenomenon. Major and sub themes are discussed in chapter four.

Horizonalization

Through data organization, I organized data into files to highlight statements that were noteworthy. These statements helped to provide a greater "understanding of how the participants experienced the phenomenon" known as horizonalization (Creswell, 2013, p. 82). This process allowed the researcher to identify recurring themes. Therefore, as each perspective was presented regarding an individual experience, equal value was placed on each distinctive statement to gain greater understanding of the meaning behind each experience (Moustakas, 1994).

<div align="center">

Trustworthiness

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As the researcher, I was concerned with the trustworthiness of the participants within the study. As an employee in the district where the study was conducted, reporting accurate information is important. All interviews were audio recorded for accuracy of statements and transcribed by the researcher. Participants were allowed to review typed transcriptions for accuracy which was part of the member checking process. Allowing participants to review the transcripts increased the reliability of this study because statements were transcribed accurately in order to gather significant statements from among the participants. Digital recordings were deleted from the tape recorded device and stored in a password protected folder for each participant on a USB drive that is kept in a locked filing cabinet.

Following Lincoln and Guba's (1985) model for establishing trustworthiness, three focus areas were addressed: (a) credibility, (b) dependability, and (c) confirmability. They include triangulation, peer review, and member checks.

Triangulation

Triangulation was used to strengthen the credibility, dependability, and confirmability of the study by using multiple methods to provide corroborating evidence from different sources. In triangulating, I was able to triangulate information by locating evidence from a variety of sources to document themes. The sources used in this study to document themes included personal interviews using an interview guide with the participants (Appendix F), focus group questions (Appendix G), and documents relative to specific programs of study. The substantiating evidence from the sources used in the study helped to shed light on the themes identified from the data (Creswell, 2013). Utilizing varying methods of data sources also helped help to validate the findings and provide an explanatory framework for the study (Gall et al., 2007).

Member Checking

Member checking was employed to ensure credibility of the study, which took place during the data analysis process. Participants were asked to review the data that was collected from the interviews and focus group. Transcriptions were typewritten into a word processing document and forwarded to participants through e-mail for review to ensure the data collected was accurate and credible (Appendix H). Participant review was intended to provide feedback on the researcher's findings if any errors were observed to ensure accuracy or if necessary collect additional data (Gall et al., 2007). After review of the individual transcripts and focus group transcript, five participants responded to the researcher that they had reviewed the transcripts and were fine with the transcriptions. One of the participant's requested that the fillers be removed.

Peer Review

To further validate the credibility and confirmability of this study, I requested that the study be reviewed from another educator's perspective who had achieved a Ph.D. in education outside of the CTE Program without bias. I provided the emergent themes and interpretations of the statements from the interviews to the reviewer for review. This process allowed for further validation to the accuracy of the transcription process and to allow for an outside view of the conversations collected without illustrating partiality to any of the participant's responses.

Ethical Considerations

Since human subjects were used in this study, informed consent to include consent forms from participants were shared with IRB and strictly adhered to. At the request of the district's superintendent and to preserve the privacy of potential participants, the selection of participants was conducted by a third party designated school official. The participants consisted of high school graduates only from within the last three school years to include 2011-2012, 2012-2013, and 2013-2014 who met the specified criterion for this study. Participants contacted the principle investigator directly with their interest to participate in the study. A FERPA release form was requested by the researcher in request of participant documentation for participants who were unable to provide the requested documentation (Appendix E).

The procedures, benefits, and risks were discussed with participants verbally and in writing prior to their participation and a copy of the consent form was provided to the participants. During the data analysis process, participants were allowed to review the interview and focus group transcripts to ensure that information was accurately documented and portrayed from the life experiences of the participants. Confidentiality of participants has been maintained by using pseudonyms throughout the study so that participants will not be identifiable.

Participation in the study was strictly voluntary and participants were informed of their

opportunity to withdraw from the study at any time. All requested documentation is maintained

in a locked filing cabinet at the researcher's home for up to three years, after which will be

destroyed by way of shredder. Digital and audio recordings stored on a password protected USB

drive have been deleted by reformatting the folder.

Summary

Following the accepted practices in a qualitative research design, this methodology

chapter illustrated how a hermeneutical phenomenological study was conducted. I used Van

Manen's (1990) phenomenological research methods to describe the phenomena through the data

collection and analysis process. I ensured that the execution of research in this study was

credible and trustworthy.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this phenomenological study was to describe the experiences of graduates who participated in a Career and Technical Education Program of Study (CTE POS) during high school. Focusing on the subjective beliefs, attitudes, and values, I utilized a hermeneutical phenomenological design that allowed me to interpret the participants lived experiences (Kafle, 2011; Van Manen 1990). This process allowed me to capture the essence of the shared experience of the participants. This chapter presents the key findings obtained from 10 in-depth interviews, a focus group, and documents.

The following research questions were explored:

Research Question 1: How do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?

Research Question 2: What factors influenced the participants' decision to participate in a Career and Technical Education Program of Study?

Research Question 3: How do participants perceive Career and Technical Education's role in their secondary education experience?

Research Question 4: What do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school?

Participant Summary

The 10 participants in this study graduated from Southwest High School (pseudonym) during school years 2011-12, 2012-13, and 2013-14. Three of the participants were male and seven were female. All of the participants participated in a CTE POS by completing a CTE

concentration, completion of an articulated and/or dual enrollment course, and earned an industry-recognized credential. Three of the participants completed a CTE concentration within the Hospitality and Tourism Cluster, one participant completed in the Business Management and Administration Cluster, one participant completed in the Business Management and Administration Cluster as well as the Health Science Cluster, three participants completed in the Health Science Cluster, one participant completed in the Architecture and Construction Cluster as well as the STEM Cluster, and one participant completed in the Agriculture, Food & Natural Resources Cluster, the Architecture and Construction Cluster, and the Manufacturing Cluster. At the time of this study, six of the participants were enrolled at a four-year university and four of the participants were enrolled at a two-year post-secondary institution. A total of 10 participants responded to the researcher's invitation letter and agreed to participate in the study. Participants signed a consent form (Appendix D) and were assigned a pseudonym for reporting purposes and reflective of the culture of the school district.

<div align="center">**Participants**</div>

Alexis

Alexis (pseudonym) is a 2013 graduate who participated in the Hospitality and Tourism Program of Study with a focus in culinary arts. During high school, she worked in the school-based enterprise on campus. She completed dual enrollment courses, Advanced Placement (AP), honor courses during high school and graduated with honors as a member of the National Honor Society and as an NC Scholar. She earned the Career Readiness Certification industry-recognized credential. She is currently attending a four-year university majoring in Pre-Med. At the time of this study, Alexis was unemployed, but she was tutoring college algebra, organic chemistry, and physics at her university. Alexis attributes her skills in tutoring to her

participation in the program of study and being able to peer teach as she progressed in the program. According to Alexis, "As a head chef, my job was to teach every department of the culinary arts . . . so being a peer teacher was how I was able to become a tutor this semester." Alexis also believes that the CTE program made her a better person stating, "I don't think I would be the person I am today if I didn't follow that pathway in high school."

Connor

Connor (pseudonym) is a 2014 graduate who participated in the Architecture and Construction as well as the STEM POS with a focus in computer-aided drafting (CAD). During high school, Connor participated in sports including motor sports with his family while also working part-time. He completed AP, honors, articulated courses, and the CTE Advanced Studies course during high school and graduated with honors as a member of the National Honor Society. He earned an industry-recognized credential as a Certified AutoDesk User, Microsoft Office Specialist, and the Career Readiness Certification. He is currently enrolled in a 2-year post-secondary institution, majoring in mechanical engineering. Connor explains "As far as the CTE goes, it really did prepare me for the drafting classes in college . . . I mean it [CTE] really prepared me, and . . . I was ahead as far as that goes." At the time of this study, Connor was preparing for a job interview at one of the local advanced manufacturing companies, stating, "with my WorkKeys score I actually have a job interview . . . I was right at platinum and most of the jobs up there want you to have a gold or better so if you got platinum they are definitely interested."

Hannah

Hannah (pseudonym) is a 2014 graduate who participated in the Business, Management, and Administration as well as the Health Sciences Program of Study. She completed honors,

dual-enrollment courses, and completed the CTE Advanced Studies course that allowed her to complete work-based learning at the local hospital during high school. She earned an industry-recognized credential as a CNA and the Career Readiness Certification. During high school she participated in the Native American Student Association (NASA), HOSA, and was a cheerleader. She is currently enrolled in a four-year university majoring in pre-nursing. At the time of this study, Hannah explained that she was employed at two locations as a CNA thanks to her certification earned through her program of study. She stated, "It [CTE] made me realize that I really do like the nursing field."

Ethan

Ethan (pseudonym) is a 2013 graduate who participated in the Business, Management, and Administration Program of Study. During high school Ethan was an athlete and joined FBLA during his senior year. He completed AP, honors, and articulated courses during high school and graduated with honors as member of the National Honors Society and as an NC Scholar. He earned the Career Readiness Certification industry-recognized credential. He is currently enrolled at a four-year university. At the time of this study, Ethan was participating in a paid internship with an investment bank. Ethan stated, "I think my experience with them [CTE] was really good . . . having that background before I went to college was really helpful."

Victoria

Victoria (pseudonym) is a 2014 graduate who participated in the Health Sciences Program of Study. She completed honors, articulated courses, the CTE Advanced Studies course and completed a CTE Internship during high school. She earned an industry-recognized credential as a Microsoft Office Specialist and the Career Readiness Certification. She is

currently enrolled in a 2-year post-secondary institution majoring in human services. Victoria explained,

> I have the passion and the desire for nursing, health science, but the actual nursing that I want to do, it showed, like you are not built for that. You don't want that specific career. So it [CTE] showed me okay you don't have to actually do this type of nursing you have many opportunities to go into.

Kayla

Kayla (pseudonym) is a 2012 graduate who participated in the Health Sciences Program of Study. She completed AP, honors, and articulated courses during high school and graduated with honors as a member of the National Honor Society. During high school she served as a volunteer at the local hospital, participated in clinicals through her health science courses, and HOSA. She earned the Career Readiness Certification industry-recognized credential. She is currently enrolled in a four-year university aspiring to become a doctor. Kayla explained,

> If I didn't participate in CTE in high school . . . I really wouldn't have known what I was getting myself into in college. I wouldn't have been as prepared at all . . . CTE has made me want to continue my education, and it has motivated me to go to medical school more.

Kayla has also served as a tutor for her university.

Emily

Emily (pseudonym) is a 2014 graduate who participated in the Hospitality and Tourism Program of Study with a focus in culinary arts. During high school, she worked in the school-based enterprise on campus. She completed AP, honors, dual enrollment courses, and completed a CTE Internship during high school. Emily explained, "I enjoyed it [culinary] . . . and it was probably one of the best experiences I got out of high school." She earned the Career Readiness

Certification industry-recognized credential. She is currently enrolled in a four-year university majoring in pre-pharmacy. At the time of this study, Emily was employed at a local pharmacy as a paid intern.

Kiera

Kiera (pseudonym) is a 2014 graduate who participated in the Hospitality and Tourism Program of Study with a focus in culinary arts. She completed honors, dual enrollment, and completed a CTE Internship and graduated with honors as a member of the National Honor Society. During high school, she also worked in the school-based enterprise on campus, completed several CTE courses in the health science pathway including the certified nursing assistant course through dual enrollment, and served as a volunteer at her local hospital. According to Kiera,

> I started volunteer work at the hospital and even though I was in culinary and loved it and I really liked learning a lot and being in there. So it was all about what I know would help me further in life, what I could be successful in. I feel like nursing would be better for me and definitely volunteering at the hospital helped me a lot.

She earned an industry-recognized credential as a CNA, a Microsoft Office Specialist, and the Career Readiness Certification. Kiera explained, "I mean the CNA class, it did help me decide that I wanted to be in nursing." She is currently enrolled in a four-year university majoring in nursing.

Tyler

Tyler (pseudonym) is a 2014 graduate who participated in the Agriculture and Natural Resources, Architecture and Construction with a focus in drafting, as well as the Manufacturing Program of Study. During high school he participated in FFA. He completed honors, dual

enrollment, and the CTE Advanced Studies course during high school. He earned the Career Readiness Certification industry-recognized credential. He is currently enrolled at a 2-year post-secondary institution, majoring in civil engineering. According to Tyler, "I mean its [CTE] helping me now, my drafting. I am way ahead of the other kids that were in my drafting class in college." At the time of this study, Tyler was employed aspiring to one day own his own business stating "I kind of want to be my own boss."

Elizabeth

Elizabeth (pseudonym) is a 2013 graduate who participated in the Health Sciences Program of Study. She completed honors, articulated courses, and the CTE Internship. During high school she served as a volunteer for her local church and participated in HOSA, while also working part-time. She earned the Career Readiness Certification industry-recognized credential. She is currently enrolled at a 2-year post-secondary institution, majoring in pre-physical education. She had recently changed her major where she previously majored in nursing, but when describing her experiences with the health science program, Elizabeth explained,

> I enjoyed the health classes, I learned a lot. Whenever I look back, whenever I took my CNA class, I looked back and I was like 'oh, I took this in high school'. So it was just something I reviewed not anything new. It helped me in just everyday life to be able to go back on those experiences.

Table 2

Participant CTE Program of Study

Participants	Work-based Learning	Completed a Dual Enrollment and/or Articulated Course	Completed an Honors, Advanced Placement (AP) and/ or CTE Advanced Studies Course	Credential Earned	Member of CTSO/ Honor Society
P1-Alexis	School-based Enterprise	Dual Enrollment	Honors and AP Courses	Career Readiness	National Honors Society NC Scholars
P2-Connor		Articulated Course	Honors, AP Courses, and Advanced Studies	Career Readiness Autodesk CAD Certified User Microsoft Office Specialist	National Honor Society
P3-Hannah	Volunteer Service	Dual Enrollment	Honors and Advanced Studies	Career Readiness Certified Nursing Assistant (CNA)	HOSA NASA
P4-Ethan		Articulated Course	Honors and AP Courses	Career Readiness	FBLA National Honors Society NC Scholars
P5-Victoria	Internship	Articulated Course	Honors and Advanced Studies	Career Readiness Microsoft Office Specialist	National Honor Society
P6-Kayla	Internship Volunteer Service	Articulated Course	Honors and AP Courses	Career Readiness	HOSA
P7-Emily	Internship School-based Enterprise	Dual Enrollment	Honors and AP Courses	Career Readiness	National Honor Society
P8-Kiera	Internship School-based Enterprise Volunteer Service	Dual Enrollment and Articulated Course	Honors	Career Readiness Certified Nursing Assistant (CNA) Microsoft Office Specialist	National Honor Society
P9-Tyler		Dual Enrollment	Honors and Advanced Studies	Career Readiness	FFA
P10-Elizabeth	Internship Volunteer Service	Articulated Course	Honors	Career Readiness	HOSA

Results

The research process included in-depth interviews, a focus group, and analysis of documents. During the immersion process of the data, I used a coding process and then clustered significant statements into categories noting similarities and differences among the responses of the participants. Four essential themes emerged from the analysis process that describe the essence of the phenomenon; the experiences of CTE Program of Study participants. The four themes were: (a) the learning process was enhanced, (b) influences on decision-making, (c) learning with understanding supports knowledge use in new situations, and (d) guidance and advisement needs to be purposeful. According to the qualitative hermeneutical design of this study, the following section provides a narrative of each theme and sub-theme reflective of the participants' words as well as my own interpretation.

Themes

The Learning Process was Enhanced

This was the first theme that emerged in this study providing answers to research question one, how do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?; research question three, how do participants perceive Career and Technical Education's role in their secondary education experience?; and research question four, what do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school? By participating in a CTE program of study, participants' learning process was enhanced. This theme emerged in several ways throughout the analysis process. Four distinct sub-themes were identified within the main theme, which were relevant and engaging;

career exploration and real-world exposure; learning motivation and relationships; and peer teaching.

Relevant and engaging. According to the Glossary of Education Reform (2013) "Personal relevance occurs when learning is connected to an individual student's interests, aspirations, and life experiences" (Para 2). Seven of the participants reported that their CTE POS was relevant to their interests, which intrigued their learning process. Ethan shared, "I've always been interested in business and I wanted to know more about business and how business works and why people think the way they think within the business structure." He continued, "Particularly the accounting course that I took with [Ms. CTE Teacher] really helped me realize the principles of business because accounting is the language of business." Kayla who is an aspiring doctor said, "I was very interested in the classes that I took because I knew I wanted to go into the medical field." Tyler described it as "I loved them [CTE classes], because they were more hands-on classes like the agriculture and I liked my drafting classes because I've always been interested just like in drafting and engineering." Elizabeth expressed, "I enjoyed the health classes, I learned a lot." Later in her interview she stated, "I enjoyed learning about the anatomy of the body and everything."

A primary factor to participants' learning was being involved with hands-on activities that met their interest and learning styles. Past research indicates that engaging activities expand on a student's curiosities and interests through active experiments that are practical and meaningful (Dewey, 1897; Gutek, 2011; Haltinner, 2012). In this study, participants believed that the hands-on approach to learning within their CTE classes were relevant to their interest, helping to increase their knowledge of the content while keeping them actively engaged. Alexis explained, "With my culinary program, I couldn't just grab a book and study, I had to work

hands-on and try to rely on recipes and things of that nature to kind of get my good grades."

Victoria described it as, "Just being able to get the hands-on you know. I'm a hands-on, visual

learner, so you know how we learn by doing and seeing." Emily said,

> I feel like learning hands-on having that as an advantage because it's not the traditional
>
> way to learn. You actually get up and do things and that's how you learn it. So I guess
>
> it's applied learning. That was an advantage, because I am not a traditional learner.

Participants' shared how much they liked their CTE classes because of the hands-on approach to

learning. Hannah explained, "I liked all of my CTE classes. They were all like, they made them

fun. It wasn't just like sitting in class listening to the teacher talk . . . in all my CTE courses we

had activities to do." During the focus group Connor expressed "I think that is why I liked CAD

so much, it was so, CAD was so much hands-on." Kiera described it as,

> I learned a lot. I don't know it was just an interesting thing. It [culinary] was way
>
> different from a lot of the other courses. You actually do things instead of just sitting in
>
> front of a book. It [culinary] was more hands-on than just sitting in the class learning
>
> stuff.

In addition to the hands-on approach to learning, participants reported that engaging in projects,

while they were challenging increased their ability in learning. Past research suggest that

projects help place emphasis on contextualizing learning to enhance content knowledge (Brand

et al., 2013; Holzer & Monthey, 2013). When describing his advanced drafting course, Tyler

explained,

> It was just, it was more detail than what the rest of them had been. I mean, the first one
>
> you know they would give us a drawing and then you drafted it. Well then like in our
>
> final one, we had to go to our house and do the whole layout of our own personal house,

like the electrical layout. It was just a lot, a lot more to do. It was still fun; it was just

more challenging.

Connor shared, "We built a house in architecture and I thought that was pretty cool. It took

pretty much most of the semester. You know you saw a lot of them turned out really good."

Kiera said, "In my Culinary II class we had to physically create a restaurant like not build

one, but we had to draw one out and go through every single process of finance and figuring out

what the restaurant needed."

Participants reported finding enjoyment within their CTE program of study, which

increased their engagement in learning. Connor, Elizabeth, Emily, Hannah, Kayla, Kiera, Tyler,

and Victoria all reported how much they enjoyed their CTE classes. Emily said, "I enjoyed

every minute of being in those classes. That's what I looked forward to. I looked forward to

going to culinary." Later in her interview Emily shared, "I probably would not have come to

school as much had I not been in culinary." Kiera explained,

Like the culinary program which I thoroughly enjoyed being in which was a CTE course.

I really enjoyed it and I talk about it all the time with a lot of my friends in college and

we're like let's cook, but we don't know what to cook, like they didn't have the level of

culinary that I had and a lot of stuff that I had that I learned how to do. I enjoyed it.

Connor, Ethan, Kiera, Tyler and Victoria felt that while they were in school, being in

their CTE POS allowed them an opportunity to relax while remaining focused on their goals

because of their interest in the courses. Kiera, who participated in culinary from 10th through

12th grade, explained that her program helped her to stay focused through high school, while also

providing her with an outlet to express her creative side. Connor who participated in drafting

from 10th through 12th grade explained that when he became stressed with his academic classes

CAD served as a way for him to take a break and focus his attention on something he enjoyed and was interested in doing. Ethan found that outside of the general courses, CTE classes gave him something else to focus on. Victoria described it as,

> The CTE classes I enjoyed them because they gave me, it was like my home away from class, that was my time to breathe . . . it was something I enjoyed doing. So I was able to learn what I wanted to learn. I was interested in it.

When describing the importance of her participation in a CTE POS, Kiera explained,

> It's really like an escape like if you are focusing on that stuff sometimes, you can pretend like you're really doing this. You can imagine yourself, can I really see myself doing this in a couple years or you might just enjoy it to where you don't even see it as a class anymore. I know I did for culinary.

Tyler stated,

> If I wouldn't have had my CTE classes. I mean those were the classes that I looked forward to. . . I mean going to one of my CTE, like my agriculture class or drafting it was like I was in school, but then again it wasn't because it was something I was interested in, it didn't bother me to actually you know spend an hour and half in there.

Career exploration and real-world exposure. In terms of career exploration and real-world exposure, participants were able to learn more about themselves and the world of work by participating in a variety of work-based learning opportunities. Participants believed that their CTE program exposed them to a variety of careers that broadened their knowledge and expanded on their curiosities by showing them a variety of career possibilities. When describing the importance of CTE programs Emily stated, "I mean, even if you don't find it relevant to what

you are going to do, at least it gives you a possibility, you know that career field is open."

Victoria explained,

> I would say it's very important because high school is where you need to start planning
> what you want to do for your future and the CTE program can help a lot of students with
> that as far as giving them the basics of that career.

Kiera described it as,

> If you don't know what you want to do a CTE course whether being in the CTE program
> can help you decide what you want to do because you are kind of doing the stuff itself. . .
> It can really help you understand if you want to be in that field of study when you get out
> of high school or if you want to go somewhere else.

During the focus group, Kayla explained,

> You get to see what you don't like. Like maybe you know I don't want to go down this
> path, and you know you find what you like better. I think that has also helped a lot with
> CTE, just understanding the aspect that you don't like and it brings you to, you know
> what you like to do.

Participants reported that having the opportunity to participate in outside experiences were important to them during their program of study giving them a chance to see first-hand what different career fields would entail. Emily said that participating in catering events really encouraged her to continue in her program of study through high school. According to Alexis,

> CTE courses are very important. Umm, just speaking off the Culinary Arts Program,
> they would set up these like field trips and you would go and cater events. You would
> just see the people light up once you gave them a plate of food. I think that is so good

especially around the [county] when there so much trouble you can get into, those field

trips meant a lot to kids.

When describing the importance of CTE programs on his secondary experience, Connor

explained, "Very important, because in the drafting classes you know engineers design and that

kind of gets you in the right mind set of how an engineer would think in the drafting classes."

During the interview, Connor laughed and stated,

I definitely think, this may sound funny, if they would have had drafting in middle school

I would have taken it over art, chorus, or band . . . but if there would have been drafting

in middle school, which I mean you know it branched out into high school by the 10th

grade, but I probably would have known what I wanted to do in middle school if I would

have had CAD or any CTE course.

Hannah explained the importance as,

I think it [CTE] is very important, because . . . it helped me decide that this is what I want

to do. Like I still, I don't know, there are still times when I think I want to be a lawyer or

something like that, and then I always come back to nursing.

According to Kiera,

So like being in the CTE courses the teachers, depending on what they do I know [Mr.

CTE Teacher] and [Ms. CTE Teacher] did a really good job making sure you had a

hands-on understanding of what it is like in the real world. It can really help you

understand if you want to be in that field of study when you get out of high school or if

you want to go somewhere else.

Five of the participants participated in a health science work-based learning experience that

provided them with real-world exposure to the medical profession. Hannah, who had the

opportunity to participate in an internship experience through her advanced studies course, discussed how the internship helped her to determine which particular pathway she would pursue after high school. She explained,

It showed me that I did not want to do respiratory therapy, but I couldn't deal with the mucous and stuff and I learned that from that internship. I thought I could do respiratory therapy because I have asthma. I think I would like working at the hospital rather than working at a doctor's office, which I know I don't want to do respiratory therapy and I learned that from that internship.

Victoria, who has always wanted to be a nurse participated in the internship program and stated,

If I hadn't participated in the internship I wouldn't have realized like the neglect that many older adults go through in retirement homes and it showed me another side that nursing can give an individual. It's not just about money it's about the passion to it. So you have to really want that passion to deal with individuals like that.

While enrolled in medical sciences, Kayla participated in clinicals having the opportunity to work in a doctor's office. According to Kayla,

It [CTE] prepared me a lot . . . probably one of my favorite classes that I took with CTE was . . . medical sciences where I got to take clinicals and I was able to go to the women's center and work with [Ms. Doctor] and her staff. I really enjoyed that class because I want to become an obstetrician. So I was able to be in that office and see a lot of things hands-on. So I was grateful for that opportunity.

When describing the importance of participating in the internship within her CTE POS, Elizabeth explained,

I enjoyed my experience, I learned a lot. Well with [Ms. Nurse] the woman I did my

internship with, she taught me. I sat and I watched her and would observe her and how

patient she was with the patients. She would even help the patients with the SKATS bus

to get to and from the infusion clinic. So it kind of influenced me to want to do more.

Later in her interview, Elizabeth shared,

It [internship] helped motivate me. I saw the nurses making a difference and helping

people. So I said, I want to do that, I want to be like that. They were at work having fun,

they were not at work saying 'Oh God, I hate my job' they were at work saying 'I love

my job, I'm glad that I am here, I want to do the best job I can' and I wanted to be like

that.

Kiera volunteered at the hospital for three summers and completed the nursing assistant course

through dual enrollment within her program of study, which helped her to determine that she

wanted to become a nurse. She explained,

I learned a lot because I was in the emergency room so I got a lot of hands-on work in

there. Everybody liked me so I was in every different part. Back then they were like as

long as they are willing to teach me and they are there to teach me I can pretty much do

anything so I learned a lot and I did a lot, I did a whole lot.

Five of the participants who participated in CTSOs explained how those opportunities helped

them learn even more regarding their career goals. When describing his experience Ethan stated,

FBLA, it was great. We went to a couple state competitions. My best friend and I

competed in one competition, I think it was issues on business or something like that . . .

that was just a great experience. Like being able to research stuff about business. It was

whether or not the government should cut taxes on businesses or continue to tax, like the

pros and cons, like just being able to research stuff like that and learn more about it really

did help me realize that business is something I'm interested in.

Tyler explained,

I participated in FFA, and we did a tractor driving competition one time, in [city] or

somewhere like that. We visited John Deere and we went to Wake Tech in Raleigh to see

their program. . . . They were good, I learned a lot. Umm, I learned that in high school

the John Deere place would give you like an internship type thing that if you went to

school at Wake Tech to work for John Deere during the summer time you would have a

full-time job with them and then once you graduate you would have a full time job for

John Deere. Which I almost did, but I changed my mind.

While he didn't pursue this path, the experience provided him with confirmation on what he

really wanted to do. Tyler said, "I didn't want to be a mechanic my whole life. I kind of want to

be my own boss." Elizabeth, Kayla and Hannah, each participated in HOSA which helped to

motivate them to continue down the health sciences pathway.

Learning motivation and relationships. Past research indicates that a motivation to

learn can directly be impacted through the relationships that are developed (Allen, 2010; Jacques

& Potemski, 2014). During high school, participants reported that developing relationships with

others were an important part of their overall high school experiences. These relationships

stemmed from faculty/staff members, to peers, to individuals within the community. All

participants spoke about the relationships that they developed with their teachers within CTE and

how the teachers encouraged and supported them throughout their learning. Kayla stated, "All

my teachers were very serious about, you know making sure that their students learned what

needed to be learned." Kiera, Elizabeth, and Alexis, explained how the teachers were patient and supportive of them, taking out time to ensure that they were learning.

Participants also reported that developing relationships with teachers had a positive impact on them. According to Ethan, "The teachers that taught the courses . . . were great teachers and were teachers I had heard great things about so it was just a win, win for me." He continued, "It only takes one course, one teacher, and one little thing to just have you intrigued and interested for the rest of your life." Tyler found that being enrolled in his CTE POS helped in forming relationships with teachers because you would have the same teacher throughout the program. He explained, "Another thing I liked . . . is you always had the same teacher, so if you started out with the first one, you went all the way to the fourth one, you know, you knew you would always have the same teacher pretty much." Kiera stated that the teachers were honest with her and were great at keeping her focused on her goals over the years. During the focus group session Kayla reiterated with the group how the teachers positively impacted her because of their involvement with the students in the program. She explained, "I think the big thing with you know CTE is probably the teachers. The teachers are exciting and . . . very involved with the students they interact with the material. That's what positively impacted me." Although Emily was placed in the culinary arts program and did not self-select, she immediately became involved in the program and interacted with people in the course. According to Emily,

I liked the relationships I developed in the class with both you know [Mr. CTE Teacher] and [Mr. CTE Teacher] and the people in the class. Once you keep moving up, you get close to those people because you've known them so long. So I would describe my experience overall as pretty positive.

Kiera, Emily, and Alexis who had the opportunity to work in the school-based enterprise on campus, found that they were able to develop relationships and network with the community by participating in the culinary arts program. Kiera explained,

I mean you can build relationships that way. There were a lot of people in the community who I know their faces. . .I know if I think about it hard enough I can probably think about what drink they ordered every time and what they usually got when they came just from being in culinary. I talked to them and I formed relationships with them. I mean that's how you network, you can network from that. I think it is something really important.

Emily stated,

I liked working in the restaurant. I found that I enjoyed the people that were coming into the restaurant because there were a couple of regulars and I found I was like I'm enjoying this, why not keep doing it.

During the focus group session, all five participants found that developing relationships while in high school within CTE was an important part of networking. Hannah who was rather shy during high school, discussed joining a sorority in college and how networking is an important part of that process in helping you find jobs later in life. She stated, "So you have to learn early on to learn how to network and . . . with the CTE program it helps out." Connor found that by having a smaller class size in his CTE program allowed him to network with his classmates. In doing so they would discuss their ideas regarding projects and collaborate to provide feedback to each other. According to Kiera,

Had I not met as many people as I had from the different programs of study that I was in, I wouldn't be the type of open person I am. Because when I first came to high school I

was really quiet, I didn't really talk too much to anyone except for who I knew. So

networking wasn't a thing that I had really my mind set on, so once I got to culinary, and

the CNA it was kind of something I had to do, because I really do like helping people, but

I didn't know how to initiate that conversation. Now I'm just like a little bit more open.

Kiera also explained how important learning how to network would be on your future career

goals by getting out and meeting people that could potentially help you later in life. Kayla and

Alexis believed that having the opportunities to develop relationships and network in high school

had made them a better-rounded student.

Developing relationships with peers can also play a pivotal role in motivating learning.

Kiera and Kayla spoke about the interaction within their program with their peers. Kiera stated,

"I started making friends. So like one of my friends was in culinary with me, but then I made

some other friends in other classes and we said let's do it again because we really liked it."

While Kayla explained that she was very serious about her education and so were her peers that

she had in her health science classes.

Peer teaching. Peer teaching can be a beneficial tool in the learning process, where

students are teaching and learning from each other. In this study, participants used their

knowledge to teach others, but in the process increasing their learning. When discussing ways to

study in culinary, Alexis explained, "I would look different pictures up. I would draw different

things on the whiteboard, I would try to teach it to other kids to help me learn it." She explained

that as a head chef in culinary she was responsible for teaching other students within the different

departments relying on what she had learned from her teacher. As she has progressed to college

and has become a tutor, she explained,

I never thought it would go that far. You know I thought it was something I would do for

about four years and put it to the side, but when I got to college I used it [peer teaching]

even more. I didn't realize the older you get the more patience you need, so the patience

that [Mr. CTE Teacher] and [Mr. CTE Teacher] taught me to teach my other classmates

is the same patience I need to teach these students that are struggling in physics, organic

chemistry, and college algebra.

Emily also worked in the school-based enterprise as a lead and intern which allowed her to

collaborate, work as a team, and peer teach on a regular basis. She explained, "I found that

writing on a whiteboard and teaching other people things that I've learned is how I learn. Like,

so it opened my eyes on how I do learn." When I asked her about her opportunities with peer

teaching, Emily provided great detail as to her experience with this learning process. According

to Emily,

By Culinary II I was already teaching, because when you come into culinary you are like

standing around at first and you are like 'what is this'? because you are in a kitchen

environment and you know you may have never been in that type of environment. It was

constantly someone was coming up and asking me 'hey how do I do this'? Whether it

was 'how do I cut this' or 'how do I make this' or 'where does this go?' It was

constantly teaching people, especially when I moved onto as an intern, because [Mr. CTE

Teacher] would teach me how to make something then I would have to teach the people

who were going to be on the line that week how to do it. There was applied learning in

that class non-stop…There was constantly different things that you could be teaching

someone, whether it was how to make this or what the correct steps are or what the

correct cut is. Yea, I felt like I was always teaching someone in that class.

Emily explained that now that she is in college, she has had the opportunity to teach others by providing tutoring sessions. She explained, "I noticed when I started teaching her, my grades started going up."

When discussing the advantages of participating in a CTE POS, Elizabeth found that she had an advantage to other students because she had a stronger foundation to build upon. With this, she explained how she is able to use the learning that she received to teach others in her college classes. Elizabeth described it as,

> Well say we had confusion in the class about something and the teacher didn't understand
> how to explain it, I could take the way that I learned it and show them the way that I
> learned it and use that to help another student to where they could understand the
> material.

When I asked Connor about the importance of participating in a CTE Program of Study on his future plans, he began to describe his experiences now in college with peer teaching. Connor explained, "Let's see in Drafting 151, we had about 30 people in that class, I pretty much helped the teacher, teach the class. I mean it helped me a lot as far as the CAD classes and everything." With a laugh he continued,

> I think my teacher, my professor actually kind of wondered why I was in her class, but
> she enjoyed and appreciated the help with having someone you know having somebody
> that could help her with such a big class because that is one of the larger classes there.

Theme one, the learning process was enhanced, provided answers to research question one, how do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?; research question three, how do participants perceive Career and Technical Education's role in their secondary

education experience?; and research question four, what do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school? Theme one emerged throughout the analysis process and four distinct sub-themes were identified within the main theme which were, relevant and engaging; career exploration and real-world exposure; learning motivation and relationships; and peer teaching.

Participants reported that participating in their selected CTE POS provided them with hands-on learning that was relevant and engaging. The opportunities to participate in career exploration activities such as field trips along with the real-world exposure presented through CTSOs, volunteer experiences, and internships gave them a first-hand look at the career opportunities that are available. The relationships that participants developed with their CTE teachers helped to increased their motivation to learn in the program. Additionally, the opportunity to engage in peer teaching helped the participants to understand their process of learning that has carried over to their post-secondary studies.

Influences on Decision-Making

This was the second theme identified in this study, answering research question two which was what factors influenced the participants' decision to participate in a Career and Technical Education Program of Study? The influences on decision-making provides an understanding of the participants' decision to participate in a CTE POS. This theme emerged in several ways throughout the analysis process and four distinct sub-themes were identified within the main theme. They were student interest; family; faculty/staff; and college preparatory graduation requirements.

Student interest. When I asked participants what motivated them to select their chosen POS, student interest in a particular career path or subject matter was one of the top reasons all

participants' reported. Ethan explained that he was always good in math and with numbers which sparked his interest with business. Elizabeth, Hannah, Kayla, and Victoria reported that they had always enjoyed the health care field, which is why they chose health science. Victoria stated "I always dreamed of being a nurse." Hannah believed that by completing in health science she would be better prepared for college. She explained "I wanted to be a nurse so I wanted to take as many health science courses that I could while in high school to…prepare myself for college." Hannah also explained that while she has always wanted to go into nursing, she enjoyed science which also influenced her decision to choose the health science pathway. According to Kayla,

> Ever since I was probably about 10 years old I knew that I wanted to be a doctor and so being involved with like the health science classes you know was very hands-on like I learned a lot of the medical terminology in high school and . . . I can honestly say that it has opened a door for me.

Tyler who participated in multiple CTE POS expressed how his interest in agriculture came from growing up on the farm stating "the agriculture I grew up around farming, so I mean I knew it. I pretty much knew the basics of all that so that", with welding, it was just something he wanted to learn, stating "Then welding, I don't know I always wanted to weld so that is why I took that class." Later Tyler continued to say,

> I've always known that I wanted to do something in like the engineering field and with me owning a business. Like with the tractors I knew agriculture would help me with you know maintenance and all that. I've always had an idea of what I wanted to do.

Alexis, Emily, and Kiera who participated in culinary found that their love for food interested them in their selected program of study. When discussing her motivation for participation Alexis explained,

I love food. Food is what I wake up in the morning and think about. With culinary arts it just fit into my life perfectly. Even though I went on to college to major in umm pre-med, I still love food today. So that is why I chose the Culinary Arts Program.

Kiera explained that she loved food which helped to influence her, but as she began to form relationships within the classes and enjoyed learning in the course, she continued with the culinary pathway to become a CTE completer. Although Emily did not originally select culinary as her CTE POS choice, after she was enrolled in the course she became more and more interested through her love for food as well. Emily stated, "When I got in the class I found it was something I enjoyed. So I was like hum I can learn how to cook, which I've always wanted to do because I enjoyed food so much." Alexis, Emily, and Kiera found that while they had a passion for food, they enjoyed learning through cooking. Each of these participants completed the culinary arts pathway. Emily and Kiera also participated in the culinary internship program during their senior year.

Family. Participants reported that their family had an influence on their decision to select their CTE POS. Connor and Tyler who participated in the drafting pathway, both expressed how their family members had pursued similar careers. Tyler explained that his dad was a mechanical engineer stating, "That is what my dad does so, he was always doing it so." While Connor found that he enjoyed learning more about his brother's career. According to Connor,

My . . . program of study was CAD [Architecture and Construction] so, I guess my

brother was in CAD, he took CAD and has his engineering degree and I had seen some

stuff that he had done during you know, with him trying to get his degree and now with

his job that he has now. I kind of liked that so I took a bit of interest in it and found out

that is what I wanted to do.

Hannah explained that both she and her mother had experienced health problems in the past,

which inspired her to pursue nursing. By participating in the health science CTE POS she

explained, "It [CTE] has shown me what you can do to help others."

Alexis, Kayla, and Victoria explained how their parents were influential in ensuring that

they made intelligent decisions in high school regarding their studies. Alexis explained,

In middle school my mom taught there and she always pushed for me to take the highest,

hardest classes that I could. She said if I am prepared early, I'll be ready in the long run. .

. . and then in high school I just, built on that foundation that she instilled in me.

According to Kayla, "My parents were very influential on my education and made sure I knew

the importance of school. Like you know you are going to go to college and this and that and

they expected a lot from me." Victoria stated, "My mother was always there to support me."

Faculty/staff. Past research indicates that when ensuring students are meeting the

requirements of a POS that CTE teachers were found to provide guidance to students in these

areas (Alfeid & Bhattacharya, 2012). When I asked participants who provided guidance and

advisement regarding their selected CTE POS, participants reported that their CTE teacher(s)

encouraged them to participate in their selected POS. Eight of the participants expressed that

their CTE teachers provided guidance within their POS. When discussing her CTE POS

participation, Emily explained, "[Mr. CTE Teacher] he seemed to enjoy having me in his class

and he talked me into doing it and the next year I started loving it even more." Victoria stated, "I always had teachers to help me to choose which classes were best and to suggest 'oh you need to take this class because you are good in this'. According to Kayla,

It would have been my CTE teachers actually because you know most of them were in the medical field you know they had took those classes already and stuff like that. Like I had a few teachers from CTE who were nurses and stuff like that and so they knew what classes I needed to take and they knew like how to be prepared for medical school and the classes I would have to take in college.

Elizabeth stated, "I would go talk so like [Ms. CTE Teacher] the teacher and she should would tell us the different areas and fields we could go into in health care, and we would talk about it in my classes." Kiera attributed her influence to her culinary teachers as well as her school counselor. She explained, [Ms. Counselor], [Mr. CTE Teacher], and [Mr. CTE Teacher], they kept motivating me saying you know you can do better than this, come on. So that's what pushed me to keep going." Tyler explained, "Certain teachers, like my drafting teacher, like I took my first drafting course and she advised me to take the next one and same thing with my agriculture teacher." Ethan shared "You have to have people pushing you in the right direction. [Ms. CTE Teacher] was like very influential in us doing well."

Elizabeth, Hannah, Ethan and Victoria reported that support staff and school counselors on campus assisted them with finding out more about their career interest and narrowing down their selected POS. In her interview, Elizabeth shared that in addition to talking with her CTE teacher, she would talk with her counselor about what she wanted to do in the future. Hannah explained,

I had [Ms. Support Staff], she would come and talk to us and ask us what our interests

and stuff. That kind of helped me out too because she talked about all the different fields

we can go into and helped us narrow down what we liked. And then from like going to

the guidance counselor and talking to them that helped out too.

According to Victoria,

They [Ms. CTE Support Staff and Ms. Support Staff] helped me decide health science

because they were like you enjoy doing this because we worked throughout the summer

and we had to take a test on interest and that's what I scored highest in. So they were

telling me you need to continue doing that and you could be CTE completer.

Ethan shared that his mentor, a school faculty member was very influential in helping him

choose the business path. Ethan explained,

I told them what I want to do long-term and what I thought I was interested in as far as a

career. I always wanted to do something within business. That is a pretty broad

spectrum so they help me narrow it down and that's how I ended up taking that

accounting course.

College preparatory graduation requirements. The North Carolina graduation

requirements provides students with a guideline for choosing core academic courses. For college

preparatory enrollments students must meet the minimum requirements of 21 credits outlined by

the state in addition to any local requirements (NCDPI-Graduation Requirements, n.d.). Students

then have the option of choosing their elective courses, which would include CTE and dual

enrollment found in a CTE POS. Past research indicates that CTE POS are enhanced when CTE

is aligned to a rigorous academic course of study (Brand et al., 2013; Lewis et al., 2009; Meeder

& Suddreth, 2012). In this study, each participant completed a rigorous CTE and academic

course of study through their CTE POS. While all participants' reported that they chose their

course selections based on the graduation requirements, when discussing their motivation behind

their course selections in their CTE POS, a variety of responses surfaced.

Participants in this study chose a rigorous course of study to better prepare for college.

Ethan, Connor, and Tyler reported that they chose AP and/or honors courses because they gave

them a challenge. Emily found that she enjoyed science, stating "My science related classes

were because you know I moved on to college to become a science major and eventually a

pharmacist and as you can imagine there is quite a bit of science involved in all of that." Kiera

chose to enroll in dual enrollment courses over AP courses. Both courses provide the

opportunity to earn college credit, however, Kiera explained, "I chose dual enrollment versus

taking AP because I felt like I knew for a fact those college classes would transfer over as long

as I passed."

According to Alexis,

> I wanted to take classes that would prepare me for college. I said I am here for these four
>
> years of high school, and I need to be as ready as possible to get to college. That led me
>
> to choose my dual enrollment classes, my Advanced Placement classes and my CTE
>
> classes gave me an all-around background that made me become a better student.

Kayla explained,

> I took a lot of honors and AP classes just because I knew. . . I wanted to you know be on
>
> a different level and I knew that taking honors and AP classes would push me. Umm,
>
> and I knew early on that high school you know was going to prepare me for college so I
>
> made sure that I took classes that would just get me ahead for college. I always have

known that I wanted to go to medical school and I wanted to make sure that I was staying

on the right path in regards to that.

Participants reported that the selection of elective courses was based on their interest.

Elizabeth, Hannah, and Victoria discussed that when choosing their elective courses, they

wanted to explore a variety of courses to see if they would enjoy those particular fields. Victoria

explained, "Well a lot of my like electives was based on interest" and she continued "I would say

the interest with a lot of electives." According to Elizabeth,

I remember certain classes like some classes like early childhood development, I took

that, I wanted to see if I liked the daycare perspective in life. I mean I liked it, but I knew

it wasn't for me. I took marketing and I liked that, but I couldn't see me doing that

forever.

Hannah stated,

I just added whatever like what my interest were like the health science. I wanted to try

Foods I, I believe, I took Business Law, umm, I guess I wanted to make sure nursing was

what I wanted to do, so I wanted to try a little bit of everything.

When I asked participants what courses they found most challenging in their program of

study, participants reported that their CTE classes and math classes were most challenging. Most

all CTE courses within the participants POS contained math content. Alexis shared,

It was definitely my CTE classes, instead of sitting down at night and studying maybe my

chemistry textbook or my English book, I sat down and looked over my recipes and I

looked over my cooking methods so that when I came into the kitchen that next day I was

prepared for any dish that my chef would give to me and for me to cook.

Connor and Tyler found their drafting classes to be most challenging. While Connor also shared

As far as electives the most challenging that I had was probably my CAD [drafting] engineering. . . but as far as core classes my AP Calculus class ironically enough and dealing with one of the engineering and that was one of my harder classes.

Ethan and Kayla believed calculus was their most challenging course in their POS. While Kiera, Hannah, and Elizabeth found their health science courses to be challenging because there was so much material to cover in such a short amount of time. Kiera stated, "My CNA class, which I took through [dual enrollment] . . . It was a lot to take in, in such a short amount of time." Hannah shared, "Health Science II was kind of challenging, because there were so many things that we had to go over." While Elizabeth explained,

I would say we had three health classes we had to take and the second course was the hardest because it focused on the anatomy of the body. And it was hard to learn all of the names and where everything, you know, everything went. It was kind of, how do I explain this, there was a lot of curriculum in that one class, and I felt like it needed to be spread out, because then it would have been easier.

They still believed that the courses were helpful and once they got deeper into the course they were able to learn and be successful.

Theme two, influences on decision-making provided answers to research question two which was, what factors influenced the participants' decision to participate in a Career and Technical Education Program of Study? Theme two emerged throughout the analysis process and four distinct sub-themes were identified which were student interest; family; faculty/staff; and college preparatory graduation requirements. Student interest was the primary reason participants' chose to participate in their selected CTE POS. Family and faculty/staff also helped to influence participants' participation. Participants reported that CTE teachers were most

influential in providing support and encouragement to continue in the program after participating. While college preparatory graduation requirements influenced the participants to participate in a CTE program in collaboration with a rigorous course of study.

Learning with Understanding Supports Knowledge Use in New Situations

This was the third theme that emerged during the process and provides answers to research question one, how do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?; research question three, how do participants perceive Career and Technical Education's role in their secondary education experience?; and research question four, what do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school? Past research indicates that students often fail to transfer knowledge and skills from one context to another (Brown & Dixon, 2012), although this is a major goal in education (OTEC, n.d.). However, every participant in this study discussed how their learning experiences in their CTE POS provided them with transferable skills that they were using in college, the workplace, and in their everyday lives. Three distinct sub-themes were identified within the main theme which were transfer of knowledge and skills; college and career preparation; and confidence.

Transfer of knowledge and skills. The participants in this study discussed numerous benefits gained within their CTE POS including knowledge and skills transferable to other contexts. Participants reported that they were able to transfer the information learned in their CTE POS to other problem-solving situations. Alexis stated,

When it came to chemistry . . . significant figures. That was a major role in culinary arts because every number counts in culinary arts. Especially dealing with food and prices,

every number counts and that's what I remember in chemistry. That was like our first

lesson [chemistry] was significant figures. The zeros at the beginning and end don't

matter, but every single number between one and 10 count and that's the same thing with

culinary. . . 12 ounces counts, but if you have about 2/10 of an ounce, that is not as

important as those 12 ounces of like a steak or fish or something, that counts.

In his interview, Tyler explained the connection he found between drafting and math stating, "It

[drafting] made you better in math because you'd think quicker." Connor also participated in

drafting and discussed the connection between math and drafting. According to Connor, "I am

seeing the connection now that I am now actually becoming advanced in CAD, drafting. I am

actually seeing what the purpose for all the math's that I thought were pointless when I was in

high school." Later in his interview, Connor discussed how projects should become an added

component to math courses because they allow you to retain the information and problem-solve.

He explained,

Like in math, calculating angles and stuff . . . have them [students] calculate the pitch of a

roof. You know applying, you know actually applying it instead of well what is this like

$3x + 7$ instead of doing something use something like that everyday application where

they can actually use it instead of trying to recall the information.

Hannah who participated in the health science program of study discussed how health science

courses helped her in many of her science courses. She explained, "It [health science] helped out

a lot too with like my Biology class and stuff like that, it [health science] helped me prepare for

that." During the focus group session Hannah explained,

Like umm with the CTE courses that I took. I took a lot of the health science courses and

like with my chemistry that I am taking now. It is a health science chemistry for nursing.

Umm like I didn't know everything, but I knew some of the things we are talking about

from my health science classes that some people that are in the class with me didn't

know. I guess I was like a little ahead you know, I mean it has just helped me out

because I can help other people out too.

Elizabeth who also participated in the health science CTE POS explained,

In science we were learning how medicine affects the body. So in biology you go

through and you see all these chemicals, so you are like this chemical will affect the body

this way, because that's what they taught me in my health science."

Emily who has a love for science, when discussing the connection between her CTE POS and

science classes she stated,

Like in chemistry, actually we were talking about boiling water one day, and someone

recommended putting salt in it and I was like that is going to make it boil slower and they

were like how? I was like, you see the crystalline structures actually block the water

molecules and slow it from boiling and they were like 'Oh really' and I was like 'yea'

and I had not only learned that from culinary, but from like an actual science perspective.

The participants discussed a variety of skillsets that have helped them beyond the classroom

setting. Alexis, Emily, and Kiera discussed how the culinary program went beyond just cooking,

but has helped them in everyday situations. Alexis explained,

There were so many Mondays where all we did was focus on what we need, how much

we had to spend, and how many courses we could fill with that money and with that food.

I was able to use that in college as well. My mom gives me $25 a week. I have to make

it last every week with $25, whether that's going to a baseball game, going bowling,

cooking or things of that nature.

Emily expressed that communication and collaboration learned in her program has proven to be valuable skills. She described it as,

> Participating in it [culinary] gave me skill sets that I probably wouldn't have had without the classes. Umm, like I said, communication. When you are working in the kitchen everyone has to work together, there is constant communication. 'Did you drop the fries, is the burger done, did you make the salad?' you know. It taught me communication skills and how to work well with people so that is something that I am always going to be able to use; you are always going to have to be able to communicate.

Emily continued to say, "Just like I have learned in the pharmacy, there is constant communication, with the nurses, the doctors, when emergency medication is needed, there is constant communication so that's a valuable skill." Later in her interview, Emily shared, "…I do feel that CTE Programs are necessary, they are going to give you access to skills that you may not have gained from other things. I feel like you should have to take at least one." During her interview, Kiera explained that while she didn't pursue a career in culinary, she is still able to apply the skills learned at home. According to Kiera,

> I use a lot of that stuff at home. I've gotten into that routine even though I'm not in culinary I still kind of pull out all my stuff like I did in culinary. Like I get everything set up before I start cooking so everything will come out at the same time. A lot of that stuff has really stuck with me so I really appreciate that. I learned a lot of different recipes and stuff.

The participants attributed participating in a course that offered certifications was an added benefit to their program. Connor, Kiera, and Victoria discussed how the Microsoft program within their CTE POS has provided them with a transferable skillset that they are able to use in a

variety of settings. Connor explained, "The excel helps me put the spreadsheets together when I have to in college and made me a little bit more familiar." During the focus group he stated, "I use excel about every day and . . . it kind of helps to know what you are doing with excel." During her interview, Kiera explained, "My . . . computer class which helped me a lot with writing my papers because I ended up having that software and I could help my aunt who was not so good with umm, with Word." Also, during the focus group Kiera expressed "The PowerPoint and the Word really helped me a lot with my classes like just getting it done, like the assignments that they gave me." According to Victoria,

> With the PowerPoint and Microsoft Word certification I was able to earn better grades on my presentations and on my papers that I had to write because I had that training in learning on how to move through the different things on there.

College and career preparation. The participants reported that their CTE POS had better prepared them for their college and career goals by being further ahead. Connor explained, "Well as far as when I was in high school and going to college it actually, that course [drafting] put me a lot, at [college], I am way ahead of most people as far as that." During her interview, Kayla stated, "I think it prepared me, for the classes that I was involved with like my CTE classes prepared me a lot for the classes that I am taking in college now." Later Kayla explained, "Having the concentration in health sciences has given me the step ahead of my peers in college." Tyler explained,

> They [CTE classes] actually helped me in college too. Like, my first semester I had a drafting class, and it was starting from the basics almost like Drafting I in high school, and like I was done with my entire class like the fifth week of school.

During her interview, Hannah discussed that participating in her CTE POS gave her a better focus when she entered college. Hannah explained,

> Like it is so different in college because there are so many different choices you can have. It is not like you need to take this or you need to take this or that. Umm, like for nursing, you have to have so many classes before you can even apply for the program, and like so you have to pretty much get on track with what you are doing. So it helped me with the health science classes.

Elizabeth stated,

> I took my CNA class and some things I didn't have to learn, because I had already learned them in health science. It was just, it was like oh ok, my high school this prepared me to go into college, prepared for some of the classes that I was going to take. It prepared me so I didn't have to learn all this new information. I had a base to build upon.

Alexis described it as,

> I am well-rounded. I can go to a restaurant and could cook with the top chefs. I can balance my budget so much better and I'm able just to, when it comes down to studying those math and science courses I am able to tutor someone and study that way as well or I'm able to teach this one student something. I'm higher up on the totem pole than a person that didn't graduate from the CTE program.

Participants in this study shared that gaining college credits during high school within their CTE POS has been beneficial to them in college. According to Connor, "Well I didn't have to take, as far as my college goals, it helped me exempt out of a couple of classes, which made my degree a little bit easier. I didn't have to take so many credit hours." Later in his interview he shared,

"Career and Technical gets you ready for college that is how I felt it was getting me ready for the CAD program in college." During the focus group, Alexis, Kiera, and Hannah discussed how participating in dual enrollment has allowed them to transfer college credits to their college program. Kiera explained,

> I took a lot of the dual enrollment classes that transferred over. So I didn't have to take as many classes, so I was ahead of a lot of the other students that were in my field. Umm, that is basically a whole semester of courses that I didn't have to take just by taking four or five classes while I was in high school.

Alexis stated,

> Taking those classes helped me to get used to the college material without actually being in the college setting. I was able to learn how to study on my own and things of that nature . . . it put me ahead of my other classmates. I didn't realize that coming in taking at least 20 credits in high school would put me ahead of other students, but it really helped.

Hannah discussed how completing the nursing assistant course and earning the CNA certification had helped her gain employment and prepare for enrollment in the nursing program. Hannah shared,

> I did the dual enrollment with the CNA class and like I have a job now and. . . they say they look at that when you are trying to apply and get into the nursing program. It may help you out, that you have had some experience with patients and things like that.

During the focus group participants discussed the advantages of completing a CTE POS during high school. Alexis explained, "Being ahead opened up a good job for me when I was in school.

I was able to tutor people in chemistry and all that stuff, because of the CTE classes and the dual enrollment classes that I took." Connor expressed,

I definitely felt like I had an advantage you know taking the CTE program, taking CAD.

I would say that I was a lot further advanced than people in basic drafting when I went in.

It's been very beneficial in the CAD area, my field.

According to Kayla, "There was a lot of classes that I didn't have to take due to being exposed to that in high school . . .it gave me an upper hand and you know having a higher level. I was prepared for college classes a little bit more than my peers." With excitement Kiera stated, "I felt more prepared and I got excited from it, that I could help others."

Participants reported that the opportunities provided within their CTE POS including course work and credentials had increased their opportunities for future employment. Emily stated, "The CTE programs definitely provided me with quite a few skills, and allowed me to take the WorkKeys and it opened my mind to things I did and did not want in life." During his interview Tyler who participated in multiple CTE POSs explained,

Well my agriculture will help me with my heavy equipment business, because knowing about tractors. . .my drafting kind of goes in with my civil engineering I can do like land surveying and all that so I mean. My welding class, you know if something breaks I won't have to hire someone to do it, I can do it myself.

Later Tyler discussed,

Just like my civil engineering, once I start doing my surveying classes, and I am in the woods, in my agriculture class I learned all kinds of trees and plants and all that. It is not like I am going out there completely lost. I know some of what I am doing.

During the focus group when discussing credentials, Kayla shared,

I earned . . . the WorkKeys credential . . . it has been beneficial to my real life . . . material. Also, something I was am able to put on my resume . . . it is very beneficial because it stands out . . . when you know people see that I have that knowledge, compared to other resumes a lot of people don't have that so it definitely stands out and is very beneficial.

Connor explained,

I believe I would be more prepared than others who didn't take you know the CTE program . . . the welding class I took . . . . That has actually helped me out a lot in the last few weeks, actually learning how to weld. So I guess I would be more prepared in the workforce coming straight out of high school.

Also, during the focus group session, participants reported that the credentialing tests offered through their CTE POS was important in better understanding the expectations of a career and gaining employment. Connor stated, "I think like my test like CAD is more applicable later in my career as far as with my degrees and stuff." Alexis stated, "I think the WorkKeys was very good at preparing me for real life umm circumstances and situations. I was able to apply that to college as well when I got there." According to Hannah,

Well the WorkKeys . . . it broadened my thinking. And then like with the CNA umm, it showed me how people make money and like you know when I graduate from college that is what I want to do make more money. Umm, it showed me that I think I am ready to be a nurse and that is what I want to do, because like being able to help people and to work with people.

Kiera explained,

I think they are extremely important because if you think about if people take those credentialing test, they are getting things that can possibly happen, like scenarios that can

possibly happen and they are solving them based on how that can affect them in their career goals. Like the CNA test for example, it was all about how if you have a patient and you have to do xyz how do you solve this problem.

During the time of this study Hannah had gained employment since graduating high school utilizing her CNA industry-recognized credential earned through her CTE POS and Connor was in the process of gaining employment with his Career Readiness credential from the WorkKeys Assessment.

Confidence. Participants' reported that having confidence in their abilities from past successes in their CTE POS, helped in increasing their learning. According to Syverson (2014), "We see growth and development when learners' confidence and independence become congruent with their actual abilities and skills, content knowledge, use of experience, and reflectiveness about their own learning" (Para 2). Part of the learning process and being able to transfer what is learned, is learning from your mistakes as well as your successes. As participants acquired new knowledge and skills through their CTE POS participation, these experiences allowed them to learn more about themselves and their abilities that they can transfer to new environments. Emily shared,

I guess it [CTE] actually gave me confidence because umm, at first when I was in the class I would always go double check with [Mr. CTE Teacher] before I even added something to a soup. Then over time, I was like I know this, why am I scared to just go on and do this. I know this is what I am supposed to be doing and I feel like it helped me gain confidence in my skills.

Emily continued,

I'll do that now, I will be trying to stock and I will look at my paper and I'll be like ok I need this medication and I will go to the shelf, and then I will be like no that's not it and I

will check again and again. Then I am like, you know that is it just go on and grab it. So

it helped me form confidence in things I'm doing, even if it's just little things it's like you

know reiterating that you do have the ability to do what you are doing.

Four of the participants expressed that they were able to open up more and become more social

by working in teams and completing projects. Kiera discussed during her interview that she was

able to open up more by participating in her CTE POS stating, "They [CTE teachers] helped me

personally realize that I could be more balanced, more patient, that I can reach those areas."

During the focus group Kiera shared,

I took culinary so I was forced to talk to people a lot. . . So it kind of made me more open

to get to know other people and get to network with a lot of people. So when I went to

college I met a lot of people.

According to Hannah, "We got to work in groups so it wasn't always by yourself working and I

liked that." With a laugh Hannah explained, "I learned how to be a team member from working

in the groups." During the focus group, Hannah stated, "That helped me out a lot too talking,

because I am real shy. I umm, I learned how to communicate better, which is a big thing in

college." Alexis described it as,

This [CTE] program helped you work better as a team, with collaboration, you gained

self-pride and confidence. If you put out a great dish of food and then the people come

back and say 'hey that was really good'. For the rest of the day you walk around with

your head held high and say I just fed a group of people and they liked it.

Connor shared,

At the end after you've been working on it and you see your finished product. I was

pretty happy with mine. So it was kind of satisfying. It looked pretty good and you

know that you made that and you put a little bit of effort into it.

Participants reported having more confidence entering college by participating in their

CTE POS. Kayla believed that confidence helped her when entering the medical program in

college. She stated, "If I didn't participate in CTE in high school . . . I really wouldn't have

known what I was getting myself into umm in college." Ethan explained,

The fact that I had like the exposure in the accounting courses, in the principles of

business and finance course and entrepreneurship course it kind of gave me confidence in

knowing that I knew a little bit about this before I went into another class and that just

helped me excel in that class and helped me stay motivated to continue on the path in

doing something in business and something in finance.

Alexis said,

Now in college if I wouldn't have taken my CTE classes, I would find myself

questioning, what I do, and how to study and things of that nature a lot. So with taking

those classes, I am able to trust myself a little bit more because I have already done the

hard part, and now it is time to do the easy part and that is college.

When discussing with Elizabeth about her feelings about being successful in one of her more

challenging CTE courses, she explained,

I was excited and I had learned a lot so I took that with me through, like even through

now through college as I am going through Biology and stuff I get to say, I know this

from this class and I get to bring it along instead of saying well I never learned any of this

in high school.

Connor and Hannah believed that the increased learning within their CTE POS, provided them with confidence entering into the workforce. During the focus group Connor explained, "Mainly like the CTE Program made me more confident. As far as the CAD program and the WorkKeys you know I feel a little bit more confident going into the job market." Hannah who was employed at two locations as a CNA, in addition to being enrolled in the Pre-nursing program in college explained, "Because I kind of got a glimpse of what I am going to be doing . . . It [CTE] has shown me like what I can and cannot handle."

Learning that supports knowledge use in new situations was the third theme that emerged in the research process. Theme three provides answers to research question one, how do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?; research question three, how do participants perceive Career and Technical Education's role in their secondary education experience?; and research question four, what do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school? Three distinct sub-themes were identified within the main theme which were transfer of knowledge and skills; college and career preparation; and confidence.

Participants reported that they have been able to use the knowledge and skills gained in their CTE program of study in their post-secondary studies, their life, and their work. The level of course work present in their program of study provided them with foundational knowledge that placed them a step ahead of their peers in college. Additionally, the credentials earned had provided career opportunities post-graduation. Past successes with projects and hands-on learning found in their selected CTE program of study increased participants learning and helped them to gain confidence in their abilities.

Guidance and Advisement Needs to be Purposeful

This was the fourth theme that emerged during this process and provides answers for

research questions one, how do high school graduates who participated in a Career and Technical

Education (CTE) Program of Study in North Carolina describe their experiences in high school?*;*

and three, how do participants perceive Career and Technical Education's role in their secondary

education experience? Past research shows that effective guidance and advisement can be

crucial in assisting students with their future goals (McComb-Beverage, 2012), while also

showing that career development opportunities are important to a child's overall development

(Gutek, 2011; Lewis et al., 2008). Participants' reported that CTE Programs are an important

part of the secondary education experience and can provide benefits for a variety of learners.

However, in this study aside from participating in the program itself, the individual interviews

and focus group revealed that there was little guidance and advisement regarding CTE programs

and getting prepared for your future career goals.

Benefits for all learners. When discussing CTE programs in secondary education,

participants believed that CTE programs were important for all learners. During his interview

Connor explained,

> I think it [CTE] is geared to serve the students to become more competitive in the job
>
> market. That is probably the biggest thing now you know. Almost every person you ask
>
> what is their motivation behind getting a degree, it's a job and the CTE Program helps.

Tyler explained that CTE offers you something different to your everyday high school schedule

and increases your work ethic. Tyler stated "Someone who wants to have more of a challenge

than you know just everyday regular classes." Later he shared, "I think it [CTE] makes your

work ethic a lot better. I wouldn't say that you would be like different from other students, but

your drive to do work would." Ethan, Hannah, and Kayla believed the program benefits those

who have an idea of what they want to do in their future. Ethan shared, "Those people that have

a pretty good idea about what they want to do long-term." Hannah explained, "The people who

take it [CTE], it benefits you for your future plans." During her interview, Kayla expressed,

> Just students that are you know serious about their work, serious about going to college.
>
> They already have a game plan of what they want to do…with their future. So I think it
>
> [CTE] is for those students who just want to go to college and continue on with their
>
> education.

Four of the participants believed CTE programs are beneficial to everyone. Victoria expressed,

"Everyone, umm and I say everyone because everyone wants to do something in life well they

should. I would say CTE is designed for mostly any career." Alexis explained, "CTE courses

are designed for anyone, from the top of the tree to the bottom of the barrel. Anyone should take

CTE classes." Emily described it as, "I feel like it [CTE] is for everyone and I don't feel as if it

caters to a specific group of people or a certain population of people; if you go to [high school]

then it is there for you." During her interview Elizabeth shared,

> CTE is for everybody. If you try hard enough you can do it. As me and the other girls
>
> we had the chance to do the internships, but you have to work hard. It is not just
>
> something that is given to you.

The need for effective communication and advisement regarding programs. During

the interviews with the participants it became clear that communication and advisement

regarding CTE programs needed to be more effective. Past research indicates that effective

communication is critical to an effective CTE POS (Shumer et al., 2012), however a one-to-one

approach is most effective in delivering information to students (Gene, 2010). In this study, all

participants participated in a CTE POS and completed a CTE concentration, however there was little communication and advisement regarding programs prior to enrollment.

Participants' reported that information regarding CTE programs needs to be increased. Hannah explained, "I think it [CTE] needs to be more like, more known." Ethan, Emily, and Victoria believed that CTE programs are not advertised enough throughout the school. During his interview Ethan pointed out, "Prior to high school there really wasn't much guidance, umm I just kind of went in blind" and later explained, "I honestly didn't know that the CTE program like they had a concentration or something like that until my senior year. So it's not advertised enough or it is not pushed upon the students enough by the faculty." Emily stated, "You have no guidance as to those programs. You don't have a knowledge of it." Later in her interview Emily shared, "There is slight encouragement as to taking those classes, but not that much. I feel like that they need to be advertised a little more." Victoria stated,

> It's not umm advertised enough . . . of course the CTE teachers are going to talk about it, but throughout the school and the counselors and while you're registering for your classes they are not really saying oh you took this class so you need to continue taking this class if you're interested in it, they don't really discuss it.

During her interview Kayla shared, "My CTE teachers helped more in that field of advisement."

Participants' reported that communicating the benefits of the program could encourage other students to participate. Hannah stated, "I think they [students] should know more about the program. They should know that it can help towards college and help you decide what you want to do." During her interview Emily explained, "I think if people's eyes were open to the skillset that they could gain from doing things like this, then maybe they would participate a little more so." Elizabeth shared,

It [CTE] is a great program that needs more people to be in it and be able to go out and

experience the outside world to see if they want to do this particular program or you

know go to college and graduate in this. I believe it [CTE] could help with having more

college graduates because they would be more motivated to go to college and finish with

a degree.

Alexis suggested,

If we get those seventh and eighth graders coming from the middle schools to actually

see hey you can take this program in high school and it will lead you to a definite job in

college or something like that. Or even if you just take these programs and it gives you

so many life skills. The budgeting, the use of technology to help you study instead of just

sitting down and staring at a book all day.

Participants reported that sharing their experiences with others was a great way to communicate

regarding program. Ethan shared that providing information to parents by way of progress

reports and report cards regarding CTE programs could be helpful with effective communication.

Consequences of not having a high school plan. This study found that participants did

not enter into high school with a career development plan in place that provided a sequence of

courses for each grade level during high school to include their CTE concentration area linked to

their college and career goals. An analysis of transcripts found that seven of the participants did

not begin their CTE POS until their sophomore year in high school. When I asked participants

what they would have done differently during high school, five of the participants reported that

they would have spent more time invested in their coursework especially during their freshman

year when they transitioned to high school and taken more CTE courses. With a laugh Emily

expressed, "I definitely wouldn't have goofed off my 9th grade year, still trying to transition.

Now I realize that is probably why my GPA, well it wasn't really low, but low for what I know I could have done." Later Emily expressed,

> I would have taken more health science classes. At the beginning of high school, I didn't know that was the career field that I was going to be in. I didn't see myself as being in the health care field, but now I know that is something that I truly want to do.

Victoria shared,

> I would study more because I really could have come out with all A's really if I would have pushed myself, but I slacked off. I just got by and said a B is good. So if I would have pushed myself like I suppose to, I could of had all A's and my GPA would have stayed 4.0, but other than that I think I did pretty good.

During his interview Tyler stated, "Not slacked off so much my first two years. Got better grades, which I didn't do bad, but I could have done a whole lot better my 9th and 10th grade years, like in my academic classes." Later he explained, "Maybe taken more CTE classes if I would have started earlier." Ethan explained,

> Freshman year, took things a little bit more seriously academically. I mean I feel like I did pretty well freshman year, but I wasn't as focused as I could've been and that's just because I just didn't know how to balance things as far as athletics, academics, social life, life outside of school. Just trying to balance things was tough, but I definitely could have like spent more time focusing on academics and doing a little better.

Ethan continued,

> Also, taken like more CTE classes earlier on so I could have like throughout my whole high school experience taken more. Like I said, senior year I wanted to take more, but I

had to take the AP classes that I wanted to take and I just didn't have room in my

schedule.

Connor shared,

Academically, I would have, there were sometimes, I wish I would have paid more

attention. Because like in my advanced math classes, like calculus I am seeing where

there are couple of things I remember, but I wasn't really focused and now I am trying to

remember, well I remember seeing this, but I don't remember how to do it.

Participants believed that understanding more about college requirements was important, but not

fully understood early in their high school career. Victoria explained, "I would have taken AP

courses instead of all honors, but I was like no I'm not taking AP and I would have did dual

enrollment with [community college]." Kiera stated,

I would have taken more Career and College Promise (CCP) classes, the dual enrollment

classes . . . . Like my last semester in my senior year was really laid back. Like I only

had two classes on campus. I would have definitely taken another college class that

semester and possibly one that summer just so I could have knocked out more classes

when I got to college.

During her interview Kayla shared,

I probably would have looked more into . . . what school I wanted to go to, like I always

knew I wanted to go to college, but I didn't really . . . focus on what school I wanted to

attend until it was like too late . . . because the only thing I regret is like not knowing, like

when I graduated I still didn't know what school I was going to go to.

Participants discussed the importance of your GPA in high school on enrollment in

college and earning scholarships, but did not fully understand the importance until their senior

year of high school. Emily stated, "I guess coming into high school I didn't realize how important your GPA would actually be. At first you think it is just a number, but by the time you reach your 12th grade year you realize that number really does matter." Later in her interview Emily shared, "I don't feel like they start encouraging you to think about that until your senior year." Hannah shared,

> My SAT got me into college, I mean I got in with my GPA too, but the SAT helped me because and plus with a lot of scholarships you have to have 3.0 so that was hard for me to apply for scholarships when that time came."

During his interview, Tyler discussed that slacking off during high school and just getting by does not help towards your future. He explained, "Especially when it comes to scholarships and you know your GPA trying to get into a four-year school. Just getting by doesn't do anything." Later in his interview, Tyler advised incoming freshmen, "Don't skip school. Do your homework. Do your classwork. Cheating doesn't do anything, but give you a grade in the gradebook, it doesn't teach you anything so you might as well just do it." Victoria echoed the same sentiments in her interview regarding advice to incoming freshmen sharing, "Do everything you can, do not slack off. Take advantage of every course that is given to you like dual enrollment, take the CTE classes, do your best, study all of that."

Theme four, guidance and advisement needs to be purposeful provided answers to research question one, how do high school graduates who participated in a CTE POS in North Carolina describe their experiences in high school?; and research question three, how do participants perceive CTE's role in their secondary education experience? Three distinct sub-themes were identified from the main theme which were, benefits for all learners; the need for effective communication and guidance regarding programs; and consequences of not having a

high school plan. Participants reported that they believed that CTE programs were an important part of their secondary education experience and provides opportunities for all types of learners. They believed that there is a need for an effective communication system regarding programs which could increase enrollment allowing more students to take advantage of what CTE programs have to offer. There was little guidance provided to students, therefore, participants reported that guidance and advisement needs to be increased to help students to enroll in the appropriate course of study. All participants transitioned to high school lacking a high school plan. As a result, there was a decrease in some of the opportunities that were available in high school such as taking additional CTE and dual enrollment courses. Never the less, all participants graduated as a CTE completer, earned an industry-recognized credential, and completed a rigorous course of study that included an articulated and/or a dual enrollment course.

Research Question Results

The research questions were answered through one or more of the four themes that emerged in this study. The four themes were (a) the learning process was enhanced, (b) influences on decision-making, (c) learning with understanding supports knowledge use in new situations, and (d) guidance and advisement needs to be purposeful. The following research questions were explored:

Research Question 1: How do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?

Research Question 2: What factors influenced the participants' decision to participate in a Career and Technical Education Program of Study?

Research Question 3: How do participants perceive Career and Technical Education's role in their secondary education experience?

Research Question 4: What do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school?

Research question one explored the experiences of high school graduates who participated in a CTE POS. This question was answered through three of the four themes that emerged from this study which were theme one, the learning process was enhanced; theme three, learning with understanding supports knowledge use in new situations; and theme four guidance and advisement needs to be purposeful. The participants' experiences in a CTE POS evolved through an enhanced learning process and transfer of learning into other contexts throughout their lives. Participants had the opportunity to participate in hands-on learning, career exploration, and work-based learning opportunities that increased their confidence, engagement and motivation to learn. Having the opportunity to engage in hands-on, project-based learning increased their enjoyment in learning. The exposure beyond the regular classroom setting provided participants with increased opportunities during and after high school. Relationships were also strengthened within their CTE POS. Although these participants had success in participating in a CTE POS, there was a need for increased guidance and advisement in high school that would have extended opportunities for the participants.

Research question two examined the influences on participation in a CTE POS. Theme two, influences on decision-making provided the answer to this question. Participants' decision to participate in a CTE POS was primarily guided by their interest. Their interest not only in a particular career path, but in an academic course such as math or science encouraged their participation in their selected CTE POS. Participants' also shared that their family along with

faculty and staff members encouraged their participation in a CTE POS. Having the opportunity to self-select elective courses, participants were able to add to their course of study courses that were focused around their interest or as exploration into the real-world throughout their high school career.

Research question three sought to gain an understanding of the participants' perception of CTE Programs in secondary education. This question was answered by three themes which were theme one, the learning process was enhanced; theme three, learning with understanding supports knowledge use in new situations; and theme four, guidance and advisement needs to be purposeful. Participants shared the belief that CTE Programs were an important part of their secondary education experience that provided them with a well-rounded education that better prepared them for their future goals. Participants believed that CTE Programs provide students with an opportunity to get a glimpse into their future career allowing them to making better informed decisions throughout high school and post-graduation. Additionally, they believed that all learners could benefit from participation in CTE programs. They also believed that all students should participate in CTE to take advantage of the opportunities, but there is a need for increased communication and advisement regarding programs.

Research question four asked about the attributing factors to the participants' readiness for college and a career after graduating from high school. This question was answered by two themes which were theme one, the learning process was enhanced; and theme three, learning with understanding supports knowledge use in new situations. Participants shared the belief that their participation in a CTE POS had increased their readiness for not only college, but their future career. The real-world exposure and hands-on learning increased participants' knowledge and skills as well as the assurance that they can be successful. Participants believed had they not

participated in their CTE POS they would have been less prepared for college because their CTE POS exposed them to college level material, while also providing insight into various careers. Participants reported being a step ahead of their peers because of the knowledge and skills that they acquired in their CTE POS, reporting the skills and knowledge gained are applicable at home, work and in college.

Summary

This chapter described the lived experiences of 10 high school graduates who participated in a CTE POS. The in-depth individual interviews, focus group, and analysis of documents were utilized to identify the experiences of the participants. Through a thorough analysis of the data, four themes emerged. The themes were (a) the learning process was enhanced, (b) influences on decision-making, (c) learning with understanding supports knowledge use in new situations, and (d) guidance and advisement needs to be purposeful.

This study revealed that participation in a CTE POS during high school had a positive impact on participants during and after high school. Participants were engaged in their learning within their CTE POS and found enjoyment in learning. The hands-on approach to learning as well as problem-solving that was found within their POS had increased their ability to perform in other areas of their life. Participants believed that they gained confidence through hands-on instruction and project-based learning as well as their experiences through work-based learning and credentialing, which has supported their post-graduation transition. Participants shared the belief that CTE Programs were an important part of their secondary education experience and provided benefits to all learners. Participation in a CTE POS was primarily influenced by student interest, family members, and CTE staff.

This study also revealed that guidance and advisement regarding program participation for most participants did not occur until after enrollment. Additionally, prior to high school there was little guidance and advisement from school personnel regarding course selections. As a result, participants did not have a plan when entering high school, which for many delayed or minimalized their participation in course offerings available through their CTE POS. In spite of this, all participants had graduated as a CTE completer and were currently enrolled in a post-secondary institution in which seven of the participants were majoring in a program similar to their CTE POS.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Overview

During the late 19th century, the vocational age emerged. Rousseau and Pestalozzi advocated for schools to include learning that involved manual labor that is most commonly associated with vocational education programs (as cited in Gutek, 2011). As the vocational age began to evolve, the term career education was introduced during 1971 as part of the growing need to reform secondary education (Barlow, 1976). Some 35 years later, the reauthorization of the Carl D. Perkins Act of 2006, ensures that Career and Technical Education (CTE) programs offer at least one program of study (POS) that includes a mixture of secondary and post-secondary education aligned to the national career clusters to better prepare students for the increasing demands of the 21st century workplace (CORD and NASDCTEc, 2012; Lewis et al., 2012).

The purpose of this phenomenological study was to describe the experiences of graduates who participated in a CTE POS during high school in order to gain a greater understanding. There were four research questions that guided this study. This chapter presents a summary of the key findings followed by a discussion of the findings related to the literature and the theoretical framework as well as the implications of the findings. Finally, the limitations to this study and recommendations for future research will be discussed.

Summary of Findings

A phenomenological approach was used to examine the individual experiences of graduates who participated in a CTE POS during high school. Research suggests that participation in CTE programs provide students with increased opportunities post-graduation (Castellano et al., 2014). Since CTE POS are relatively new, there were few studies that had

examined the experiences of POS participants (Alfeid & Bhattacharya, 2013; Bachofer et al., 2014; Castellano et al., 2014). This study sought to share the voices of 10 high school graduates who participated in a CTE POS during high school by focusing on the wholeness and essence of the experiences and shared phenomenon.

Following Van Manen's (1990) recommendations for conducting a hermeneutical phenomenological study, data was collected through individual interviews, a focus group, and document analysis. Four essential research questions guided this study to understand the experiences of 10 CTE POS participants. The research questions are as follows:

Research Question 1: How do high school graduates who participated in a Career and Technical Education (CTE) Program of Study in North Carolina describe their experiences in high school?

Research Question 2: What factors influenced the participants' decision to participate in a Career and Technical Education Program of Study?

Research Question 3: How do participants perceive Career and Technical Education's role in their secondary education experience?

Research Question 4: What do participants attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school?

From the participants' words, four themes emerged. They were (a) the learning process was enhanced, (b) influences on decision-making, (c) learning with understanding supports knowledge use in new situations, and (d) guidance and advisement needs to be purposeful. One or more of the four identified themes answered each of the research questions.

The themes suggest the following:

(1) The participants believed that their learning was enhanced because they were actively engaged in their learning, had the opportunity to explore and relate the content to the real-world, they developed stronger relationships that motivated learning, and were able to share with others through peer teaching what they had learned.

(2) Factors that influenced the participant's decision to participate in a CTE POS was primarily dependent upon student interest, family influence, faculty and staff support, and the requirements necessary for graduation while getting a jump start on their future college and career goals.

(3) Participants believed that CTE programs were an important part of their secondary education experience and through the hands-on approach to learning they gained confidence in their abilities which increased their retention of information that allowed them to transfer their learning to a variety of settings beyond the classroom.

(4) After participating in a CTE POS, participants shared that communication was an important component to understanding CTE programs, yet the guidance and advisement received regarding their POS outside of CTE was minimal.

Research Question One Findings

Research question one asked participants who participated in a CTE POS during high school to describe their experiences. Themes one, three, and four answered this research question which were; theme one, the learning process was enhanced; theme three, learning with understanding supports knowledge use in new situations; and theme four, guidance and advisement needs to be purposeful. The participants of this study spoke positively regarding their experiences of participating in a CTE POS providing them with a holistic educational experience. Participants found new ways of learning that increased their ability to become life-

long learners and could provide specific details as to the learning accounts during their

participation. The development of relationships increased their desire and ability to learn.

Participants believed that their CTE POS gave them something to look forward to while in high

school and kept them actively engaged. Guidance and advisement regarding programs affected

their overall experience by not fully understanding the program prior to enrollment.

Additionally, coming into high school without a plan limited some of the additional opportunities

that could have been gained early on in their high school career. In spite of this, participants

gained essential skills that they have transferred to other context of their lives including home,

college and work that they believed would not have been gained had they not participated in their

CTE POS.

Research Question Two Findings

Research question two was concerned with understanding what influenced the

participants' decision to participate in a CTE POS. Theme two answered this question which

was; influences on decision-making. Participant interest and family was a driving factor for

participating in their CTE POS. Once enrolled in the program, CTE teachers provided most of

the guidance and advisement within the program. Participants reported that they enjoyed the

teachers who taught the courses and they encouraged them to continue in that pathway. This

study found that the North Carolina graduation requirements were understood by the participants

as a means for selecting academic courses and what was needed to graduate from high school.

Advanced courses, dual enrollment, and CTE courses were chosen by the participants to become

better prepared for college. Participants also chose CTE courses based on their career interest

and to learn more about that career field.

Research Question Three Findings

Research question three explored the perception of the participants of CTE's role in their secondary education experience. Themes one, three, and four answered this research question which were; theme one, the learning process was enhanced; theme three, learning with understanding supports knowledge use in new situations; and theme four, guidance and advisement needs to be purposeful. Participants collectively shared the belief that the CTE program was an important part of their education experience and were positively impacted by participating. They also shared that CTE programs provide students with a wide range of career possibilities to better prepare students for college and careers. Participants reported that their CTE POS gave them a well-rounded educational experience providing them with knowledge and skills that they have been able to transfer to a variety of settings. This study revealed that participants looked forward to their CTE classes during high school because they found interest and enjoyment in what they were learning which helped them with the retention of the material. The knowledge gained in CTE courses added to their understanding in academic courses as well. The participants believed that CTE benefits all learners and should be more known among the student body because of the benefits afforded to students.

Research Question Four Findings

Research question four asked participants what do they attribute to their readiness for entrance to a post-secondary institution and the workforce after graduating from high school. Themes one and three provided answers to this research question which were; theme one, the learning process was enhanced; and theme three, learning with understanding supports knowledge use in new situations. Participants believed that they were provided with increased opportunities that better prepared them for college. Participants felt that they would have been

less prepared for their college courses had they not participated in their CTE POS during high school reporting that their CTE POS exposed them to the college level material. The opportunity to complete college coursework during high school gave them an upper hand in their college major and participants shared the belief that they were a step ahead of their peers. Participants also shared that being exposed to the material expounded on their ability to transfer skills to other contexts. The real-world exposure and work-based learning opportunities present in their CTE POS had expanded their knowledge and provided them with insight into their future career allowing them to make informed decisions regarding their college major and career choice. Additionally, the credentials earned in their CTE POS provided workplace readiness skills adding to their career portfolio.

Discussion

The following is a discussion of the findings of this study in relationship to the empirical and theoretical literature review. The literature review included information on CTE programs as well as other educational programs and career development. Literature was also reviewed regarding factors that influence CTE programs and the impact of CTE programs in secondary education. This study was guided by three influential theories relative to the intensive nature found in a CTE POS: The constructivist theory, the experiential learning theory, and the career theory.

Developing in students a desire for life-long learning is a primary goal of the educational system. Understanding different approaches to how an individual learns can help to increase the learning process. The outcome should not only consist of academic achievement, but the ability to transfer learning that supports the continuation of learning beyond the classroom (Levin, 2011). The findings of this study support the theories used that framed this study.

Implications of the Theoretical Framework

The constructivist theory, introduced by John Dewey (1897) is based on the premise that prior knowledge helps to develop student experiences. Students have a natural curiosity regarding the world in which they live and when they are interested they are more willing to explore (Gutek, 2011). The results have shown that participants in this study were interested in their CTE POS concentration which enhanced their learning process. Participants shared how their interest influenced their decision to participate in a CTE POS and with the hands-on approach to learning their engagement in school was increased. The increased opportunities to experiment with real-world applications that were present in their POS, allowed participants to construct meaning from the content, engage in authentic experiences, and develop social connections with others to better understand the content (Cooperstein & Kocevar-Weidinger, 2003). Participants reported that while challenging, participating in problem-solving projects helped them gain a greater understanding of the material. As a result, participants were able to transfer their learning to a variety of contexts.

Building upon the constructivist theory, the experiential learning theory suggests that students will learn from doing. Through a contextualized learning approach that was present through their CTE POS, participants were able to make connections between core content through hands-on activities, projects, and work-based learning experiences (Brand, Browning, & Valent, 2013; Holzer et al., 2013). The individual learning styles are an important aspect of the experiential learning theory. Past research indicates that our learning styles can become relatively unconscious (Kolb & Yeganeh, 2009). In this study, participants shared their learning preference indicating that the activities that they were engaged in within their CTE POS provided real-world scenarios and events that allowed them to understand and process information through

application. This mindfulness approach to learning allowed participants to gain a greater

understanding which in turn helped them make better in-depth decisions throughout school and

"put the control of learning back in the learner's hands" (Kolb & Yeganeh, 2009, p. 15). This

conceptual framework of understanding attributed to the transfer of learning of their knowledge

and skills.

The career theory suggest that an individual's career process is developed over time

(Lewis et al., 2008). Since this process evolves, the roles of others played throughout an

individual's life can impact their career focus (Salomone, 1996). As shown in the results, the

participants understanding of a career began with various roles of others in their life including

family that continued to be shaped through their participation in their CTE POS. Consistent with

McComb-Beverage (2012) findings, nearly all participants identified with a career interest

during their early adolescent stage. The exposure to a variety of career options and fields present

within their POS, provided participants with opportunities to explore and identify with a

compatible career option for the future (Lewis et al., 2008; Nevill, 1997).

This study found that there were little career development opportunities provided for

students aside from enrollment in CTE programs. Research suggest that when individuals fail to

engage in career development during adolescence, transitioning into a career can be difficult

(Ochs & Roessler, 2004). However, participants shared that participating in their selected POS

was relative to their future career choice allowing them to gain confidence in their ability to

perform a variety of tasks increasing their knowledge and skills that are required when entering

the 21st century workplace.

Implications of the Literature

During the 20th century, concentrated efforts in preparing students for entrance to a four-year college left little time for students to participate in programs that provided vocational skills. CTE programs have evolved over the last century, most recently with the implementation of programs of study. The literature suggest that a successful CTE program prepares students for a wide range of career options through a rigorous course structure, career exploration, project-based learning, and opportunities for work-based learning (Partnership for 21st Century Skills, 2010). While there were numerous quantitative studies on the impact of CTE programs in secondary education there was a lack of literature on student experiences in CTE POS.

The rigorous nature of CTE POS provide students with increased opportunities to engage in learning through real-world exposure that helps to develop essential 21st century skills better preparing them for post-secondary opportunities (Castellano et al., 2014; Lekes et al., 2007). When examining the perceptions of CTE participants, past research indicated that CTE coursework better prepared students allowing them to be further ahead of their peers (Bachofer et al., 2014), while also gaining confidence and improving their self-esteem (Allen, 2010). Participants in this study had the opportunity to participant in career exploration and real-world learning experiences through their POS that allowed them to explore various career paths. In doing so, participants reported that they gained knowledge and skills that they have been able to transfer to their post-secondary studies and the workplace. Participants shared that the exposure provided within their CTE POS gave them confidence in their abilities and believed that they were more advanced in their area of concentration in college than their peers.

Understanding academic concepts can often present challenges for students (CORD, n.d.) inhibiting their ability to transfer content from one context to another (Brown & Dixon, 2012).

With the reauthorization of Carl D. Perkins, career and technical education programs are to link core academic content with technical studies. Research suggest that lower level CTE courses did not present as much rigor as upper level courses when compared to core classes (Flournoy et al., 2010). Participants in this study believed that their CTE courses were as challenging as core classes, but were enjoyable because they found interest in the content. In most cases, an interest in a particular subject matter such as math and science sparked the participants' interest in their CTE POS. Additionally, participants shared that the content taught in CTE courses provided support in learning academic content. Participants reported that principles learned in their CTE POS were more relative to their college course of study and was helpful in providing a foundation to build upon when entering college.

Past research showed that the lack of career development programs could pose challenges for students when transitioning to high school in making informed career choices (Breakthrough Collaborative, 2011; McComb-Beverage, 2012). This study did somewhat differ from past research. The results of this study found that participants did experience challenges when transitioning to high school by not having a high school plan. However, the lack of being exposed to career development opportunities did not prevent them from enrolling in a CTE POS, it did however, delay enrollment which made fitting courses in later in their high school career difficult (Bachofer et al., 2014).

Most participants entered into high school with an interest in a particular career field and self-selected their CTE POS. Previous research suggested that student perceptions of CTE programs can be positively impacted by CTE teachers (Alfeid & Bhattacharya, 2012). Participants attributed their continued participation in their POS to their CTE teachers because they provided much of the guidance regarding their college and career plans post-graduation

(Alfeid & Bhattacharya, 2012). Participants were able to develop relationships with their CTE teachers because of the common interest they shared which enhanced their learning experiences (Allen, 2010; Jacques & Potemski, 2014). Consistent with Alfeid and Bhattacharya (2013) study, participants valued the expertise of their CTE teachers increasing their engagement in learning. As a result, participants shared that they were motivated to pursue their selected career path after participation in a CTE POS.

Previous studies reported that guidance on course selection and POS participation was encouraged by parents and friends (Alfeid & Bhattacharya, 2013; Gene, 2010). Past research also indicated that effective communication regarding CTE programs was done through high school presentations and career days (Gene, 2010). Effective communication and collaboration is critical in the success of CTE POS (Shumer et al., 2012). While the participants' parents and peers encouraged them to take a rigorous course selection during high school to better prepare for college, the participants in this study shared that communication regarding their CTE POS was primarily communicated within their CTE classes by their teachers (Alfied & Bhattacharya, 2013). They did report a lack of collaboration between counselors and teachers when providing information to students. Kalchik and Oertle, (2012), posits that the components of a career development program could not be achieved through CTE courses alone. This study found that most all career development activities that participants participated in were organized and implemented through the CTE program primarily within the classes.

CTE courses as an elective has often been seen as a disadvantage (Flournoy et al., 2010). Braley and Handy (2012), suggested that when placed in a CTE POS students often fail to perform. Contrary to Braley and Handy's (2012) findings, one of the participants reported that they were placed into their POS. This participant shared that while the CTE POS was different

than her future career goals, participating in the program itself was one of the best experiences that she got out of high school explaining that she probably would not have come to school as often had she not participated.

Although the transfer of knowledge and skills from one context to another is a primary goal of education (OTEC, n.d.), past research suggest that students often fail to achieve this goal (Brown & Dixon, 2012). In this study, participants reported that much of the content learned in their CTE POS was useful to their everyday lives. Content covered in CTE courses was similar to college level course work allowing students to be a step ahead in their college classes. The 21st century and basic skills learned were useful at work, college, and home. Participants reported that above all communication, collaboration, critical thinking, and problem-solving are skills learned that they are able to apply to a variety of context in their lives. Overall, participants experienced success in their CTE POS and collectively agreed that participation had a positive impact on them during and after high school. Since CTE courses are electives, participants believed that students should be required to at least take one CTE course in high school in order to take advantage of the benefits offered within a CTE POS.

Implications

The findings from this study could prove beneficial to schools in supporting student participation in a CTE Program of Study. Additionally, by examining student experiences, the results of this study hopes to add to the existing literature that will provide resources to educators to increase participation in a CTE POS that increases students' college and career readiness while improving the overall educational experience during high school.

Practical Implications

The findings in this study provides strategies that can be put into practice in secondary education systems to increase student participation in CTE Programs while improving student performance along with increased readiness for college and careers. From the findings in this study, specific recommendations are made for educational leaders and professionals who have an impact on students. Direct quotes from the participants are provided in support of these recommendations.

Recommendations for District Leaders and Administrators

The participants in this study believed that CTE programs were vitally important to secondary education providing recommendations for additional support. District leaders and administrators have the greatest impact when ensuring that programs such as what are available through a CTE POS are continued in their school and district. After participation, participants made specific recommendations as to why CTE programs should be continuously supported and enhanced throughout the school system.

Since CTE courses are self-selected, many students may not be encouraged to participate due to the lack of knowledge of the program and other constraints within the school. Therefore, participants shared that they believe that CTE courses should be a required. As a requirement, participants believed that students would be exposed to the program and have a greater chance to continue participation and benefit from the opportunities afforded. Since local school districts have the option to add additional graduation requirements, the researcher recommends that district leaders implement that a CTE concentration area be required for graduation. In doing so, students will have a greater opportunity to gain the college and career readiness skills necessary to be successful in post-secondary education and their future career. Also, enrollment will

expose students to a variety of college and career options prior to graduating high school that are available through CTE programs.

Participants also shared that they believed the program was beneficial and should be supported by administration through financial means as well. During her interview Kiera shared,

The CTE program is a really good program. They should keep supporting it because it is helpful. I hope it gets bigger. You know how you always wish better for those behind you. I really hope they do a lot more with the program.

Emily pointed out, "If some of the programs had better funding then the overall program would probably be a positive thing for the students."

Recommendations for School and Career Counselors

The participants in this study did not feel that they were provided with guidance prior to and during high school. School and career counselors must ensure that students are provided with guidance and advisement regarding course selections and the impact that their high school plan has on their future goals. Most all guidance regarding their CTE POS was provided to participants within their CTE classes, therefore, if there is a lack of participation in CTE courses, then guidance and advisement opportunities that are available within a CTE POS will continue to be missed by the student body.

Participants made specific recommendations for school and career counselors that could increase efforts in ensuring that communication regarding programs available in high school are clearly communicated allowing students to make informed decisions regarding their future. During her interview Kayla shared, "So I feel if CTE teachers and the counselor could be you know on the same page, which would help a lot." She continued, "I feel like the counselor should understand the different paths for each CTE department so that they could help their

students you know guide them along with the CTE teachers in the right path for students."

Alexis also believed that individuals throughout the school should work together to increase communication. She suggested,

> If the GEAR Up program, CTE, and the guidance counselors all work together to build up the CTE enrollment that will benefit everyone. Because GEAR Up focuses on scholarships and getting kids into college, the guidance counselors are like your helpers as you try to get to college, and your CTE is just your all around life skill type program.

When I asked Victoria who could have the greatest impact on increasing communication she explained, "Teachers and counselors, especially counselors because that's where students go to change a class or switch out of a class."

Participants believed that communication regarding the program offerings should be increased through a variety of career development activities. Connor and Tyler who completed drafting recommended bringing back past graduates to speak with students regarding the program. Connor shared, "I think . . . the best thing is to take an advanced class and show them what they could be doing if they take this career path. You know and actually have, because that is what helped me." Tyler explained, "I guess have a student or someone who has graduated who has taken CTE go and talk to the underclassman about what they are missing or what they are letting go pass them, I would say." Kayla, Emily, and Alexis suggested offering career fairs to expose students to the various career options. Ethan, Emily, Victoria, and Elizabeth shared the belief that the program was not advertised enough recommending that meetings and orientations with students would be a great way for school counselors and other school personnel to share information. Ethan explained,

During orientation that would be one good way . . . maybe having each teacher like during the first few days of class like when they are going through the syllabus and stuff like that maybe have them mention like what more the school has to offer overall especially your freshman year, this is more like for freshmen, 9th grade.

Ethan continued,

Maybe sending things in the mail, like with the first report card maybe send something else in the mail about your child can become part of the CTE program. Having the parents know more about it too.

Alexis and Emily also believed that as past graduates of the program they could serve as advertisements to help communicate the programs benefits. Alexis shared,

If I a person that benefited so much from the program if I could tell my friends hey you could benefit too from these classes then I think the enrollment and just the amount of people in every class would been so much better.

Emily pointed out,

I was an advertisement for culinary. Like I was always telling people to take that class. My little brother is going to take that class next year because I've told him about it. So having people who enjoy the program as advertisements. There's all kinds of ways.

Emily continued by recommending,

Bringing someone like me back to the school and say hey we liked this program let's talk about it and actually talking about those programs might get kids to thinking about it saying that's what I want to do, that would be fun, why not get involved with these programs.

Recommendations for Teachers

The participants in this study had great respect for their CTE teachers within their CTE POS. They developed relationships and were motivated to learn within their courses. Participants also spoke of how the material covered in CTE courses helped them with their academic courses in high school and added to their body of knowledge that they have been able to transfer to college and the workplace. Since the reauthorization of Perkins requires that CTE programs link to academic content (Flournoy et al., 2010), the researcher recommends that CTE and academic teachers begin to collaborate to implement a more integrated approach to teaching and learning. This collaborative approach between academic and CTE teachers will increase the development of skills that allows for activities such as cross-curricular, project-based learning to increase student engagement and comprehension (Allen, 2010; & Lewis et al., 2012). Recommendations are made to develop professional learning communities that allow CTE and academic teachers the opportunity for common planning, in efforts to begin the integration process and to develop projects that cross multiple disciplines (Braley & Handy, 2012; Castellano et al., 2014; Fuhrman et al., 2011).

This study revealed that CTE benefits all learners in education. CTE is open to all students, therefore the researcher recommends that additional efforts be made so that CTE, core and exceptional children educators work together to provide resources and support for students with disabilities to be included in CTE programs to better prepare them for their future (Ginnola, 2012). This collaborative effort can provide a respectful and positive environment for students and increase student success (Casale-Giannola, 2012). Academic and CTE integration within an inclusive setting will only enhance the learning process for students with disabilities better

preparing them for the growing demands of the workforce while increasing their success in academics.

Limitations

As the primary researcher of this phenomenological study, I was the only one who coded the data. I did not infer that the resources provided through CTE programs are the only reason students chose to participate in a CTE POS. Through bracketing and constant reflection during the data collection and analysis process, I was immersed in the process and remained cognizant of the topic and question at hand, using the participants' words to describe the phenomenon to avoid bias and to provide an interpretation of the results.

Limitations to this study included the number and characteristics of the participants as well as the demographic location of the site selection. Participants were selected based on a specific criteria using purposeful sampling using the following criterion; graduated from high school within the last three years, the completion of a CTE concentration pathway, completion of dual enrollment and/or articulated courses, and had earned at least one industry-recognized credential. This study did not include students who participated in CTE programs, but did not graduate as a CTE completer. The term CTE concentrator varies from state to state which could limit the generalization of this study. There were 10 participants who responded to participate in the study, three of which were male and seven were female. Participants represented seven of the 16 National Career Clusters in the study. This school district offers concentration areas in 12 of the 16 national clusters. Although maximum variation was used, participants in this study did not represent the below average student population. All participants who responded to this study had completed an honors level course or higher during their participation in a program of study. Finally, this study was limited to one public school district in the southwest region of North

Carolina. The demographics of this site are a rural comprehensive high school in a low-economic community.

Recommendations for Future Research

This study focused on the experiences of high school graduates who had participated in a CTE POS. This study did not focus on the academic performance of participants, although results revealed an increase in learning that positively increased their performance during high school. Future studies could consist of a quantitative comparative analysis of CTE POS participant's academic performance as opposed to non-CTE POS participants. Additionally, further research is recommended for those graduates who participated in a CTE POS as compared to non-participant's enrollment and performance in post-secondary education.

With the implementation of the Common Core State Standards and the reauthorization of Carl D. Perkins (2006), the need to link technical studies to academic content is necessary in illustrating relevance to the real-world. The participants in this study believed that their participation in a CTE POS enhanced their learning in core academic classes that they were able to transfer to college and the workplace. Further research is recommended to increase collaboration of academic and CTE teachers in developing integrated projects and learning experiences for students that are aligned to a student's future college and careers goals. From these studies a comparative analysis could be conducted to identify if CTE and academic integration impacts student performance. As it was presented in the themes, the process of learning and transfer of learning was positively impacted for participants through POS participation. Future research examining the transfer of learning specifically as it relates to academic content and technical studies taught in secondary education to post-secondary options in college and careers is recommended. The participants in this study had all completed an

honors level or higher course. Future research examining CTE POS participants to include above average, average, and below average students is recommended.

Finally, this study revealed that there were limited career development opportunities offered in secondary education. Further study on the importance of career development as it relates to effective student transition to high school is necessary. Most participants reported a lack of transitioning activities, which impacted their high school experiences. Career development could be a key component to increase POS participation and CTE completion in high school. Moreover, further research of career development examining the impact on transition from secondary to post-secondary and careers could provide additional information to strengthen guidance and advisement in secondary education.

Summary

This qualitative phenomenological study sought to examine the experiences of students who participated in a CTE POS during high school. In doing the research, I examined what factors contributed to their enrollment that led to their completion of a CTE program concentration along with how those experiences had influenced them since graduation. The hope was to add to the existing literature to provide resources to educators to increase participation in a CTE POS to increase students' college and career readiness while improving the overall educational experience during high school. The experiences of 10 CTE POS participants were examined and within their stories four common themes emerged.

Though there have been numerous studies on CTE programs, there were few on CTE POS that addressed student experiences and the few were quantitative in nature. This study was able to explore, first-hand, the stories of the lived experiences of participants who participated in a CTE POS and share those stories to enhance the educational process. By focusing on four

primary questions to describe the participants' experiences, the researcher believed that

providing answers to these questions would address the gap in literature and would provide

educators with resources and a basis for instructional improvement to enhance educational

opportunities to students in the future. The researcher of this study concludes that students who

participate in a CTE POS are better prepared for post-secondary education and their future career

than had they participated in an academic-only program (Harvard Pathways to Prosperity Report,

2011).

REFERENCES

ACT (2010). *What are ACT/NCEA college and career readiness targets? Identifying student learning targets based on real-world outcomes. FACT SHEET*. Retrieved from http://www.act.org/research/policymakers/pdf/What-Are-CCR-Targets.pdf

ACT (2014). *National career readiness certification*. Retrieved from https://www.act.org/certificate/

ACT North Carolina (2014). *The condition of college and career readiness*. Retrieved from http://www.act.org/newsroom/data/2014/states/pdf/NorthCarolina.pdf

ACT Career Solutions (2014). North Carolina implements a comprehensive approach to college and career readiness. Retrieved from http://www.act.org/workforce/case/pdf/NorthCarolinaDPI.pdf

ACTE Issue Brief (2009) CTE's Role in Science, Technology, Engineering and Math. Retrieved from https://www.acteonline.org/WorkArea/DownloadAsset.aspx?id=2104

Aliaga, O. A., Castellano, M., Overman, L. T., & Sundell, K. (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. Retrieved from http://www.nrccte.org/sites/default/files/external-reportsfiles/12008_ijer_v21_no2_fnls.pdf

Aliaga, O.A., Kotamraju, P., & Stone, J. R. (2012). A typology for understanding the Career and technical education credit-taking experience of high school students. City, ST: *National Research Center for Career and Technical Education*. University of Louisville, Louisville, KY.

Alfeid, C. & Bhattacharya, S. (2012). Mature programs of study: A structure for the transition to college and career? *International Journal of Education Reform, 21*(2), 119-137.

Alfeid, C. & Bhattacharya, S. (2013). Mature programs of study: Examining policy implementation at the local level. Final Report. *National Research Center for Career and Technical Education.* University of Louisville, Louisville, KY.

Allen, K. M. (2010). *The perceptions of career and technical education (CTE) teachers on the influence of CTE on student engagement.* (Doctoral dissertation). Retrieved from https://vtechworks.lib.vt.edu/bitstream/handle/10919/29626/Allen_KM_D_2010.pdf?sequence=1&isAllowed=y

Anderson, R. & Anderson, S. (2012). Emerging themes in integrating mathematics into Agricultural Education: A qualitative study of star teachers in Virginia. *Journal of Career and Technical Education,* 27(2), 8-18. Retrieved from http://scholar.lib.vt.edu/ejournals/JCTE/v27n2/pdf/anderson.pdf

Association of Career and Technical Education – ACTE (2009). *Career and technical education's role in dropout prevention: Issue sheet*. Retrieved from https://www.acteonline.org/issuebriefs/

Association of Career and Technical Education – ACTE (2013). *North Carolina State Profiles*. Retrieved from http://www.acteonline.org/stateprofiles.aspx

Association of Career and Technical Education – ACTE (n.d.). *What is CTE?* Retrieved from https://www.acteonline.org/cte/#.VAuVYaPLLbk

Bachofer, K. V., Betts, J. & Zau, A. (2014). An evaluation of the outcomes of career and

    technical education in San Diego Unified School District (SDUSD): A descriptive case

    study. Department of Economics University of California at San Diego (UCSD).

    Retrieved from http://sandera.ucsd.edu/research-and-

    publications/FINAL%20CTE%20Case%20Study+APPENDICES%204%2025%2014.pdf

Bailey, C. (2007). *A guide to qualitative field research* Thousand Oaks, CA: Pine Forge Press.

Barlow, M. L. (1976). 200 Years of Vocational Education: 1776-1976: Coming of Age, 1926-

    1976. *American Vocational Journal*, *51*(5), 63-88.

Blumenthal, D. & Sambolt, M. (2013). Promoting college and career readiness: A pocket guide

    for state and district leaders. *American Institutes for Research (AIR),* 1-34.

Boccanfuso, C., Byrnes, V. & Neild, R. C., (2013). The academic impacts of career and technical

    schools. *Center for Social Organization of Schools, Johns Hopkins University*, 1-118.

Bonaiuto, S. & Johnson, G. (2009). Accountability with roots. *Educational Leadership, 66*(4),

    26-29.

Braley, R. & Handy, K. (2012). Analysis of educators' perceptions regarding career and

    technical education, academic content, and blended curricula. *Journal of Interdisciplinary*

    Studies in Education, 1(1), 16-27.

Brand, B., Browning, A. & Valent, A. (2013). How career and technical education can help

    students be college and career ready: A primer. *American Institutes for Research.*

    Retrieved from http://www.aypf.org/wp-content/uploads/2013/04/CCRS-CTE-Primer-

    2013.pdf

Breakthrough Collaborative (2011). February 2011 *Research brief: Challenges of the ninth grade transition*. Retrieved from https://www.breakthroughcollaborative.org/sites/default/files/Feb%202011%20Research%20Brief-9th%20grade%20transition.pdf

Brown, R. A. & Dixon, R. A. (2012). Transfer of learning: Connecting concepts during problem solving. *Journal of Technology Education*, 24(1), 2-17.

Casale-Giannola, D. (2012). Comparing inclusion in the secondary vocational and academic classroom: Strengths, needs, and recommendations. *American Secondary, 40*(2), 26-42.

Castellano, M., Sundell, K. E., Overman, L. T., & Aliaga, O. A. (2011). Rigorous Tests of Student Outcomes in CTE Programs of Study: Year 3 Report. National Research Center for Career and Technical Education. Retrieved from http://www.nrccte.org/sites/default/files/publication-files/rigorous_tests_year_3_final_report.pdf

Castellano, M., Sundell, K. E., Overman, L. T., Richardson, G. B., & Stone, J. R. III. (2014, April). Rigorous tests of student outcomes in CTE programs of study: Final report. Louisville, KY: *National Research Center for Career and Technical Education.* Retrieved from http://www.nrccte.org/sites/default/files/publication-files/nrccte_cte_programs_of_study_career_pathways.pdf

Chenail, R. J., Chanail, J., Cox, H. G., Liscio, M., McLean, L. G., Mowzoon, N. C. & Spong, J. L. (2006). Creating and using learning objects in qualitative research education. *The Qualitative Report, 11*(3), 450-473.

Cinamon, R.G. & Dan, O. (2010). Parental attitudes toward preschoolers' career education: A mix-method study. *Journal of Career Development, 37*(2), 519-540. DOI: 10.1177/0894845309357050

Common Core State Standards (n.d.). Retrieved from www.corestandards.org.

Cooperstein, S.E. & Kocevar-Weidinger, E. (2003). Beyond active learning: A constructivist approach to learning. *Reference Services Review 32*(2), 141-148. DOI 10.1108/00907320410537658

Center for Occupational Research and Development-CORD (n.d.). What is contextual learning? Retrieved from http://www.cord.org/contextual-learning-definition/

CORD and NASDCTEc (2012). *The career pathways effect: Linking education and economic prosperity*. Waco, TX: CORD Communications.

Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Daggett, B. (July, 2013). *Begin with the End in Mind.* Keynote address presented at Model Schools Conference, Washington, D.C.

Davis, S. M. (2012). *A sample study detailing the impact of Career and Technical Education (CTE) in Chicago Public High Schools: A comparison of outcomes.* (Doctoral Dissertation). Retrieved from Digital Commons@Olivet.

Dewey, J. (1897). My pedagogic creed. *School Journal, 54,* 77-80. Retrieved from http://dewey.pragmatism.org/creed.htm

DiCocco, H., Leach, M., Nelson, C., Packard, B., & Ruiz, Y. (2012). School-to-Work transition of career and technical education graduates. *The Career Development Quarterly, 60*, 134-144.

Doolittle, P. E. & Camp, W. G. (1999), Constructivism: The career and technical education perspective. *Journal of Vocational Education, 16*(1). Retrieved from http://scholar.lib.vt.edu/ejournals/JVTE/v16n1/doolittle.html

Fedorchake, N., Shellhorn, S., Wales, B., & Washer, B. (2013). CTE, careers and the human brain. *Techniques,* 16-22.

Fletcher E. C. & Zirkle, C. (2009). The relationship of high school curriculum tracks to degree attainment and occupational earnings. *Career & Technical Education Research, 34*(2), 1-16.

Flournoy, C. D., Hall, B., & Wolsic, C. (2010). Attitudes and perceptions of high school administrators in urban and suburban communities about career and technical education and its opportunities. *The Illinois University Council for Career and Technical Education (IUCCTE), in conjunction with the Illinois State Board of Education (ISBE)*, (1-17).

Friedman, T. L. (2007). *The world is flat: A brief history of the twenty-first century*. New York, NY: Picador.

Fuhrman, N., Morgan, A. C., & Parr, B. (2011). Enhancing collaboration among math and career and technical education teachers: Is technology the answer? *Journal of Career and Technical Education, 26*(2). Retrieved from http://scholar.lib.vt.edu/ejournals/JCTE/v26n2/morgan.html

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). New York, NY: Allyn & Bacon.

Garland, M., Jonas, D. L., & Yamaguchi, R. (2014). *Long-term outcomes of high school CTE completers in Virginia: Employment status and wages*. Retrieved from http://vlds.virginia.gov/media/2481/ctegrads.pdf

Gene, L. M. (2010). *High school students' perception of career technical education and factors that influence enrollment in programs at a regional occupational center.* (Doctoral dissertation). Retrieved from ProQuest, UMI Dissertation Publishing.

Gentry, M., Mann, R. L., & Peters, S. J, (2007). Differences between general and talented students' perceptions of their career and technical education experiences compared to their traditional high school experiences. *Journal of Advanced Academics, 18*(3), 372-401.

Gentry, M., Peters, S, Rizza, M. & Saiying, H. (2008). Talented students in an exemplary career and technical: A qualitative inquiry. *Gifted Child Quarterly, 52*(3), 183-198.

Glossary of Education Reform (2013). *Relevance*. Retrieved from http://edglossary.org/relevance/

Gordon, H. R. D. (2008). *The history and growth of career and technical education in America* (3rd ed.). Prospect Heights, IL: Waveland Press, Inc.

Gutek, G. (2011). *Historical and philosophical foundations of education* (5th ed.). Boston, MA: Pearson.

Harvard Pathways to Prosperity Report. (2011). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Harvard Graduate School of Education. Retrieved from http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperity_Feb2011.pdf

Haltinner, U. (2012). A profile of school-based enterprises within CTE disciplines. *Techniques: Connecting Education & Careers. 87*(3), 50-53.

Hammond, C., Mobley, C., Sharp, J. L., Stipanovi, N., Stringfield, S. & Withington, C. (2012). Implementing statewide mandated career pathways/programs of study school reform model: Select findings from a multisite case study. *International Journal of Educational Reform, 21*(2), 138-158.

Herian, M. N. (2010) *Examining public perceptions of career and technical education in Nebraska.* Retrieved from DigitalCommons@University of Nebraska Lincoln at http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1034&context=publicpolicypu blications

Hollenbeck, K. (2009). *Career aspirations and knowledge about career and technical education of Kalamazoo County 8th and 9th grade students*. W.E. Upjohn Institute. Retrieved from: http://research.upjohn.org/reports/107

Holzer, H. J., Linn, D., & Monthey, W. (2013). The promise of high-quality career and technical education: Improving outcomes for students, firms, and the economy. *The College Board and The Georgetown Law Center on Poverty, Inequality, and Public Policy.* Retrieved from www.careertechnj.org/wp-content/uploads/2013/11/Georgetown.BR_.CB-CTE-report-11.2013.pdf

Jacques, C & Potemski, A. (2014). 21st century educators: Developing and supporting great career and technical education teachers: Revised edition. *American Institutes for Research.* 1-49. Retrieved from http://www.gtlcenter.org/sites/default/files/21CenturyEducators.pdf

Johnson, J., Ott, A. & Rochkind, J. (2010). Why guidance counseling needs to change: Recent surveys of young adults make a compelling case for reinventing high school guidance counseling. *Educational Leadership*, *67*(7), 74-79.

Kafle, N. P. (2011). Hermeneutic phenomenological research method simplified. *Bodhi: An Interdisciplinary Journal*, *5*, 181-199.

Kakkori, L. (2009). Hermeneutics and phenomenology problems when applying hermeneutic phenomenological method in educational qualitative research. *Paideusis, 18*(2), 19-27.

Kalchik, S. & Oertle, K. (2010). The integral role of career development in supporting programs of study and career pathways. *Office of Community College Research and Leadership*, (1), 1-8.

Kalchik, S. & Oertle, K. (2012). The integral role of career development in supporting programs of study and career pathways. *Transition Highlights*, 20-27.

Klopfenstein, K. & Lively, K. (2012). Dual enrollment in the broader context of college-level high school programs. *New Directions for Higher Education, 158*, 59-68. DOI:10.1002/he.20015

Kolb, A. Y. & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education, 4*(2), 193-212.

Kolb, D. & Yeganeh, B. (2009). Mindfulness and experiential learning. *OD Practitioner, 41*(3), 13-18.

Kouzes, J., & Posner, B. (2007). *The leadership challenge* (4th ed). San Francisco, CA: Jossey-Bass Inc.

Lekes, N., Bragg, D., Loeb, J., Oleksiw, C., Marszalek, J., Brooks-Laraviere, M., . . . Hood. (2007). Career and technical education pathway programs, academic performance, and the transition to college and career. University of Minnesota, *National Research Center for Career and Technical Education*, 1-90. Retrieved from http://www.nrccte.org/sites/default/files/publication-files/cte_pathway_programs.pdf

Lee, Y., Scott, T. P., & Tolson, H. (2010). Advanced placement participation and university academic success in the first Semester: Controlling for selected high school academic abilities. *Journal of College Admission, 208,* 27-30.

Levesque, K., Lauen, D., Teitelbaum, P., Alt, M., and Librera, S. (2000). Vocational education in the United States: Toward the year 2000. Washington, DC: U.S. Department of Education, National Center for Education Statistics. Retrieved from http://nces.ed.gov/pubs2000/2000029.pdf

Levin, B. (2011). Why paying teachers based on student results is a bad idea. *Kappan, 92*(8), 89-90.

Lewis, M. V., Kosine, N. R., & Overman, L. (2008). What will be the impact of programs of study? A preliminary assessment based on similar previous initiatives, state plans for implementation, and career development theory. *National Research Center for Career and Technical Education (NRC CTE).* 1-71.

Lewis, M. V., Stipanovic, N., & Stringfield, S. (2012). Situating programs of study within current and historical career and technical educational reform efforts. *International Journal of Educational Reform*, *21*, 80-97.

Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Inquiry.* Newbury Park, CA: Sage Publications.

Manzi, A. J., Palma, T. V., & Schultheiss, D. E. (2005). Career development in middle childhood: A qualitative inquiry. *The Career Development Quarterly, 53*(3), 246-262.

Martinez, R. L. (2007). An evolving set of values-based principles for career and technical education. *Journal of Career and Technical Education, 23(*1). Retrieved from http://scholar.lib.vt.edu/ejournals/JCTE/v23n1/pdf/martinez.pdf

McComb-Beverage, S. K. (2012). *An experimental design: Examining the effectiveness of the Virginia career view program on creating 7th grade student career self-efficacy.*

(Doctoral dissertation). Retrieved from Liberty University DigitalCommons@Liberty University

Meeder, H. & Suddreth, T. (2012). Common core state standards & career and technical education: Bridging the divide between college and career readiness. *Achieve,* 1-28. Retrieved from http://www.achieve.org/CCSS-CTE-BridgingtheDivide

Mei, T., Newmeyer, M. D., & Wei, P. (2008). Factors influencing high school students' career aspirations. *Professional School Counseling, 11*(5), 285-295.

Moore, G.W. & Slate, J.R. (2008). Who's taking the advanced placement courses and how are they doing: A statewide two-year study. *The High School Journal, 92*(1), 56-67.

Moustakas, C. E. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage Publishing Inc.

Nanthini, V. P. & Rhymend, U. V. (2012). Success prediction of students by integrating communication skills with achievement motivation and personality. *International Journal on Computer Science & Engineering. 4*(10), 1751-1760.

National Association of State Directors of Career and Technical Education Consortium (NASDCTEc, n.d). Learning that works for America: Retrieved from http://www.careertech.org/

National Research Center for Career and Technical Education-NRCCTE (n.d.). Math-in-CTE. Retrieved from http://www.nrccte.org/professional-development/math-cte

National Skills Coalition. (2013). *Issue brief*: *Carl D. Perkins Career and Technical Education Act Reauthorization recommendations to strengthen CTE*. Retrieved from http://www.nationalskillscoalition.org/federal-policies/perkins/perkins-documents/issue-brief-cte.pdf

NEA Research (2012). *The U.S. job market and students' academic and career paths necessitate enhanced vocational education in high schools*. Retrieved from http://www.nea.org/assets/docs/Vocational_Education_final.pdf

Nevill, D. D. (1997). The development of career development theory. *Career Development Quarterly. 45*(3), 288-292.

North Carolina Community Colleges (2014). *Career and college promise*. Retrieved from http://www.nccommunitycolleges.edu/programs/ccp.htm

North Carolina Department of Public Instruction (2014). *Accountability*. Retrieved from http://www.ncpublicschools.org/accountability/

North Carolina Department of Public Instruction (NCDPI, 2014) *CTE local planning system*. Retrieved from http://ctelps.dpi.state.nc.us/

North Carolina Department of Public Instruction (2012). *North Carolina career and technical education essential standards.* Retrieved from http://www.dpi.state.nc.us/docs/cte/curriculum/essential-standards.pdf

North Carolina Department of Public Instruction (n.d.). *Programs of study*. Retrieved from http://www.ncpublicschools.org/cte/curriculum/programs/

North Carolina Department of Public Instruction News Releases (2014). *2014 NC high school graduation rates highest in state history*, News Releases 2014-15. Retrieved from http://www.ncpublicschools.org/newsroom/news/2014-15/20140904-01

North Carolina Department of Public Instruction Career and Technical Education (2012*). North Carolina Career and Technical Education Planning Guide*. Retrieved from http://www.dpi.state.nc.us/docs/cte/curriculum/planning.pdf

North Carolina General Assembly (2013). *Senate Bill 14*. Retrieved from

   http://www.ncleg.net/sessions/2013/bills/senate/pdf/s14v2.pdf

North Carolina High School to Community College Articulation Agreement (Effective July 1,

   2012). Retrieved from http://ctpnc.org/articulation/index.shtml

North Carolina School Report Cards (2013). Retrieved from http://www.ncreportcards.org/src/

North Carolina State Plan. *The Carl D. Perkins Career and Technical Education Act of 2006*

   (2008). Retrieved from http://www.ncpublicschools.org/cte/curriculum/programs/

Ochs, L. A., & Roessler, R. T. (2004). Predictors of career exploration intentions: A social

   cognitive career theory perspective. *Rehabilitation Counseling Bulletin, 47*(4), 224–233.

O*NET Online (2014). Retrieved from http://www.onetonline.org/find/career?c=0

Oregon Technology in Education Council (n.d.) Retrieved from

   http://otec.uoregon.edu/learning_theory.htm#transfer

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. *Association for Career*

   and Technical Education, National Association of State Directors of Career Technical

   Education Consortium and Partnership for 21st Century Skills. Retrieved from

   http://www.p21.org/storage/documents/CTE_Oct2010.pdf

Pawlowski, B. (2014). Backyard advocates. *Techniques: Connecting Education & Careers,*

   89(3), 34-37.

Pellock, C. & Threeton, M. D. (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

   http://scholar.lib.vt.edu/ejournals/JCTE/v25n2/threeton.html

Pietkiewicz, I. & Smith, J. A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative research psychology. *Psychological Journal, 20*(1), 7-14. DOI: 10.14691/CPPJ.20.1.7

Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology, 52*(2), 137-145. DOI: 10.1037/00222-0167.52-2-137

Project Lead the Way (PLTW) (n.d.). *The leader in STEM Education*. Retrieved from https://www.pltw.org/

Saldana, J. (2009). *The coding manual for qualitative researchers.* Los Angeles, CA: SAGE.

Salomone, P. R. (1996). Tracing Super's theory of vocational development: A 40-year retrospective. *Journal of Career Development, 22*(3), 167-184.

Santoro, D. A. (2011). Good teaching in difficult times: Demoralization in the pursuit of good work. *American Journal of Education, 118*(1), 1-23.

Savickas, M. (2001). A developmental perspective on vocational behaviour: Career patterns, salience, and themes. *International Journal for Educational and Vocational Guidance 1*, 49–57.

Schimpf, P. (2011). *The relationship between career technology education and high school graduation.* (Doctoral dissertation). Retrieved from Digital Commons@Liberty University Doctoral Dissertations and Projects

Shadden, R. E. (2011). *The graduation rates of career and technical education (CTE) concentrators in Tennessee.* (Doctoral Dissertation) Retrieved from DigitalCommons@ East Tennessee State University

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

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research.* London: Sage Publications.

Southern Regional Educational Board (SREB). *Failure is not an option* (Slideshow). Retrieved from http://slideplayer.com/slide/760920/

Spielmaker, D. M. (2013). *Evaluating the effectiveness of the Utah Career and Technical Education introduction course.* (Doctoral dissertation). Retrieved from Utah State University DigitalCommons@USU

Stipanovic, N. (2010). Providing comprehensive career guidance services through career pathways framework. *Techniques: Connecting Education & Careers, 85*(7), 32-36.

Stloukal, M., & Wickman, S. (2011). School counseling programs as spiritual and religious safe zones. *Counseling and Values, 55*, p. 157-170.

Strohschein, M. L. (2012). *Academic and career readiness attainment in career technical education.* (Doctoral Dissertation) Retrieved from DigitalCommons@Walden University

Super, D. E., Osborne, L. W., Walsh, D. J. Brown, S., & Niles, S. G. (1992). Developmental Career Assessment and Counseling: The C-DAC Model. *Journal of Counseling & Development, (71)*1, p. 74-80.

Syverson, M. A. (2014). Dimensions of Learning. *The Learning Record.* Retrieved from http://www.learningrecord.org/dimensions.html

Tillman, C. J., & Tillman, W. R. (2008). What's CTE gotta do with it: Are CTE graduates employed in the fields in which they received their training? *Journal of Organizational Culture, Communications and Conflict, 12*(1), 25-41.

Ultanir, E. (2012). An epistemological glance at the constructivist approach: Constructivism learning in Dewey, Piaget, and Montessori. *International Journal of Instruction, 5*(2), 195-212. Retrieved from http://files.eric.ed.gov/fulltext/ED533786.pdf

US Department of Education; Elementary and Secondary Education. (2010). *College- and career-ready standards and assessments: Reauthorizing the Elementary and Secondary Education Act.* (p. 1-16). Retrieved from http://www2.ed.gov/policy/elsec/leg/blueprint/faq/college-career.pdf

US Department of Education; Office of Vocational Education (2012*). Investing in America's future: A blueprint for transforming career and technical education*. Retrieved from http://www2.ed.gov/about/offices/list/ovae/pi/cte/transforming-career-technical-education.pdf

U.S. Department of Education Office of Vocational and Adult Education (2012). Aligning secondary and postsecondary education: Experiences from career and technical education. *Community College Symposium.* Retrieved from https://www2.ed.gov/about/offices/list/ovae/pi/cclo/brief-2-alignment.pdf

US Department of Education (n.d.a). *Carl D. Perkins Career and Technical Education Act of 2006 Reauthorization of Perkins*. Retrieved from http://www2.ed.gov/policy/sectech/leg/perkins/index.html

US Department of Education. (n.d.b) *Family Educational Rights and Privacy Act* (FERPA). Retrieved from http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html

Van Manen, M. (1990) *Researching Lived Experiences*. Albany, NY: State University of New York Press.

Williams, M. (2013). Innovation in career and technical education methodology. *Center on Innovations and Learning,* 227-246. Retrieved from http://www.centeril.org/handbook/Innovation_in_Career_and_Technical_Ed_SA.pdf

Wilson, M. (2010). Employers spend up to 12 times more on job training than federal and state governments. *Economic Analysis, 3*, 1-4. Retrieved from http://www.hrpolicy.org/downloads/2010/AES%20Employer%20Spending%20on%20Training.pdf

APPENDICES

Appendix A: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

March 13, 2015

Camille L. Goins
IRB Approval 2133.031315: A Phenomenological Study Examining the Experiences of High
School Graduates Who Participated in a Career and Technical Education Program of Study

Dear Camille,

We are pleased to inform you that your above study has been approved by the Liberty IRB.
This approval is extended to you for one year from the date provided above with your
protocol number. If data collection proceeds past one year, or if you make changes in the
methodology as it pertains to human subjects, you must submit an appropriate update
form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research
project.

Sincerely,

Appendix B: District Approval Letter

October 13, 2014

Camille L. Goins

█████████████

RE: Request to Conduct Research in ████████ School District

Dear Mrs. Goins:

Thank you for your interest in conducting your research study with ███████████████ District. Your request to conduct the research as described in your letter dated September 22, 2014 has been approved.

Upon completion of your study, we ask that you submit a summary of findings to the ████████ ████████chool District. If you have further questions or need assistance, please do not hesitate to ask.

Sincerely,

████████████████

Title of Research: *A phenomenological study examining the experiences of high school graduates that participated in a Career and Technical Education Program of Study.*

Appendix C: Participation Invitation Letter

Camille L. Goins

███████████████

███████████████

Name of Participant

Address Line 1

Address Line 2

e-mail

Dear Participant:

You are invited to participate in a research study to examine the impact of the Career and

Technical Education Program on CTE program completers. You were invited to participate in

this study because you are 18 years of age or older, graduated as a CTE Completer, completed an

articulated and/or Career and College Promise course, and earned an Industry-recognized

credential while you were enrolled at Southwest High School.

This study is being conducted by a researcher named Camille L. Goins, who is a doctoral student

at Liberty University. Camille L. Goins is a CTE Director who has been involved with the Career

and Technical Education Program for eleven years. This research study is separate from Mrs.

Goins' previous and current roles in Career and Technical Education with the ████████████

District.

The purpose of this study is to understand the perception of the (CTE) program from students

who have participated in a CTE Program of Study. During this study, individual beliefs, values,

and attitudes regarding CTE will be examined.

If you agree to participate in this study, you will be asked to:

- Participate in an at least a one hour recorded individual interview in person, by telephone, or online program such as Skype that will ask you questions regarding your high school experiences as it relates to the completion of a CTE Program.

- Participate in a focus group session that will be video recorded.

- Review the transcription of your recorded interview for accuracy.

- Provide documentation (transcript, credential, certificate, etc.) earned during high school to confirm CTE Program of Study participation.

If you would like to participate in this study, please contact Camille L. Goins at ▇▇▇▇▇▇▇▇ or at ▇▇▇▇▇▇▇. Please review the attached consent form which will provide a better understanding of the study prior to your commitment to participate. If you decide to participate in this study, a signed copy of the consent form will be requested prior to your participation in the study.

Sincerely,

Camille L. Goins

Liberty University Doctoral Student

Appendix D: Informed Consent

Participant Consent Form

Principle Investigator: Camille L. Goins, MPA, Ed.S.

Department: Liberty University, School of Education Doctoral Student

Telephone number: █████████

Title of Project: A Phenomenological study examining the experiences of high

school graduates who participated in a Career and Technical

Education Program of Study

Participant's Name: _____

Dear Participant,

I am asking for your participation in a research study relative to the Career and Technical

Education (CTE) Program. This form will tell you all about the study and help you decide if you

wish to participate in the study. Read this paper carefully and ask any questions you have

regarding the study. When the investigator has answered all of your questions, you can decide if

you would like to be included in the study.

Background Information

The purpose of this study is to understand the perception of the (CTE) program from graduates

who have participated in a CTE Program of Study. During this study, individual beliefs, values,

and attitudes regarding CTE will be examined.

Procedures

If you agree, I will ask you questions regarding your high school experiences as it relates to the

CTE Program. Participants will be interviewed individually and the interview will be audio

recorded. Interviews will last no less than one-hour. Follow-up interviews may be requested. I

will also collect documentation from your previous high school to confirm CTE Program of Study participation. Selected participants will be requested to participate in a focus group which will be video recorded for accuracy and last no more than one-hour.

Risks and Benefits to the Study

Risks associated with this study are minimal in that the participant will not encounter any other risk than they would during everyday life.

The benefits of the study are to provide students, parents, and educators with a deeper understanding of the CTE program and how it relates to the college and career readiness of students who participated in a CTE Program of Study. It is hoped that the resources provided in this study will provide educators with multiple opportunities to help increase college and career awareness and services to students to help them make better informed decisions in high school and beyond. Additionally, the hope is that enrollment will increase in CTE programs that lead to an increase in the completion of programs of study in an effort to better prepare today's growing 21st century workforce.

Compensation:

There will be no compensation for participants in this study.

Confidentiality

Your real name will not be used in the study, however, individual interviews will be audio recorded. Your participation will involve access to secondary documentation. Focus groups will be tape recorded; however, during the focus group session, I will not be able to ensure that other participants will maintain subject confidentiality and privacy during this study. The amount of time required for your participation in the study will be three to six months. All documentation gathered for the purpose of this study will be stored in a locked filing cabinet and digital

recordings will be stored on a computer USB drive that is password protected. All data collected for the purpose of this study will be maintained by the researcher for a period of three years.

Voluntary Nature of the Study

Your participation in this research study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University and ▆▆▆▆▆▆▆▆▆ If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

You may refuse to participate or withdraw from the study at any time. Signing this paper means that you have read this or had it read to you and that you would like to participate in the study. If you choose not to be included in the study, you do not have to sign this form.

How to Withdraw from the Study

In the event that you no longer want to participate in this research study, you may request from the researcher verbally or in writing to be withdrawn. If you decide to withdraw from all components of the research study, the investigator will discontinue the following research activities involving your participation:

- Interacting with the subject through interviews in order to gather data about him or her for the purpose of the research study.

- Obtaining identifiable private information about the subject for the purpose of the research study by collecting information from educational records; and

- All data obtained by the investigator from the subject will be destroyed and the investigator will exclude any collected data from the subject from the data analysis process.

Contacts and Questions

If you have any questions or concerns about this study or if any problems arise, please contact

Camille L. Goins at ▮▮▮▮▮▮▮▮ or via e-mail at ▮▮▮▮▮▮▮ (*Advisor: Dr. Tracey Pritchard,*

▮▮▮▮▮▮▮▮▮▮▮▮▮▮.

If you have any questions or concerns regarding this study and would like to talk to someone

other than the researcher*(s)*, you are encouraged to contact the Institutional Review Board, 1971

University Blvd, Suite 1837, Lynchburg, VA 24515 or email at irb@liberty.edu.

Statement of Consent

☐ The researcher has my permission to audio-record, video-record, and/or photograph me as part of my participation in this study.

Participant's Signature:_____ Date:_____

Researcher's Signature:_____ Date:_____

A copy of this consent form will be provided for you.

Appendix E: FERPA Release

The Family Educational Rights and Privacy Act (FERPA) protects the privacy of

educational records of students. Disclosure of records such as grades and personal information

can be released with consent from the student. Your signature on this form will provide such

consent and the information will only be released to the designated person listed for release.

I, _____, (participant), authorize_____ high

school in (city/state) _____and/or _____

school system to release the following educational records, upon request to the person listed

below for the purpose of educational research. All school records and related files.

The person to whom information may be released is Camille L. Goins. I acknowledge by

my signature that I understand that, although I am not required to release my records, I am giving

my consent to release the designated information to the above named person. I understand that

this release will remain in effect for a period of 15 months from the date of signing below, unless

I revoke such consent in writing and the revocation is sent by me.

Participant Signature _____

Date_____

Appendix F: Interview Guide

Interview Guide

1. How would you describe your high school experiences?

2. How would you describe your experiences with the Career & Technical Education program?

3. What motivated you to participate in your selected CTE Program of Study?

4. What motivated you to choose your course selections in high school?

5. What specific guidance and advisement were you provided prior to and during high school?

6. What activities did you participate in prior to and during high school that encouraged you to select your chosen program of study and why?

7. Which courses did you find the most challenging in your program of study?

8. How would you describe the importance of your participation in a CTE program of study on your future plans?

9. Who do you believe CTE courses are designed to serve?

10. How would you describe the importance of CTE programs in secondary education?

11. How did concentrating in (insert CTE Program of Study here) better prepare you for your college and career goals?

12. Do you feel you have an advantage over non (insert CTE Program of Study here) graduates? Why?

13. Why do you think so few students participate a program of study?

14. What could be done to alter that decision for others?

15. Considering your academic and career history, if you could have done anything differently in high school, what would that have been?

Appendix G: Focus Group Questions

Please answer the following questions as it relates to your experience in a CTE POS.

1. Explain in detail how participation in a CTE POS has improved your college and career experiences.

2. How have the post-secondary credits you earned through your CTE program of study helped you since graduation?

3. How would you describe your experience in completing a career readiness assessment that lead to an industry-recognized credential during high school?

   a. Which certifications/credentials did you earn from your CTE program of study?

   b. Of the certifications/credentials you earned within your CTE program of study, how have they helped in your career goals?

4. What would you recommend to positively influence activities aimed at increasing participation in a CTE POS? Why?

5. Describe in detail how the integration of CTE and academic courses, college courses, and industry-recognized credentials found in a CTE POS have empowered you as a high school graduate.

Appendix H: Emails

Email to Participants (Focus Group)

Hello,

Let me begin by thanking you for participating in the individual interviews. Your perceptions regarding your experience in a CTE Program of Study will be helpful to me as I complete my research project. As mentioned in the invitation letter, I need to conduct a focus group discussion session as it relates to your experience in a CTE POS. The focus group will be conducted with 5-7 participants and I will ask 5 questions during this group session. I have scheduled the session for Monday beginning at 3:30 p.m. at Southwest High School located in the Conference Room. This session should last for about an hour.

Please contact me via e-mail or on my mobile at xxx-xxx-xxxx no later than Thursday if you are able to participate in this group session. Thank you again for participating in this study.

Email to Participants (member checking)

Hello,

As part of the member checking process, participants are asked to review the type written transcripts to ensure that information was accurately documented. I have transcribed the interview and have attached a copy to this e-mail for your review. Please open the document in Microsoft Word. As you read through the transcription, if you would like to make changes to any errors that you notice within the document, please utilize the "Review" tab located on the ribbon and select "track changes". Additionally, as you read through the document you are free to add comments by selecting the "New Comment" feature also available under the "Review" tab.

Additionally, if you participated in the Focus Group Session, a copy of the transcript is attached. You can follow the same procedures in this document as with your individual transcript.

Please forward a copy of your changes and/or comments or reply to this e-mail confirming that you are satisfied with the accuracy of the information reported in the transcription. Thank you once again for participating in this study.

Email to Peer (peer examination)

Hello,

Here is the email that I have spoken to you about. There are two attachments to this email. The first attachment is a copy of the guided questions used in the interview along with selected interview quotations. The second attachment lists each research question along with the significant statements and themes that were identified in participant answers.

I am asking you to check the accuracy of the themes that I have identified. This peer review process is a necessary component in my research and serves to validate the credibility to the identified meanings and interpretations.

Thank you.

Appendix I: Selected Interview Quotations

Question #1. How would you describe your high school experiences?

P#1: I loved my high school experiences. They ranged from different college-level academic courses to athletics. I really appreciate the CTE program. That was my favorite by far of everything.

P#2:… from high school it helped me…become a better person and kind of how to work with people. Like before high school I kind of kept to myself. I kind of branched out in high school and became a little bit more talkative.

P#3: I learned how to write better, I've never been a writer. I learned a lot more about health science, like the bones and the different organs and stuff like that. I made new friends.

P#4: …overall I loved high school. It was a great experience. I still keep in touch with a lot of my friends. So overall high school was great. It helped me become the person I am today. It helped me realize the things that I know that I can accomplish. It taught me a lot about myself and who I want to be, so overall high school was great.

P#5: I would say umm well it was a journey, it was not what I expected.

P#6: Overall, I think I had a good high school experience. To this day, I still kind of miss high school. I was really active and I had a lot of friends. I really enjoyed high school. I know a lot of people aren't able to say that, but I enjoyed high school.

P#7: I don't think you can wrap up high school in just one word, but I feel as if I wasn't prepared for college as well … But I did, *I learn from CTE*, but I feel like my basic classes didn't prepare me as well as I should have been prepared.

P#8: I would think it was really traditional to any other high school experiences really except for a lot of other schools didn't have a like the culinary program which I thoroughly enjoyed being in which was a CTE course. I really enjoyed it and I talk about it all the time with a lot of my friends in college and we're like let's cook, but we don't know what to cook, like they didn't have the level of culinary that I had and a lot of stuff that I had that I learned how to do. I enjoyed it.

P#9: the 9th and 10th grade were pretty laid back, but the 11th and 12th grade got harder I think because so much change in the school. Like in my 9th grade we had the four different schools, so it was pretty laid back because each principals didn't have so many kids to watch, but as we went to one school uhh, I don't know, it seems like they cracked down a whole lot harder. My CTE classes were probably my favorite ones to do and my Welding class, which that was a CTE class too.

P#10: I would describe my high school experiences as, I guess like every other high school student, high school it can be easy, and then it can be hard especially at the end of your four years, and you have to work harder to get your diploma. But I guess that's it. I mean I enjoyed high school, some people didn't, but I did.

Question #2. How would you describe your experiences with the Career & Technical Education program?

P#1: …my experiences with the CTE program let me see customers on a day-to-day basis. I participated in the Culinary Arts Program of Study and I was able to actually help them run a business.

P#2: It [CTE] was able to allow me to relate with it in real life as far as that you know. Because it gave me, in CAD particularly it gave me the ability to what a CAD, you know a CAD designer would do on the job. It kind of gave me an idea of what they would do. It [CTE] helped me determine my path of study.

P#3. I liked all of my CTE classes…they made them fun. It wasn't just like sitting in class listening to the teacher talk. Umm, in all my CTE courses we had activities to do. We got to work in groups so it wasn't always by yourself working and I liked that. I learned how to be a team member from working in the groups…. I enjoyed all of those classes.

P#4. I think my experience with them [CTE] was really good. The classes were great, it helped me focus on things outside of the general courses. Particularly the accounting course that I took with [Ms. Teacher] really helped me realize the principles of business because accounting is the language of business. So having that background before I went to college was really helpful. Overall my experience with CTE was great.

P#5: Umm at first I just thought it was just regular classes. I didn't really realize that it was something that I could get credit for, but once I realized that I figured that I would go into nursing because that's what I liked.

P#6: I was very interested in the classes that I took because I knew I wanted to go into the medical field. I think it prepared me, for the classes that I was involved with like my CTE classes prepared me a lot for the classes that I am taking in college now.

P#7: I enjoyed every minute of being in those classes. That's what I looked forward to. I looked forward to going to Culinary. I enjoyed it and I was in that class by an accident and it was probably one of the best experiences I got out of high school. Umm, if anything it prepared me for life more than my core academic classes, to be honest.

P#8: I actually took culinary that was really fun. I use a lot of that stuff at home. I've gotten into that routine even though I'm not in culinary I still kind of pull out all my stuff like I did in culinary. Like I get everything set up before I start cooking so everything will come out at the same time. A lot of that stuff has really stuck with me so I really appreciate that. I learned a lot of different recipes and stuff.

P#9: I loved them, because they were more hands-on classes like the agriculture and I liked my drafting classes because I've always been interested just like in drafting and engineering…That is what my dad does so, he was always doing it so.

P#10: I enjoyed it. I enjoyed the health classes, I learned a lot. Whenever I look back, whenever I took my CNA class I look back and I was like "oh, I took this in high school." So it was just something I reviewed not nothing new. It helped me in just everyday life to be able to go back on those experience.

Question #3. What motivated you to participate in your selected CTE Program of Study?

P#1: I love food. Food is what I wake up in the morning and think about. With culinary arts it just fit into my life perfectly. Even though I went on to college to major in umm pre-med, I still love food today. So that is why I chose the Culinary Arts Program.

P#2. , I guess my brother was in CAD, he took CAD and has his engineering degree and I had seen some stuff that he had done during you know, with him trying to get his degree and now with his job that he has now. I kind of liked that I so I took a bit of interest in it and found out that is what I wanted to do.

P3: …well I wanted to be a nurse so I wanted to take as many health science courses that I could while in high school to umm prepare myself for college. Umm, it helped out a lot too with like my Biology class and stuff like that, it helped me prepare for that.

P#4: My interest, I've always been interested in business and I wanted to know more about business and how business works and why people think the way they think within the business structure. So that was my motivation. Also, the teachers that taught the courses uhh were great teachers and were teachers I had heard great things about so it was just a win, win for me.

P#5: I always dreamed of being a nurse and I know I enjoy helping people so doing the internships and working with older adults and being at the rest home I figured that would be the best one for me.

P#6: ever since I was probably about 10 years old I knew that I wanted to be a doctor and so being involved with like the health science classes you know was very hands-on like I learned a lot of the medical terminology in high school and umm I can honestly say that it has opened a door for me. Umm, when I came to college for the classes that I would be taking as far as the health classes and medical classes so it prepared me a lot.

P#7:…when I got in the class I found it was something I enjoyed. So I was like humm I can learn how to cook, which I've always wanted to do because I enjoyed food so much. And uh, [Mr. Teacher] he seemed to enjoy having me in his class and he talked me into doing it and the next year I started loving it even more. It was just something I found I really enjoyed, and I wouldn't really want to go to school without doing it.

P#8: Because I like food, I'm not going to lie, just like every other class, I thought culinary was going to be more like cooking. Because I guess culinary would be my one thing, but then I started making friends. So like one of my friends was in culinary with me, but then I made some other friends in other classes and we said let's do it again because we really liked it. I learned a lot. I don't know it was just an interesting thing. It was way different from a lot of the other courses. You actually do things instead of just sitting in front of a book. It was more hands-on than just sitting in the class learning stuff.

P#9: …the agriculture I grew up around farming, so I mean I knew it. I pretty much knew the basics of all that so that. Then uhh, my drafting classes, like I said my dad so and then Welding, I don't know I always wanted to weld so that is why I took that class.

P#10: Some of it was mandatory, we had to take. But I remember certain classes like some classes like early childhood development, I took that, I wanted to see if I liked the daycare perspective in life. I mean I liked it, but I knew it wasn't for me. I took marketing and I liked that, but I couldn't see me doing that forever. Health care was the longest that I stayed in.

Question #4. What motivated you to choose your course selections in high school?

P#1: I wanted to take classes that would prepare me for college. I said I am here for these four years of high school, and I need to be as ready as possible to get to college. That led me to choose my dual enrollment classes, my Advanced Placement classes and my CTE classes gave me an all-around background that made me become a better student.

P#2:…the requirements for college. Pretty much what the college required to further my education.

P#3: I wanted to make sure I took like everything I needed to graduate and then like I just added whatever like what my interest were like the health science. I wanted to try Foods I, I believe, I took Business Law, umm, I guess I wanted to make sure nursing was what I wanted to do, so I wanted to try a little bit of everything.

P#4: I wanted to take the hardest courses we had to offer so that's why I took all honors and AP courses that would fit within my schedule.

P#5: I would say the interest with a lot of electives and the regular classes was what I needed like my English classes that was what I needed.

P#6: …in high school, I took a lot of honors and AP classes just because I knew, uhh I wanted to you know be on a different level and I knew that taking honors and AP classes would push me…and I knew early on that high school you know was going to prepare me for college so I made sure that I took classes that would just get me ahead for college. I always have known that I wanted to go to medical school and I wanted to make sure that I was staying on the right path in regards to that.

P#7:…the North Carolina graduation requirements motivated quite a few of them. But my science related classes were because you know I moved on to college to become a science major and eventually a pharmacist and as you can imagine there is quite a bit of science involved in all of that. Umm, but as far as the CTE Program, I just enjoyed cooking and I decided that was something I'd like to continue on with the program.

P#8: I was an honors student so honors was pretty much my baseline when I got into my senior and junior year I chose dual enrollment versus taking AP because I felt like I knew for a fact those college classes would transfer over as long as I passed… Then the rest of my classes, I don't know more so to get through it, but it wasn't a hard selection. It was just you know to meet requirements, I liked the teacher who was going to be teaching, stuff like that.

P#9: Well I took honors because it was more of a challenge than just the regular ones. Umm, let's see, I never took art or anything like that because that didn't interest me.

P#10: Some of it was mandatory, we had to take. But I remember certain classes like some classes like early childhood development, I took that, I wanted to see if I liked the daycare perspective in life. I mean I liked it, but I knew it wasn't for me. I took marketing and I liked that, but I couldn't see me doing that forever. Health care was the longest that I stayed in…I enjoyed it, I enjoyed learning about the anatomy of the body and everything.

Question #5. What specific guidance and advisement were provided to you prior to and during high school?

P#1. Middle school my mom taught there and she always pushed for me to take the highest, hardest classes that I could. She said if I am prepared early, I'll be ready in the long run. So starting in about 7th grade I think I started with pre-Algebra, 8th Grade went to Algebra I, and then in high school I just, built on that foundation that she instilled in me.

P#2:….my family has been in racing forever. I mean since I was probably two years old. Just like growing up and being at the race track and stuff like that.

P#3: I had [Ms. Support Staff], she would come and talk to us and ask us what our interests were and stuff. That kind of helped me out too because she talked about all the different fields we can go into and helped us narrow down what we liked. And then from like going to the guidance counselor and talking to them that helped out too.

P#4: Prior to high school there really wasn't much guidance, umm I just kind of went in blind. I knew things that I was interested in, like I've always been interested in math. Umm, I was pretty good in every subject, so I just wanted to take everything. During high school I was provided with guidance within business to try to focus on business because I was always interested in accounting and business so that's the guidance I got while in high school.

P#5: Well during, I always had teachers to help me to choose which classes were best and to suggest oh you need to take this class because you are good in this. Umm of course my mother was always there to support me.

P#6: I would say as far as guidance, my mom and dad helped a lot, they would tell me you need to take this class, and you need to do this and that. And umm if anything I think, as far as teachers it would have been my CTE teachers actually because you know most of them were in the medical field you know they had took those classes already and stuff like that. Like I had a few teachers from CTE who were nurses and stuff like that and so they knew what classes I needed to take and they knew like how to be prepared for medical school and the classes I would have to take in college.

P#7: That's a hard one to answer because I kind of feel like I didn't have guidance. I know that when I would, what do you call them?, because I have been in college I want to call them an academic advisor, when I would talk to her she would just be like well you can't do this or you can do that. She didn't say well how about taking this or you might enjoy this. Then when they switched the counselors up and I got a new counselor I felt as if I had even less help.

P8: [Ms. Counselor] and [Mr. Teacher] they kept motivating me saying you know you can do better than this, come on. So that's what pushed me to keep going.

P#9: Well my parents for one and then I've always known that I wanted to do something in like the engineering field and with me owning a business. Like with the tractors I knew agriculture would help me with you know maintenance and all that. I've always had an idea of what I wanted to do. And certain teachers, like my drafting teacher, like I took my first drafting course and she advised me to take the next one and same thing with my agriculture teacher.

P#10: I would go talk to our guidance counselor about what I wanted to do. I would go talk so like [Ms. Teacher] and she should would tell us the different areas and fields we could go into in health care, and we would talk about it in my classes.

Question #6. What activities did you participate in prior to and during high school that encouraged you to select your chosen program of study and why?

P#1…there was this it was like umm, a career fair, I guess that the culinary arts used to put on in the gym. Well all the CTE programs would be put it on in the gym, there was welding, culinary arts, the health science because that was always the big thing because of CNA, and Culinary always brought food out there and that just grabbed my attention.

P#2. I didn't really have any extra-curricular activities that helped me to determine my career path

P#3. I joined the NASA club. Well I guess you could say like for NASA club we helped like different families for Christmas and that kind of made me want to do something to help others. I guess you don't realize like all the people that is in need you know. In like the medical field I can help others.

P#4. Prior to not really besides talking with different people about my interest, but after I took the first course like after I took the accounting course that kind of opened me up a little bit and showed me what I liked and what I was really good at. So that kind of encouraged me to continue with it.

P#5: well during was the internship….and prior I would say babysitting.

P#6: Umm, activities in high school uhh I was involved in HOSA and uhh one of the clubs I think that was a good club that motivated me to continue being, going down the path of medical school. I guess again referring back to the clinical classes that I took that motivated me as well, being in that atmosphere just wanted me to continue to do that, like I didn't change my mind it was something I still wanted to do.

P#7: Well, being in the class originally definitely encouraged me to continue being in that program. Umm, cooking around the house made me realize that my cooking skills were not up to par so that kind of, that was motivation. I was like you know what, I got put in this class, and I'm going to learn how to cook. Umm, going to a catering event one time, it really encouraged me to continue in the program because I enjoyed getting out there meeting people and hearing how great the food was.

P#8: Everybody told me I was a good leader back in middle school. They would say you're good with people so otherwise I would've went into…plus the fact I really didn't know what I wanted to do. So I felt like leadership and public services because you work with others would be the best fit for me because I do like to help others. Leadership and Public Service was the best choice so I kind of just stuck to that route.

P#9: I participated in FFA, and we did a tractor driving competition one time, in [city]…We visited the John Deere, we went to Wake Tech in Raleigh to see their program.

P#10: …before high school I didn't really participate in anything health care wise, I mean it really didn't influence me. During high school, I did my Internship that helped influence me and I would say I don't know that was just it, because everything I did was with churches it was helping people. I guess you can say with my volunteer work I did, it helped me to want to help people in life.

Question #7. Which courses did you find the most challenging in your program of study?

P#1. It was definitely my CTE classes, instead of sitting down at night and studying maybe my chemistry textbook or my English book, I sat down and looked over my recipes and I looked over my cooking methods so that when I came into the kitchen that next day I was prepared for any dish that my chef would give to me and for me to cook.

P#2: As far as electives the most challenging that I had was probably my CAD [Drafting] Engineering.

P#3: …my English II Honors was very hard and umm, Algebra II.

P#4: 11th grade AP English with [Ms. Teacher]. Senior year AP calculus with [Ms. Teacher] were probably my two toughest courses. The AP English with [Ms. Teacher] was tough just because that was my first time being exposed to that type of writing and that level of responsibility in high school…. AP calculus was tough just because I just feel like it's tough for most people

P#5: Geometry and umm there was another math class AFM (Advanced Functions & Modeling), towards the end of AFM.

P#6: Umm, most challenging class uhh was probably Calculus just because math just has never been my favorite subject and still isn't. Calculus was definitely the hardest class that I took in high school. It didn't come as easy as my other classes so I had to work extra hard in that class.

P#7: The algebra class that I was in was challenging, but it wasn't because of the mathematics itself because I'm relatively good at it. It was more for whatever reason I had a lack of a teacher that year she showed up a couple times a week. I'm not sure what quite happened, but she wasn't there very often, so the whole class kind of ended up failing math together. That was challenging because it was kind of like I was having to teach myself.

P#8: Definitely my CNA class, which I took dual enrollment through [dual enrollment] because I'm an A student so I was like have to get in A, I know I can get an A, but at the same time some of the stuff was a little challenging. It was a lot to take in, in such a short amount of time so I settled for a B in the class itself.

P#9: Probably, my last drafting, Drafting IV-Architecture. Yea….Well it wasn't that it was challenging, it was just it was more detail than what the rest of them had been. I mean, the first one you know they would give us a drawing and then you drafted it. Well then like in our final one, we had to go to our house and do the whole layout of our own personal house, like the electrical layout. It was just a lot, a lot more to do. It was still fun, it was just more challenging.

P#10: I would say we had three health classes we had to take and the second course was the hardest because it focused on the anatomy of the body. And it was hard to learn all of the names and where everything, you know, everything went. It was kind of, how do I explain this, there was a lot of curriculum in that one class, and I felt like it needed to be spread out, because then it would have been easier.

Question #8. How would you describe the importance of your participation in a CTE program of study on your future plans?

P#1. My CTE courses were very important. When I got to college, I knew how to cook, and that is what I learned from my CTE Program. I wasn't that college student that had to depend on someone else. So when I got to my harder classes with my organic chemistry and with my physics and things I knew other ways to study other than just sitting down looking at a textbook or reading through notecards. So I used technology like I did in my CTE classes.

P#2: Well as far as when I was in high school and going to college it actually, that course [drafting] put me a lot, at [College], I am way ahead of most people as far as that.

P#3: I think it is very important, because like we were talking about earlier it helped me decide that this is what I want to do.

P#4:… just finding like what you like to do what you're interested in, finding your niche, find the things you can see yourself continuing long-term. It only takes one course, one teacher, and one little thing to just have you intrigued and interested for the rest of your life. Even before I took the accounting class I knew I wanted to do something with numbers, with math, something of that sort and something in business so that's kind of what I think about that.

P#5: I would say it's very important because high school is where you need to start planning what you want to do for your future and the CTE program can help a lot of students with that as far as giving them the basics of that career.

P#6: CTE umm, I find it very important just with talking with some of my friends in college they didn't have the opportunity to have CTE classes like I did or anything like CTE. Just allowing me to take classes that I was very interested in it just helped me further my education. It was just very helpful I am just glad that I had that opportunity to take classes that I was interested in.

P#7: Participating in it [Culinary] gave me skill sets that I probably wouldn't have had without the classes.

P#8: If you don't know what you want to do a CTE course whether being in the CTE program can help you decide what you want to do because you are kind of doing the stuff itself. Like I know if you're in the health field, if you don't know if and you're taking the health courses and you don't know if you really want to be in the health field, but taking allied health one and two classes they can really help you get an idea if you like doing this stuff. If you think you want to deal with food or you want to serve or be a restaurant owner or something be in the culinary program.

P#9: Well my agriculture will help me with my heavy equipment business, because knowing about tractors. Uhh, my drafting kind of goes in with my civil engineering I can do like land surveying and all that so I mean. My welding class, you know if something breaks I won't have to hire someone to do it, I can do it myself.

P#10: Umm, I would say it's important, but now that I am out of high school and I have been through college some. I don't know, I don't think colleges and stuff they look at it as important.

Question #9. Who do you believe CTE courses are designed to serve?

P#1. CTE courses are designed for anyone, from the top of the tree to the bottom of the barrel. Anyone should take CTE classes. Because it is not just for kids that only want to take the WorkKeys or for students who only want to go to NC State and Chapel Hill. It teaches you so much more than just the math, science, and English type things. Let's see, the more well-rounded you want to be, that is when you need to take your CTE classes.

P#2. I think it is geared to serve the students to become more competitive in the job market. That is probably the biggest thing now you know. Almost every person you ask what is their motivation behind getting a degree, it's a job and the CTE Program helps.

P#3. I think it is designed to serve the students to help you find out what your interests are, whether it is health science or what was it business law.

P#4: Those people that have a pretty good idea about what they want to do long-term. You can still change your mind, but those people that are more focused and have a pretty good idea of what they want to do.

P#5: Everyone, umm and I say everyone because everyone wants to do something in life well they should. I would say CTE is designed for mostly any career.

P#6: Umm, just students that are you know serious about their work, serious about going to college. They already have a game plan of what they want to do umm with their future. So I think it is for those students who just want to go to college and continue on with their education.

P#7: I feel like it is designed for anybody that wants to gain skills. Because no matter what it is we offered several courses, so it's like if that is something you're interested then it is there to serve you. I just happened to enjoy cooking so it was there for me.

P#8: Those who do not know what they want to do after they get a high school like me because I did not know what I wanted to do so I kind of took a little bit of everything that I felt like I might want to do and kind of weighed it out after. That would definitely be, anybody who didn't know what they want to do who came in, who really didn't care and probably didn't have a care after high school.

P#9: Someone who wants to have more of a challenge than you know just everyday regular classes. Just it, I don't know it kind of adds something different to your schedule because it's not just a math, English or science class or band or PE, you know the basic stuff.

P#10: CTE is for everybody. If you try hard enough you can do it. As me and the other girls we had the chance to do the Internships, but you have to work hard. It is not just something that is given to you.

Question #10. How would you describe the importance of CTE programs in secondary education?

P#1. CTE courses are very important. Umm, just speaking off the Culinary Arts Program, they would set up these like field trips and you would go and cater events. You would just see the people light up once you gave them a plate of food. I think that is so good especially around [County] when there so much trouble you can get into, those field trips meant a lot to kids…. This [CTE] program helped you work better as a team, with collaboration, you gained self-pride and confidence. If you put out a great dish of food and then the people come back and say "hey that was really good". For the rest of the day you walk around with your head held high and say I just fed a group of people and they liked it.

P#2. Very important, because in the drafting classes you know engineers design and that kind of gets you in the right mind set of how an engineer would think in the drafting classes.

P#3. I think they are important… think it helps you like helps you figure out what you want. It gives you an idea for when you do get to college, because there are so many different things you can choose from.

P#4: I think they are very important, the more exposure someone can get at a younger age, the better….It definitely gives the students…like a perspective of a career whether or not that's what they want to do long-term.

P#5: I would say they are important because it gives you that hands-on experience that if you have that interest, that if you really want to do that or not. It gives you the opportunity to see this is the type of work I will be doing or this is what I need to learn.

P#6: I would say the importance of CTE programs, umm I feel like without CTE you would not have the motivation to do what you want to do in college. Like just taking regular academic courses like English and math you are not really focusing on what you want to do with the next step. I feel like CTE provides that, and even if you are taking a CTE class and you find ok well I really don't like science classes, it also gives you the opportunity to realize that you don't really like that type of field of study.

P#7: I feel like they are definitely needed because if you just offered strictly academic classes then you have nothing to like see oh I'm interested in this…. I feel like they are pretty important because it can give you an entire set of skills that you never even knew that you would be able to have. I feel like it builds the communication and confidence and all kinds of things. It gives you common knowledge on how to work with people, how to be in teams. I feel like they are relatively important for people participating in them, no matter what the course is.

P#8: Besides the fact that if you don't understand, it's really like an escape like if you are focusing on that stuff sometimes, you can pretend like you're really doing this. You can imagine yourself, can I really see myself doing this in a couple years or you might just enjoy it to where you don't even see it as a class anymore. I know I did for culinary.

P#9: A lot because high school would have been a whole lot more boring if I wouldn't have had my CTE classes. I mean those were the classes that I looked forward to and they actually helped me in college too. Like, my first semester I had a drafting class, and it was starting from the basics almost like drafting I in high school, and like I was done with my entire class like the fifth week of school so.

P#10: I would say they are pretty important because with my Internship it taught me how to be, I had to be patient because I was working with other people. I had to be kind and considerate. Then I had to learn how to work hard and work at the nurses pace, instead of what I was used to, you know the schoolwork pace. You know working on my own. I had to work fast and diligently.

Question #11. How did concentrating in (CTE Completer) better prepare you for your college and career goals?

P#1. …budgeting…there was so many Mondays where all we did was focus on what we need, how much we had to spend, and how many courses we could fill with that money and with that food. I was able to use that in college as well. My mom gives me $25 a week. I have to make it last every week with $25, whether that's going to a baseball game, going bowling, cooking or things of that nature.

P#2. Well I didn't have to take, as far as my college goals, it helped me exempt out of a couple of classes, which made my degree a little bit easier. I didn't have to take so many credit hours…which helps out a lot.

P#3. It showed me that I like umm studying like the umm systems of the body and like learning about things like that. Now I know I can deal with blood and all that.

P#4: Honestly, like it just gave me more confidence going in, but other than that there wasn't really much that could prepare you for like what college has to offer and the struggles that you going to go through. Regardless of what you did in high school you're still going to struggle through your first semester or two of college because it's so tough, but the biggest thing it gave me was confidence and knowing that I did well in the past and this is stuff that I know so I may struggle a little bit now, but in the long run I know I'm going to be good at it because I was good at it in the past.

P#5: I have the passion and the desire for nursing, health science, but the actual nursing that I want to do, it showed, like you are not built for that. You don't want that specific career. So it showed me okay you don't have to actually do this type of nursing you have many opportunities to go in to.

P#6: Umm, it was very hands-on so like the teachers, all my teachers were very serious about, you know making sure that their students learned what needed to be learned. Umm, I feel like uhh, let's see. Also, my peers were also in my classes, they were very serious about health science and going to school and continuing their education so.

P#7: Culinary doesn't really pertain to what I do since I am going to be a pharmacist. Cooking is not really involved in that, but I did learn just some common knowledge from it like just how to properly stock things you know like I told you, seems like common sense, but it might not always be to someone. Umm, I felt like it has given me, like I've said the entire time, it just helped me to learn how to communicate. It provided me something that I was interested in, so much so that I almost started a club at college just for cooking.

P#8: I don't know they [CTE Teachers] were really good at helping me you know stay focused. They knew my focus and they kept telling me keep my eye on the ball because they knew if I got distracted and they knew when I got distracted and they helped me get better focused. They helped me with patience and culinary is one of the things I can honestly say I do not feel clumsy with because I'm a klutz. They helped me personally realize that I could be more balanced, more patient, that I can reach those areas. I can be more social than I felt I was when I was in high school. So you can be these different things you want to be, you just got to put your mind to it.

P#9: Umm, because like I said, I mean I always knew what I wanted to do so. I mean it's helping now, my drafting. I am way ahead of the others kids that were in my drafting class in college. And then just like my civil engineering, once I start doing my surveying classes, and I am in the woods, in my agriculture class I learned all kinds of trees and plants and all that. It is not like I am going out there completely lost. I know some of what I am doing.

P#10: but whenever I was going for nursing I was taking, umm like whenever I took my CNA class let's use that. I took my CNA class and some things I didn't have to learn, because I had already learned them in health science. It was just, it was like oh ok, my high school this prepared me to go into college, prepared for some of the classes that I was going to take. It prepared me so I didn't have to learn all this new information. I had a base to build upon.

Question #12. Do you feel you have an advantage over non (CTE Completer) graduates? Why?

P#1. Over them….where they are just focused on one avenue I am well-rounded. I can go to a restaurant and could cook with the top chefs. I can balance my budget so much better and I'm able just to, when it comes down to studying those math and science courses I am able to tutor someone and study that way as well or I'm able to teach this one student something. I'm higher up on the totem pole than a person that didn't graduate from the CTE program.

P#2. I do. I feel like I have. Well one I mean, I actually did, being able to exempt two credit hours, so I feel like I did. And actually in the classroom with people who had never taken that uhh course, you know you could just see. I'm not trying to brag or anything, but you could see it in my test scores verses theirs. You know somebody, they were kind of in it just to experiment with it. I mean it really prepared me, and you know I was a lot, I was ahead as far as that goes.

P#3. I think I have a little bit because I have already like been introduced to the field like what I might be studying and they might not have not been introduced to and they are going in without knowing anything.

P#4. I would say a slight advantage, but not anything that is so dramatic that you can't catch up to like me a person who completed a CTE program, but a slight advantage. Especially in the confidence area that I've been mentioning, just having that confidence in knowing that you've done it before so you can do it again like that really helps, but other than that not too big of an advantage.

P#5: I would say yes because I feel like I got a head start in learning my classes and my major in what I needed to learn about.

P#6: Umm, yes I do feel like I have uhh an advantage. Just you know everybody takes the math classes and the English classes because that's required. But having the advantage, of having the concentration in health sciences has given me the step ahead of my peers in college.

P#7: I feel like I have a slight advantage. I was able to take the WorkKeys. … I don't think that there are many classes that are going to help you to develop communication skills or teamwork skills or anything like that…because academic classes are academic it doesn't really encourage creativity like Culinary does. And then I also feel like when I was like reading recipes like I learned just how to go through things and step-by-step you know. You can tell someone step-by-step how to do something, but like writing it down and actually sitting there doing it you have to sit there and put a little thought into to it…. I feeling like learning hands-on having that as an advantage because it's not the traditional way to learn. You actually get up and do things and that's how you learn it. So I guess it's applied learning. That was an advantage, because I am not a traditional learner.

P#8: Umm, just because I kind of focused on I don't know I stayed focused I had something to keep my mind straight like culinary was my outlet a little bit and it still kind of is. As well as a way for me to focus on, even though I had other priorities I had to take my mind off it was really like a relaxation thing even though it can be stressful sometimes. Umm, I guess for the ones who didn't complete a CTE course maybe just because they don't know what they want to do with their lives. Even though I didn't stick with culinary, I ended up going to the health sciences I did learn a lot and I am still using the stuff I learned in those classes.

P#9: Yes, I would say I have an advantage, because I mean like I said, CTE classes almost is like it is preparing you really for the real world. You are getting your foot in the door for something. Either if you are going to work or going to college, I mean it is preparing you. Yes, I would say I have an advantage.

P#10: Umm, sometimes I do. I could because I already have the foundation of what I need and they are coming in with nothing at all, not prepared. I can jump right on and say oh I already know this so we don't have to go over this, instead of here is something else that I know nothing about.

Question #13. Why do you think so few students participate in a program of study?

P#1. I don't think they thought it was necessary when it was the complete opposite. If anything those CTE programs were what you needed. Because that's something that you can apply to the real world…It is those life skills that you need…So the CTE programs gives you real world experiences.

P#2. They are just trying to get their degree or get their diploma, I don't believe they care. That is what I saw… I think that they just try to take all the easy courses and get their degree that is what I saw a lot. So that makes them not want to get into the CTE Department courses.

P#3. I think it needs to be more like, more known. Plus in high school some students just don't really care and they are like oh, I don't need this. So that could be part of it too.

P#4. Because they don't know what they want to do that's probably the first reason. The second reason, I honestly didn't know that the CTE program like they had a concentration or something like that until my senior year. So it's not advertised enough or it is not pushed upon the students enough by the faculty. Also, students just not being interested in those things. I kind of mentioned this earlier, but a lot of students have a broad spectrum on what they want to do and just don't know they should focus on one thing yet.

P#5: Maybe because it's not umm advertised enough. Umm, of course the CTE teachers are going to talk about it, but throughout the school and the counselors and while you're registering for your classes they are not really saying oh you took this class so you need to continue taking this class if you're interested in it, they don't really discuss it. So I would say, that could contribute to why or they just weren't interested. They were just taking classes just to take classes so they could finish.

P#6: Just because you know, some students just aren't serious about their education in high school yet. Sometimes it just takes other people a while to get serious about school so I think that might be a reason why some are not as interested in you know having this opportunity.

P#7: I feel like there are a lot of different things that contribute. Umm, maybe like a lack of motivation. Sometimes people, if they are not required to do it, more than likely I've noticed that they are not going to do it (laughs). So I feel like the students themselves could be a contributing factor. Maybe not as much knowledge about what the program is or maybe not enjoying the class. I don't feel as, I don't feel like there are specific reason as to why. I just think it could be a bunch of different things, a number of different things I guess.

P#8: Umm, other than that they don't like it. I would only say that they don't feel motivated to complete it. I did, I was determined to get through it, I wanted to go ahead and get what I needed to get it knocked out, but I enjoyed what I was doing, so it didn't seem like I was knocking out even though I was. I would say lack of motivation I guess and just not liking what they were doing, not enjoying it.

P#9: I really don't know. I wouldn't have missed an opportunity like that. I really don't know why they wouldn't, laziness, I don't know.

P#10: Maybe they see it as a challenge, like they can't do that because they are not smart enough, or they don't work hard enough when they could. You know it just takes, well I'll take these classes and it could lead to something, such as me leaving early getting to go out and experience knew things.

Question #14. *What could be done to alter that decision for others?*

P#1. If we could bring back that career fair, I think that would definitely benefit so many students. If we start them at a younger age. If we get those seventh and eighth graders coming from the middle schools to actually see hey you can take this program in high school and it will lead you to a definite job in college or something like that. Or even if you just take these programs and it gives you so many life skills. The budgeting, the use of technology to help you study instead of just sitting down and staring at a book all day.

P#2….the best thing is to take an advanced class and show them what they could be doing if they take this career path. You know and actually have, because that is what helped me, seeing a lot of seeing what my brother did. It wasn't necessarily I wanted to do what my brother wanted to do, it was more of I found it really interesting what he did. You know and actually seeing stuff come to life like that.

P#3: I think they should know more about the program. They should know that it can help towards college and help you decide what you want to do. Because you may think you want to be in law enforcement, but really that is something you are not really interested in once you go to college and start taking the classes and then you are kind of like where do I go from here. I know a couple of people like that. Umm, like I have a friend who was trying to get into the Nursing program because they were like that is something I want to do, but once they started taking the classes they are like no, I can't do it. So now they are in something totally different.

P#4: Umm, definitely it being advertised more by administration. Also, having one class in a particular area like be a requirement just like we are required to take three math and three sciences or something like that. Having one class in a CTE concentration be a requirement for graduation. Like I said taking one class kind of made me want to take another class and kind of helped show me the way. It showed me something I wanted to do, so I feel like if other students take that one class they may have that same epiphany that I had.

P#5: Umm, talk about it more, persuade, encourage them, teach them about it, and of course having meetings going out talking to the students and telling them how important it is explaining about the credentials they can earn.

P#6: Umm, just making sure that the teachers are motivating and showing students what the importance is. I feel like you know teachers should be very influential, because ultimately the students you know can't control their environment at home, but I feel like if you have teachers and counselors step up and show the importance of education and are influential in motivating, you know, the students to be serious about their education and you know, what they want to do for the next level after high school.

P#7: …opening their eyes to the skillset that they could gain would be a big one. Because you are not really thinking, I could learn that from that class you know. When someone tells you got to take a class you are like alright fine, but you don't think about what you are going to gain from it typically. I know that I didn't, as a high school student I didn't think oh this is going to help me do this better or this is going to provide me with this type skill. Educating children on what skills they can gain from those classes and how they will lead into their future.

P#8: Umm, I guess offering just a few more different fields, a lot of, just other varieties, like we are limited to like art, theatre, culinary, JROTC, computers, health, and stuff like that, but there is a lot of, there are hundreds of different careers out there. Some that are popular, but are not offered regularly. Broaden the availability of different CTE courses and what kind of fields that you can go down

P#9: I guess have a student or someone who has graduated who has taken CTE go and talk to the underclassman about what they are missing or what they are letting go pass them, I would say. Or a teacher show them what someone who took a CTE program is doing now or how it helped better them.

P#10: Maybe talking to more students about it. You know having meetings like trying to draft students because it is a great program that needs more people to be in it and be able to go out and experience the outside world to see if they want to do this particular program or you know go to college and graduate in this. I believe it could help with having more college graduates because they would be more motivation to go to college and finish with a degree.

Question #15. Considering your academic and career history, if you could have done anything differently in high school, what would that have been?

P#1. I would have urged my friends in, people that I knew to take CTE classes. If I a person that benefited so much from the program if I could tell my friends hey you could benefit too from these classes then I think the enrollment and just the amount of people in every class would been so much better. So in culinary I think I helped about 10 people at a time, if I could've increased that to about 15 to 20 I would have loved the course even more.

P#2. Academically, I would have, there were sometimes, I wish I would have paid more attention. Because like in my advanced math classes, like Calculus I am seeing where there are couple of things I remember, but I wasn't really focused and now I am trying to remember, well I remember seeing this, but I don't remember how to do it.

P#3. I would have actually tried. Like in 9th grade I did real good and got A's and B's and I got to 10th grade and I was like I can do this, I don't have to study. But there were some classes that I should have studied and put forth the effort that I didn't really do.

P#4: Freshman year, took things a little bit more seriously academically. I mean I feel like I did pretty well freshman year, but I wasn't as focused as I could've been and that's just because I just didn't know how to balance things as far as athletics, academics, social life, life outside of school. Just trying to balance things was tough, but I definitely could have like spent more time focusing on academics and doing a little better. Also, taken like more CTE classes earlier on so I could have like throughout my whole high school experience taken more.

P#5: I would study more because I really could have come out with all A's really if I would have pushed myself, but I slacked off. I just got by and said a B is good. So if I would have pushed myself like I suppose to.

P#6: I probably would have looked more into uhh, what school I wanted to go to, like I always knew I wanted to go to college, but I didn't really uhh focus on what school I wanted to attend until it was like too late. Umm, because the only thing I regret is like not knowing, like when I graduated I still didn't know what school I was going to go to.

P#7: I guess I would have tried to learn everything I could from those classes. I probably would have taken more Advanced Placement classes… I definitely wouldn't have goofed off my 9th grade year (laughs) still trying to transition.

P#8: I would have taken more Career and College Promise (CCP) classes, the dual enrollment classes. Umm, just so I could have knocked out a few more general college classes that I didn't like this semester. Like my last semester in my senior year was really laid back. Like I only had two classes on campus. I would have definitely taken another college class that semester and possibly one that summer just so I could have knocked out more classes when I got to college. Yea, that's what I would have did.

P#9: Uhh, not slacked off so much my first two years. Got better grades, which I didn't do bad, but I could have done a whole lot better my 9th and 10th grade years, like in my academic classes.

P#10: I probably would have gotten into the sports medicine area first.

Appendix J: Expected Interview Responses

Interview Questions	Researcher Pre-suppositions
Question #1. How would you describe your high school experiences?	Based on my personal knowledge of high school, I expect that participants will indicate that they enjoyed high school; that it was a time to socialize, make friends, and get prepared for college.
Question #2. How would you describe your experiences with the Career & Technical Education program?	Based on the review of literature and my personal knowledge of CTE, I expect that participants will say that CTE kept them engaged and helped them to stay in school (Alfeid & Bhattacharya, 2013).
Question #3. What motivated you to participate in your selected CTE Program of Study?	Based on the review of literature and my personal knowledge of CTE, I expect that participants will say that being provided career development opportunities in middle school. Also, based on the literature I presume that parents and peers influenced their decision to participate (Gene, 2010).
Question #4. What motivated you to choose your course selections in high school?	Based on my personal knowledge of the high school structure and requirements, I expect that participants will say that they took courses in high school based on what was required to graduate and what they needed for college.
Question #5. What specific guidance and advisement were provided to you prior to and during high school?	Based on the review of literature and my personal knowledge in education, I expect participants to say that they were provided guidance and advisement from school counselors (Stipanovic, 2010; Stloukal & Wickman, 2011) and career development coordinators. My past experience as a career development coordinator allowed me to provide guidance to students on careers that aided in course selections so I presume that the participants were provided the same opportunities and information during high school.
Question #6. What activities did you participate in prior to and during high school that encouraged you to select your chosen program of study and why?	Based on the review of literature and my past experience as a career development coordinator, I expect participants to say that they participated in career development activities such as a career day, completed a career interest inventory, and participated in job shadowing that helped them to select their program of study prior to coming to high school (Bachofer et al., 2014; Gene, 2010).
Question #7. Which courses did you find the most challenging in your program of study?	Based on the review of literature and my personal knowledge in education, I expect participants to express that their courses that contained college level material such as AP, articulation, and dual enrollment courses were most challenging due to the level of rigor within each course (Herian, 2010; Klopfenstein & Lively, 2012).
Question #8. How would you describe the importance of your participation in a CTE program of study on your future plans?	Based on the review of literature and my personal knowledge of CTE, I expect participants to say that participating in the program was very important because they were able to obtain employment after high school with their credentials and enter into college without the need for remediation because they had gained college and career readiness skills (DiCocco et al., 2012; Jacques & Ptemski, 2014; Meeder & Suddreth, 2012; U.S. Department of Education, 2012).

Question #9. Who do you believe CTE courses are designed to serve?	Based on my personal knowledge of the CTE program, I expect participants to say that CTE courses are designed for those students who are not going to a 4-year college, but are going to a community college or straight into the workforce.
Question #10. How would you describe the importance of CTE programs in secondary education?	Based on the review of literature and my personal knowledge I expect participants to say that the program is important to secondary education because it provides hands-on experiences and course offerings based on student interests (Alfeid & Bhattacharya, 2013; Allen, 2010; Bachaofer et al., 2014; Braley & Handy, 2012).
Question #11. How did concentrating in (Program of Study) better prepare you for your college and career goals?	Based on the review of literature and my personal knowledge of CTE, I expect participants to say that they were better prepared for college and were majoring in the same pathway as in high school. I would also expect participants would say that the certifications that they have earned has helped them to obtain employment and that they are working in a similar job as their selected program of study (Castellano et al., 2014).
Question #12. Do you feel you have an advantage over non (Program of Study) graduates? Why?	Based on the review of literature, I expect participants to say that they believe they have an advantage over non CTE graduates because they were given opportunities beyond the regular high school setting to participate in career-based activities (Bachofer et al., 2014) and to earn credentials (Kalchick & Oertle, 2010).
Question #13. Why do you think so few students participate in a program of study?	Based on the review of literature and my personal knowledge of education, I expect participants to say that so few students participate because they are not aware of the value of CTE Programs and that if they are going to a 4-year college that they do not feel that CTE courses are necessary to take (Flournoy et al., 2010; Gentry et al., 2007; Jacques & Potemski, 2014).
Question #14. What could be done to alter that decision for others?	Based on the review of literature I expect participants to say that activities provided by career development counselors such as career days, job shadowing, field trips and school assemblies could help to increase enrollment (Bachofer et al., 2014; Gene, 2010; Lewis et al., 2008; Nevill, 1997).
Question #15. Considering your academic and career history, if you could have done anything differently in high school, what would that have been?	Based on my personal knowledge of high school, I would expect participants would say that they wish someone had told them more of what to expect after graduation.

Appendix K: Sample Interview Journal Reflective Entry

Individual Interview	My thoughts and feelings regarding the interview
Day 4: Time: 3:45 p.m. Participant #7-Emily	Emily's interview was originally scheduled for 3:30 and I became nervous when she did not show at that time, but shortly thereafter I received a phone call to say she was running a bit late, but was on her way. To help build a rapport, I began casual conversation with Emily prior to the interview. I described the purpose of the study in more detail and offered to answer any questions that she might have prior to beginning the interview. I also, ensured her that her identity would remain confidential. After signing the informed consent form, she told me about her current internship she was participating in and her current college experiences. She seemed to understand the value of research and I remember thinking she was very open and eager to share her stories. Emily's interview was the longest of all interviews. As I began asking the interview questions, Emily would pause to think prior to answering. With each question she provided rich detail, describing detailed accounts of her experiences throughout high school. She even made connections from those experiences to her current involvement in college and in her everyday life. There were a few questions that I needed to provide additional elaboration or clarification, but once she had a better understanding of what I was asking, she answered openly and honestly. I was fascinated with the detail that she provided on her experiences regarding specific events during high school. I

remember thinking that I could talk to her all day regarding her experiences. As I questioned her, she would look up as to re position herself in time to be able to answer the questions. This was interesting, as I noted that her experiences in the program must have been very memorable that even now she could recall and talk about them. At the end of the questions, she continued to add more to her story. I thought that this participant had gained from her high school experiences in the CTE program as with each question regarding the program her demeanor and expressions illustrated happiness from those experiences. Although, she continued to share, I was fine with listening, and I noted that she laughed at one point and said that she kind of gets off track easily.

Throughout the interview, there were a few contradictory statements noted. I found it interesting that she was so passionate about her program of study yet had decided to pursue a different career path, therefore, I probed for more detail. She explained that while she was passionate about the field of culinary, it was not a practical career choice for her indicating to me that she had matured since graduation and had gained a greater understanding of the practicality of career choices later in life.

After the interview, I noted that I thought that she would make a great individual to participate in the focus group as she could help to stimulate conversations amongst the other group members.

Appendix L: Sample Journal Entries

July 3, 2015

Today, I have replayed each recorded transcript. I have gone back through and reread each transcript. As I listened, I tried to ensure I had accurately documented what the participants had said. From the listening and readings of each transcript I have become immersed in each story and I am beginning to see the significant statements just from the natural eye that are standing out to me.

I have not begun the coding process and have spent some time searching the internet for a coding software. I found Atlis and Nivo, and downloaded a 30-day trial. I opened Atlis and it is Greek to me, so then I began to look for a tutorial online. I am contemplating whether using this software at all, as it seems it would take too much time to learn when I am better at just reading and highlighting. I believe I will just go the paper and pencil method to identify these significant statements that will hopefully help me to begin to formulate the emergent themes. While I have an idea of what I want in my mind and how I want to accomplish this, I want to ensure that I am ultimately answering the research questions and that I am continuously bracketing any predispositions that I have regarding the results also that I am accurately portraying the participants stories. I have found several resources to help me with the coding process that I plan to use (Bailey, 2007; Saldana, 2009, & Smith et al., 2009).

After listening to the transcripts, I have found that for many of the participants there are similarities in their responses, but not what I was expecting. For example, I expected that the participants would suggest that career development activities played a part in their enrollment in CTE, but this is not the case. I also assumed that all participants would be majoring in college in the same POS, but that is not the consensus of all the participants.

July 9, 2015

Today, I began coding the transcripts. I began by reading the interview that I found most intense and the most complex for I thought this would be a good starting point to begin the coding and memoing process. Prior to beginning, I have reread the process of coding and memoing from the resources and pieces of literature. I have to ensure that I am completing this process correctly. I found a really neat way to code using the computer, which puts the coding and memoing in one easy to read location. I am using paper and the computer to complete this process. During my first reading, I decided to begin with an open coding method. During this process of coding, I circled and highlighted words and phrases on the printed transcripts looking for statements and phrases that were essential to the phenomenon. This process allowed me to look for key words and statement, circling as much as possible during my first read of the transcript. The second time I read the transcript, I began a focused coding method. At this point I began to paying closer attention to detail group words and statements together and let the data begin to speak to me. As I read, I honestly had hoped that it would just pop out and slap me in the face (laughing), like this is the theme, but I realize that this is a very intense process. While intense, I want to find the true meaning behind each participant's story. I have noted similarities, echoes, and contradictions, regarding those events that make this study meaningful. As I read the words on paper, it has been amazing how I can visualize the participants as they were talking to me, how they responded, their demeanor, their reactions, my reactions, which is helping me to bring to life what they were saying during the interview. Envisioning them during the readings has helped me to remove myself and what I know during my readings so that I am only listening to the participants' voices and their story. This has helped me as I am going through the coding process. I have over 80 pages of transcripts, and today I read through 5 of the transcripts, as it

seemed as I was reading a book. Throughout this process today, I have had several ah ha

moments through the readings and made notes within the margins of the text of the key words

and significant statements. After completing this process for all transcripts I will group the

highlighted statements to begin a process of identifying emergent themes.