Challenges and Successes of Hiring Career and Technical Education Instructors Experienced
by Technical and State Colleges in the Florida Panhandle

by

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A Dissertation

Submitted in Partial Fulfillment of the Requirements for the

Doctor in Education in Career and Technical Education Degree

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Abstract

Evidence supports the existence of a shortage of instructors within education in the United States. This study explored the challenges and successes in recruiting and hiring Career and Technical (CTE) faculty at the post-secondary level in the Florida panhandle. Using a qualitative semi-structured interview approach, six institutions across the Florida panhandle participated. Finding ways to recruit and hire CTE faculty plays a factor in offering CTE programs that provide training to reduce the skills gap in the workforce. The thematic analysis revealed that all participants experienced pay as the largest challenge to recruitment and hiring of CTE faculty. Additional challenges appeared to be credentialing and qualifications, industry experience, teaching experience, hiring processes, technology skills, and a general shortage of a skilled workforce. Hiring processes, such as creating job descriptions and advertising, were identified as successes and were key to some participants successfully recruiting and hiring CTE faculty. Additional successes were identified as selling the candidate on the regional community, creating an enticing work environment, providing a detailed compensation and benefit package, providing mentorships, and identifying individuals with high self-efficacy. The successes identified through this study could potentially be used by others to increase successes in recruiting and hiring CTE faculty.

Acknowledgments

The biggest thank you goes to my family who have put up with me for the past three years. My wife, who has been truly amazing, has supported me, encouraged me, and carried me through many difficult times during this three-year journey. You are truly the reason for all I accomplish. My children have been understanding all the way, even when I spent vacations and cruises doing homework. I have spent many late nights and weekends sitting at a computer and not being engaged with my family, but they supported me all the way.

Thanking everyone that has played a part in my personal journey would take many months to accomplish. To that end, I will briefly say thank you to my friends and co-workers who helped support and encourage me. I want to say thank you to my industry connections that lead me to the University of Wisconsin-Stout and to this program, without interactions from you I am not sure I would have had the courage to start this journey. I want to say thank you to my cohort group that helped lead me through the tough times and the many occasions when I felt I was not going to make it through this process. I also want to thank the faculty and staff at Stout, it has been amazing, and you have helped all the way.

This journey has seen twenty nights staying in hotels, eleven thousand miles driving, four thousand eight hundred miles flying, and countless hours of study. This journey has also seen many family vacations, two graduations, a wedding, a major job change requiring relocation out of state, sporting events, work events, and family gatherings. This journey has reached its end, however, the next (whatever it might be) is sure to begin soon. Michael-

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Chapter I: Introduction

Within the context of the nation's advancing economy, there exists an imbalance between work that needs doing and the skillsets workforce entrants possess. This need for workers with special skills to fill occupations has been portrayed as the Skills Gap across contemporary media. The gap is especially heightened in skilled trade occupations as reported by Lumina Foundation (2014) and Carnevale, Smith, and Strohl (2013). The skills gap is evident across highly developed nations such as the United States and western European nations but is heightened within emerging economies such as Brazil and Argentina (Udemy, 2017).

The skills gap is persistent within the United States, especially within states with higher dependency on manufacturing operations. Indiana is an example of a state that is experiencing the skills gap demonstrated by a growing shortage of workers trained in skills consistent with the existing industry needs during a time when more jobs are being created (Indiana Career Ready, n.d.). The Florida panhandle region is an example of where business and industry are needed to grow and diversify the regional economy, but the lack of a skilled workforce is hampering the efforts to attract companies (Northwest Florida Forward, 2017). The growing shortage of skilled labor will likely accelerate the demand for advanced technology, further increasing the demand for skilled workers across career clusters and industry sectors (Zakaria, 2011). Once highly valued and paid employees are in short supply and are being replaced through automation (Tartar, 2017). The advancement of robotic operations is mechanizing repetitive manufacturing processes while artificial intelligence implementation heightens the need for up-skilling workers.

The assumption is if we do not train individuals in fields such as repair mechanics, plumbers, carpenters, electricians, and computer repair it will become increasingly difficult to maintain the workings of an advanced economy (Baxter, 2011). With a lack of skilled trades,

society could have equipment, machines, and technology devices that fail to operate causing United States productivity to slow or even halt. This could significantly impact the sustainability of the United States as a highly developed nation and could spur an economic and societal downward trend (Tartar, 2017).

By 2020 as many as sixty-five percent of U.S. occupations will require some level of degree beyond high school (Gross & Marcus, 2018; Law, 2017). At one time, degrees beyond high school meant only four-year degrees, however, two-year degrees, one-year diplomas, and technical training including certifications are growing in value (Gross & Marcus, 2018). More than high school and less than four-year is the area where most of the skilled trade jobs are at and where the skills gap appears most relevant. A steady supply of trained skilled trade graduates coming from Career and Technical Education (CTE) programs are needed to support the growing workforce occupation demands (MacAllum, Johnson, & Academy for Educational Development, 2002).

Contemporary media and policymakers talk about the skills gap and its importance to job creation supporting the importance of advancing CTE as part of the solution (Baxter, 2011). There is a growing need for career and technical education training programs to supply the growing need for skilled trade workers. Systems known for providing important occupational skill training have been known as Career and Technical Education (CTE) within the United States, Vocational Education Training (VET), and Training and Vocational Education Training (TVET) globally. These high school and adult focused CTE programs are a major player in regional economic development through their mission of advancing occupationally competent employees for business and industry. Without a skilled workforce the local, regional, and national economy may suffer which speaks to skilled trades being central to basic services that

society relies on (Tucker, 2011). Skilled workers sustain and bring new industry that advances local communities (Law, 2017). Law (2017) supports that training and degree attainment generally leads to higher wages.

While CTE can be an answer to diminish the skills gap, there is a shortage of educators at the secondary and post-secondary levels (Loughlin, 2018). Fewer people are going into the teaching profession, many current educators are retiring, and some are moving into business and industry careers (Jacobson, 2007). Evidence of a growing shortage of teachers can be seen back to the 1990s at both the secondary and post-secondary levels according to the U.S. Department of Education (USDOE, n.d.). This shortage also exists within CTE occupations, which predicts a decrease in the workers educated and skilled for industry needs (USDOE, n.d.). States such as Minnesota have employers that cannot find skilled workers with the right training at the same time high schools are cutting CTE courses and programs due to a lack of qualified teachers (Quinton, 2017). Finding and retaining CTE instructors can be difficult and seems to be growing worse (Janisin, 2016).

United States legislation recently funded Perkins V and states are developing systems to comply with the new mandates. The Florida Department of Education (FLDOE) is currently working on Florida's Perkins response and has developed working subcommittees to address major parts of the response. Kathleen Taylor, Bureau Chief/ Division of Career and Adult Education/ Florida Department of Education held an initial meeting, (personal attendance, March 27, 2019) where she explained the working subcommittee make-up with one of the working subcommittee groups being CTE Program Quality. The CTE Program Quality subcommittee, per the meeting, will be addressing issues including; CTE teacher recruitment, certification, retention, support and training, apprenticeship, and work-based learning activities. This indicates

the FLDOE recognizes issues within CTE recruitment and retention at the secondary and post-secondary levels as representation from both secondary and post-secondary groups will be involved in the subcommittee. The expectation will be for the subcommittees to make recommendations to drive leaders to develop policies to address the issues facing CTE.

Secondary and post-secondary schools are looking for experienced instructors to recruit and hire that know their craft to avoid the likelihood of programs being closed, but licensing and credential requirements must be followed (Janisin, 2016). Scott (2014) points out that finding licensed and credentialed instructors that are masters of their trade can be difficult if not impossible to find as there are fewer educational programs that are producing graduates. Education training programs are steadily disappearing across the nation, especially CTE education programs (Martino, 2017).

New methods such as grow your own are being encouraged as acceptable ways to fill open positions along with alternative licensing, professional development, and mentorship activities (Love, Love, & Love, 2016). New ways to recruit and hire CTE instructors are important topics and current CTE instructors are being asked to play their part in finding their successors as they retire or leave the teacher field by using their contacts and connections, including existing and past students (Mattoon, 2008).

Statement of the Problem

Evidence supports the existence of a dire shortage of teachers and instructors across secondary and post-secondary education in the United States including career and technical education instructors (Jacobson, 2007). A shortage of new instructors is due, in part, by a profession that is seen from the outside as being in turmoil while also suffering from instructors leaving the profession due to workforce labor shortages (McHenry-Sober, 2018). This is further

accentuated by diminished access to teacher preparation in career, technical, and workforce education and training due to education preparatory program decline dating back to the 1990s (Young-Hawkins, 1996). Teacher effectiveness standards with student learning outcomes as teacher performance measures place heightened responsibility on teachers. In many states, the move to *right to work* labor is perceived as having diminished collective bargaining and the voice through organized labor (McHenry-Sober, 2018). Additionally, Washbon indicates, rapid changes in instructional technology and delivery systems inclusive of online, distance, and open access learning are demanding rapid restructuring in teaching duties making it compelling for teachers to transition into business and industry (2012). The collection of the forces affects education institutions and their ability to recruit and hire instructors that support high-quality career and technical education (CTE) programs. Society and industry benefit from high-quality CTE programs; without skilled workers, the nation's economy could be affected (Baxter, 2011). This has been an ongoing issue for many years and a new approach should be explored with actions being taken to entice new technical professionals to become CTE instructors (Janisin, 2016; Litowitz, 1998;). This study looked to investigate the CTE instructor recruitment and hiring practices of technical and state colleges located in the Florida panhandle.

Research Questions

To address the stated research problem, the following research questions (RQ) were used to guide the study:

RQ1: What are the current challenges for recruiting and hiring post-secondary CTE instructors in the Florida panhandle?

RQ2: What are successful recruiting and hiring practices for post-secondary CTE instructors in the Florida panhandle?

Purpose of the Study

The purpose of this qualitative study was to investigate the CTE instructor recruitment and hiring practices of technical and state colleges located in the Florida panhandle. The research identified challenges and successes within recruitment and hiring practices at post-secondary colleges within the Florida panhandle. The intent was to identify best practices in recruitment and hiring of CTE instructors that could be used to help resolve the widespread instructor shortages within CTE programs.

Methodology

This qualitative research study used the case study as a methodology as described by Yin (2018). The case study is not as old as other research methodologies but, as Yin (2018) describes, it has found favor when the how and why questions need to be answered. Case studies are often used when the relevant behaviors are not being manipulated and the desired outcome is a study of a contemporary event (Yin, 2018). These fundamental how and why questions were studied using in-depth interviews where people directly involved in the hiring and recruitment events were part of the study (Merriam & Tisdell, 2016). The outcome or goal was to explore the perceived experiences of post-secondary Technical and State College administrators in the Florida panhandle as they recruit and hire CTE instructors. Through the interview process, data was collected and coded allowing for the identification of identify themes such as conditions, actions, interactions, and consequences of actions and interactions (Glaser & Straus, 1967). Patterns and themes were identified in the data collected using the process of thematic analysis (Braun & Clarke, 2006).

Significance of the Study

The Florida panhandle seeks to grow and diversify its economy and a skilled workforce is needed to propel this effort (Northwest Florida Forward, 2017). Reducing the CTE instructor shortage at the post-secondary level allows for high-quality CTE instruction to meet the needs of industry and society (Jacobson, 2007). This study was significant to understanding the challenges and success of technical and state colleges in the Florida panhandle in recruiting and hiring CTE instructors to fill open CTE instructor positions.

Assumptions of the Study

This study assumed there was a shortage or difficulty, at least in some measure, in recruiting and hiring CTE faculty in the Florida panhandle. This study assumed respondents interviewed understood the questions and the intent of the questions being asked and responded objectively and honestly to those questions. This study furthermore assumed the interpretation of the data accurately reflected what was intended by the interviewed CTE leaders.

Limitations of the Study

The limiting factors to this study, included variables that could not be controlled or accounted for. Other possible limitations of the research included the following.

1. This was a small representation of a larger group that is specific to a localized area within a single state which could lead to skewed results.

2. This study looked at CTE instructors only, which is a small representation of a larger group of overall instructors.

3. This study only looked at the challenges and successes of recruiting CTE instructors at the post-secondary level and not at the broader issue of instructor shortages in general.

Definition of Terms

The following acronyms and words have specific contextual meaning within this study and need to be defined in the context of how they were used.

Career and technical education (CTE). Career and Technical (CTE) shares a description with vocational education by Merriam-Webster online dictionary as "training for a specific occupation in agriculture, trade, or industry through a combination of theoretical teaching and practical experience provided by many high schools in their commercial and technical divisions, and by special institutions of collegiate standing (as a college of agriculture, a school of engineering, or a technical institute)" (n.d., n.p.).

Florida panhandle. The Florida panhandle is an area within the State of Florida that represents the north and western section of Florida bordered on the north by Alabama and Georgia, south by the Gulf of Mexico, and east by Alabama. The true area is undefined but for the purpose of this study it consisted of the western twelve counties consisting of; Escambia, Santa Rosa, Okaloosa, Walton, Holmes, Jackson, Washington, Bay, Calhoun, Liberty, Gulf, and Franklin.
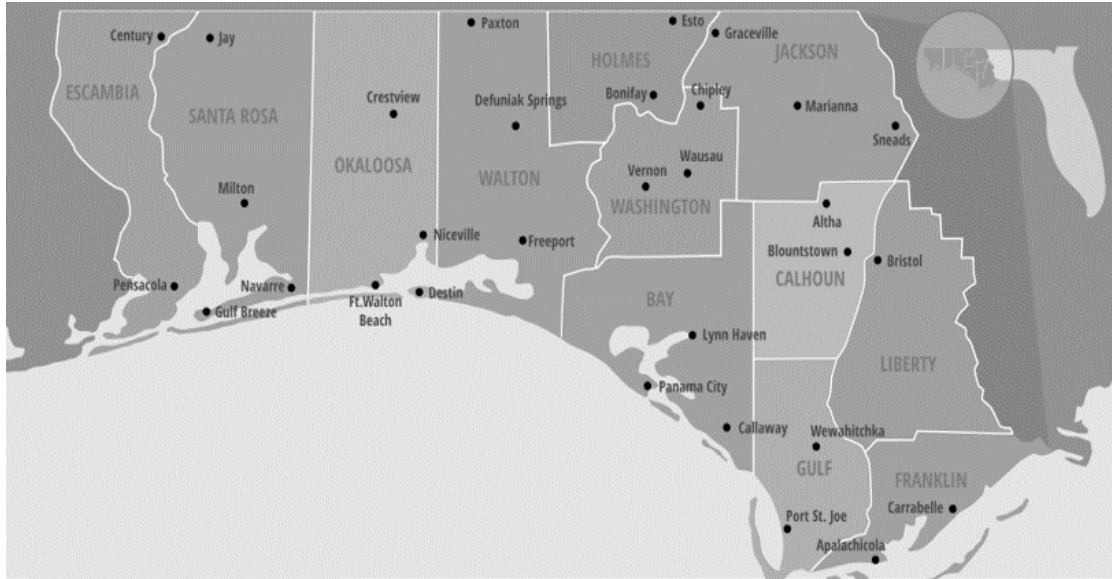
Figure 1. Florida great northwest (panhandle).

Hiring. Hiring was used in this study as the payment and securing of labor services for a period as agreed upon by both parties (Merriam-Webster, n.d.). In this study, it included incentives used or exceptions made in the securement of individuals.

Post-secondary education. For the purpose of this study, post-secondary education was any education beyond high school education that resulted in some form of credential beyond a high school diploma.

Recruitment. Recruitment in this study was generally defined as the process of adding new individuals to a workforce by means of growth (Merriam-Webster, n.d.). Recruitment can be like hiring, however, in this study recruitment did not include direct hiring activities but did include methods used to find and identify individuals to fill open positions as part of the hiring process.

Return on investment (ROI). Return on investment in this study was generally referred to as the value of return or gain after an investment, usually money or training (Merriam-Webster, n.d.).

Secondary education. Secondary education has more than one definition, but for the purpose of this study secondary education was any education between sixth grade and twelfth grade that resulted in a high school diploma or equivalent.

Skills gap. In this study skills gap was defined as the diminishing skill sets that individuals possess within the skilled trades to hold occupational positions and perform vocational and technical trade work. The special skills needed for jobs are advancing rapidly in many areas while the workers or potential workers are struggling to keep up with the training required in these occupations. Technology is constantly evolving, and workers are struggling to keep up with the current technologies that are required to perform specialized jobs (Freifeld, n.d.).

Training, and vocational education training (TVET). TVET is synonymous with Vocational Education (VE), Technical and Vocational Education (VET). In this study areas of instruction included but were not limited to programs such as the following; automotive, diesel, machine tool, industrial mechanics, industrial electrical, electronics, heating ventilation and air conditioning (HVAC), engineering, agriculture, and welding.

Vocational education (VE). Vocational Education (VE) is described by Merriam-Webster online dictionary as "training for a specific occupation in agriculture, trade, or industry through a combination of theoretical teaching and practical experience provided by many high schools in their commercial and technical divisions, and by special institutions of collegiate standing (as a college of agriculture, a school of engineering, or a technical institute)" (n.d., n.p.).

Vocational education training (VET). VET is synonymous with Vocational Education (VE) and Training and Vocational Education Training (TVET) which are terms mostly used outside of the U.S.

Workforce training. For the purpose of this study workforce training or just training was any form of skill advancement beyond high school that did not lead to a credential but often lead to a completion or industry certification. This training is generally narrow in focus and applies to specific occupations or specific jobs within a given occupation.

Chapter II: Literature Review

Career and technical education (CTE) has been a huge topic of conversation within the United States in general and specifically states such as Florida. Ron DeSantis, the Governor of Florida, issued a proclamation during CTE education month stating, "profound economic and technological changes in our society are rapidly reflected in the structure and nature of work, placing new and additional responsibilities on our education system" (2019, p. 1). Time has passed since the last major recession and the United States economy has changed with unemployment shrinking to new lows. Finding workers has become difficult, finding workers with the skills needed for many of the open job positions have become more difficult (Toppin, 2017). Training workers with the new skills required for open job positions have become important however finding training programs is not easy as many programs are struggling to find qualified and credentialed instructors (Janisin, 2016).

The intent of this literature review was to explore current issues and considerations within the hiring and recruitment of Career and Technical Education (CTE) instructors. This literature review examined Career and Technical Education (CTE) within the Florida panhandle, the importance of CTE to include the needs of business and industry to fill the skills gap, the value of CTE to the economy and within society, and the current threats to CTE. Next, the literature review looked at CTE from the education side including; teacher shortages, teacher pay, teaching requirements, and CTE teaching considerations. Lastly, the literature review explored current recruitment and hiring theories, current recruitment activities, and hiring considerations within education and CTE.

Career and Technical Education within the Florida Panhandle

Finding ways to hire qualified and credentialed instructors is important for many reasons including resolving the skills gap, preparing the workforce driving the economy, and keeping training programs alive and thriving. The new Governor for the State of Florida issued a legislative agenda that placed CTE at the forefront in order to move Florida higher in the state rankings for having an educated and trained workforce (DeSantis, 2019).

Economic development. The Florida panhandle area is looking to transition away from being primarily a hospitality and tourism economy to having enough diversity to balance out seasonal employment swings. The panhandle area has a strong military base of operations which leads to a transient population with specific skills that do not always align to local job needs. The Technology Coast Manufacturing and Engineering Network (TeCMEN), discussed that having a qualified and skilled workforce in the Florida panhandle is vital to the area to increase the ability to attract business and industry (personal attendance, February 12, 2019). It was further discussed that an expanding aerospace presence in the area is creating a growing need for a broad range of skill sets including; engineering, machining, production workers, maintenance technicians, airframe technicians, powerplant technicians, and pilots. These needs all require a trained workforce that currently does not exist to the extent needed to fill the job growth projected over the next ten years. Several members expressed the need to further develop the local education programs to fill the growing need and projected shortage.

The Florida panhandle area has seen the devastation in the form of hurricanes in the past few decades, with the most recent and most powerful to hit the Florida panhandle, being hurricane Michael in October of 2018. Hurricane Michael came ashore as a category 5 storm and was the second strongest storm to ever hit Florida and the third strongest to hit the United States

in recorded history (Wamsley, 2019). Previously hurricane Ivan caused major damage to the Florida panhandle with many other tropical storms causing various amounts of damage throughout the years. The damage from storms creates a need for additional skilled workers during the rebuilding of communities. In the aftermath of the devastation, tourism drops, and businesses suffer for extended periods of time, further highlighting the need for economic diversity.

Education overview. The education system within the state of Florida is overseen by the State Board of Education with a Commissioner reporting to the Governor. There are three primary divisions within the public education system including the following: primary, middle, and secondary Public Schools (K-12), Florida College System (FCS), and State University System (SUS) (FLDOE, n.d.a). There are many charter and private not-for-profit and for-profit schools that are outside of the public system with various reporting structures.

The K-12 system is comprised of the primary, middle, and secondary education systems which is made up of 67 districts that align with each of the local counties (FLDOE, n.d.a). The districts each have a single County Superintendent of Schools that oversees the primary and secondary levels. Reporting to the Superintendent of the county's K-12 education system are the technical colleges, vocational colleges, vocational-technical colleges or centers, and career centers. The technical/vocational colleges and centers offer post-secondary CTE programs that end in vocational certificates or diplomas (FLDOE, n.d.a). The Commissioner of Education serves as the chief executive officer of Florida's education system which includes; K-12, FCS, and SUS. While the technical/vocational colleges/centers report to the K-12 systems, they serve many of the same CTE students with similar programs and training opportunities. The instructors

within K-12 have slightly different education requirements, licensure considerations, pay scales, and overall benefit structures as compared to the FCS or SUS.

There are 28 locally governed public state and community colleges in the Florida College System (FCS) (FCS, n.d.). Each college is governed by local boards, but they are coordinated under the jurisdiction of the State Board of Education. The Chancellor of Florida Colleges is the chief executive officer of the FCS system, reporting to the Commissioner of Education who serves as the chief executive officer of Florida's education system (FCS, n.d.). The colleges offer general education and CTE programs that end with vocational certificates, advanced diplomas, college certificates, Associate of Applied Science, Associate of Science, Associate of Arts, and Bachelor of Applied Science degrees. The FCS colleges are the primary point of access to higher education in Florida, with 65 percent of the state's high school graduates pursuing postsecondary education beginning at a Florida college (FCS, n.d.). The FCS also serves 82 percent of freshman and sophomore minority students in their path to public higher education (FCS, n.d.). Transfer paths and agreements allow for ease of transition of students from the Florida College System to the State University System. The FCS serves CTE students like the K-12 system, but the FCS institutions can provide additional programs and higher levels of degree attainment. The instructors within the FCS have slightly different education requirements, licensure considerations, pay scales, and overall benefit structures as compared to K-12 or SUS.

The State University System (SUS) consists of 12 independent systems that report to local governing boards. The Chancellor of Florida Colleges is the chief executive officer of the system, reporting to the Commissioner of Education who serves as the chief executive officer of Florida's education system (SUS, n.d.). The SUS typically offers undergraduate and graduate degrees including degrees in Bachelor of Science, Bachelor of Arts, Master of Science, Master of

Arts, and Doctoral degrees. The definition of CTE places CTE as programs under the bachelor's degree level so the SUS generally works outside of what would be considered CTE (NCES, n.d.). The SUS does accept several CTE degrees as a transfer into higher degrees allowing for life-long learning opportunities for students. The faculty within the SUS have different education requirements, licensure considerations, pay scales, and overall benefit structures as compared to K-12 or FCS and often include research as a part of their role and responsibilities.

Importance of Career and Technical Education

Career and technical education is broad in scope and changes when viewed from different career fields and education levels. The National Center for Education Statistics identifies CTE as courses at the secondary (high school) level and programs at the post-secondary (college, sub-baccalaureate level) level that focus on the knowledge and skills required for individual jobs (NCES, n.d.). Currently, the NCES website lists several secondary and post-secondary occupational fields including the following: agriculture and natural resources; business support, management, and finance; communications; computer and information sciences; construction; consumer services; education; engineering and architecture; health sciences; manufacturing; marketing; public, social, and protective services; repair; and transportation. The importance of CTE can be seen in many areas of industry as a shortage of trained workers has become relevant to everyday business (Gross & Marcus, 2018).

Skills gap. Within the past decade since the last great recession, a new imbalance between the types of work that needs doing and the types of skills that workers possess has emerged within the context of the nation's advancing economy. This has manifested itself as the Skills Gap portrayed across contemporary media. Skills gap is not a term found in many dictionaries rather it is a term coined by media and industry to describe the current situation that

Stanley and Bell (2012), Thurlow (2014), Tartar (2017), and Putre (2018) portray as the difference in the skills an individual possesses as compared to the skills required for a particular job or job function. The skills gap is especially heightened in specialized and skilled trade occupations as reported by Lumina Foundation, (2014), and Carnevale, Smith, and Strohl (2013). Carter (2017) points out that in a report from Indeed.com, roughly one-third of recent job postings for cybersecurity nationwide did not have a single applicant supporting a lack of trained individuals. The skills gap is a world phenomenon often heightened within highly developed and emerging economies. Internationally, the skills gap may be more pronounced within emerging nations like Brazil and Argentina than within the United States and western European nations (Udemy, 2017).

Looking within the United States the skills gap is persistent, especially in states that have a higher dependence on manufacturing (Gross & Marcus, 2018). Manufacturing is rebounding but is taking a high-tech twist and is requiring a new set of skills as automation is wiping out manual skill jobs (Smith-Barrow, 2018). According to Indiana Career Ready (n.d.), a growing shortage of workers trained in skills consistent with industry needs is shrinking, which is at odds during a time when more jobs are being created. Tarter (2017) indicates the United States economy is growing under the current presidential administration especially in the area of manufacturing. There is a need for trained and skilled individuals to fill job openings created by this growing economy, but a shortage of available workers is threatening to derail the economic growth (Tarter, 2017). Retiring baby boomers are creating additional pressure on the job market as they are retiring at an increasing rate (Gold, 2018; Janisin, 2016). One solution is to increase the advancement of robotics, mechanization of repetitive manufacturing processes, and artificial intelligence implementation (Putre, 2018). This solution further heightens the need for up-

skilling workers as advanced skills are required to install, operate, and repair these advanced systems. With an already growing shortage of skilled labor, the increase in technology needs will likely accelerate the demand of skilled workers across career clusters and their represented industry sectors (Zakaria, 2011). Concurrently, automation is inevitable from a return on investment, competition, and human resource shortage perspective. While change within business and industry is the norm within the globally interconnected supply chain of resources, manufacturing, and consumption perspective, once highly valued and paid employees that are in short supply are being replaced through automation (Tartar, 2017).

Baxter (2011) highlights jobs that need doing within the context of the skills gap as he questions how vehicles will be repaired, bicycles serviced, plumbing installed, houses built, infrastructure maintained, and computer systems be supported. The United States, and the world, in general, has a large service sector that relies on skilled tradesmen. As building projects happen electricians and plumbers will be a valuable part of the processes. Service repair personnel will also eventually be needed to service or repair systems, so the value of these crafts should not diminish. Service technicians will be required to service and repair vehicles and construction machines. Krupnick (2018) indicates that in North Dakota, getting a tractor repaired is taking several weeks and is hurting the productivity of farmers as there is a lack of agriculture mechanics. Thurlow (2014), points out that there is a growing need for high skilled automotive technicians and dealerships are just not finding them. He continues to indicate that the young workers are not properly trained or prepared to work in what is a "dirty job" (p. 29). In a study by Symonds, Schwartz, and Ferguson (2011), it was found that a prevailing attitude is that CTE is for "other people's kids" (p. 29) and therefore should be avoided. The assumption is, if we do

not train individuals in these fields it will become increasingly difficult to maintain the workings of an advanced economy.

Sands (2016) indicates manufacturing is being hurt by this skill gap and will be short two million workers with the proper skills needed by the year 2025. As the demand for a highly skilled workforce grows the lack of skilled trades could cause society to have equipment, machines, and technology devices that fail to operate causing United States productivity to slow or even halt. This could significantly impact the sustainability of the United States as a highly developed nation and could spur an economic and societal downtrend (Tartar, 2017).

The Florida panhandle area, generally referred to as the westernmost counties and part of Florida's Great Northwest, has struggled to find skilled talent for many industry sectors (Northwest Florida Forward, 2017). The area is a mixture of research and development, military, tourism, and manufacturing industries that is very diverse in nature. The key concept across industries is the need for skilled talent and the need for vibrant and rigorous education opportunities providing training for the workforce (Northwest Florida Forward, 2017).

Value of CTE. There is a need for training with increased emphasis on career, technical, and workforce education, as eighty percent of manufactures worry about running out of workers (Sands 2016). Systems that have historically been important to occupational training are known as Career and Technical Education (CTE) within the U.S. and Vocation Education (VE), Vocational Education Training (VET) and Technology and Vocational Education Training (TVET) globally.

CTE is a system that is part of the economic development solution as adult focused CTE is a major player in regional economic development through its mission of advancing occupationally competent employees for business and industry. Tucker (2011) supports that

without a skilled workforce the local, regional, and national economy suffers. Skilled trades are central to the basic services that society relies on as these skilled workers sustain and bring new industry thus advancing local communities (Law, 2017). These skilled workers also generally lead to higher wages within a community as a result of advanced training and degree attainment (Law, 2017).

A steady supply of trained graduates coming from CTE programs is needed to fill workforce demands. Since 1990 there has not been a net new job created in America for workers without some college education (Hicks, 2018). By 2020 as many as sixty-five percent of U.S. occupations will require some level of degree beyond high school (Gardner, 2018; Gross & Marcus, 2018; Law, 2017). In contrast nearly ninety million individuals age 18 to 64, representing almost half the American workforce, only possess a high school diploma. Degrees beyond high school, at one time, meant four-year degrees but two-year degrees, one-year diplomas, and technical training including certifications are growing in value (Gross & Marcus, 2018). More than high school and less than four-year is the area where most of the skilled trade jobs are at and where the skills gap appears relevant. Successful CTE programs contribute to the economic resources of our nation in many ways.

Career and Technical education have a significant role in our society and contributes largely to our economic prosperity and stability (Mitsui, 2018). It is difficult to determine how much CTE really affects our economics, but there are suggestions that CTE is being viewed as a major contributor to the development and recovery of the economy of the US (Kotamraju, 2011; ToolingU/SME, 2016). CTE has a large impact on the local economy as MacAllum, Johnson, and Academy for Educational Development (2002) state:

The success of our schools in graduating successful students is directly related to the success of our communities. The more economically prosperous our communities, the stronger the tax base backing our school systems, which in turn offers more resources to provide quality education. Quality education produces successful graduates with talent and skills that local employers can leverage to improve productivity and support economic expansion. (p. 23)

Although CTE comes in many forms and degree attainment levels, CTE often starts at a lower training level which does not require the financial commitment that higher degrees require while contributing significantly to the economic impact of our society leading to high paying skilled trade jobs (Gross & Marcus, 2018). Career and technical education are a large part of the education field but differs from traditional academia in the requirements of the fields it serves. Traditional academia is generally termed higher education with four-year degrees and beyond and largely consists of colleges and universities. CTE is generally associated with two-year degrees and below from state colleges, community colleges, and technical schools. The Federal Government has realized the importance of Science, Technology, Engineering, and Mathematics (STEM) in which CTE has an important role, as they have created the National Science Foundation (NSF) as a way for Academic and CTE programs to work toward meeting the needs of the labor market (Zeidenberg & Bailey, 2010).

Northwest Florida State College, in the Florida panhandle, is responding to local industry demand by updating their existing programs and creating new CTE programs as suggested by local advisory councils and economic development partners (NWFSC, n.d.). The strategic plan of the college lists industry workforce training in multiple goals that have been established and is aligned with the Northwest Florida Forward (2017) report indicating the need for CTE to expand

and support the local economy. This is a common theme in the panhandle as the area experiences

a growing economy. The area has struggled recently from devastating weather creating the need

for additional skilled workers, already in short supply, to assist with rebuilding local

communities.

Threats to CTE. Within an expanding economy, a healthy job market, and a shortage of

sufficiently trained workers, especially in manufacturing workforce development systems are

expected to increase the imbalance between supply and demand (Tartar, 2017). Complicating the

inequity are adolescents not seeing high demand occupations that their parents are employed in

as part of their future work-life (Gross & Marcus, 2018). A 2017 Indiana Manufacturing Survey

indicates that of the reasons manufacturing jobs are decreasing is that nineteen percent of the

current workforce will be retiring, and another 19 percent is due to fewer young people going

into manufacturing as presented by Katz, Sapper, & Miller (personal attendance October 04,

2017). Efforts are in place through academic and career guidance efforts and through CTE

programs across agriculture, business, family and consumer sciences, health science, marketing,

and technology programs within comprehensive high schools and technical centers locally and

nationally.

Recruiting new workers with the skills needed for the skilled trade jobs requires trained

workers, which requires quality CTE programs, which requires highly trained and effective

educators leading the programs (Chumbley, 2016). Students are seeing repercussions of budget

cuts as many programs are closing and the ones that survive are often underfunded to the point

that they lack up to date equipment and supplies in the classroom and labs (Thurlow, 2014).

Automotive technicians are in high demand and require high technical skills and quality training

programs as the level of training required is greater than ever before (Thurlow, 2014). The needs

of workforce training are changing rapidly and are increasing the need for training programs to stay relevant in technology to meet these current needs (Rojewski & Hill, 2014).

Economic development issues have dominated policy debates around the United States for years and are gaining momentum as policymakers around the nation are debating budget cuts and economic development issues, but the solution is increasing budgets and effectiveness of CTE training (Hyslop, 2009). It is critical to turn the focus to improving education and training opportunities for students. Policymakers are continually talking about the skills gap and its relationship to creating jobs supporting the importance of advancing the investment in human capital development nationally (Baxter, 2011; Chumbley, 2016). Budget cutting within CTE in the United States at federal, state, and local levels has created concern (Hyslop, 2009). Continued funding cuts are affecting the education programs that involve CTE as the school systems are being hurt followed closely by the students that are looking at going into skilled trade programs. Career and Technical Education (CTE) programs have seen a constant reduction in funding and support, as Baxter puts it "we have experienced significant funding reductions for the Carl D. Perkins Career and Technical Education Act, not to mention the cuts in state and local CTE funding" (2011, p. 16).

Career and technical education have commonly suffered from poor funding and low completion or graduation rates at the post-secondary level but these less than four-year degrees do have a return on investment that supports funding at a high level (Stevens, Kurlaender, & Grosz, 2018). Using a return on investment (ROI) calculation, estimations of increasing the graduation rate at post-secondary schools can be as high as $335 billion dollars but a true calculation is very difficult to come up with (Kotamraju, 2011). Low completion rates are part of the reason post-secondary CTE programs are being underfunded and cut as the government has

cut the Perkins funding partly due to low measured completion rates (Kotamraju, 2011). Often students leave school before completing degrees because they have learned the skills needed to successfully work in their field of study and the chance to obtain a career and earn money can be more appealing than completing the degree (Gross & Marcus, 2018).

Increasing funding in CTE programs can lead to profound effects as Hyslop (2009) supports career education has the benefit of a more educated and stable workforce which increases the ability to attract new business to communities, reduces the dropout rates of students, increases graduation rates, and creates greater earnings among graduating students. Hyslop (2009) goes on to suggest that students that stay the course and graduate with the degree will be better prepared for a more secure career and future, which translates into a better prepared and stable workforce overall. This is an argument for the importance of completing the degree as higher completion rates should translate into more funding and support. Our current model of reporting does little to find students that drop out early to work in their field of choice where they can be successful and immediately start building on the economic impact of society (Hyslop, 2009). Our current model of reporting further does not recognize that not completing a degree may only have a short-term impact on economic growth (Hyslop, 2009).

Teacher Shortages

There is a collection of forces affecting education institutions and their ability to attract and retain teachers that support high-quality education programs. Many people see the teaching profession as being in turmoil for a number of reasons including instructors retiring, leaving the profession due to workforce labor shortages, not entering because of a lack of teacher preparation programs, additional requirements placed on student outcomes, and pay (McHenry-Sober, 2018; Young-Hawkins, 1996).

Secondary teacher shortage. Evidence supports the existence of a dire shortage of teachers and instructors across secondary education in the United States (Jacobson, 2007). Fewer people are going into the teaching profession and large numbers are retiring or just not staying. Jacobson (2007), indicates 100,000 California teachers are expected to retire over the next 10 years thus there will be a need for more than 33,000 new mathematics and science teachers. New York State has seen troubling signs for a while as the teacher's union reports having one-third of their members eligible for retirement in the next five years (Rey, 2018). This same trend appears to be very widespread as a national shortage of educators seems to be commonplace (U.S. DOE, n.d.).

The responsibility and pressure placed on secondary teachers have increased rapidly in the past decade as many states have moved to *right to work* labor which is perceived to have diminished collective bargaining and reduced voice through organized labor keeping teachers from standing up to administration (McHenry-Sober, 2018). Legislation has heightened teacher responsibility by placing effectiveness standards on teachers in the secondary education system as a measure of performance by accessing student learning outcomes. Additionally, rapid changes in instructional technology and delivery methods inclusive of online, distance, and open access learning has created an increased demand for new skills in teaching on top of a multitude of other teaching duties making it compelling for teachers to leave teaching and transition to business and industry (Washbon, 2012).

There is evidence as supported by Rey (2018) and Walsh (2016) that there may not be an actual shortage yet, but it is coming as many teachers are not prepared to teach in science and math areas or in specialty areas such as career and technical education. Urban and rural areas that primarily serve populations with high poverty rates and minority populations are at the greatest

risk to find teachers as teacher preparation programs have dropped by 40 percent between 2010 and 2016 (Krupnick, 2018; Rey, 2018).

Many believe the cause of the shortage of qualified educators lies within the pay scale of education. Walsh (2016) suggests that the pay should be adjusted for specialty areas that are hard to fill and the pay adjustment would resolve many of the shortage issues. A person can earn much more money in industry so there is no great advantage to going into the education field. Tucker (2011) states "the prevailing U.S. reform agenda will lead to lower, not higher, teacher quality, whereas the strategies our most successful competitors are pursuing will enable them to pull further and further ahead" (p. 42). While the U.S. is creating special exemptions for teachers' other countries are tightening the requirements and increasing the pay to encourage the best and brightest people to go into education instead of business. The United States is the only advanced industrial country that waives the licensure requirements for teaching (Tucker, 2010). This is an indication of a low value being placed on our children's education and respect for teaching. A recent poll by Phi Delta Kappan (PDK) International (2018), determined two-thirds of Americans feel teachers are underpaid and would support the teachers striking. The PDK (2018) poll also indicated that the majority trust teachers but they would not want their own children to enter the profession.

Teacher preparatory and education programs are struggling to stay open and the ones still operating are often struggling to maintain enrollment. Especially concerning is that studies show a trend of CTE preparation programs declining steadily across the nations over the past four decades (Martino, 2017). This decline is happening while enrollment in CTE programs is increasing (Florida Department of Education, n.d.a). At the same time as the number of CTE teacher preparation programs are shrinking, they are becoming more generalized in nature and

are being merged with regular education programs further reducing the ability for teachers to become prepared to teach specialized skilled trades programs (Fletcher, Gordon, Asunda, & Zirkle, 2015)

The issue of instructor shortages is not common to just America as Ruel Reid, Education Minister in Jamaica indicates the number of students passing the Caribbean Secondary Education Certificate (CSEC) mathematics exam dropped 15 % in 2016 (RJR, 2016). He goes on to state the problem is due to a lack of trained educators. Reid states there are only 207 of the 1,784 math teachers in grade 11 that are qualified to teach math, meaning only 207 have the minimum required bachelor's degree (RJR, 2016). Qualified educators are in short supply and when you narrow down to just CTE, the shortage becomes much worse.

Post-secondary CTE instructor shortage. While CTE can be an answer to diminish the skills gap, there is a shortage of educators at the post-secondary level (Loughlin, 2018). Young people are not entering skilled trade fields while older generations are retiring or deciding not to learn new skills while more jobs are being created and technology seems to be increasing rapidly (Loughlin, 2018). Industry needs to have well-trained graduates coming from CTE programs meeting the demand for high-quality technical education programs. Understanding factors that influence the decisions of technical education instructors to enter and stay in the CTE profession are critical (Janisin, 2016).

The shortage of trained CTE instructors is paralleling the trend of a shortage of industry professionals in the workforce (Janisin, 2016). Fewer people are going into the teaching profession compounded by an aging teacher population within post-secondary institutions as instructors are retiring or moving into business and industry careers. Evidence of a growing shortage of teachers can be seen back to the 1990s at the post-secondary level according to the

U.S. Department of Education (USDOE, n.d.). Minnesota is one of a long list of states where employers cannot find skilled workers with the right career training and at the same time colleges are cutting CTE courses and programs due to a lack of qualified instructors (Quinton, 2017).

Finding and retaining CTE instructors can be a difficult thing and the need continues to grow as Janisin (2016) states "the pool of technical instructors is shrinking due to increased retirements, attrition back to industry, and shrinking technical education preparation programs and enrollments" (p. 19). Schools must hire CTE instructors to teach classes or classes may be canceled or programs closed. Schools are looking for experienced instructors that know their craft but there are also credential requirements that must be followed. Scott (2014) points out that finding credentialed instructors that are also masters of their trade can be difficult if not impossible to find as there are fewer educational programs that are producing credentialed graduates.

Understanding ways to entice skilled professionals to become CTE instructors is important to the industry (Litowitz, 1998; Janisin, 2016). A study by Janisin (2016) looked at why instructors accepted and why they stayed in CTE positions. Per Janisin (2016) the type of the work and being tied to industry standards were the main influence on instructors while up to date equipment, professional development possibilities, and pay were the other top influencing factors. Pay was not the number one factor that influenced instructors; however, it was a significant factor as industry positions often pay better than CTE positions creating competition for teaching professionals (Janisin, 2016).

Teacher Pay

Teacher pay is a subject that has grown in intensity over the recent years as pay is considered a large part of the teacher shortage concern. To ensure high quality teachers, high quality students need to be recruited but pay seems to be limiting this high value effort (Allegretto & Mishel, 2018). More emergency licensing for teachers is occurring in states such as Kentucky due to the struggles to retain and recruit quality teachers due to pay concerns (Will, 2018). In a report from the Economic Policy Institute, the teacher pay gap compared to other career opportunities has widened and educated individuals can earn much more in a private industry position (Allegretto & Mishel, 2016). The report goes on to indicate that "in no state are teachers paid more than other college graduates" (p. 15) with twenty-one states having teachers earning seventy-seven percent or less of the comparable industry wage (Allegretto & Mishel, 2016).

Many teachers are at the point that they must work multiple jobs just to pay their bills and feel they are not earning a livable wage even though they have college degrees and, in some cases, graduate degrees (Edwards, 2018). Teachers are being forced to make tough decisions as many feel they are called to be teachers, but the low wages are keeping them from supporting their families (Will, 2018). Schools are not providing raises and the increasing costs to deliver the curriculum to students is forcing some teachers to purchase school supplies out of their own pockets (Edwards, 2018; Will, 2018). High demands and low pay are increasingly making recruitment and retention of teachers difficult and the trend appears to be getting worse not better (Allegretto & Mishel, 2016; 2018).

Walk outs or strikes are being viewed as the last resort that teachers are being forced to consider in the fight for what they consider a livable wage (Will, 2018). Teachers in West

Virginia staged a successful walkout in 2018 to receive raises which, started a wave of support and similar walkouts across the country (Edwards, 2018). Teachers are increasingly angered by legislative changes that have resulted in the loss of financial support of their profession, in states such as Wisconsin, and are increasingly voicing their reluctance to consider or stay in teaching positions (Biasi, 2018).

Teacher Requirements

Finding teachers and instructors with the proper credentials and needed experience in specialized subject areas is becoming increasingly more difficult across America. There are common requirements between secondary teachers and post-secondary teachers, but differences also exist. An understanding of classroom management and pedagogy is equally important to be a successful instructor as the individual needs to understand how to teach, develop lesson plans, create curriculum, and assess learning so the student will have a quality learning experience.

There has been a distinction between academic and technical vocation programs of study for years. Often time's students are placed into either an academic track where they are expected to go to a four-year university and study traditional subjects of math, English, communications, and science or they are placed into a vocational track where they are expected to either go into a training program or a two-year college program leading straight to work. Both tracks will lead to careers and a lifetime of work and possibilities. One distinction with the academic track is the expectation of completing a four-year degree or transfer from a two-year school into the four-year school. State Boards usually determine the education requirements for K-12 systems while college institutions generally determine their minimum educational credential requirements based on the institutions interpretation of the accreditation agency's standards.

Professional or trade skill levels play an additional part in the requirements of CTE instructors. Being an industry professional with specific skill sets aligned with the subject area is generally a requirement for CTE instructors at all levels. These industry skills can supersede academic education requirements in some cases and supplement them in others. When looking at the degree level of teachers Scott (2014) indicates 45 percent of secondary teachers and 33 percent of post-secondary instructors have less than a baccalaureate degree. Cramer (2004) suggests CTE instructors with baccalaureate degrees often have few education-related courses and fewer academic classes as compared to non-CTE instructors. An individual with a combination of education and industry skills may be best suited for the teaching profession.

Education requirements for secondary teachers. The main requirement for teaching at the secondary level is a bachelor's degree in teaching with state licensing as referenced by the U.S. Department of Education (n.d.). Required coursework within the teaching profession such as curriculum development, assessment, and education philosophy are a general part of teaching degrees (Teacher Certification, n.d.). If the secondary education institution is offering a college dual credit general education course, the college teacher qualification is determined by each intuitions interpretation of their regional accreditation body rules, such as Higher Learning Commission (HLC) or the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). These general education dual credit qualifications are often considered to be a master's degree in the subject area or master's degree with 18 credit hours in the subject matter, which is higher than the standard secondary education teacher requirement (SACSCOC, n.d.). This higher education requirement is not inclusive as CTE courses will often allow for a lower education level and the requirement will vary by state.

Some universities such as Indiana State University and Purdue University have developed different teaching preparedness degrees to move individuals into secondary teaching positions (INDOE, n.d.a). These programs are designed to get previously degreed individuals into the classroom in a quick manner; this may include some type of on the job training and internships. This path supports general teaching needs but has academic and educational courses combined with no requirement of industry experience which Cramer (2004) believes is critical to quality CTE instruction. This is further concerning as Young-Hawkins (1996) states:

> It is incumbent upon technology teacher education programs to incorporate high-quality alternative programs for non-traditional teacher certification candidates as we need to be guided by a vision that sees teacher preparation as a highly diversified endeavor that includes true partnerships between colleges and universities, school districts, and state departments. The emergence of alternatives should provide us with new lenses for viewing the recruitment and preparation of technology education teachers. (p. 26)

Alternative licensing for secondary teachers. There are exceptions to teaching requirements depending on state statutes and licensing requirements partly due to a shortage of credentialed teachers. Stephens (2015) suggests alternative licensing is becoming more common as 42 states currently have some form of it (Advance CTE, n.d.). Indiana has an alternative licensure path listed on the Indiana Department of Education website (n.d.b) indicating an individual can have a bachelor's degree, industry experience, and pass an exam to be licensed for a two-year period while the individual completes pedagogy training or preparation before applying to pass the state licensing exam. Florida has a path as listed on the Florida Department of Education website (n.d.b) indicating an individual without an education degree can obtain a temporary teaching certificate in a subject area of expertise that is valid for up to three years.

Graduating teachers by traditional means takes time that is currently not available (Gray & Herr, 1998). In states such as Indiana, there are transition to teaching programs. The Indiana Department of Education (n.d.b) indicates an individual with a bachelor's degree and a grade point average of 3.0 on a 4.0 scale can participate in a two-semester program to become fully licensed. This path is designed to maintain a high level of education for the individual seeking to become a teacher and at the same time maintain minimum educational requirements.

Many states are creating alternative ways to qualify professionals, so they meet credentialing standards to get teachers into the classroom in a quick manner. These options help fill the gap caused by a lack of qualified individuals, however, it places a person in the role of an educator without any teaching or pedagogy training (Stephens, 2015). In Indiana, there is what is called an emergency permit which is "issued at the request of a school district in a content area for which the district is experiencing difficulty staffing the assignment with a properly licensed educator" (INDOE, n.d.b, n.p.). The website indicates there are requirements that must also be met that show the individual is working toward becoming fully credentialed.

Schools, looking to hire CTE teachers, are increasingly turning to alternative licensure as ways to place certified and licensed teachers into secondary classrooms. Many states have what is referred to as an occupational specialist license, district non-degree vocation certificate, or similar name which allows individuals with industry experience and industry certifications to pass an exam or demonstrate competency another way and be granted a teaching license. This license is geared toward technical trades and is often used in high schools, high school career centers, or technical colleges across the nation. In states such as Indiana, Michigan, and Tennessee a person teaching a trade in a career center can do so with industry experience, industry certifications, an occupational specialist license, district non-degree vocational

certificate, and a high school diploma and no other higher education or college degree (INDOE, n.d.a).

Alternative routes into education that require only work experience can be traced back to the Smith Hughes Act of 1917 (Gray & Herr, 1998). This practice has become popular in many states and districts as a solution to finding highly qualified teachers in CTE. A person with high-quality industry or trade skills can be a great subject matter expert to train a new generation of skilled workers especially if the industry person shows high potential to excel in teaching (Gray & Herr, 1998). Having an instructor with no high school diploma or post-secondary instruction can be concerning and quality standards might be suspect (Gray & Herr, 1998). The choice to cancel or fill classrooms with under-qualified teachers is not desirable as having to pick from either is not in the best interest of our nation. There is a high demand for CTE and the trades that it serves. Without the trades, there will be a great many of the needs in our society that will go unfilled as the CTE trained workforce provides the basic services we rely on (Tucker, 2011).

Alternative licensing concerns. Alternative licensure can create concerns within CTE classrooms. Litowitz reports "The primary disadvantage of alternative route licensure is that some states appear to have adopted or are presently considering adopting very minimal preparation criteria which may lead to dangerously under qualified TE (technology education) teachers in the classroom" (1998, p. 28). Beyond the issue of the lack of teacher education training is the issue of the academic abilities, such as reading, writing, and math, of the CTE educators (Stone & Lewis, 2012). With these levels of requirements, the CTE instructor may not be fully prepared to deliver quality training to students as many times the instructor does not have the academic skills in reading, writing, and math that regular academic instructors have (Cramer, 2004). Research reveals that CTE teachers with at least a bachelor's degree perform

better in the classroom and have higher student learning outcomes (Clotfelter, Ladd, & Vigdor, 2010). Without these skills, it becomes difficult to teach academics to CTE students and the instructors many times do not see the need for academic skills and do not relate the importance of academics to their students.

Education requirements for post-secondary instructors. When reviewing academic standards, it is common to have a minimum expectation of faculty having a higher degree than the one being granted to students, thus four-year colleges and universities typically have a requirement of a master's degree or higher. The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) (n.d.) requires faculty to hold a minimum of a master's degree or higher in the discipline being taught or a master's degree with 18 graduate hours in the discipline being taught for general education core classes. SACSCOC allows institutions to determine its own interpretation of credential requirements and often CTE programs have lower requirements (n.d.). There is greater flexibility in required education degree levels held by instructors below the bachelor's degree-granting level, depending on state statutes and policies and institutional interpretation of accreditation body regulations. Unlike the secondary education system, there does not appear to be a requirement for any type of widespread education license or education program degree attainment for post-secondary institutions. The college and university level, such as Northwest Florida State College, does not appear to have a requirement of coursework within the teaching profession such as curriculum development, assessment, and education philosophy (NWFSC, n.d.).

Education requirements at the post-secondary technical, community, and state college level can mirror the general education academic credentials for all instructors but there are generally lower degree options that allow CTE instructors more flexibility due to less emphasis

on transfer (SACSCOC, n.d.). There have been previous studies completed by Olson, Jensrud, and McCann (2001) where the requirements for teaching at the post-secondary level were compared among all 50 states. Between 1990 and 1998 the number of states requiring credentialing to teach CTE courses at the post-secondary level dropped from 38 percent to 34 percent (Olson, Jensrud, & McCann, 2001). The study also indicated that of the 17 states requiring a credential to teach CTE courses, the minimum education requirement in those states was as follows: five states required a bachelor's degree, two required an Associate degree, and ten required a high school diploma (Olson, Jensrud, & McCann, 2001).

The Academic Support and Operations Manual for Ivy Tech Community College, as accessed from their website (n.d.), lists the credential requirements for instructors at the post-secondary level as bachelor's preferred but an Associate degree with industry credentials or just certification as being acceptable depending on full-time or part-time status. In Tennessee (Tennessee Board of Regents, n.d.) the technical college requirements are a high school diploma or equivalent and industry experience plus industry certification when appropriate. Industry certification or higher credential is preferred but not always required. In Florida, a master's or bachelor's degree, depending on the subject, is the general rule but a minimum of an Associate degree plus industry experience or certification is acceptable (NWFSC, n.d.). Each state and institution have slightly different requirements.

Considerations for Teaching Career and Technical Education

Backgrounds in science, math, business, and the trades are important for teachers to have in order to convey true experience into the classroom setting (Scott, 2014). Understanding classroom management and pedagogy are equally important to trade skills for instructors to be successful in the classroom (Scott, 2014). The general thought has been that trade skills were the

most important skills for an instructor to possess and that the teaching skills could easily be learned as time went along (Scott, 2014). Secondary teachers and post-secondary teachers are often not required to have education training and many times CTE professionals are lacking in general academic abilities that are needed (Sharma & Pandher, 2017; Stephens, 2015). With the many qualifications and alternative paths teachers may be under qualified academically to deliver quality training to students.

Students moving into CTE areas often have abilities and skill sets that are psychomotor driven, and they learn by doing and using their hands more than cognitive skills where learning is done more from reading books (Baxter, 2011). When looking at CTE programs and curriculum it becomes clear that they focus on motor skills and abilities. Many of the requirements needed for the vocational workplace focus on technical skills with academic skills hidden from plain sight. Industry workplace skills are changing so there is a need for CTE to become academically more rigorous to include workplace academic skills (Scott, 2014). Korcheck (1987) suggests instructors should try to show CTE students how workplace writing, and verbal communication skills are used and required as they may not be research or expository theme papers. CTE students clearly see and understand the technical skills they need but often they do not understand why they would need other academic skills.

Technical skill requirements for CTE. To have a high-quality CTE program, schools are required to find teachers with the proper educational credentials and experience in specialized trades; an increasingly difficult task across America (Scott, 2014). Having industry experience can lead to be a master of the trade, which is valued in the classroom, even if the reason is only for credibility with the students (Gray & Herr, 1998). The importance of technical skills is very important but the other skills for an instructor to possess are equally important to

convey educational concepts to students (Scott, 2014). Backgrounds in academics, as well as the trades, are important for teachers so they can convey their experience into the classroom, as understanding classroom management and pedagogy is equally important for a successful teacher (Stone & Lewis, 2012).

Integrated academics within CTE. Teaching academic skills to vocational students can be difficult and have poor results as many times the vocational track students will struggle to achieve success in traditional academics. Finding a better way to teach basic academic skills to vocational students is important for the success of these students. Students tend to ignore or de-value information that they do not see as useful to them. Educators may know what the student needs to learn but until that student sees that same need they are unlikely to pay attention to the learning. As Symonds (2009) states "the most important reason high school students drop out is the feeling that school is boring and irrelevant to their future" (p. 22). Symonds (2009) suggests finding a way to place relevance on learning both trade skills and academics as it will increase the success rates of students and prepare them for their future. Integrating academics can have profound effects as Hyslop (2009) supports teaching career academics has a benefit of a more educated and stable workforce.

Integrated and contextualized academics are key parts to CTE as applied academic courses help students understand the nature of why they need to learn what they study (Craig, 1999; Smith, Rayfield, & McKim, 2015). The concern becomes the lack of academic preparation and exposure of teachers below the bachelor's degree attainment level. To teach integrated academic concepts, the teacher needs to understand the subject matter. Academics need to be integrated into the vocational curriculum. Brown (1998) suggests the new vocational education calls for enhanced academics that is achieved as students engage in learning experiences that are

situated in real-life contexts and help develop higher-order thinking skills. The CTE technical courses can have the academics built in, such as doing math calculations that are required in the technical process. Mathematics achievement is improved when teachers engage students and use mathematics to solve real-world problems (Bottoms, & Presson, 2000; Smith, Rayfield, & McKim, 2015). There could be writing assignments based on critical thinking activities involving the technical process with oral communication standards taught by giving technical instruction reports and activities throughout multiple inter-related courses and curriculum (Frost, Storm, Downey, Schultz, & Holland, 2010). Many things in technical courses are heavily built around scientific principles so it would be easy to identify the principle being used. This process would teach academics at the same time as teaching technical competences (Smith, Rayfield, & McKim, 2015). This integration would also demonstrate the importance of academic skills and how relevant they will be to the student when they enter the workforce.

In the research study Math-in-CTE (2010), conducted by the National Research Center for Career and Technical Education (NRCCTE), students were taught math concepts within their technical courses and the students scored significantly better in math in national testing (NRCCTE, 2010). The math concepts took no more than 10% additional time in the courses and were delivered by the CTE instructors who underwent extensive professional development activities with math instructors (NRCCTE, 2010). These results indicate the value of contextualized academics within the CTE programs as the gains in math were not offset by a loss of technical skill testing (NRCCTE, 2010). To teach academic concepts, the instructor needs to understand the subject matter at a higher degree than they are teaching to students. Pierce suggested CTE students exposed to integrated academics would score better on the Florida Comprehensive Assessment Test (FCAT) as compared to non-integrated academics (2013). The

education level of the instructors delivering the contextualized academic material may be a determination of the success of integrating academics.

In a report for the U.S. Department of Education, Cramer (2004) found the following general characteristics about CTE teachers: 1) candidates in CTE fields are typically not as academically or pedagogically prepared compared to others fields, 2) candidates are typically not as academically prepared in reading and writing as candidates in other fields, 3) prospective CTE candidates tend to have lower grade- point averages in college than other prospective candidates, and they typically have taken more courses that did not emphasize academics.

Other teaching methods. Finding ways to integrate technical skills, academic skills, and workplace skills is important to the success of students and this can be accomplished with CTE teachers using and organizing work-based learning in forms such as internships and co-operative learning. Not all work-related skills can be taught by CTE instructors. Other ways to incorporate work-related education can be used by CTE instructors. Internships are a very valuable part of technical education as Haltinner, Mooney, and Stanislawski (2012) state "engaging students by applying theory to practice is a cornerstone of career and technical education" (p. 50). Allowing students to go into the workplace and apply the skills they are learning leads to greater success for the student and for industry. Students who participate in some form of work-based learning gain valuable experiences and begin to understand how the information and skills they are being taught in the classroom will be useful to them in their future careers (Stone, 2016). Beltram (2010) suggests that when students are able to reflect on their activities, they usually understand the importance of being to work on time, working in teams, and understand the value gained by the work-based learning experience and realize the advantage they hold over their peers who didn't participate in work-based learning.

Using internships is a critical skill for CTE teachers to apply. Internships are very important to the students and industry as they ensure the students are gaining the workplace skills and experiences needed for their careers. Having industry involved with the educational experience will also help to refine the curriculum to ensure the student is gaining the skills and academics that will best suit their future career (Marcus, 2018). Stone and Lewis (2012) suggests work-based learning is a solution that has the potential to change our schools and bridge the gap between education and industry. There are multiple applications for work-based learning depending on the definition of work-based learning that is used. There are several definitions for work-based learning. One definition is the kind of learning activities and experience that is based in some form of live or simulated work setting, such as apprenticeship or internship (Hoerner, 1995).

Another definition is the knowledge and learning experienced by students from the beginning of school and maintains a focus that people work in a connected process between work and living (Hoerner, 1995). In this definition learning is broader than work alone and includes activities such as; making a living, parenting, citizenry, and other adult roles (Hoerner, 1995). This second definition places work-based learning into every aspect of education and life emphasizing the need to learn what is generally considered basic work ethics such as showing up for work every day and on-time. In many ways, it does not matter which definition you are using the result is the same. There must be a direct emphasis on using the skills that are taught in the context of the student's life and career. The fundamental key to work-based learning is that students need to be able to transfer skills they are learning in secondary and post-secondary learning environments to the actual job market.

Career and technical education plays a big role in society in preparing the nation's mid-skilled workforce, which accounts for up to three-fourths of all employees in America (Bragg, 2002). Hoerner (1995) supports that technical education is and will continue to play a very big part in our society. Because of this, identifying better ways to increase graduation rates and workplace skills are very important. Partnerships between education and industry are becoming more important than ever as the growing need for post-secondary education attainment continues to grow. This fact is supported as Georgetown Center on Education and the Workforce which estimates two-thirds of the 47 million job openings ending in 2018 will require some form of postsecondary education (Branham, 2011).

Recruitment and Hiring

Many institutions have tried to increase the number of teachers to support CTE programs but often difficulties arise within the recruitment and hiring process. There are individual successes, but many institutions struggle finding CTE instructors to fill their open positions as the shortage of skilled workers in industry has led to a shortage of available candidates that have the experience and skills to be quality educators (Janisin, 2016). This is true in the Florida panhandle area where there are many institutions that have position postings that, according to the Human Resources Director at Northwest Florida State College (personal communication, April 12, 2019), have been open for a long time with very few individuals applying for them. The Director goes on to indicate one position has been open for just under a year and there are no signs that it will be filled anytime soon. The Director is concerned as the positions are taking longer to fill and positions are opening quicker than they are being filled.

There are recruitment and hiring issues at both the secondary and post-secondary levels of CTE programs, but the focus of this study will be on post-secondary only. In the State of

Florida, the technical colleges are considered post-secondary although they are an extension of

the K-12 education system and report to the County Superintendent of Schools. The Florida state

colleges are independent of each other but work within the Florida State College System for

reporting and standards. Both systems are considered post-secondary and have accreditation, but

the state colleges generally maintain regional accreditation through the Southern Association of

Colleges and Schools Commission on Colleges (SACSCOC) which accredits institutions at the

college and university level (SACSCOC, n.d.). The technical colleges generally maintain

accreditation through the Council of Occupational Education (COE). The Council on

Occupational Education accredits post-secondary CTE and occupational institutions that offer

certificate, diploma, or applied associate degree programs (COE, n.d.). In Florida, the technical

colleges do not offer associate degree programs (FLDOE, n.d.a).

Recruitment and hiring theories. While researching the recruitment and hiring of

instructors at the post-secondary level several theories have emerged, however, there is a

shortage of empirical recruitment studies at the post-secondary level even though several studies

exist within secondary systems and the private sector (Winter & Kjorlien, 2000). Human Capital

theory is one of the theoretical frameworks viewed within this context as it relates to education

being one of the factors that develop individuals into productive resources within an organization

(Hammonds, 2017). Human Capital Theory focuses on the individual and their internal drive to

advance or succeed over their lifetime (Encyclopedia.com, n.d.). The basis of Human Capital

Theory suggests individuals will pursue higher education when the benefits outweigh the costs,

which helps to explain why employees will pursue higher education to advance their current

position or to secure a new position, such as within education (Becker, 1993; Graf, 2006).

Individuals that have special skills but lack the education requirements to attain positions within

CTE sometimes will pursue the higher degrees needed in response to human capital theory (Graf, 2006).

Human Capital Management Theory tracks closely with human capital theory but focuses on the management of people and places focus on the hiring, development, and retention of employees who commit to reaching the goals of the institution (Hammonds, 2017). This theory complements Human Capital Theory by looking at ways to manage people that have internal drive and goals so that their personal achievement desires can be managed within an organization without the employee feeling the need to only look at other organizations to advance (Hammonds, 2017).

Another theory includes Maslow's Hierarchy of Needs, which is the motivation of an individual to meet their unsatisfied needs (Envision Software, 2012). Maslow felt individuals will pursue self-actualization in their life-long pursuit of something more which drives some individuals to chase their dreams and they will never be satisfied staying just where they are (Fradera, 2018).

Herzberg's Motivational Theory provides the need for employers to invest in their employees to motivate the individual to continue their education or learning through continuing education activities (Hammonds, 2017). This theory has been challenged many times but still is referenced to predict and explain an individual's satisfaction or dissatisfaction with their jobs (Gardner, 1977). The need to invest in the employee through education, training or other forms of professional development will play a key role in whether the individual is satisfied and looking to stay within an organization for an extended period (Gardner, 1977).

Total Quality Management (TQM), is an approach that encourages the institution to include its members in improving the organization processes and outcomes on a continuous basis

(Hammonds, 2017). Founded in America by Deming in the 1940s before moving to Japan, TQM suggests every employee should have empowerment which leads to involvement and engagement within the institution thus leading to higher job satisfaction and employee retention (Milosan, 2011).

There is a large investment of resources spent on people within school systems which becomes an indication of the value placed upon people in the direct outcome of student performance. School districts spend most of their budgets on human capital. In 2008-2009 the 49 largest school districts in America spent between 65 to over 90 percent of their district budget on people (Myung, Martinez, & Nordstrum, 2013). Teacher Human Capital Framework (THCF) is a proposed framework that supports the recruitment and hiring of teachers, but also encompasses the growth and retention of educators after the initial recruitment and hiring so the continued need for recruitment and hiring activities are reduced. This framework is newer and was adapted from a combination of human capital theory and human capital management to support the education field by Myung, Martinez, and Nordstrom (2013). There are four steps to the THCF which include; acquire, develop, sustain, and evaluate, all of which are designed to advance teaching to improve outcomes (Myung, Martinez, & Nordstrum, 2013).

Recruitment activities. Recruitment is important to post-secondary institutions as it performs the function of bringing the important resource of human capital into the organization (Winter & Kjorlien, 2000). Lawhorn and Ennis (1995) describe recruiting activities to be "challenging, expensive, and time-consuming" for most two-year post-secondary institutions (p. 349). Developing the job description is one of the first steps in the recruitment process; this is where the essential job duties, functions, and requirements are described. The job description is what most job seekers look at first to see if they are interested in the position and determine if

they meet the requirements for employment (Flannigan, Jones, & Moore, 2004). The job description helps to ensure the candidate pool is filled with the right candidates as it informs the candidate of the expectations of the position to help the potential applicant determine if they feel their background, education, skills, and experiences are closely aligned to the job description (Jordan, Dechert, & Wainwright, 2012).

As institutions start the process of looking to fill positions, they often struggle with recruiting faculty as they tend to follow traditional recruitment models including posting job description advertisements internally and externally, word of mouth, networks, and headhunters (Flannigan, Jones, & Moore, 2004). Some newer practices have included job fairs, online advertisements, and job placement websites such as Indeed, Monster, and Higher Ed. Com. Social media is a huge resource to use especially in hosting an instructor recruitment event which can have great outcomes especially when the current instructors are participating and engaged essentially as ambassadors for the organization (Daniel, 2014).

Looking beyond just recruitment and looking to succession may be a better strategy as the current instructor should play a large part in the replacement (Mattoon, 2008). The current instructor has many contacts in the specialty area they teach within and often reaching out to the industry contacts and advisory councils will lead to success. But the attitude and effort by the existing instructor will make the difference if this strategy is successful (Mattoon, 2008). The current students in the classrooms should not be overlooked in this effort, as the instructor has contacts and influence over many students, both current and past (Love, Love, & Love, 2016). When instructors engage students in the teaching profession, even letting students teach a few lessons, it can have a lasting effect and light a fire within the students to consider pursuing a teaching career by going through an education program or gaining industry experience and

coming back through an alternative licensing path (Love, Love, & Love, 2016). This method of growing your own instructor methodology does not solve shortages quickly but can lead to tremendous results in building pipelines of potential teachers and instructors (Douglas & Khandaker, 2019).

When looking at the context of Teacher Human Capital Framework (THCF), the first step is to acquire. Acquire is essentially recruitment and getting the right teachers in the right positions on time (Myung, Martinez, & Nordstrum, 2013). This is done by way of building a strong candidate pool full of quality applicants. This may sound easy and the previously mentioned activities can be employed to fill this candidate pool. Even then, there can be difficulties. If applicants fail to apply the applicant pool may not be adequate and the hiring effort is likely to fail (Winter & Kjorlien, 2000). Faculty recruitment has become frustrating at many levels, in part due to the high turnover rate within community colleges as the retirement rate among other factors is at an all-time high (Winter & Kjorlien, 2000).

Recruitment takes on a different view within some other institutions of higher education as a study by DiRamio, Theroux, and Guarino (2009) found that several prestigious universities tended to hire from each other. The idea is that if a prestigious university recruits a faculty member from another prestigious university the individual will be high quality. The drawback from this recruitment practice is that after a while, the individuals start job hopping for more money and new positions are always created at the rate that existing positions are filled leaving an always present void of new talent (DiRamio, Theroux, & Guarino, 2009).

Hiring considerations. There are several things that applicants consider when looking at post-secondary job positions. These can include current job satisfaction, advancement opportunities, personal growth, and the attractiveness of the campus environment (Winter &

Kjorlien, 2000). These items are important to candidates and are items that post-secondary

institutions can promote strongly. Pay on the other hand is the drawback as institutions generally

cannot compete with business and industry wages (Winter & Kjorlien, 2000). Pay is generally

not the main driving force with decisions to accept faculty positions, but it is a consideration that

plays a part in the decision as evidenced in another research (Janisin, 2016). The institution must

sell itself to the individual by making their programs visible and of award-winning quality (Love,

Love, & Love, 2016).

Creating an enticing work environment can have benefits in the hiring of faculty

members. There are many things that an institution can do to encourage individuals to join a

faculty team including the following: providing guidance, fostering socialization, encouraging

flexibility, new faculty orientation, structured support, enhanced collaboration, understanding

making mistakes, coordinating teaching assignments, offering rewards, and developing internal

candidates (Hessler & Ritchie, 2006). The National Association of State Directors of Career and

Technical Education Consortium (NASDCTEC) report (2010) indicates starting a faculty

professional development program and starting a mentorship program are two strategies that can

see outstanding results (Love, Love, & Love, 2016). The Chicago School System started the

Chicago Teaching Fellows program to address teaching shortages with mentorship and

professional development for business and industry professionals to encourage them to join the

teaching ranks and help them along the way (NASDCTEC, 2010). Changing licensing

requirements is being viewed as a better way to hire individuals in a quick manner as discussed

earlier under alternative licensing (Quinton, 2017).

Hiring mistakes can be costly and hiring successes can increase student recruitment but

most hiring managers are ill-prepared and lack the fundamental training in effective hiring of

CTE professionals (Jordan, Dechert, & Wainwright, 2012). The hiring process includes the enacting of strong hiring processes (Myung, Martinez, & Nordstrum, 2013). The hiring process needs to be a set process which includes recruitment efforts, candidate screening, interviewing, and finally making an offer (Flannigan, Jones, & Moore, 2004). Creating a hiring committee for an instructor position needs to include a diverse population that includes diversity representation, other faculty in the disciple, faculty outside of the discipline, an administration person, and typically a member from human resources (Flannigan, Jones, & Moore, 2004).

The hiring committee generally starts with the development of interview questions. It is recommended to use a structured interview process where each member is asked the same questions to ensure each candidate is treated fairly (Rafes & Warren, 2001). Questions that are designed to look deep into the candidate, their background, and experiences can identify issues that would point to a failed hire. This can often be accomplished with the use of behavioral event interview questions where the candidate is asked to respond to a situation question or reply to "What would you do if..." (Jordan, Dechert, & Wainwright, 2012, p. 11). This line of questioning can help predict how an individual will react in each situation thus allowing the hiring manager to make quality and informed decisions about the candidate. Questions about teaching style, classroom management, grading, and educational philosophy should always be included to ensure the proper fit within the institution's values (Odden, 2013).

The committee typically moves to the next step which is the screening process. Typically, the hiring committee reviews the job description and ensures each member understands the description and requirements of the position as some members will be from outside the specialty area and may not fully understand the terminology or expectations used within the job description. The screening process consists of the hiring committee comparing the job

description and requirements to the information the applicant has provided in the form of any combination of an application, cover letter, resume, or transcripts that describe the education, past work experience, skill sets, and general background to determine the extent of a match (Flannigan, Jones, & Moore, 2004). Well written and inclusive job descriptions can greatly help in the screening process to ensure the best-suited candidates are chosen for the interview process reducing the time consumption of interviewing candidates that do not meet the needs of the position (Jordan, Dechert, & Wainwright, 2012).

Once the candidates have been chosen to interview and the questions are set, the interviews typically take place. It is a preferred method to go beyond typical interview methods of questioning and require the candidate to perform a teaching demonstration for the interview committee (Odden, 2013). The biggest predictor of a faculty members success is not their education level, background, work experience, or even interview question responses, it is their past teaching experience (Odden, 2013). The past teaching outcomes can be the best indicator for expected success and should be valued highly if available but will not be available for faculty members new to teaching so the teaching demonstration will be valuable to determine how they will perform (Odden, 2013). The interview step should end with a process to determine which candidate moves forward and receives the offer of employment.

When the offer of employment is made to the chosen individual, there are many things that play a part in an individual's decision to accept the position. The research indicates money is only a part of the decision process and the full benefits package of insurance, time-off, and retirement will be part of the decision. Pay is sometimes a challenge as it is hard for many institutions to compete with the pay of business and industry (Janisin, 2016). The workload is another important factor as institutions will have different policies and expectations. Curriculum

development, teaching, and grading all fall under the umbrella of workload and must be factored into the conversation (Myung, Martinez, & Nordstrum, 2013). Additional items including, service to the institution, student advising, research possibilities, mentorship, professional development, future advancement, and self-efficacy may all play a significant part on the decision to accept and stay in instructor positions (Janisin, 2016; Myung, Martinez, & Nordstrum, 2013).

Summary

There is a high need for CTE to resolve the skill gap that is plaguing the nation and to keep society and the nation's economy moving forward. There are threats to CTE in the form of funding shortages, enrollment declines, stigma's of being dirty professions, and loss of qualified instructors to lead high-quality CTE programs. There is a shortage of teachers nationwide and CTE is affected by the shortage as individuals are not entering the teaching profession while there are high attrition and retirement of current faculty members. These issues are occurring while CTE programs are growing in demand as industry needs higher skilled individuals to perform the work that needs doing.

Recruiting faculty members can be difficult for many reasons including perceived low pay, low unemployment rates creating high demand and pay in industry, teaching profession not seen as respectable as it once was, and higher demands and accountability of instructors. This combination of factors is adding to a shrinking population of instructors and an ever-decreasing numbers in the teacher preparation pool. School systems are being creative in ways to credential potential instructors but due to accreditation requirements and state licensing requirements, there are roadblocks to industry professionals entering the teaching profession. There is a debate as to

what the qualities are individuals should posse to be a successful instructor, such as education levels, educational training attainment, industry certifications, and industry experience.

The recruitment and hiring of CTE instructors at the post-secondary level can be difficult as the shortage of instructors and low unemployment rates are creating issues within most industries. Finding ways to perform effective recruitment is vital to maintain and grow CTE programs. Hiring faculty after they are recruited is important as there is great competition for employees between education and industry. Pay is a consideration of applicants in their decision to apply and accept faculty positions, however, there are many other factors that applicants consider such as workload, mentorship, professional development, and the overall college environment and atmosphere. The full compensation package is being viewed and considered by current applicants, so institutions need to develop a complete compensation package and use it as a recruitment and hiring incentive.

Chapter III: Method and Procedures

The purpose of this qualitative study was to investigate the CTE instructor recruitment and hiring practices of technical and state colleges located in the Florida panhandle. The two research questions that guided this study were a) What are the current challenges for recruiting and hiring post-secondary CTE instructors in the Florida panhandle; and b) What are successful recruiting and hiring practices for post-secondary CTE instructors in the Florida panhandle? Understanding the challenges and successes of Technical and State Colleges in the Florida panhandle in recruiting and hiring CTE instructors can possibly lead to understanding ways to fill open CTE instructor positions.

Reducing the CTE instructor shortage at the post-secondary level allows for high-quality CTE instruction to meet the needs of industry and society (Jacobson, 2007). The high-quality CTE instruction in the Florida panhandle supports the effort to grow and diversify its economy using a skilled workforce to propel the effort (Northwest Florida Forward, 2017). This chapter explains the methodology, selection, instrumentation, data collection, analysis, and limitations of this research.

Research Methodology

This research fits the definition by Fraenkel, Wallen, and Hyun (2016) as qualitative by investigating the quality of relationships, activities, situations, or materials. General characteristics of qualitative studies include; going directly to the setting to collect or gather data, collecting data in the form of words, researching processes, analyzing the data inductively, and understanding how other people make sense from their lives (Fraenkel, Wallen, & Hyun, 2016; Merriam & Tisdell, 2016). Lichtman (2013) describes the narrative (qualitative) inquiry as a study based on the written or spoken words of others. Case study research supports in-depth

analysis of problems or situations where valuable information can be gleaned from the personal experiences of those directly involved (Patton, 2015; Yin, 2018). The Florida panhandle area is relatively small thus supporting the use of an in-depth study to look at recruitment and hiring practices and considerations within the area potentially allowing for best practices to be developed from the research to support and maintain the local CTE programs.

Within qualitative research there are several methods available, however, the case study was chosen for this research because of the ability to deep dive into the detailed discussion and direct observation. Case studies are empirical methods that investigate the phenomenon in depth in its real-world context (Creswell & Creswell, 2016; Yin, 2018). The case study looks to answer the how and why of a situation in an in-depth manner (Yin, 2018). Case studies tend to be explanatory in nature as they answer how and why while tracing the operational processes of the situation or event (Yin, 2018). Case studies rely on observations or interviews of people directly involved while not manipulating the situation or event (Yin, 2018). Being able to directly interview the individuals recruiting and hiring CTE instructors in the Florida panhandle area allowed the researcher to identify a phenomenon that existed to explore ways to resolve the CTE instructor shortage and support high-quality CTE programs that are designed to reduce the skill gap within business and industry.

Subject Selection and Description

The larger population could be viewed as all post-secondary CTE institutions; however, that population is too large and broad, thus the smaller accessible population of the Florida panhandle was used. In this research six institutions were chosen; however, typical case study research includes four to five cases (Creswell & Creswell, 2018; Lichtman, 2013). The Florida panhandle area within this study consists of six technical college and vocational/ technical

centers (Appendix A) that report to the K-12 district Superintendent (K-12) issuing CTE post-secondary completion credentials and four colleges that are part of the Florida College System (FCS). This population of the Florida panhandle region was too large for this study so a further reduction to a manageable sample of six was used, three from the K-12 system and three from FCS. Purposive sampling was used due to the size and the make-up of the area. Purposive sampling is defined as using personal judgment based on previous knowledge of the population and the purpose of the research (Fraenkel, Wallen, & Hyun, 2016). An advantage of purposive sampling is that it is a sample where the most can be learned from the sample and generalization is not the main goal of the research (Merriam & Tisdell, 2016).

There are more technical colleges and vocational/ technical centers (six) to choose from as compare to the FCS (4) institutions, so the researcher picked three centers to include. The three centers picked to be in the study include; a Vocational Technical College to the west (A1), a Technical College (A2) in the center of the area, and a Vocational Technical Center (A3) to the east. The locations were chosen to represent a variety as College A1 to the west is a populated urban area where CTE growth is present and in demand. College A2 in the center is a rural school that has a smaller population. College A3 to the east is an urban school located where a major hurricane recently devastated the area in October 2018 leading to a shortage of skilled workers. These colleges represent a diverse area.

The first State College (B4) is in a populated area that is seeing growth and stability to the west. The second College (B5) is in the east area of the panhandle and has a smaller and rural population base. The third State College (B6) is in the middle of the selected area. It is a populated area that is seeing a shortage of skilled workers due to regional rebuilding from hurricane Michael and additional growth due to relocation of displaced populations and relocated

military personnel due to Hurricane Michael. These schools represent diverse regions. The institutions represent the panhandle area with characteristics such offering CTE programs, high local demand for skilled workers, growing business and industry needs, and low unemployment rates which the researcher was looking for to develop useful best practices (Creswell & Creswell, 2018). Participation in the study was optional for all the locations.

One administrator that was charged with recruiting and hiring CTE instructors from each location was asked to be interviewed as part of this study. Participation was voluntary and the titles of the administrators for the colleges were Dean or Director of Human Resources. The title of the technical college/vocational/technical centers was Director or Assistant Director. These positions have similar authority over CTE instructor positions. These six locations are different in their reporting structure yet similar in their serving of CTE post-secondary students moving toward the workforce. The researcher was employed at one of the institutions but did not participate as a representative of the institution for the interview process.

Instrumentation

There are many types of information needed to answer qualitative research questions, these include; contextual, perceptual, theoretical, and demographic (Bloomberg & Volpe, 2016). Contextual data was collected and consisted of history, culture, and environmental elements of the participants. The researcher in this study collected contextual data by reviewing websites, conducting interviews, and by personal observation. The perceptional data was collected in the form of personal interviews and the statements of perceptions by the participants. The theoretical data was gathered by way of review of the literature. The demographic information was collected and included; geographic location, name of institution, participant title, years of experience, current open positions, and newly hired CTE personnel in the previous 12-months.

This study used the interview technique to identify the lived experiences of the administrators selected to participate in the research. The interview is a process where the researcher and participant engage in a conversation focused on the topic of the research (Merriam & Tisdell, 2016). At the basic root of the interview is an interest to understand the lived experiences of another individual and make meaning from their experience, even if we can never fully understand the experience (Seidman, 2006). The structure of the interview was semi-structured where there were set questions asked with follow up questions prepared ahead of time to encourage the interviewee to explain in detail the answers (Fraenkel, Wallen, & Hyun, 2016).

The interview questions (Appendix B) and the interview guide (Appendix C) were used to ensure proper techniques were followed (Lichtman, 2013; Yin, 2018). The interview questions listed the specific questions that were asked during the interview to ensure consistency between all the interviews (Patton, 2015; Yin, 2018). The interview guide was used to help the interviewer to ease the stress of the research and ensure no steps were forgotten during the process allowing the interviewer to concentrate on gathering the lived experiences of the individual during the interview process (Patton, 2015). A signed consent form (Appendix D) was used to gain a signature from the interviewee ensuring their understanding and consent to participate in the research process before they started the interview. The interviewer asked the participants specific open-ended questions that did not lead the participant into a predetermined or biased answer and the interviewer asked follow-up questions as needed during the process (Patton, 2015; Seidman, 2006; Yin, 2018). The questions being asked for each interview were designed to answer the research questions; a) What are the current challenges for recruiting and hiring post-secondary CTE instructors in the Florida panhandle and b) what are successful recruiting and hiring practices for post-secondary CTE instructors in the Florida panhandle?

The interview questions (Appendix B) and interview guide (Appendix C) were piloted on two individuals within administration that recruit and hire instructors at Northwest Florida State College and one administrator at the University of Wisconsin-Stout to determine the internal validity or credibility and the external validity or reliability of the instruments and processes (Bloomberg & Volpe, 2016; Patton, 2015). This trial run was used to determine if issues exist before the subjects of the study were contacted.

Data Collection Procedures

The data were gathered from the selected sample by way of personal interviews conducted by the researcher. To begin the process, the researcher contacts the subjects identified in the sample selection by phone and email to schedule a face to face interview following set interview questions (Yin, 2018). The researcher explained the purpose of the study, what data are being collected, that the interview process will be conducted and recorded and would take about an hour to complete. The interview can have a personal bias if the interviewer is not properly trained to keep their personal viewpoints out of the story (Merriam & Tisdell, 2016).

Each interview was recorded following the interview guide and transcribed by the transcription service www.rev.com following the interview guide to accurately and completely capture the data (Seidman, 2006). The interviewer asked the same questions from each participant following the interview questions and did not ask any leading or guiding questions that influenced the responses (Creswell & Creswell, 2018). Memo writing was used along with the recording to allow the interviewer to take notes during the interview (Seidman, 2006). Taking notes allows the interviewer to make notes of facial or body movements identifying emotions during the interview along with assisting with follow up questions as needed during the process (Merriam & Tisdell, 2016; Seidman, 2006).

Data Analysis

The transcribed data were processed by winnowing the data as described by Creswell and Creswell (2018). Winnowing is the process of removing all words that are not valuable to the research as qualitative studies contain so much data that it cannot all be used (Creswell & Creswell, 2018). Winnowing is used to narrow the data down to a manageable set of general themes that can be used (Creswell & Creswell, 2018). Data were collected and coded in a constant and comparative analysis as coding is an analytical process that identifies conditions, actions, interactions, and consequences of actions and interactions (Glaser & Straus, 1967). Coding is a process where data is organized by placing it into bracketed chunks and then organized into categories for further usage. During this focused coding phase, the individual transcripts were merged into a single document (sample Appendix E) and tables were created to reduce and organize the data (Patton, 2015). Patterns and themes were identified in the data collected by using the process of thematic analysis (Braun & Clarke, 2006). The similar themes were used to make conclusions and direct the outcomes of the study (Seidman, 2006). The steps that were followed include in order: gathering raw data, organizing the data, reading through the data, coding the data and placing into categories, identifying themes, interrelating the themes, and finally interpreting the meaning of the themes (Creswell & Creswell, 2018).

Ethical Considerations

This research study was approved by the University of Wisconsin Stout Institutional Research Board (IRB). Approval was obtained before interviews were conducted. Ethical consideration for privacy and security of the participants was considered as all data was stored on a password/ fingerprinted computer with a cloud-based password protected backup (Patton, 2015). The recording was done on a password/ fingerprint protected phone with the recording

and transcription sent and received on a secure Northwest Florida (NWF) State College email account (Merriam & Tisdell, 2016). No one other than the researcher had access to the participant's identifiable data.

Once the IRB approval was obtained, the researcher used the internet and websites to gather the phone numbers and email addresses of the selected participants. An initial phone call was made to everyone to explain the study and determine if the correct person had been contacted that had direct experience and knowledge of the recruiting and hiring of CTE instructors. Participation in a recorded interview was requested once the right person that had been contacted and a follow-up email was sent to everyone from the NWF State College email account for confirmation of participation and for confirmation of the interview day and time. At the interview, the interview guide was followed (Seidman, 2006). After introductions and a brief introductory conversation, the interviewer presented each participant with a consent form which explained the study, the risks, and the benefits for the participants in the study. Each participant signed a consent form (Appendix D). Participants were informed they could end the interview at any time and that it was being recorded.

At the conclusion of the interview, a brief summary was read back to the participant and it was explained that the recorded transcript would be sent to www.Rev.com for transcription. When completed a word document was sent to the participants via email and they had seven days to approve or reject the transcript of their interview. The individual names were kept confidential and assigned letters and numbers were used to protect their identity in the study. After the transcript was approved the recordings were deleted so no record of them currently exists beyond the word document. The word documents were saved by the researcher and are saved to a password/ fingerprint protected computer and stored in the cloud with password protection.

During the data processing phase, the transcripts were placed in a combined word document (Appendix E) and all names were removed and replaced by a series of letters and numbers with the term participant used for each. State colleges were assigned the letter A followed by the numbers 1 through 3. Technical/vocational colleges/centers were assigned the letter B followed by the numbers 4 through 6. As the data was reduced to capta and further reduced to themes with no identifying names, peer review occurred with the dissertation chair to ensure no sub-themes were missed and all themes appear conceivable (Merriam & Tisdell, 2016).

Limitations

The limiting factors to this study, as with many like it is that there are variables that could not be controlled or accounted for. Other possible limitation of the research included the following.

1. This was a small representation of a larger group that is specific to a localized area within a single state which could lead to skewed results.

2. This study looked at CTE instructors only, which is a small representation of a larger group of overall instructors.

3. This study only looked at the challenges and successes of recruiting CTE instructors at the post-secondary level and not at the broader issue of instructor shortages in general.

4. This study only looked at the perspective of CTE administrators and Human Relations managers.

Summary

This study was seeking to examine CTE instructor recruitment and hiring within the Northwest Florida panhandle region at the post-secondary level. General teacher shortages across

the nation have emerged with CTE suffering from the shortage. Having quality CTE programs is important to the nation and specifically to the Florida panhandle region. To grow the local economy, quality CTE programs need to grow and expand leading to the need for growth within CTE education. This qualitative case study research was used to determine what is not working well and what best practices could be discovered in the recruitment and hiring of CTE post-secondary instructors.

This case study used purposeful sampling to look at six post-secondary institutions in the Florida panhandle area with three at the state college level and three at the technical colleges and vocational/ technical centers level. This allowed for in-depth research into the challenges and success in recruitment and hiring for CTE instructors regionally. The interview technique was used to collect lived experiences from administrators that are doing the recruitment and hiring of CTE instructors. A list of interview questions was used along with an interview guide to ensure consistency among the interviews. Questions asked during the interview were open-ended to allow the individual to express their lived experience that became rich and meaningful data. The experiences were recorded and transcribed for processing.

The collected data was processed through the winnowing procedures where the capta was placed into categories and further reduced into themes that were interpreted and compared across the interview's responses. The common themes were rewritten into the finished product that was a summation of individual lived experiences organized into a series of best practices that might be used to help resolve the regional CTE instructor shortage.

Chapter IV: Presentation of the Findings

The purpose of this qualitative study was to investigate the CTE instructor recruitment and hiring practices of technical and state colleges located in the Florida panhandle. The field of career and technical education (CTE) has become a huge topic of conversation within the United States in general and specifically states such as Florida. It has been several years since the last major recession and the United States economy has changed with unemployment shrinking to new lows. Finding workers has become difficult, finding workers with the skills needed for many of the open job positions have become more difficult (Toppin, 2017). Finding training programs to prepare workers with the new skills needed for current job positions is not easy as many programs are struggling to find qualified and credentialed instructors (Janisin, 2016).

This chapter presents the interview data collected in this case study of three State Colleges and three Technical Colleges within the Florida panhandle. To address the stated research problem, the following research questions (RQ) were used to guide the study:

RQ1:   What are the current challenges for recruiting and hiring post-secondary CTE instructors in the Florida panhandle?

RQ2:   What are successful recruiting and hiring practices for post-secondary CTE instructors in the Florida panhandle?

This chapter is organized into three overarching sections. The first section is an overview of the post-secondary colleges that participated in this study. The second section presents the finding based on the research questions as described by the colleges. The third section presents finding organized by the general themes discovered within the interviews with college participants.

Overview

The education system within the state of Florida is overseen by the State Board of Education with a Commissioner reporting to the Governor. There are three primary divisions within the public education system including the following: K-12 Public Schools (K-12), Florida College System (FCS), and State University System (SUS) (FLDOE, n.d.). There are many charter and private not-for-profit and for-profit schools that are outside of the public system with various reporting structures.

The K-12 system is comprised of primary, middle, and secondary schools with 67 districts that align with local counties (FLDOE, n.d.). The districts each have a county Superintendent that oversees the primary, middle, and secondary levels. Reporting under the district Superintendent are the CTE systems that include technical colleges, vocational colleges, vocational-technical colleges or centers, and career centers. The technical/vocational colleges and centers offer post-secondary CTE programs that end in vocational certificates or diplomas and serve adults along with high school students (FLDOE, n.d.).

There are 28 locally governed public state colleges in the FCS (FCS, n.d.). Each college is governed by local boards, but they are coordinated under the jurisdiction of the State Board of Education. The Chancellor of Florida Colleges is the chief executive officer of the system, reporting to the Commissioner of Education who serves as the chief executive officer of Florida's education system (FCS, n.d.). The FCS colleges offer general education and CTE programs that end with vocational certificates, advanced diplomas, college certificates, Associate of Applied Science, Associate of Science, Associate of Arts, and Bachelor of Applied Science degrees. The FCS colleges are the primary point of access to higher education in Florida, with 65 percent of the state's high school graduates pursuing postsecondary education beginning at a Florida college

(FCS, n.d.). The FCS also serves 82 percent of freshman and sophomore minority students in their path to public higher education (FCS, n.d.). Transfer paths and agreements allow for ease of transition of students from the Florida College System to the State University System. The FCS serves CTE students like the technical colleges, but the FCS institutions can provide additional programs and higher levels of degree attainment. The instructors within the FCS have slightly different education requirements, licensure considerations, pay scales, and overall benefit structures as compared to the technical colleges that report to the K-12 district Superintendent. Within this study Colleges that report to the K-12 district Superintendent are labeled A1-3 and the colleges that are part of the FCS are labeled B4-6.

The National Center for Education Statistics (NCES) provides data for colleges and schools. The NCES uses the urban-centric locale code to describe the location of a school within its operating district. There are four classifications within the code: city, town, rural, and suburban (U.S. Department of Education, n.d.). The data for each college in the study was researched to provide a general location and comparison to demonstrate the variation in participants and is listed in (table 1) with written narrative following the table.

Table 1

Characteristics of Technical Centers/ Colleges Participating in Study

Technical Center/ College	NCES Code	Student Population	Accrediting Agency	Full-Time Faculty	Part-Time Faculty
A1	City: Small[a]	336	COE	22	6
A2	Town: Distant[b]	225	COE		
A3	Suburb: Midsize[c]	438	COE	29	2
B4	City: Small	9,773	SACSCOC	179	304
B5	Town: Distant	2,081	SACSCOC	39	181
B6	Rural: Fringe[d]	5,497	SACSCOC	86	2159

Note: NCES Urban-Central Code describes geographic status (Office of Management and Budget (2000). Standards for Defining Metropolitan and Micropolitan Statistical Areas; Notice. Federal Register (65) No. 249).
[a]City: Small (Territory inside an urbanized area and inside a principal city with population less than 100,000).
[b]Town: Distant (Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area).
[c]Suburb: Midsize (Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000).
[d]Rural: Fringe (Census-defined rural territory that is less than or equal to 5 miles from an Urbanized Area, as well as rural territory that is less than or equal to 2.5 miles from an Urban Cluster).

College A1. College A1 is a city small college with just 336 students being served by 22 full time and 6 part time faculty members (U.S. Department of Education, n.d.). A1 is accredited by the Council on Occupational Education (COE) and issues diplomas and credentials below the Associates level (U.S. Department of Education, n.d.). The county that A1 serves is primarily made up of four small to medium cities. The student population is primarily age 25 and older (64%), white (71%), male (67%), with most students attending full-time (70%) (U.S. Department of Education, n.d.).

College A2. College A2 is a town distant college with just 225 students being served by a 10-1 student to faculty ration with the actual number of faculty members not listed (U.S. Department of Education, n.d.). A2 is accredited by the Council on Occupational Education (COE) and issue diplomas and credentials below the Associates level (U.S. Department of Education, n.d.). The county that A2 serves is primarily made up of several small to medium cities. The student population is primarily age 25 and older (54%), white (73%), male (45%), with most students attending full-time (61%) (U.S. Department of Education, n.d.).

College A3. College A3 is a suburb midsize college with 438 students being served by 29 full time and 2 part time faculty members (U.S. Department of Education, n.d.). A3 is accredited by the Council on Occupational Education (COE) and issues diplomas and credentials below the Associates level (U.S. Department of Education, n.d.). The county that A3 serves is primarily made up of two medium cities. The student population is primarily age 25 and older (58%), white (73%), male (55%), with most students attending full-time (89%) (U.S. Department of Education, n.d.).

College B4. College B4 is a city small college with 9,773 students being served by 179 full time and 304 part time faculty members (U.S. Department of Education, n.d.). B4 is

accredited by the Southern Association of Colleges and Schools Council of Colleges (SACSCOC) and issues diplomas, Certificates, Associates, and bachelor's degrees and credentials (U.S. Department of Education, n.d.). The county that B4 serves is primarily made up of one large city. The student population is primarily under age 25 (65%), white (65%), male (38%), with most students attending part-time (61%) (U.S. Department of Education, n.d.).

College B5. College B5 is a town distant college with 2,081 students being served by 39 full time and 181 part time faculty members (U.S. Department of Education, n.d.). B5 is accredited by the Southern Association of Colleges and Schools Council of Colleges (SACSCOC) and issues diplomas, certificates, associates, and bachelor's degrees and credentials (U.S. Department of Education, n.d.). The county that B5 serves is primarily made up of several small cities. The student population is primarily under age 25 (81%), white (72%), male (39%), with most students attending part-time (58%) (U.S. Department of Education, n.d.).

College B6. College B6 is a rural Fringe college with 5,497 students being served by 86 full time and 159 part time faculty members (U.S. Department of Education, n.d.). B6 is accredited by the Southern Association of Colleges and Schools Council of Colleges (SACSCOC) and issues diplomas, certificates, associates, and bachelor's degrees and credentials (U.S. Department of Education, n.d.). The county that B6 serves is primarily made up of four medium cities and two smaller more rural cities. The student population is primarily under age 25 (66%), white (61%), male (40%), with most students attending part-time (56%) (U.S. Department of Education, n.d.).

Findings Based on Research Questions

Finding CTE faculty to maintain quality CTE programs and ensure the needs of society continually are met is important. A review of the data gathered during this study seeks to add to

the general knowledge surrounding the recruitment and hiring of CTE faculty. The colleges that participated are slightly different in location, size, programs offered, and reporting structure but they share common needs and often share common challenges. The colleges range from 225 students to 9,773 students and from 22 full-time faculty to 179 full-time faculty, but they have challenges in recruiting and hiring CTE faculty. Three representatives which held the title of Director or Assistant Director from the technical college/vocational/technical center and three representatives holding the title of Dean or Director of Human Resources from the State Colleges were asked to participate and be interviewed for this study with the result from the interviews listed below. There were common responses from the participants such as pay being a challenge and community engagement being a success for the colleges.

Research Question 1: What are the Current Challenges for Recruiting and Hiring Post-Secondary CTE Instructors in the Florida Panhandle?

There was a very common first response from the participants that pay was their largest challenge, but many institutions brought up different challenges to recruitment and hiring. Many times, the participants interchanged the recruitment and hiring challenges which suggests the two had a strong relationship with each other. The different challenges, as expressed by each institution, are listed below. Some challenges were shared by all institutions, but others were unique to individuals.

Pay. This concern was a primary challenge for all institutions interviewed. Participant A1 indicated their challenge to recruiting and hiring CTE faculty was "being able to pay a salary that is equal to the workforce." Negotiating pay was not an option as participant A1 stated "There is no negotiation. Just contract." The technical college is under the pay schedule that is part of a collective bargaining agreement (CBA) negotiated by the county school district. Participant A1

went on to indicate that the total pay and benefit package was a barrier because of "the most experience a candidate can bring in with them is nine years" so a candidate with twenty years of experience was not able to bring all of that into the pay schedule. Participant A1 indicated this policy "has turned a lot of people away." Participant A1 felt that "the best way to get good employees across the board, regardless of whether CTE or any other teacher, is to offer different employment packages." The local area has a high military population, and many do not need insurance so being able to provide flexibility to the pay package is something participant A1 felt would allow "people [to] have an actual choice in how they want to use their money."

Participant A2 stated that "pay is not commensurate with the pay a person would make in the field." Participant A2 indicated "people that are skills based do not understand the employee benefit, the fringe benefits." Participant A2 went on to say "They would rather have cash for the fringe benefits" which participant A2 felt was an indication that many industry experienced people are not looking at the whole pay package. Participant A2 further indicated in a recent potential hire this was difficult as the person wanted cash and did not want benefits, but they did as "that's why they're coming to you, because they want security for retirement." Participant A2 further indicated that often the person that applies for a CTE faculty position was towards the end of their career which was allowing them to consider accepting the lower pay due to the secure retirement and health benefits.

Participant A3 felt "the pay scale for classroom teachers is significantly less than what those individuals can make out in the field on their own." Participant A3 went on to say, "I have a number of teachers who are making half of what they could make if they were working in their field." Participant A3 gave an example where the computer science teacher had students "leave here after nine months making more than the teacher." Participant A3 lost one teacher recently to

a local airbase position making "more than double his salary" at the district as a teacher. When asked what the participant would like to see changed for the future of CTE faculty recruitment and hiring, A3 stated "it's the salary, the salary schedule is a challenge and I think it is not just here, I think it is in every public institution in education."

Participant B4 indicated pay was an issue that was creating a challenge because "you can make more money working in field, versus at an educational institution." Participant B4 used an example of a welding instructor traveling the world welding and making six-figures salary but made the choice to teach for his family. Participant B4 indicated "for him, that was the choice at the time that he was able to make versus salary wise, sometimes, we just can't pay or simply match what somebody is making in industry." In an example of an interview with a candidate, participant B4 stated the institution was up front about salary because "the range is non-negotiable. We have a union" and "we have our collective bargaining agreement." The candidate heard the institution state this and the interviewer heard the phone line go dead, the institution called the candidate back and the candidate said, "I'm going to stop you right there, I heard the salary, not interested." Participant B4 went on to say the issue of salary is "a big one, if there's a way for us to be competitive with what somebody can make as being an engineer with what they can make teaching, I think that's one thing we need to look at as an institution."

Participant B5 felt that recruitment is challenging as "some of the challenges to recruiting those individuals from industry to be involved in higher education instruction is salary." Participant B5 indicated the issue of pay is partly due to "there is no negotiation when it comes to an individual hire, when you have a contract in play" as "faculty are part of a collective bargaining union and the salary, we can't compete with professional industry." Participant B5 indicated they have issues finding auto mechanics and welders to teach as "a good welder who is

certified in a variety of welding applications we can't compete on pay." Participant B5 went on

to state "our budget is what it is and drawing people from industry in some of these areas to have

comparable pay, is difficult." The institution does everything it can but sometimes participant B5

indicates they lose people because "that salary's too far apart and they can't commit to taking a

huge loss to come teach for you."

Participant B6 stated salary is "probably the biggest challenge." Participant B6 indicated

"some individuals are willing to take less of a salary because they know that they will be living

by the beach" but the beach is not enough to keep them. Participant B6 went on to state that "if

our President is willing to go up on salary a little bit, that helps" with the recruitment of CTE

faculty. Participant B6 indicated that the President and VP of Business and Finance "are

committed to increasing our salary schedules and brining people in at a higher level" which

should help with recruitment of CTE faculty. B6 felt that "there are those programs like welding,

HVAC, and plumbing where those are skilled trades and so we have to be able to recognize that

we may need to increase those salaries a little bit." Participant B6 suggested that "we have some

areas that are hard to fill" but at the same time "I would like to see fairness across the college" as

far as wages are concerned.

Credentialing and education attainment. Credentialing and education attainment are a

larger issue at the State College level where they operate under a different accrediting body

compared to the Technical Colleges, but all participants discussed challenges. The two levels of

accrediting and reporting at the post-secondary level identified different challenges and

requirements although the topic was important at both the systems.

Participant A1 indicated the issue of credentialing and education is not a big challenge as

the District certifies the credentialing of the candidate and higher education degrees are not

specifically required by the accrediting body. Participant A1 did indicate that they felt the strong job description with the position requirements laid out well kept them from seeing non-credentialed candidates as "we never see those people." Participant A1 did indicate "we have had some show up on indeed who had nothing, I have no clue why they applied" but that was rare.

Participant A2 stated the issue of education attainment was a challenge not because there was a degree requirement but because they "don't have a college degree, they finished high school and now they have been working for thirty years in the field." Participant A2 went on to indicate the lack of a higher education degree hurts because "if you have a college degree, you can transfer [the transcript] in but when you have a high school diploma, it's difficult" as many high schools have paper transcripts and struggle to locate 30-year old records that are legible. Participant A2 felt that "just knowing the steps of how to request and electronically transfer a transcript is a challenge." Credentialing was a bigger issue for participant A2 as the process was not overly clear as the people doing the credentialing do not fully understand the qualifications as the Director stated, "I tried to find all the qualifications and I couldn't find it." The State is not responsible for credentialing teachers, the local districts do it, but without set standards and with high turnover at the districts, participant A2 indicated "you just kind of stumble your way through it." Participant A2 went on to explain the challenge as "each district sets their own requirements" so there is no consistency and there is a lack of training. Participant A2 had to change several job descriptions so people could meet the credentialing standards of the district stating, "I was able to rewrite the job description to eliminate some of the criteria but still maintain a quality staff person."

Participant A3 felt recruiting and hiring were a challenge because the state allows the district to certify the CTE faculty "based on their occupational experience." This has led to very

good instruction but has also led to issues as participant A3 indicated "we hired someone who had a great deal of industry background and background knowledge and skill, but they were not able to make the transfer from that into the classroom." Participant A3 went on to state "and then on the flip side of that is the situation when you have someone who has the college credential and according to the state guidelines, they're eligible to teach the class…but they don't really have the background or skill." These situations sometimes make it difficult to find the right person for the classroom as participant A3 states "you just have to find the right person and get them into the right seat."

Participant B4 stated credentialing was a big issue as "it's difficult because in CTE programs somebody might have years of working in industry but never taught." At the state college level, the accrediting body, SACSCOC, has requirements that the institution must follow based primarily on degree attainment and are very different from the district requirements of the technical centers and colleges. Participant B4 indicated that they "use alternative credentialing" to look beyond just degree attainment and to look at the work experience and certifications a person might hold. Participant B4 runs into issues where somebody might have a "master's in whatever but they have no work experience" so they "might be qualified credential wise to teach but they are not competent." Participant B4 often experiences the situation where they "might have somebody that's super competent but not credentialed" but they "do a pretty good job of getting creative to credential people." Participant B4 spends a lot of time working to educate the hiring directors at the institution about what the actual requirements to teach are so they do not "discount that person right away" just because they do not hold a master's degree in the subject area which has been a consistent "misconception" held by faculty members.

Participant B5 indicated their challenge was that sometimes the accrediting body requirements, per their institutional interpretation, from Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), "and the industry requirements don't always line up." Participant B5 does not use alternative credentialing so their institutions interpretation is "you have to have at least a master's in the subject or a master's with 18 graduate master's hours in the subject" to meet credentialing requirements. These high standards make it difficult to find credentialed CTE faculty members in the small rural area whereas participant B5 states, "the true vocational preparation program credentials don't line up with industry."

Participant B6 indicated they felt their accreditation agency "has you in a box" by telling you what is required. B6 indicated that they follow whatever SACSCOC says but they have the ability to "accept a variance" depending on the individuals' education, background, and experience and what subject area they will be teaching within. B6 indicated that "in some of these programs you don't need a master's degree, you only need an associate degree or bachelor's degree" being able to navigate within the rules and parameters of SACSCOC has allowed the college to hire many CTE faculty.

Industry experience. Finding candidates with industry experience was universally important among all the participants, however the Technical College level generally had fewer issues finding candidates. In many of the participating institutions there appears to be a connection to industry experience and pay concerns.

Finding candidates with the required industry experience was not a large issue with participant A1 as they indicated they were able to find people with industry experience because they lay out the requirements in the advertisement but they do occasionally get the applicant that has "nothing and I have no clue why they applied" and must be weeded out quickly. Participant

A2 indicated they recruit and hire primarily people with a strong industry experience because "I can't replicate their experience" and have not had many issues except that often the person accepting the lower pay was typically towards the end of their career and "their intentions are great however their performance is horrible." Participant A3 indicated that you have to be careful with recruitment because according to the State a person may be credentialed to teach but "they do not really have the background or the skill to provide what you would hope a student would be provided" in the CTE classroom. Participant A3 additionally added "what I find is that people from the field really have better background knowledge than just someone who studied it in college."

Looking past credentialing requirements and focusing on industry experience was a strategy that participant B4 stated they employ when they consider the abilities of the candidates as "you can teach theory and you can teach what the curriculum or the framework say you need to teach, but our students need to learn here is what it's really going to be like" out in the field. B4 indicated that many of the best industry experienced people "are making more money in industry" and do not make the jump into education due to the pay difference. Participant B5 indicated that the pool of candidates with high quality industry experience is low for some positions such as automotive as "mechanics make very good money, even in our rural area, when they are top-notch and know their subject and are certified." Participant B6 indicated they are having trouble finding people with industry experience as a current position they are hiring for in their medical laboratory technician program has a candidate that has the required "schooling but is having trouble with the licensure due to a lack of industry experience."

Diversity. Diversity was a challenge to all institutions and seems to be a general issue within the panhandle area. Diversity seems to be an issue with all participants as they have trouble recruiting diverse applicants for positions.

Diversity was a challenge for participant A1 as they indicated struggling as "the population of the area is not as diverse as others, except for the military itself." A2 indicated they are not finding a diverse applicant pool to represent the area and that they have only had two diverse people apply recently and "they did not have the qualifications." Participant A3 indicated that since hurricane Michael, the diversity of the population has changed and the population in general has "significantly decreased" and many people that would have been teaching candidates are in short supply as "there is so much work available for them now."

Participant B4 indicated that in some programs they are seeing "a wide range of applicants from all different backgrounds and all different life experiences, but the trade type programs, it is very much male dominated." Participant B5 indicated they struggle as "the applicant pool in your job market is sometimes just not there from a diverse standpoint." B5 went on to indicate "if they are out there. They are not applying. They can make more money out there in industry." Participant B6 indicates they find recruiting a diverse CTE faculty is difficult in the Florida Panhandle. B6 went on to indicate "the community is ten percent African American and eighty some percent white, so trying to recruit in this area is difficult." B6 continued that "we try to go outside the area and recruit from outside the area and bring people in, and we have been successful, but it is challenging."

Hiring processes. All institutions interviewed brought up issues within the internal hiring processes that were used at the different locations. Each location indicated they had a different

process they use, and the effectiveness of the process seems to determine if it is a challenge or a success.

Participant A1 indicated that they struggle with the hiring process as they follow the local school districts hiring process and "we are not privy to all the little pieces that have to go on in HR so we cannot tell the person up front." Participant A1 went on to indicate they have experienced "people who have gotten in the middle of the process and quit" due to frustration with the process. A specific issue that participant A1 is having is with the verification of employment process as the applicant has to "have their former employer fill it out, it has to be notarized when that person signs it" however, that is not the last step as the district also requires a phone call to the previous employer asking "did you really sign this and did you really mean it" even after it was notarized. Participant A1 indicated they receive push-back from employers, especially the local hospitals where one specifically refuses by saying "no, we are not doing it." A1 indicated they have also received comments from employers stating "So, you did not trust that I had it notarized and signed? I had to take time out of my workday to get it notarized but you did not trust that. You are calling me too."

Participant A2 indicated they find difficulty going through the local school district as they feel "the hiring needs to become easier for the future employee." Participant A2 went on to indicate "it causes the individual who is getting ready to get hired a lot of problem and they really question whether or not they are doing the right thing." Participant A2 indicated "the requirements need to be written, I am thinking a little clearer" as the participant added "being in education the number of years I have been in, it cannot be easily written because I even tried to find it… and I could not find it." When participant A2 has reached out to the State Department of Education for clarity, the response has been "Oh no, your district staff does that" but the

participant added "I just called the district staff and they do not know" so the participant is left to "stumble your way through it." Participant A2 closed with the statement "I would like to see more qualified, knowledgeable staff who are interfacing with those future hires."

Participant A3 stated they are not having as many issues "because we are part of a school district, we have to abide by what is policy for hiring district certified folks." Participant A3 does have "specific hiring process of how you do this and [how] you interview, when you post it, and you have to interview x number of people" but that process is set and works okay most of the time.

Participant B4 felt the hiring process of the institution is pretty set and not the main issue, the bigger issue is with the applicants understanding the actual job posting. Participant B4 went on to explain the applicants do not always have an "understanding of the demographic and the area that they will be working in" as the institution serves a large area and has several remote campuses. Participant B4 explained " I am trying to ask questions to see if a person even understands number one what the position is…number two, do they understand the community that they are going to be working in…do they understand the types of students that they are going to serve." Participant B4 further explained "each one of our locations, it is a different set of challenges" and sometimes "through the hiring process, people do not grasp that."

Participant B5 indicated the hiring process "is just getting them on the payroll, getting them to agree to come at the pay you have." Participant B5 indicated that the recruitment is the hard part as the people are difficult to find "for the pay" but the actual hiring process is straight forward and easy as "there is no negotiation…when you have a contract in play."

Participant B6 stated the hiring process is a challenge as "it is really more in the process itself and getting the screening chair to get us their committee members." Participant B6

additionally stated HR must get the committee to "the President and make sure the President is okay with it" and then after the interviews "getting the references back on individuals." Participant B6 indicated "the process typically should last no more than four weeks, but sometimes people [the screening chair] will procrastinate and do not get us the things to move it along, that makes it a little bit longer." Participant B6 indicated that often they are trying to help the screening chair move the process along by saying "okay, get your committee, get your interviews scheduled" and then the screening chair procrastinates but at the end the screening chairs "want us to snap our fingers and hire the person right then" but the references have to be checked and approvals through the chain of command up to the President have to occur before an offer can be extended to the selected candidate, this can take a couple of weeks at times.

Teaching experience. Teaching experience is something that most of the participants look for but tended to have difficulty in finding applicants with teaching experience. Previous teaching experience was indicated as a factor in determining the success of the candidate in the classroom.

A challenge indicated by participant A1was that they tend to find candidates with industry experience but not teaching experience which creates issues as "people come out of industry, do not realize the time it takes to actually be an instructor or teacher." Participant A1 went on to indicate they have had turnover as new hires often state, "the workload is too heavy in the education system" and state "I cannot put it down and just go home." A1 went on to discuss the struggles of people coming into teaching from industry as industry people "have train versus teach in their heads so they are used to working with people that already have an idea of what they are doing" instead of students which is "somebody who does not have a clue what you are talking about."

Participant A2 indicated they have trouble with hiring people with just industry experience as the candidates often do not have "the ability to generalize their experience into a teaching pedagogy." Participant A2 indicated this is one of the issues that people with high levels of industry experience have, "they just don't know how to teach." Participant A2 went on to indicate the drawbacks to hiring without teaching experience is sometimes "students do not like [them] then you have to find someone else and you have lost all that time" which is costly.

Participant A3 responded that industry experienced people sometimes struggle as "it does not always translate coming from industry into the classroom." Participant A3 went on to indicate "folks who were just wonderful people and very strong in their background knowledge, but the transfer of that into being a teacher in a classroom just was not a good fit." Participant A3 explained "I have a welder who has only worked on a shipyard come in and start to teach for me" the person struggled at first but was able to "bridge the gap" between industry and teaching with some help.

Participant B4 felt the struggle with "classroom management and teaching 101" was evident with people straight from industry. Participant B4 went on to add "there is no denying that this faculty have the [industry] skill, and they are trained, but again, have they been in front of a class that they know how to effectively manage?" Participant B4 indicated that "nine times out of ten the issues I have, especially between students and instructors, comes back to classroom management." Participant B4 added "it comes back to anybody that has a degree in some sort of educational field kind of learns right away" classroom management skills but "people in these types of industries and programs do not necessarily have that background."

Participant B5 indicated they would sometimes "grow their own" faculty from past students due to struggles in recruitment and hiring. Participant B6 stated they are seeing

candidates struggling to understand the differences between industry and educational jobs as far as benefits and expected work requirements.

Technology skills. Two of the individuals from the participating institutions brought up struggles with being able to find people with technology skills to operate within the education system. These skills were described as basic computer, email, and learning management operating skills as teachers are expected to use technology in the classroom and in their daily job duties.

Participant A2 felt struggles with technology creates issues with the hiring process, professional development, and within the classroom environment. Participant A2 indicated that some people have worked in industry for a very long time and never had to learn technology so "they do not understand how to email to an institution and get something" when they need it. Participant A2 also indicated not having technology skills has created issues just completing professional development so the solution is "they can sit in here and I will assist them if they have any questions with their programs" and when they did not understand something "I sat there and told him what this meant and what that meant."

Participant B4 indicated they indicated they sometimes struggle to find people that have had to "use classroom technology" as they "have not had that in their job requirements previously." Participant B4 indicated they use Canvas as their learning management tool but they are struggling to "get every faculty member to use a [Canvas] companion site" as many in the CTE area feel "I do not need that, and they do not use it" as they never used it within their professional industry that they are now preparing students for.

Cyclic nature. The issue of finding it challenging to recruit and hire CTE faculty was discussed in depth by a single institution, but the topic brings unemployment rates into the conversation of challenges that two additional participant's added credence to.

Participant B5 held a unique viewpoint that the recruitment and hiring challenges are "very cyclical" in nature. B5 indicated that "when the economy is doing well, there are jobs out there. But when the economy is not doing well, then our numbers and student participation grows." B5 additionally added "adults that are in the workforce looking for a change, or maybe not a change of their choosing, because of downsizing or reduction in force, find themselves without a job and are looking to go back to school or are looking to teach."

Participant A2 added "as long as our unemployment rate is so low, it is going to become harder" referring to hiring of CTE faculty. Participant A2 additionally stated "you are going to get older people, teachers, because the younger ones are going to get hired" referring to the currently low unemployment rate. Participant A3 added that "right now people are calling us because they need employees" with CTE skills due to hurricane Michael. Participant A3 went on to add "I tell them you cannot poach my teachers… you can have all the students you want."

Research Question 2: What are Successful Recruiting and Hiring Practices for Post-Secondary CTE Instructors in the Florida Panhandle?

There was not a common first response for the participants, but many institutions brought up similar successes to recruitment and hiring of CTE faculty. Many times, the participants interchanged the recruitment and hiring successes which indicated the two had a strong relationship with each other. The different successes, as expressed by the institutions that participated in the study, are listed below. Some successes were shared by all institutions, but most responses were unique to individual institutions.

Advertising open positions. Social media plays a part in every institutions success in the recruitment and hiring of CTE faculty. The days of print media appear to be mostly gone as digital media has become the primary source or advertisement. Old fashion word of mouth supplementing the social media outlets appears to maintain strength and success for institutions.

Participant A1 stated they are mandated to advertise with the school district which uses a districtwide website as the primary source for all hiring within the counties school districts and at all grade levels. Participant A1 indicated that they also use their Facebook page and school web site, but many positions are filled with the use of Indeed.com as it "has been strong for us." Participant A1 went on to state "I really hire good nurses through Indeed… nurses must be out there looking for a different path." Participant A1 stated that "word of mouth" is still their best resource with individuals sharing open positions with each other, sometimes via social media. Participant A1 also indicated that their advisory committees will spread the word of open positions and help to find "some really good instructors" from within their industry connections.

Participant A2 indicated their biggest success is from "knowledge of the community." Participant A2 added "it is not in advertising, that is not how I find people", although A2 does use the school and district websites and their Facebook page. Participant A2 went on to state "word of mouth is very successful" along with "knowing the community, knowing the applicant and their work level and work history." Participant A2 added that they use their community connections to know who is getting ready to retire and is "interested in doing CTE teaching when they finish."

Participant A3 stated their postings of positions happen first and foremost on the school districts website, the school's webpage, and "sometimes we will run an ad on Indeed and we get a lot of candidates." Participant A3 went on to say this is a smaller community so "word of

mouth of people who are already teachers here or who are already in a similar field" is very successful. Participant A3 stated that since this is a vacation and retirement area, they also "receive random emails or phone calls from people that used to teach this in another state" and ask if there are any openings.

Participant B4 responded that their advertising comes in the form of the college website and internal email system as "many of our part-time instructors…will apply if a full-time position opens up." Participant B4 indicated they use digital media and online "job-seeking type websites" but "word of mouth is a big thing." Participant B4 indicated that "using the connection…of our existing instructors" is very powerful and they will reach out to their advisory committees and industry connections "to recruit to teach for us."

Participant B5 felt recruitment comes from many resources as "we try to use all of those technologies that are at our fingertips, from social media to professional apps…LinkedIn, and networking." Participant B5 went on to state "just getting information out on Facebook with people so interconnected with friends, it is just like a spider web." Participant B5 indicated social media presence is important but so is "staying well-connected in your community, through your advisory board" along with community groups such as the Chamber of Commerce, workforce advisory board, and local Career Source office. Participant B5 added "being connected with those people in the CTE professional areas in the community where jobs are…maybe even draw a person in the industry to come teach for you."

Participant B6 stated the use of social and digital media was the primary place they list positions at. Participant B6 indicated that they use "Indeed, HigherEd.com, Chronical of Higher Education, and industry trade websites" for most positions along with internal email and the college website. Participant B6 also indicated that many "part-time people were looking at full-

time positions and would apply whenever possible and share the open positions with family and friends they knew were looking for positions."

Quality job descriptions. Creating a high-quality job posting and description can go a long way toward getting quality candidates for the interview process. Several of the interview participants discussed their experience with job postings.

Participant A1 stated creating the job posting helped to ensure the applicants were qualified as the required credentials were "laid out in the beginning so they [candidates] know what they have to have." Participant A1 felt this saved them time from reviewing unqualified applicants because they "never see those people." Participant B4 indicated the job positing is the first qualifier for applicants as it lists the position description, campus location, and the salary range as "we often lead with the salary" to make sure it is not an issue from the start.

Selling regional community. When recruiting and hiring of CTE faculty, many institutions concentrate on the regional area and what it has to offer candidates. Being in the Florida panhandle area, there are many beaches, tourist attractions, and warm weather activities that can help make up for potential salary concerns.

Participant A3 stated they sell candidates on the regional community as luring "people to the beautiful beaches of Florida" was a common practice by using pictures of the beach. Participant A3 also sends potential applicants' pictures of "fried seafood platters from some of the local restaurants…just to entice people to move." Participant A3 stated that "it does not hurt if your living in Kentucky on a 20-degree day and suddenly you get a picture of the beautiful beaches…where it is warm and sunny", we do it "because yes, it is very appealing. Participant A3 went on to state candidates must decide if "living by the beach, is that going to be an okay tradeoff for me?" regarding a little less pay.

Participant B4 indicated applicants are drawn to "sunny Florida and they think it is "just beaches and sunshine all the time" and "everybody is hanging out at the beach." Participant B4 added that not everything "is sunny and beautiful" in Florida as hurricanes and tornados do extensive damage so some people are not drawn to the beach or they come and are scared off the first time a hurricane comes through.

Participant B6 indicated that "on the panhandle people are drawn to the beach and I think some individuals are willing to take less of a salary because they know they are going to live by the beach." Participant B6 added that "we try to use that as a recruitment tool." Participant B6 indicated that they recently "hired an individual from Ohio…and that was one of the reasons she wanted to move, because of the beach, and the warmer winters, and the salary was a little bit less than what she was making."

Work environment. The environment in which individuals work is very important to many candidates and can make a difference in their decision to accept a teaching position and ultimately stay in the position.

Participant A2 felt creating a relationship with each faculty member was very important. Participant A2, stated "I have a one on one relationship with everyone" and "we have a calendar developed" for everyone to spend time meeting together. Participant A2 states "I spend time in their classrooms watching how they are teaching and then…make some suggestions", this allows them to grow and get better at teaching and creates a supportive environment that the faculty enjoy.

Participant A3 indicated the "atmosphere and climate of the school" is an important thing. Participant A3 stated that they had several people say when they interviewed at the school "you just seemed so excited about the work that was going on here that it felt like it might be a

good place to work." Participant A3 indicated "the administrative team work really hard to make the climate here fun and energizing and I want all the staff to know how appreciated they are." Participant A3 wants to make sure the environment is "a student-centered place" which is what teachers live for, the times when students come back and say, "this changed my life."

Participant B6 stated that individuals are looking at teaching positions due to wanting "some stability in their hours, consistency in their hours, they want their weekends off." Participant B6 went on to add "faculty work 34 hours a week and 167 days per year" which is a huge draw. Participant B6 stated "they get their summers off" which is a big deal considering the beach is here and candidates often will accept less pay for the environment they work and enjoy.

Compensation and benefit package. Pay is the biggest challenge that every participating institution identified but an overall compensation and benefit package was identified as a successful strategy for recruiting and hiring CTE faculty by one institution. Looking beyond basic pay can be difficult for candidates however pay is not everything to everyone.

Participant B6 indicated that people often ask, "how much are the benefits" so we try to "think outside the box in what we can do to incentivize a person to come to the College." Participant B6 added that they inform candidates from other states that "Florida does not have state income taxes" which helps stretch pay farther and makes up for "some of the lower pay." Participant B6 indicated that "the College pays 100 percent of employee only health insurance", B6 went on to add "we get two weeks off at Christmas and we get a week off at spring break." Participant B6 also added that "faculty work 34 hours per week, and they work 167 days per year with summers off." Participant B6 added that the beach helps to bring people to the area but the beach "is not going to keep them" so having additional incentives such as retirement benefits,

sick leave, and the occasional relocation expense reimbursement helped to entice people. Participant B6 finished by indicated the College had a "compensation plan" that included pay increases, new salary schedule, and "longevity increases" that the College hoped would add additional success to recruiting and hiring CTE faculty.

Relational/self-efficacy. Relational and self-efficiency are qualities that are not always something talked about in industry but in education it can be very important as pay typically does not match that of industry. Two participating institutions indicated that the ability to form relationships with students or an individual with strong self-efficacy are very important qualities and something they look for in a candidate.

Participant A3 indicated that "the people who are teaching are the most important' and that "they have to build relationships with students." Participant A3 went on to add "a teacher who is good and solid and cares about their students and supports their students" is very valuable. Participant A3 indicated "we have got to have people who are concerned about the students sitting in front of them and they are doing everything they can in positive ways to see those students be successful." Participant A3 indicated that recently a teacher shared that "during the summer I missed the sense of purpose that I find every morning as I head to school", that is what makes this job appealing.

Participant B4 stated their personal story is that they entered education because they "did not have the fulfillment" in industry where they made more money. Participant B4 indicated that when they interview, they are "not only looking for somebody that is qualified, but we are looking for somebody that we think has an interest in education and working with students." Participant B4 went on to add they look for "a person that is not solely here for the money." Participant B4 went on to further describe the person they look for as someone that "they have

made more money in industry" and "they could leave and go back to industry if they wanted to, but that is not their why" but rather they come to work every day because "of the students that they work with."

Mentorships. Mentorship is an element that is offered at two of the participating institutions and seems to make a key difference for newly hired personnel. One of the participating institutions uses mentorship as a formal part of the hiring process but the other seems to offer it as support to help new faculty learn the job functions and responsibilities. The other participating institutions use various amounts of informal mentorship to help the new CTE faculty learn the job functions but was not defined enough to include in this study.

Participant A1 stated mentorship consists of "multiple elements and several people." Participant A1 indicated that the first mentor is the Assistant Director who helps new faculty "understand what it is to teach versus train." Participant A1 also indicated the institution had peer mentors on campus to "help the new teachers with every element of what is expected at the school level." Participant A1 additionally added the district provides a teacher mentor who "comes in and helps them [CTE faculty] through the evaluation process." Participant A1 finished by indicating that a guidance counselor on campus was a long-time teacher and helps "when a teacher brings us an issue or a problem, we can help them work through it and it opens their eyes to a different way of looking at things."

Participant A3 indicated their process of mentoring new CTE faculty starts with the Director providing a copy of "Harry Songsters' *The First Day of School*" to new hires. Participant A3 indicated new CTE faculty are told "the book is written for elementary, but I promise if you do this, it will help you." Participant A3 additionally stated the next step in the mentor process is the Assistant Director who is exceptional with working with faculty "one on

one and helping them get an understanding of what good instruction looks like" the Assistant Director also makes "suggestions of how to manage the classroom and help students be successful."

Findings Based on Themes

The transcribed data was processed by winnowing the data as described by Creswell and Creswell (2018). Winnowing is used to narrow the data down to a manageable set of themes that can be used (Creswell & Creswell, 2018). Eliminating the bulk of the data was done through a coding method where capta was reduced to identify themes from each participant. Coding is a process where data is organized by placing it into bracketed chunks and then organizing it into categories for further usage. During this focused coding phase, the individual transcripts for specific questions were merged into a single document (sample Appendix E) and tables were created to reduce and organize the data (Patton, 2015). Patterns and themes were identified in the data collected by using the process of thematic analysis (Braun & Clarke, 2006). The steps that were followed include in order: gathering raw data, organizing the data, reading through the data, coding the data and placing into categories, identifying themes, interrelating the themes, and finally interpreting the meaning of the themes (Creswell & Creswell, 2018). The following section reports the themes as discovered and organizes them by the research question.

Research Question 1: What are the Current Challenges for Recruiting and Hiring Post-Secondary CTE Instructors in the Florida Panhandle?

There were four general themes (table 2) that came from the processing of the data for question number one. The general themes are discussed further below the table in the order that they were most frequently identified.

Table 2

Themes of Challenges with Recruiting and Hiring CTE Faculty

Technical Center/ College	Pay/ Compensation	Credentials/ Qualifications	Hiring Process	Shortage of Workforce
A1	X		X	
A2	X	X	X	
A3	X	X		X
B4	X	X		
B5	X	X		X
B6	X	X	X	

Pay and compensation. The issue of pay comparison to industry was discussed many times and was the number one challenge for all participating institutions in this study. The overall pay for teaching is less money than individuals can earn in their career field if they are working in industry, as expressed by the six participating institutions. The six participating institutions were not compared to each other for pay however they all indicated they felt the pay they offered was not close to the pay the candidates would be able to earn in industry. There is very little ability to negotiate due to union collective bargaining agreements, as experienced by participants A1, A2, A3, B4, and B5 while the local salary schedule creates challenges for participant B6.

Participants A3 and B4 indicated they lost instructors because they went back to industry positions for twice the pay, they were making teaching at the institution. Participant A2 expressed concern that their institution found many people with poor performance or at the end

of their careers were sometimes the only candidates willing to work for the pay that was offered. While pay may not be the only decision maker for some people, it appears to be a driving force for many people as expressed by participants A1, A2, and B6.

Credentials and qualifications. Many people do not have the degrees or credentials required to teach. Most candidate's further lack teaching experience but they do have industry experience which was felt by all participants to be most valuable to the institutions. Every institution expressed challenges in finding the right person, but the experiences were slightly different as participants A1, A2, A3, and B4 expressed issues with teaching experience, participants A2, B4, B5, and B6 experienced issues with credentialing, and B5 expressed issues with educational attainment requirements.

Teaching experience is valuable as participants A1, A2, A3, and B4 indicated, many times industry experienced individuals do not have the basic teaching pedagogy and classroom management skills required to be successful in the teaching profession. Being able to perform the technical skills of a trade are important but if the person cannot manage a classroom, as suggested by participant A3, they are not of value to the institution and would have to be replaced. Most of the participants had strategies in place to help the candidates learn classroom management skills but, as participant A2 indicated, sometimes individuals cannot make the transition to the classroom even with help. Institutions occasionally find the individual with technical skills and both industry experience and teaching experience but participant A3 indicated that was a rare occurrence and institutions often had to choose which they valued most.

Credentialing is a big issue for participants A2, B4, B5, and B6 as they experienced issues with credentialing although they have different standards to follow. Participant A2 had a credential requirement that was driven primarily by industry experience and they had latitude

with education requirements and teaching experience as determined by the local school district. Participant A2 had more difficulty with the determination of what the credential was for each position but often if there was enough industry experience the credentialing was approved. Participants B4, B5, and B6 had to follow the requirements of the Southern Association of Colleges and Schools, Commission on Colleges (SACSCOC). The requirements for SACSCOC contain a primary requirement for education which is discussed separately however industry experience and industry certifications play an important role in the credentialing that participants B4, B5, and B6 look for.

Education attainment is a requirement that participants B4, B5, and B6 are required to observe to meet their institutional interpretation of SACSCOC required standards. A master's degree in the subject area or a master's degree in another subject with 18 credit hours in the discipline is what SACSCOC is looking for and requires institutions to observe to maintain their accreditation for general education core courses. Some institutions chose to alter their minimum credential standards to a lower requirement for non-core general education courses while others such as participant B5 does not. Participants B4 and B6 accept alternative credentials and even use a variance when needed if they find the right candidate with high levels of industry experience or certifications and verifiable proof that the individual is highly skilled and successful in their career field. The CTE faculty credentialing requirements are a little more flexible than other areas of institutions however, institutions still must make sure they are able to find the right candidate with the skills, degrees, experience, and background to meet their requirements.

Hiring processes. Hiring processes are cumbersome and can cause people to not complete the process. The actual process of hiring a candidate was an issue for participants A1,

A2, and B6 although they had different issues within the process. Participant A1 had difficulty following the school districts process that required a notarized statement of employment from the candidate's previous employer. Many of the previous employers did not want to take the time to find a notary to verify their signature as they signed the employment verification document for a past employee. Participant A1 further indicated that this was made more difficult as the school district required a phone call to the person signing the document stating that they had indeed signed and had the form notarized. This specific issue was only found at one institution but seemed to be a major challenge in their ability to complete the hiring process for a new candidate.

Credentialing is discussed in a previous section as a challenge to finding qualified candidates but in the hiring process, participant A2 struggled with candidates not moving forward in the hiring process because the school district was not able to determine if the candidate was credentialed. Participant A2 indicated that the State left credentialing to the school districts, but the school district was unsure of the requirements for an individual to be credentialed. Participant A2 suggested that high turnover at the school district level was a challenge as new people were constantly learning a new position and written qualifications and requirements did not exist, causing the new person difficulty in making the determination of credentialing.

The interviewing and hiring process in terms of paperwork and flow were a challenge for participant B6. Getting positions approved to be advertised, writing the position description, establishing screening committees, scheduling the interviews, making the recommendation, completing background checks, and finally making an offer is a challenge for participant B6. Participant B6 felt the process itself was well defined and established but there were too many

places within the process that created bottlenecks and caused the process to drag on and not move quickly. Many times, the final candidate accepted other positions due to the extended timeline which meant participant B6 would have to start the process over again.

Shortage in workforce. Weather related issues such as hurricane Michael have caused difficulties in an environment where workers are already short in supply. The eastern locations, as reported by participants A3 and B5, indicated that they were experiencing a general shortage of employees with specific CTE skillsets as people with these skills are in very high demand to rebuild the area. Many people, as much as thirty percent, have left the area as participant A3 indicated almost half of the residents in the general area are still living in houses with temporary patches on their roofs a year after the Hurricane hit. Many people have left the area as participant A3 indicated their enrollment dropped as many people left the area or chose to work instead of attending school. These factors together with the pay in education not matching that of industry, as reported by participants A3 and B5, has left the institutions struggling to find candidates.

There tends to be a cyclical nature to CTE faculty hiring, as explained by participant B4, that follows the economic conditions. When the economy is doing well the workforce is short in supply and hiring in education is tough, as explained by participant B4, but when there is a downturn or recession, it becomes much easier to hire CTE faculty members. Participant B4 explained this has been a cycle for the many years the participant has been involved in education.

Research Question 2: What are Successful Recruiting and Hiring Practices for Post-Secondary CTE Instructors in the Florida Panhandle?

There were four general themes (table 3) that came from the processing of the data for question number two. The general themes are discussed further below the table in the order that they were most frequently identified.

Table 3

Themes of Successes with Recruiting and Hiring CTE Faculty

Technical Center/ College	Recruitment and Hiring Process	Work Environment	Regional Community	Compensation Package
A1	X	X		
A2	X	X		X
A3	X	X	X	
B4	X	X	X	
B5	X			
B6	X		X	X

Recruitment and hiring process. The recruitment and hiring process is a very important step as each of the six participating institutions talked about the process that helped to lead to successes in recruitment and hiring CTE faculty. Using new technology with advertising on websites along with digital and social media was discussed by all six participants but word of mouth, advisory boards, and general community relationships to find candidates was also very valuable to everyone. The job posting was discussed as an extremely important first step to the recruitment process by participants A1, A2, and B4. The job posting lays out the requirements, salary, and expectations helping to ensure the right people make it to the interview process that participants A1 and B4 rely on. Participants B4 and B6 talked in depth about the importance of a quality process for hiring and interviewing to help find the right person for the position.

Work environment. Creating a work environment that provides support and encouragement to new CTE faculty is very important to participants A1, A2, A3, and B4.

Participant B5 believes the work experience needs to start with a good orientation to the institution followed by meeting the people that will be providing the support the CTE faculty will rely on. Participant A3 believes an energetic and fun work environment helps faculty to want to participate in professional development activities to become better with teaching skills and classroom management. Mentors and role models help participants A1 and A3 provide new CTE faculty with engagement in the institution and with learning the processes they need to be successful. Participant B4 discussed the importance of new CTE faculty finding a quality work life balance that can only come from mentors.

Regional community. Selling the community, beaches, and weather to potential candidates is an important recruitment tool for participants A3, B4, and B6. The Florida panhandle area has beautiful beaches, great restaurants, and mild winter weather which draws tourists and retirees to the area. Participants A3 and B6 sell the local community to potential applicants to help draw them to the area. Participant A3 makes many contacts with vacationing guests so they will consider open positions because of the fun they had on vacation. Participant B4 feels some people think Florida is all beaches so that institute tries to make sure applicants know other things that the area has to offer.

Compensation package. Salary, benefits, and the total compensation package is important to applicants as participant A2 goes in depth to ensure the applicants understand the complete offer as they have had many CTE applicants struggle to understand there is more than just salary to the compensation package. Participant B6 goes in depth during the offer stage so applicants get the complete picture as some people will accept lower pay knowing Florida has no state income tax and for the full benefits available. Participant B6 talks about the retirement plan and the College paying the full employee health insurance payment. Further conversations

include the 34-hour work week, summers off, two weeks off at Christmas, and one week off at spring break. Participant B6 has experienced people looking past the salary to accept a position but feels pay has to be addressed for candidates to stay long term so the institution is working on a salary schedule that is better and includes longevity pay as an incentive for CTE faculty to stay with the institution.

Summary

The recruitment and hiring of CTE faculty are very important to having quality CTE programs to support business and industry. The processes can be very challenging with institutions struggling to fill open positions however, institutions are finding successes. Pay is constantly being discussed as being the greatest challenge as educational institutions tend to pay lower than what individuals can earn working in industry. This pay disparity can be overcome if the individual candidate looks past the salary and considers the complete compensation package with full benefits that education has to offer. Set schedules, weekends off, reduced work weeks, extended vacation periods can be a huge draw for individuals that have not enjoyed these benefits in industry. CTE faculty often work shorter weeks with more time off in education but they generally must give up some pay for this different work environment. Many CTE professionals in industry do not have retirement or insurance but as they start to age, these benefits can become more important and allows education institutions to compete to hire these professionals.

Chapter V: Discussion, Implications, and Recommendation

The purpose of this qualitative study was to investigate the CTE instructor recruitment and hiring practices of technical and state colleges located in the Florida panhandle. This study looked to identify factors that lead to successful recruitment and hiring practices for CTE faculty. This study also looked to identify challenges to recruitment and hiring of CTE faculty that could be used to help resolve the widespread instructor shortages within CTE programs. The following research questions were used to guide the study:

1. What are the current challenges for recruiting and hiring post-secondary CTE instructors in the Florida panhandle?

2. What are successful recruiting and hiring practices for post-secondary CTE instructors in the Florida panhandle?

A qualitative approach based on the case study as a methodology was used to gather data (Yin, 2018). Individuals from six post-secondary institutions participated in semi-structured interviews using questions developed by the researcher. The content was electronically recorded, transcribed, and analyzed. The transcribed interview data was coded in a constant and comparative analysis to identify themes such as conditions, actions, interactions, and consequences of actions and interactions (Glaser & Straus, 1967). Patterns and themes were identified in the data collected using the process of thematic analysis (Braun & Clarke, 2006). Findings associated with the research questions were identified with conclusions revealed supported by the findings.

This chapter is broken into seven areas including summary of the results, overview of the findings, conclusions based on the results, limitations of the study, implications of the study, recommendations for further research, and recommendation for best practices.

Summary of the Results

Challenges in the recruitment and hiring of CTE faculty are varied, but a general set of themes including pay, credentialing and qualifications, hiring processes, and a general workforce shortage seem to be the paramount issues the participating institutions have experienced. The right amount of pay needed to entice CTE faculty was not uncovered; however, the disparity between educational wages and industry wages for technically skilled individuals appears to be challenging. Competition for high quality industry experienced individuals is high especially when the consideration of credentialing is explored. The number of individuals with industry experience, teaching experience, and the right educational degrees institutions are looking for are in very short supply with industry appearing to be able to pay higher wages to attract these individuals. The general shortage of a skilled workforce is making the candidate pool smaller as the economy is booming and with some of the perceived hiring process difficulties, some institutions are struggling more than others.

Successes in the recruitment and hiring of CTE faculty have occurred at each institution interviewed with quality recruitment and structured hiring processes being the most discussed by the institutions. Personal connections seem to be a key part of recruitment and structured interviewing processes are valuable for the hiring process. Establishing a fun, collaborative work environment draws candidates into the institution with external factors including the beach and weather add to the enticement used by institutions to recruit and hire candidates. The biggest challenge to recruitment and hiring was identified as pay; yet, institutions are seeing success when they develop and use a complete compensation package. Helping candidates understand retirement and insurance benefits along with understanding time-off and working hours appears

to be critical to success for institutions to move past the initial pay conversations that creates a challenge.

Overview of the Results

This study looked to help answer two overarching questions of what challenges institutions are having with the recruitment and hiring of CTE faculty and what successes are institutions having in the recruitment and hiring of CTE faculty within the Florida panhandle. The study was conducted as a case study where individuals from six participating institutions were asked a series of questions and their answers were used to guide the results of this study. The participating institutions are comprised of two different categories of post-secondary institutions. The first group of institutions are the technical centers/colleges which provide post-secondary educational programs and report to the local district K-12 education system. The second group of institutions are the state colleges that provide post-secondary programs and are independent in reporting structure but are considered part of the Florida State College System.

Having institutions that provide similar programming but have different reporting structures led to a few differences in their challenges and successes. The technical colleges have a different accrediting organization as compared to the state colleges. The technical colleges each have a Collective Bargaining Agreement (CBA) where the state colleges varied with two of the participating institutions having a CBA while the third did not. The technical colleges offer credentials that are diplomas where the state colleges can offer credentials that are diplomas or associates degree or higher. The technical colleges and the state colleges follow the same curriculum when they offer the same diploma programs, but they tend to have slightly different expectations of potential CTE faculty.

The results indicated that there are several challenges that institutions face with the biggest and most common being pay. Educational institutions are not able to compete with business and industry with pay but not all candidates are driven solely by pay. The candidates that read and understand job descriptions are aware of the pay range before enter hiring pools and are willing to consider the pay range offered. Once the candidate is in the pool, there seems to be success in completing the transaction and hiring the candidate. Developing the candidate pool may be the bigger challenge and one that might be limited by the pay range yet, this was not explored in this research so the effect on pay in filling candidate pools is unknown.

Participants suggested that some candidates are willing to accept lower pay when they are presented with and are offered a complete compensation package with the benefits, retirement, work hours, and time-off that institutions can provide. Presenting candidates with the advantages of the local area can be useful in enticing candidates to accept positions and can be part of the compensation package discussion. Local beaches, eatery's, and the warmer weather of Florida are things that help candidates make employment choices for both the recruitment and hiring processes. These are things that educational institutions can offer, and research shows they can be used to successfully recruit and hire individuals.

Building a strong candidate pool is part of a structured hiring process that leads to successes in recruitment and hiring of CTE faculty. Hiring practices can be a challenge to institutions if they are cumbersome and lacking in structure. In contrast, hiring processes can be a key to successes in recruitment and hiring. Creating structured processes can ensure the job descriptions are well written, candidate pools are filled and screened to have the most qualified individuals enter the interview process, and the right candidates are chosen for the open positions.

There is a general shortage of workers to fill open positions making it vital that the work environment is one that draws people to the institution and encourages individuals to want to work in education. Creating these engaging, enjoyable, and supportive environments is something that some leaders strive for as they understand it is a powerful way to stand out and attract people. This type of environment is one that also supports personal and professional development to help employees grow into more than they started as.

Professional development is also a way to move beyond credentialing issues. Depending on the accrediting agency, variances can be used to hire individuals that are lower qualified and professional development can be used to help the individuals attain the skills or education levels that they are lacking. Some credentialing requirements set by accrediting agencies prevent initial hiring, but others allow for initial hiring with professional development used to give the individuals the skills they need. The state colleges have greater difficulties with education credentialing and the individual institutions have internal policies that limit their ability to maneuver within the allowances granted by accrediting agencies. Each institution will be different but understanding what options and allowances are available may help other institutions implement changes that might reduce the challenges of credentialing issues and turn them into successes. One of the institutions used an example where they were able to use alternative credentialing. Alternative credentialing for this institution meant they hired an individual with lower than the suggested master's degree and even below the bachelor's degree by using a variance. For this institution, the variance was extremely valuable, and they used industry certification, long term industry experience, along with an associate degree to write a credentialing variance form to satisfy their accreditation agency.

Conclusions Based on the Results

This sub-section is presented in two parts, the first as a comparison to the theoretical frameworks discussed in the literature review and the second being an interpretation of the findings based on the frameworks.

Comparison of the findings with theoretical framework. The Teacher Human Capital Framework (THCF) is a proposed framework that supports the recruitment and hiring of teachers to support the education field developed by Myung, Martinez, and Nordstrom (2013). The THCF is comprised of four steps which include; acquire, develop, sustain, and evaluate, all of which are designed to advance teaching to improve outcomes (Myung, Martinez, & Nordstrum, 2013). The findings from many of the participants supported THCF as vital to successful recruitment and hiring of CTE faculty. More than one participant indicated the importance of finding the right candidate for the position. The participants indicated the right candidate should be looking for more than a job, the candidate should be looking for more, the candidate should be looking for their why. The participants also indicated the person standing in front of the classroom was the most important person in developing a relationship with the students to support student success. The acquire phase of THCF is critical to start with the right person and was supported by the participants as one participant felt, it costs too much in resources and lost time to hire the wrong person.

The participants felt that supporting the candidate with mentorship and professional development was critical in the success of the new hire. Several participants strongly felt that many CTE faculty come to the institutions with great industry experience, but they lack teaching skills, classroom management, and general understanding of pedagogy. The participants support the importance of the develop phase of THCF as they generally understood the importance of

investing in the new hires to help them succeed. The findings from the participants indicated many had experiences which support the first two steps of the THCF. Although the study was primarily focused on the first two steps, the participants provided support which indicated step three, sustain, was a vital part of the longer-term relationship the institution would have with the CTE faculty. One participant was successful by growing their own faculty by investing in an individual and supporting them through additional education and other requirements to be a CTE faculty member.

Maslow's Hierarchy of Needs, which is the motivation of an individual to meet their unsatisfied needs (Envision Software, 2012). One of the participants indicated that identifying individuals looking for something more, something bigger than just money and a job was a key factor is successful recruitment and hiring of CTE faculty. Participants indicated that pay was an issue with some candidates accepting positions, but many people are looking for more and that teaching and helping students learn a trade which could change the student's life was their reason for looking at educational environments. The literature indicated and the participants supported that many people enjoyed and were seeking higher education or development for themselves to accomplish more and to fill a need within themselves.

Herzberg's Motivational Theory was supported by this study in the need for employers to invest in their employees to motivate the individual to continue their education or learning through continuing education activities (Hammonds, 2017). The need to invest in the employee through education, training, or other forms of professional development was expressed as important to successful hiring and recruitment by four of the participants. Providing professional development for industry experienced individuals that lack teaching experience or training is critical for the successful integration of the professional into the classroom. Participants

indicated that many times professionals struggled to make the transition to teaching and the use of professional development, educational coursework, additional degrees, and general mentorship helps to contribute to a successful hire.

Total Quality Management (TQM), is an approach that encourages the institution to include its members in improving the organization processes and outcomes on a continuous basis (Hammonds, 2017). This theory was not identified as being supported within this research. The theory might have merit in the long-term sustainability of employees but was not identified as part of the recruitment and hiring process as experienced by the participating institutions. The ability to sustain long term employment, which was not part of this research, could benefit greatly by TQM.

Interpretations of the findings based on challenges. The first question seeks to identify the challenges surrounding recruitment and hiring of CTE faculty. Specifically, the research question was what are the current challenges for recruiting and hiring post-secondary CTE instructors in the Florida panhandle?

Instructor pay. The biggest challenge to recruitment and hiring of CTE faculty, as determined by the participant responses, is instructor pay. Janisin (2016) determined that pay may not be the top factor in CTE instructors' decision to stay in teaching positions; however, it clearly appears to be a top issue with the recruitment and hiring of instructors as identified by the participating institutions that were interviewed. In his study, Janisin (2016), looked at CTE faculty currently employed in instructor positions to determine why they accepted or chose to stay in instructor positions; however, the study did not address the recruitment or initial hiring of the instructors. The participants in this research repeatedly stated pay was an issue and challenge to recruiting and initial hiring of CTE faculty. It was expressed multiple times by the

participating institutions that pay schedules are not equal to the amount individuals can earn

working in business and industry and was further identified, in the literature review, as an issue

which makes recruitment a challenge (Allegretto & Mishel, 2018; McHenry-Sober, 2018).

Instructor pay has gained attention at many levels as the K-12 system has seen teacher

walk-outs and colleges have seen unionization due to pay concerns (Edwards, 2018; Will, 2018).

Pay within educational institutions has not kept pace with the pay individuals can earn in

business and industry (Allegretto & Mishel, 2018). Whether an individual has an academic

degree or special skills and training, the pay tends to be greater in industry, sometimes almost

double as several institutions in this study have experienced. Participants at both the technical

college and the state college levels have experienced instructors leaving teaching positions for

higher paying industry positions in the recent years. With the pay gap between education and

industry widening, filling open CTE positions appears challenging with the participating

institutions struggling to experience relief soon.

With reduced legislative funding support and the consequent tightening of institutional

budgets, the participating institutions generally `indicated the ability to increase their pay

schedules will be a challenge that likely will not be overcome. The participating interviewees

that operated under a Collective Bargaining Agreement (CBA), expressed concern with their

inability to negotiate beyond their current pay schedules. Finding ways to successfully recruit

and hire CTE faculty is expected to continue to be difficult. The post-secondary technical

colleges reporting to local districts have CBA's that can be negotiated during contract talks but

will likely continue to see pay schedules below what teaching professionals could earn in the

industry market. The state colleges that have CBA's will likely see the same challenges however,

the colleges without CBA's might be able to increase pay in selective hard to fill areas as one

participating institution experienced. It appears unlikely that the pay will ever be equal with industry so challenges will likely continue at these institutions.

Credentials and qualifications. Finding the right candidate for open positions can be challenging when there are specific credentials or qualifications the candidate must possess. In general, CTE faculty tend to have lower academic experiences and degrees than other faculty (Sharma & Pandher, 2017; Stephens, 2015). The technical colleges tend to have an easier time recruiting and hiring CTE faculty in terms of academic requirements as compared to the state colleges. The requirements for the technical college positions are sometimes vague, as one participant expressed their district struggles to determine what credential they require for certification. The post-secondary technical colleges have credential requirements that are determined by their local district so many of the CTE hires tend to be very heavy with industry experience but are often lacking in educational degree attainment as one participant expressed, they rarely hire someone with greater than an associate's degree and other participants expressed they often hire candidates with no degrees. The state colleges tend to have slightly different struggles in recruitment and hiring of CTE faculty as compared to the technical colleges as the state colleges have transfer and accreditation requirements they must meet. Since the state colleges confer higher degrees, many of which are part of transfer agreements, they are bound by requirements that sometimes require CTE faculty to hold higher education degrees such as a master's degree in the subject area. This tends to be institution specific and based on the institution's interpretation of accrediting requirements.

Students tend to perform better, academically when the instructor has at minimum a bachelor's degree (Clotfelter, Ladd, & Vigdor, 2010). While these higher degreed individuals are likely to perform better in the classroom and have higher student learning outcomes, the

participants indicted they are difficult to find. Participants generally indicated that individuals with academic degrees did not truly make them the best fit for the classroom and that the CTE faculty needed to have industry experience. The technical colleges especially indicated they felt industry experience was more important than the degree. The trend in the past has been for states to not have minimum educational requirements for post-secondary CTE instructors, the states have tended towards easing the requirements (Olson, Jensrud, & McCain, 2001).

The CTE faculty with high industry experience tend to not have educational backgrounds that include classroom management or pedagogy (Scott, 2014). The industry experienced candidates tend to not have teaching experience and often struggle with teaching skills, classroom management skills, and pedagogy. Participants from the technical colleges and the state colleges indicated they often must let CTE faculty go, not because they are not masters of their trade, but because they cannot transition into teaching in a classroom and managing student learning concepts. Participants from the state colleges indicated they struggled to find candidates with both higher degrees and technical skills. Often candidates have the degree but lack some of the technical experience and skills. Finding the candidate with the right combination of education and skills is rare so some state college participants fall back to minimum requirements, as their institution interprets the requirements, to satisfy SACSCOC compliance. There is some ability to be flexible as participants expressed the ability to use alternative credentialing and variances when the candidate has the skills and is the right person for the position but might lack the education requirement. When recruiting and hiring CTE faculty, it appears institutions must determine what their needs are, what is required, and what is most valuable to them in a candidate.

Hiring processes. The process of recruitment and hiring is critical to ensure the right candidates are in the pool and can move through the selection, interview, and hiring processes (Myung, Martinez, & Nordstrum, 2013). The participants supported the importance of creating quality job descriptions, as the job description is what most job seekers look at first to see if they are interested in the position and determine if they meet the requirements for employment (Flannigan, Jones, & Moore, 2004). A state college indicated they had issues with candidates moving through the interview process and the college investing time in a candidate for the process to fail. The state college indicated the biggest reason for them to have an interview or search fail was when the candidates did not fully understand what the position was, where the candidate would be teaching, and understanding the pay range.

Hiring mistakes can be costly and hiring successes can increase student recruitment but most hiring managers are ill-prepared and lack the fundamental training in effective hiring of CTE professionals (Jordan, Dechert, & Wainwright, 2012). The lack of training was supported by the state colleges as they indicated their biggest challenge was getting the hiring committee leads to understand the process and move along in a timely manner. The committee lead was identified to have many responsibilities and there was an appearance of training that was lacking, at both technical colleges and state colleges, in making sure the lead was properly trained and understood their responsibility and the steps that had to be followed. The state college participants indicated the slow movement of the process was increased as background and reference checks take time that is out of the direct control of the human resources manager. Reference and background checks are important and often required but participants indicated they took considerable amounts of time, sometimes ending with the candidates accepting other positions before the offer from the college was received (Myung, Martinez, & Nordstrum, 2013).

The actual process of hiring is important as non-structured processes lead to poor hires or processes that are cumbersome and could lead to missing out on great candidates because they lose interest, which was supported especially by the technical colleges (Jordan, Dechert, & Wainwright, 2012). The technical colleges tended to express more difficulty with the internal processes of hiring CTE faculty as compared to the state colleges. The state colleges did not seem to have as many challenges around the recruitment and hiring processes as they seemed to have fewer people involved in the process. Several technical college participants expressed challenges within their processes as they follow the local district requirements. Background and fingerprinting requirements are standard in Florida however, the challenges seemed to revolve around processes that had cumbersome steps that were at times redundant. The technical colleges seemed to have many steps that were required that were not as easy for their candidates to follow, some participants expressed situations where the candidates gave up and dropped out of the process before completing all the hiring steps over frustration trying to follow the procedures. The participants indicated candidates filling the open position pools at the technical colleges tended to have high industry experience but lower academic achievement and less experience using technology systems that are commonplace in educational institutions. A technical college participant indicated that the candidates they tend to see have limited experience using computers, email, and websites while trying to upload required documents.

Workforce shortage. There is a general shortage of a skilled workforce, also identified as the skills gap, that is causing difficulties in hiring qualified and skilled workers within business and industry. The current healthy job market coupled with the shortage of trained workers has created a supply and demand market where employees have the advantage and the situation is causing loss of work for some industries as they must turn work away (Tartar, 2017). The

technical colleges indicated they were seeing fewer applicants and many of their current teachers were being recruited to industry positions. The technical and state colleges both supported seeing a lack of adolescents entering high skilled or trade positions as there were in previous generations (Gross & Marcus, 2018). This shortage is happing in many industries however, manufacturing is being hit hard as less people are entering the skilled trades as compared to years before and parents are often encouraging their children to avoid these manual labor type positions as presented by Katz, Sapper, and Miller (personal attendance October 04, 2017). Participants at technical colleges and the state colleges generally supported the concern of finding the right candidates for open positions as a challenge for many reasons and currently education is competing with industry for the same skilled workforce, which is already in short supply.

There was some lack of concern with the shrinking candidates' pools as a state college participant felt there was a general cycle that would turn-around when the economy slows down and workers start looking to education as they are unable to find positions in industry. The concern with the cyclic nature of the economy would be the skills of the workers looking for open positions, as the state college participant felt the most qualified individuals to teach would have the highest skills and would be the most sought-after individuals in industry regardless of the economy.

The skills gap is widening as technology is increasing rapidly creating situations where workers are being phased out of positions if they are unable to keep up with the new high technology changes (Rojewski & Hill, 2014). Participants within the technical colleges and the state colleges expressed concern that they were seeing candidates close to retirement that were lacking in many of the newer technology skills. Having industry experience is critical but even

experienced workers can be left behind in the rapidly high technology environment that exists today. This rapidly changing technology need is increasing the requirement for high quality training CTE training programs at a time when there is a reduction of CTE training programs occurring due to poor quality, lack of funding, and difficulties in finding quality instructors (Thurlow, 2014). Added to this shortage of CTE programs is the teacher shortage that is growing across the nation with fewer people entering the teacher profession and teacher preparation programs are closing or being reduced (Krupnick, 2018; Rey, 2018).

Interpretations of the findings based on successes. The second question seeks to identify the successes surrounding recruitment and hiring of CTE faculty. Specifically, the research question was what are the current successes for recruiting and hiring post-secondary CTE instructors in the Florida panhandle?

Recruitment and hiring processes. Having structured recruitment and hiring process can lead to successful hiring of CTE faculty. Finding the right candidate for an open position is more likely to occur when the process is structured and individuals are trained in the process, as supported by the technical colleges and state colleges (Jordan, Dechert, & Wainwright, 2012). The technical colleges, with their many district required steps, seemed to have less of a formal process in general compared to the state colleges. The processes used by some state colleges showed very involved processes that went beyond steps and paperwork and involved high amounts of interaction with the candidates to get to know them on a deeper level.

The process of hiring starts with developing a strong and complete job description (Myung, Martinez, & Nordstrum, 2013). Many people do not know how to develop a quality job description which leads to poor applicants in the candidate pool (Flannigan, Jones, & Moore, 2004). The technical colleges seemed to be very good at creating job postings that laid out all the

requirements and expectations of the position which limited the candidate pool to qualified applicants. A technical college participant indicated occasionally an unqualified candidate would slip into the pool but not very often. The state colleges did not express successes in the job descriptions but did indicate struggles when candidates did not fully understand what they were applying and interviewing for.

Recruiting requires getting the word out to many people by posting the position in a multitude of locations including using social media, internet job sites, industry contacts, and word of mouth (Myung, Martinez, & Nordstrum, 2013). The participating institutions seemed to all use similar tactics in advertising activities. The technical colleges seemed to use social media more than the state colleges while the state colleges tended to use advisory committees more as a source of potential candidates. The technical colleges indicated they placed emphasis on the use of community connections, industry contacts, and word of mouth in filling candidate pools as supported by Daniel (2004).

Forming selection committees, determining what the institution values most in the candidate, developing quality interview questions, and practicing interviewing skills are additional critical steps in the hiring process (Myung, Martinez, & Nordstrum, 2013). Many people that are part of the hiring process are not properly trained and do not understand the steps to follow in the hiring process (Jordan, Dechert, & Wainwright, 2012). This was evident at the technical colleges as they followed the district processes with the district having high turnover leaving gaps in knowledge and assistance in the processes. A state college participant discussed the importance they place on the interview process and how their process led to some great hires. Additionally many people do not know how to properly write interview questions and to conduct an interview, as supported by a state college, to gather the information that the committee is

seeking to allow them to make an informed decision to identify the best candidate for the positions (Jordan, Dechert, & Wainwright, 2012).

Odden (2013) suggested institutions need to find out what the core values a candidate holds to determine if they are a good fit for the institution. A state college participant accomplishes this by spending more time with the candidate through a campus tour and a lunch or meal with selected administrators. Participants at the technical college and the state college level both indicated candidates that fit within the culture of the institution is something viewed as important to ensure long term relationships can be built with new hires. Identifying the right candidate is further described as critical to institutions as the future instructor is the greatest value to the success of students within the classroom (Love, Love, & Love, 2016). A technical college indicated the relationship the instructor establishes in the classroom with students is extremely valuable and something they look for in the interview process.

Growing your own candidate pool is something that a state college participant indicated was a success for them and is supported by Mattoon (2008) and Douglas and Khandaker (2019). The participant indicated they often have students graduate and start working in industry but by staying in touch with the student and supporting them in additional education attainment, the previous students have come back and succeeded in the classroom. The students that complete a program are familiar with it and the institution, so they are comfortable in the environment which helps them to succeed as an instructor.

Work and community environment. Successful recruitment and hiring involves bringing candidates into an environment where they want to be. Creating an enticing work environment can have benefits in the hiring of faculty members. There are many things that an institution can do to create an enticing environment that individuals will want to be a part of including:

providing mentorships, fostering socialization, encouraging flexibility, offering rewards, developing internal candidates, and creating a fun work environment (Hessler & Ritchie, 2006). Creating a fun, encouraging, supportive, and vibrant work environment is something that technical college participants have done to attract candidates to their institution. The technical college participant indicated they had candidates accept positions solely due to the fun environment they experienced when they interviewed with the interview committee. The state colleges that participated in this research indicated they have seen success in promoting the collegiate working environment the candidates would be joining. The state colleges indicated they have found several candidates that really wanted to work in education because they enjoyed the environment.

There are several things that applicants consider when looking at post-secondary job positions which can include current job satisfaction, advancement opportunities, personal growth, and the attractive campus environment (Winter & Kjorlien, 2000). The National Association of State Directors of Career and Technical Education Consortium (NASDCTEC) report (2010) indicates starting a faculty professional development program and starting a mentorship program are two strategies that can see outstanding results in recruiting and hiring CTE faculty (Love, Love, & Love, 2016). One technical college indicated they used mentorship for new faculty members, and it was a huge success that the new faculty looked forward to when they were being offered a position. One of the state colleges indicated they offered mentorship to new hires, but they indicated they did not promote it, it was just something they did.

Post-secondary institutions need to strongly promote all they have to offer as institutions and need to understand they must sell themselves to the individual as a strategy in the hiring process (Love, Love, & Love, 2016). A state college participant makes sure they provide tours to

all candidates being interviewed so they can start to imagine themselves working on the campus. Another state college participant provides tours to many potential hires to show what the college has to offer in the athletic, cultural, and artistic areas. The look of the campuses and the technology in the classrooms helps many candidates accept offers of employment because they enjoy the environment.

The local environment has helped the technical colleges and the state colleges attract potential candidates to their pools and often help candidates make the decision to accept teaching positions. The Florida panhandle area is home to many miles of beautiful beaches and mild winter weather which helps attract candidates, especially from colder northern states. The strategy of selling the local community has worked well for participants at both the technical colleges and state colleges. Participants have sent emails and pictures of the beach to potential candidates during the cold winter months to encourage them to apply for open positions along with using local food options to entice individuals that might consider themselves foodies. Using the local community and the local environment has worked well to entice candidates and potential hires to consider the area and open CTE faculty positions.

Compensation package. A complete pay and benefit package needs to be explained to candidates to help navigate the potential pay concerns of education not being able to compete with industry wages. There are many things that play a part in an individual's decision to accept a CTE faculty position. The research indicates money is only a part of the decision process and the full benefits package of insurance, time-off, and retirement will be part of the decision. At the technical colleges and state colleges, participants have been very successful in selling candidates on having summers off along with two weeks' time off at Christmas, and one week off for spring break. The participants have also seen success with promoting the Florida Retirement System.

Pay is generally a challenge as institutions struggle to compete with the wages of business and industry (Janisin, 2016). A state college participant indicated that the insurance being paid completely for the employee was a huge draw however their college seemed to be behind others in pay, however, Florida not having state taxes helped to shrink the gap if the candidate was coming from another state. The state college participant indicated they were proposing a longevity pay bonus and higher starting salaries as ways to entice candidates and overcome the initial wage disparity between education and industry.

Additional items may include; mentorship, professional development, future advancement, and self-efficacy which all play a significant part in the decision of candidates to accept faculty positions (Janisin, 2016; Myung, Martinez, & Nordstrum, 2013). Professional development and in some cases tuition assistance, as supported by technical colleges and state colleges, appeals to some candidates as many individuals are looking for person growth and development. Many institutions at both the technical college and state colleges discussed the advantages they offered to candidates in the form of personal and professional development opportunities. Some of the state college institutions indicated they offer limited tuition assistance to individuals to increase their education level. One state college indicated they have tuition assistance available for the spouse and dependents of faculty members which is an additional enticement for many applicants.

Limitations of the Study

The limiting factors to this study were variables that could not be controlled or accounted for. Other possible limitation of the research included the following.

- This was a small representation of a larger group that is specific to a localized area within a single state which could lead to limitations in the results.

- This study looked at CTE instructors only, which is a small representation of a larger group of overall instructors.

- This study only looked at the challenges and successes of recruiting CTE instructors at the post-secondary level and not at the broader issue of instructor shortages in general.

- There were limited viewpoints of the CTE recruitment and hiring processes as Superintendents, college Presidents, and K-12 human research managers were not included.

- The Florida education system was not explored in depth in its support and operation of CTE programs.

Implications of the Study

This research identified contributing factors to successful recruitment and hiring strategies that can be used by other institutions in designing and implementing their own processes.

The first two steps of Teacher Human Capital Framework (THCF), acquire and develop, are advanced through this study. When looking at the context of THCF, the first step is to acquire. Acquire is essentially recruitment and getting the right people in the right positions (Myung, Martinez, & Nordstrum, 2013). There are several things in the results of this study that support the recruitment phase of THCF, including structure hiring processes. Participants discussed the successes they have due to creating quality job descriptions to get the right people in the candidate pool and not allowing unqualified candidates to move forward.

Participants found success in advertising in multiple places including using new technologies such as websites and online job search companies. Utilizing personal relationships

and the connections that faculty have with industry contacts, advisory boards, and community resources. Additionally, participants discussed the value of the structured interview process which needs to be complete and time needs to be spent with the applicants to get to know them on a deeper level to determine if they are the right fit for the institution. Finding the right individual supports Maslow's Hierarchy of Needs in that finding the right person looking to enter education for the right reason will lead to a better hire. These first steps in the hiring process are the basis for the structured hiring process that ends in finally making an offer (Flannigan, Jones, & Moore, 2004).

When the offer of employment is made to the chosen individual, there are many considerations that play a part in an individual's decision to accept the position. The research indicates money is only a part of the decision process and the full benefits package of insurance, time-off, and retirement will be part of the decision. Other items such as mentorship, professional development, future advancement, and self-efficacy all play a significant part on the decision to accept and stay in instructor positions (Janisin, 2016; Myung, Martinez, & Nordstrum, 2013). The institution must sell itself to the individual as a strategy in the hiring process by making their programs visible and of award-winning quality along with selling the surrounding area (Love, Love, & Love, 2016).

Pay on the other hand is the drawback as institutions generally cannot compete with business and industry wages (Winter & Kjorlien, 2000). Pay is generally not the main driving force with the decision for a candidate to accept positions, but it is a consideration that plays a part in the decision as evidenced in another research (Janisin, 2016). While pay is a huge challenge, it can be overcome as the research suggested the larger benefits package needs to be discussed to entice the individual. If the job description is written well with the salary range

presented upfront, the candidates in the pool are likely to consider the pay range if they understand the full compensation package. The research indicated this was how institutions were able to turn the challenge into a success.

There are credentialing issues that present challenges to institutions which fall under the theory of Maslow's Hierarchy of Needs. People will advance in their education and skill attainment to further themselves for personal gain. Education institutions find success when they grow their own instructors or are willing to invest in professional development to increase the skills that candidates or employees have. Individuals need to be willing to advance their credentials with the support of the institutions as finding people with the industry experience, special skill sets, and teaching experience needed can be very difficult. Many times, institutions are forced to accept candidates that are missing one or more of the needs of open CTE faculty positions creating a need for institutions to use variances to satisfy accrediting agencies and to support the candidate through the process of development.

Recommendations for Further Research

Taking a broader viewpoint beyond this research could assist in identifying additional variables and insights. Looking at more states and looking outside of CTE faculty to include all faculty might present additional information. There is a consideration that hiring the candidates that apply is not the bigger issue but increasing the applicant pool might be. In a study by Janisin (2016), he determined that pay was not the number one factor influencing CTE faculty to accept and stay in teaching positions, however, this study indicated pay was a large issue with recruiting and hiring candidates. There should be research completed to explore what effect pay has on the decision of individuals to enter candidate pools. It is easy to ask candidates why they accepted positions but identifying why potential candidates are not entering the candidate pools might lead

to additional information. Additional research on the Florida education system is warranted to explore the relationship between the K-12 district Superintendent operated post-secondary system and the Florida College System State College post-secondary system and determine the overlap and difference between them. Post-secondary CTE systems across the nation could be explored to determine the different system structures and the advantages to each. Further studies on the benefit of staff professional development for CTE faculty is an additional area that could prove valuable if researched deeper.

Recommendations for Best Practices

Successes were identified during this study that have the potential to inform and benefit other institutions through the development of best practices. Potential best practices for institutions to successfully recruit and hire CTE faculty were identified as the hiring processes, including creating job descriptions and advertising. Additional successes were identified as creating an enticing work environment, selling the candidate on the regional community, identifying individuals with high self-efficacy, providing a detailed compensation and benefit package, and providing mentorships to the new faculty.

Successful strategies, identified as best practices within this research, revolve around a structured and robust hiring process. Institutions that identified greater success had processes established that would be followed by each search committee. Proper training for individuals involved in the recruitment and hiring practices appears to be a key element that is often missing at institutions and sometimes committee members struggled to understand the process or the requirements of the position. A best practice identified that the hiring committee should have a firm grasp of the requirements of the position as far as education attainment, industry experience, professional skills, teaching experience, and how the candidate should fit within the institution.

The requirements of the CTE faculty position can vary greatly and the committee knowing exactly what they are looking for is a key to success. Committees need to understand the exact requirements per the accrediting body, whether that was SACSCOC or the district, to help ensure the right person is chosen for the position. Fully understanding where alternative credentialing and a variance can be used and what the institutions own policies are can make a large difference in the selection process. The state colleges tend to value degrees over professional skills, but the institutions policies can have flexibility. The candidates for CTE faculty positions often have professional skills aligning to the position being posted and many years of industry experience which should help in creating a variance if the institution allows it. If the right candidate does not hold the higher degree and the institutions policies allow for alternative credentialing, the individual could be considered for the position.

A best practice was identified as developing a quality job description as this tended to lead to greater success in recruiting and hiring CTE faculty. Job descriptions which include the minimum requirements for the position including; educational requirements, special skills, teaching experience, and abilities were identified to provide successful results. A best practice identified that job descriptions should include an accurate description of what the job entails, the duties, the expectations, the instructional location, and recommended qualifications. Developing the job description was a way for the institutions to help the potential candidate understand the working environment and conditions of the institution and position. The job description is an early opportunity for an institution to explain a little about themselves and why individuals should want to gain employment with the institution. This is an opportunity for the institution to sell the potential candidate on what the local community has to offer such as local eateries, festivities, the weather, or beaches. The job description should conclude by leading the potential

candidate towards the benefits available at the institution and the general pay range that would be expected.

A best practice was identified in which institutions should be intentional with electronic means of advertising as they consider where to advertise, or recruit, to ensure the best fit for the position they are looking to fill. Successful institutions employed multiple strategies including internet job posting sites such as Monster.com, Indeed, and LinkedIn that reach a broad market. Institutions used their college or school websites as a great way to find local candidates especially since many institutions have adjunct instructors that are looking for full-time employment at the institution and are likely to watch the local job postings. Using advisory committees and local industry contacts was identified as a valuable way to find candidates along with general word of mouth and talking to people around the area or within the industry the position is in. Institutions found the use of social media as critical to sharing the open position with friends, family, and past students. Social media was identified as a far-reaching tool as social media can quickly reach across the country and reach countless numbers of potential candidates. The use of directed advertising with electronic media is something institutions found valuable as the Florida panhandle area sees many thousands of tourists each year and some of those tourists might decide to relocate if they were aware of available positions. Selling the potential candidates on the area can be valuable especially when pictures of the local eateries, the beach, or the weather are shared by electronic means in places such as northern states during cold winters months. When there is a natural local draw that people would be attracted too, it was identified as valuable for institutions to paint a picture of what a candidate's life would be like if they accepted a position at the institution.

Best practices identified that having a quality interview process is important to ensure the right candidate is selected as educational environments are not the right fit for everyone. Creating and asking questions that help identify an individual's experience, personality traits, and core values can lead to better quality hires. Finding the right person can be difficult and one way to dig deeper and determine if the individual is the right fit is to spend more time with the candidate. This can be accomplished with campus and department tours and with lunches with the candidate and core hiring committee members. Taking the time to know someone is a good way to determine if they will fit the core values of the institution and fill the need of the open position. Education, industry experience, and professional skills are not always enough to be a good fit. Institutions should look for candidates that have high level of self-efficacy as they may be a better fit within many educational environments. This candidate would be looking to see how they would fit into the institution and how being part of education would fill an internal need or desire for them. Being successful in the classroom goes beyond training and experience, it becomes relational. Building a relationship with students tends to lead to better outcomes and learning environments for the students. Relationships alone do not provide the learning outcomes required but, when combined with industry experience, professional skills, and education or professional development attainment the outcomes are typically experienced.

A best practice was identified as institutions can be successful when they explain the entire pay and compensation package to candidates and do not stop at just the annual salary to make an offer. Pay was often identified as a widespread challenge as an individual usually can earn more money working in industry. Institutions found individuals will look at the bottom line of what they will take home in their paycheck but doing so does not tell a complete picture. Being able to earn a livable wage is critical, however, everyone is different, and a review of the

entire pay and compensation package is important for institutions to be successful in hiring candidates. Institutions need to ensure individuals are explained the insurance costs, retirement benefits, workload, hours working each week, working conditions, and overall paid time off so the individual can consider everything the institution has to offer in accepting employment. Explaining the insurance and retirement benefits to potential candidates is important as younger people sometimes are not as concerned with retirement due to it being far away, however, explaining that the benefit of retiring from an educational institution may be of greater value sometimes makes a difference. Some skilled trade workers have no or very limited retirement and insurance benefits so working in education might provide some security and peace of mine for them.

Best practices were identified in that educational institutions have a lot to offer as workers in the Florida panhandle performing skilled trade jobs are often working in high heat conditions, rainy conditions, or positions that have high amounts of manual labor. In the educational setting, the skills are still required and performed but the environment they are performed in is often less severe. An example is an electrician, an instructor teaching electricity is typically working in a climate-controlled lab with proper lighting and a comfortable working position whereas an electrician working to wire a house is often in the heat and crawling around in attics. The difference in the educational working environment as compared to industry is significantly different and many individuals would accept slightly less pay to perform their craft in better working conditions. These working conditions might include shorter working hours each week and in many cases time off during the summer. Some institutions also provide additional time off during holidays and spring break which may not be valuable to everyone, but many people find the additional breaks or vacations valuable.

Best practices identified institutions have success when a quality professional development or mentorship process is in place as it helps the individual settle into and learn their new position. Institutions indicated candidates that are new to education might be more inclined to accept faculty positions and perform better in the classroom early on if they knew they would be benefiting from a quality mentorship program where an experienced faculty member is able to work with the new individual and help them through the early learning stage of being a faculty member. This can involve learning the layout of the campus, learning the policies and procedures, and learning whatever technology and learning management systems the institution uses. Sometimes individuals do not have much teaching experience and the use of mentorships and professional development can help the newly hired candidate. Professional development and mentorship can help supply the teaching pedagogy, curriculum development, assessment, and classroom management skills that would benefit the individual, the students, and the institution. The professional development could be in the form of an advanced degree, classes, web-based training, or seminars.

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Appendix A: Post-Secondary School List

Technical College, Technical/Vocational Centers;

Okaloosa Technical College

Emerald Coast Technical College

Locklin Technical College

Holmes County Technical Center

George Stone Area Vocational Technical Center

Tom P. Haney Vocational Technical Center

State Colleges/College;

Pensacola State College

Northwest State College

Gulf Coast State College

Chipola College

Appendix B: Semi-Structured Interview Questions

Demographic Data

1. Name of participants Institution?
2. Title of participant and their role in actively recruiting and hiring CTE instructors?
3. Number of years' experience recruiting or hiring CTE faculty at the post-secondary level?
4. Name of CTE programs offered?
5. Approximate number of full-time CTE faculty, if known?
6. Name of programs with currently open CTE positions?
7. Name of programs that CTE faculty have been recruited or hired in the past 12-months?

Recruitment Activities

1. Please describe your challenges in the recruitment of CTE faculty?
2. Please describe your successful strategies in the recruitment of CTE faculty?
3. Please explain what you feel the future of CTE faculty recruitment will be like?
4. What would you like to see changed to help the future recruitment of CTE faculty?

Hiring Activities

1. Please describe your challenges in the hiring of CTE faculty?
2. Please describe your successful strategies in the hiring of CTE faculty?
3. Please explain what you feel the future of CTE faculty hiring will be like?
4. What would you like to see changed to help the future hiring of CTE faculty?

Closing

1. Is there anything you would like to add to the conversation of the recruitment and hiring of CTE faculty?

Appendix C: Interview Guide

The following guide will be used by the interviewer as a checklist of items to ensure consistency and reliability in the interview process (Creswell & Creswell, 2018; Yin, 2018).

- Conduct introductory meeting with an individual by phone:
  - Introduce self.
  - Explain the research study and interview questions.
  - Determine if the person on the phone is the correct person to talk with, are they actively involved in recruitment and hiring of CTE instructors.
  - Discuss possible confidentiality issues and that the interview will be recorded.
  - Confirm individual agrees to participate.
  - Schedule the face to face interview at the individual's convenience.
- At the beginning of the scheduled interview reiterate the purpose of the study, interviewer's credentials, and confidentiality procedures.
- Set up recording device (I-phone 8S using Voice Memos app), notebook, and pen. Verify recording functions and the phone is fully charged before arriving.
- Have the individual read the Consent Form Appendix D and have individual sign it.
- Start with the demographic questions noted in the Interview Questions located in Appendix B.
- Read the questions in the Interview Questions to align with the recruitment topic. Ask follow up or probing questions as needed such as:
  - What do you mean by that?
  - Can you explain in more detail?
  - What is your opinion about that?
  - How does that make you feel?
  - What would you like to see changed?
  - Can you add anything additional to that?
- Read the questions in the Interview Questions to align with the hiring topic.
- Ask the closing question.
- Conclude the interview by briefly summarizing what you have just heard.
- Ask if anything has been missed or if there is anything they wish to add.
- Explain what you will do with the information.
- Thank the individual for participating and talking with you.
- Follow up and send a copy of the transcription for their review and approval.

Appendix D: Signed Consent Form

**UW-Stout Signed Consent Statement
for Research Involving Human Subjects**

Consent to Participate In UW-Stout Approved Research

Project Title: Challenges and Successes of Hiring Career and Technical Education Instructors as Experienced by Technical and State College Administration in the Florida Panhandle

Description:
We are trying to understand the challenges and successes of hiring CTE faculty within the Florida panhandle region. You will be interviewed about your experiences and perceptions for this qualitative case study research project. Please feel free to contact the researcher with any questions that you may have regarding this study.

Risks:
You may experience some questions that are personal or upsetting. You might remember some unpleasant memories that might make you feel bad. You do not need to answer them if you don't want to answer. There is a chance your data could be seen by someone who should not have access to it. We're minimizing this risk by keeping data anonymous and removing all personal identifiers.

Benefits:
You may benefit by contributing to our understanding of the challenges and successes of hiring CTE faculty members and by providing insights that could lead to future research. An additional benefit of participation is that you might enjoy talking about your experience.

Confidentiality:
No identifying information will be publicized during this study. The records of this study will be kept private. In the dissertation, I will not include information that will make it possible to identify you. The final study will list the name of the institutions and the position titles of the people interviewed. There will be no reference to the name of the individual holding the position at the institution. There might be a publication of this project. Research records will be kept in a secured computer; only researchers (myself and the dissertation committee chair) will have access to the records. I will use the transcription service www.rev.com to transcribe the recording of the interview. After the recording has been transcribed and the transcription verified, the recording will be deleted.

Future Use:
Any information collected for this research project will be stripped of identifiers and will not be used in other research in the future.

Time Commitment:
The standard interview will likely last between 30-60 minutes.

Right to Withdraw:
Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. You have the right to stop the survey at any time. However, should you choose to participate and later wish to withdraw from the study, there is no way to identify your anonymous document after it has been turned into the investigator.

IRB Approval: This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study, please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

	IRB Administrator
Investigator: Michael Erny	Elizabeth Buchanan
765.432.0432|ernym@nwfsc.edu	Office of Research and Sponsored Programs
	152 Vocational Rehabilitation Bldg.
	UW-Stout
Advisor: Dr. Debbie Stanislawski	Menomonie, WI 54751
715.232.3195| stanislawskid@uwstout.edu	715.232.2477
	Buchanane@uwstout.edu

Statement of Consent:

By completing the interview process, you agree to participate in the project entitled, Challenges and Successes of Hiring Career and Technical Education Instructors as Experienced by Technical and State College Administration in the Florida Panhandle.

_____
Name   Date

_____
Name of parent or guardian   Date
(if minors are involved)

Appendix E: Sample Coding Table

Partial prompt from 1 participant	Challenges in Recruitment and Hiring.	Reduction of Raw Capta	Categories of Themes based on Original Capta	Enduring themes (no sub-themes remain)
	~~Well,~~ number one challenge is being able to pay a salary that is equal to the workforce. ~~As a part of the Okaloosa County School District, we are bound by the contract. The master contract.~~ We advertise with the school district~~, which is mandated and, um, the only other place we've really advertised, um, well besides our~~ Facebook page, social media, would be Indeed. ~~Yes, we do. I can't answer that question why. Um, one, is the population of this area, um, is not as diverse as others, necessarily, except with the military itself. But, um, yeah, we do.~~ ~~Not with the~~ people who end up applying, because those things are laid out in the beginning, so they know what they must have. So, we never see those people ~~if that is an issue, you know, for some of the work force. But we never see that part.~~	number one challenge is being able to pay a salary that is equal to the workforce. We advertise with the school district Facebook page, social media, would be Indeed people who end up applying, because those things are laid out in the beginning, so they know what they must have. So, we never see those people some show up on Indeed, who had nothing and I- I have no clue (laughs) why they applied. challenges are finding experienced, qualified employees	Low salary compared to industry Advertise at district, social media Applicants screened through job description Some applicants not qualified Finding experienced candidates People at end of career with poor performance Lack teaching pedagogy and experience Do not know how to teach	The overall pay for teachers in education is much lower than individuals can earn in their career field in industry. People with poor performance or at the end of their career are sometimes the ones willing to work for the lower pay. Candidates lack teaching experience.

	~~Yeah, for the most part. Now, of course, we had~~ some show up on Indeed, who had nothing and I- I have no clue (laughs) why they applied~~. But those were quickly weeded out.~~ ~~Fortunately, I haven't had a tremendous number of those though. I really hired good nurses through Indeed, nursing instructors. So, nurses must be out there looking for a different path. (laughs)~~ ~~The~~ challenges are finding experienced, qualified employees. The pay is not commensurate with the pay that a person would make in the field. ~~The pay of an educator is not commensurate with a CTE faculty member, so I find most~~ people at the end of their careers. ~~And that is a challenge because you find a lot of people who, their intentions are great however~~ their performance is horrible. ~~That~~ ability to generalize their experience, into a teaching pedagogy. ~~They didn't have benefit of that. Some people are naturals and that's fortunately I'm able to find those, but I have gone through several who don't have the teaching pedagogy and~~ they just	The pay is not commensurate with the pay that a person would make in the field. people at the end of their careers. their performance is horrible ability to generalize their experience, into a teaching pedagogy they just don't know how to teach		

	don't know how to teach. ~~So that's an expense. You've hired this person and if the students don't like it then you must find someone else and they've lost all that time.~~			