

SELF-EFFICACY OF OKLAHOMA CAREER AND
TECHNOLOGY EDUCATION TRADE AND
INDUSTRIAL TEACHERS AND INFLUENCES THAT
AFFECT RETENTION: A MIXED- METHODS STUDY

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Abstract: The purpose of this mixed methods study was to discover reasons Oklahoma T & I teachers choose to remain in teaching; many of whom were described as career switchers. Of particular interest was examining various types of teacher supports and factors, including mentorship that contributed to participants' decisions to remain in the teaching profession. The primary goal of this study was to examine influences on decision making as it relates to teacher retention. This research focused on a pragmatism philosophy through which both Attribution Theory and Self-efficacy based on Bandura's Social Cognitive Theory provided understandings of decision making processes. The study occurred in two sequential phases. The first phase was an online survey containing biographical questions and the Teacher's Sense of Efficacy Scale (TSES) and the second phase were face-to-face interviews. One-hundred sixty two Oklahoma Trade and Industrial (T & I) teachers with at least three years of experience participated in the survey. The results of the survey were analyzed and reported as descriptive statistics. The TSES was analyzed for correlation between self-efficacy and years taught. Results indicated there was no statistical significance among the two variables. Interview participants were chosen from the outlier means scores from the TSES overall scores. Three interviews were conducted of low sense of efficacy and three were conducted on high sense of efficacy. In a cross-analysis among all interviewees, several themes developed that shaped decision making toward a sustained teaching career: Student achievement as inspiration and differences in realities of industry and in the classroom. Informal and formal themes concerning teacher supports emerged that influenced decisions to remain as a T & I teacher. The primary support were on-site mentors that provided professional guidance and a positive influence during early career challenges. Implications for practice centered on future teacher induction processes focused on student-centered development and administration playing a more inclusive role. The study revealed a need for on-going support to exist beyond the initial years of employment for teachers to maintain an increased sense of efficacy. Finally, recommendations for future research and recommendations for practice were stated.

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CHAPTER I

INTRODUCTION

Within the last two decades, fundamental changes have occurred in Career and Technology Education (CTE) on the national level that has expanded its original mission to encompass the preparation of students, not only for the workforce, but also post-secondary education. Traditionally, CTE's primary goal was to support specific industry-relevant skill development in the economy, as needed, providing students with the abilities to be career ready (Friedel, 2011). Today, CTE has the responsibility of helping students be not only career ready but also college ready (Conley & McGaughy, 2012). Consequently, it is critical for CTE to make changes and adapt the ways they educate students to meet the needs of 21st century learners. The evolving landscape of CTE presents unique challenges for teachers entering the field. This progressive undertaking positions CTE teachers as a crucial component for improving students' college and career readiness. A 2014 report by the American Institutes for Research (AIR) contends that "CTE teachers play a powerful role in preventing students from dropping out and providing a variety of opportunities for postsecondary success and employment, including pathways to a bachelor's degree" (p. 2). Further, CTE teachers are instrumental in integrating the expectations for Common Core State Standards, such as math and literacy skills, in meaningful applied real-world contexts (Conley &

McGaughy, 2012).

The report by AIR (2014) indicated that “CTE is a critical strategy for preparing youth and adults for careers and addressing the skills gap – a disparity between the skills job-seekers offer and the skills that employers need” (p. 1). To bridge this skills gap, CTE has evolved to meet the demands of the current economy by providing education for individuals to become qualified workers in skilled jobs - those that require certifications, postsecondary technical training and in many cases, college degrees (Boettcher, 2017). Additionally, O’Conner (2012) emphasized “CTE is a field in transition moving from a primary focus on preparation for entry level employment to preparation for continuing education” (p. 34). This dramatic shift in expectations has signaled the end of the “distinction between college and vocation as the fundamental organizer for secondary education” (Conley & McGaughy, 2012 p. 38).

For a CTE teacher to perform the dual role of preparing students to become career and college ready, more than just the technical skills of the field or trade need to be taught. Despite the importance of the teacher’s role in student success, CTE faces difficulties in retaining qualified teachers. McCandless and Sauer (2010) reported that “teachers going into education and not staying in the field long enough to become an established, viable asset to the program is one of the problems facing CTE programs today” (p. 63).

One of the primary issues causing a barrier to remaining in teaching may be attributed to the way CTE teachers are prepared. In many cases, CTE teachers have little preparation to take on the multifaceted teacher roles that are vital to student success (Zirkle, 2017) According to the National Research Center for Career and Technical Education (NRCCTE, 2011), as many as 75% of CTE teachers enter the profession without formal teacher

preparation and instead are hired based on their experience in business and industry. In this sense, these individuals are considered career switchers who come to teaching as a second career (Mayotte, 2003). Because of the need for recent and relevant work experience to be shared in the educational process, CTE teachers primarily come directly from business and industry rather than the traditional university teacher education programs, as in K-12 education (Green, 2014). Although these individuals bring extensive content expertise, they may be lacking in pedagogical skills, such as student engagement, instructional strategies, and classroom management that may be attributed to success (NRCCTE, 2011). Because of this lack of more traditional forms of teacher preparation, many CTE teachers learn key instructive skills to help students become proficient in the workforce and prepared for post-secondary education while on the job in some alternative pathway (Adams, 2010).

Typical traditional teacher preparation toward certification, usually occurring before the teacher actually has the sole responsibility of a classroom of their own, involves some form of structured university coursework and field-based experience toward a baccalaureate degree in education as well as completion of state-approved content exams (Munday, Kupczynski, & Uriegas, 2014). Conversely, typical alternative teacher preparation consists of accelerated programs that place prospective teachers into the classroom after a brief pre-service training and structured support period, which often includes a teacher mentor and in some cases no mentor (Jacobs & Walsh, 2007). In some cases, teachers who are becoming alternatively certified, are actually already teaching full-time as they go through the process of certification.

Alternative teacher preparation can mean either a pathway or a type of certification. Within CTE, attainment of alternative certification can vary from state to state with the

incorporation of numerous types of pre-service training, qualification exams, continuous support, and mentorship (Adams, 2010; Bowen, 2013). In Oklahoma, individuals with no previous baccalaureate degree, enter teaching through a form of alternative certification, known as provisional, which entails steps toward earning a standard teaching certificate (Oklahoma CareerTech, 2011). For years, CTE has embraced alternative routes to teacher certification as a viable way to transition individuals with valued industry experience into the classroom (NRCCTE, 2011). Despite using alternative certification and pathways as practical routes for teachers to enter the field, CTE continues to be confronted with the challenge of recruiting and retaining well-qualified, highly competent teachers (McCandless & Sauer, 2010; NRCCTE, 2011).

One educational division within CTE that is particularly vulnerable to high teacher attrition is Trade and Industrial Education (T & I). Historically, T & I has experienced higher turnover as compared to teachers within other CTE divisions and teachers in general (Hughes, 2012; McCandless & Sauer, 2010; NCES, 2014; Self, 2001). Recent research studies have focused on teacher retention within K-12 education (De Stercke, Goyette, & Robertson, 2015; Hughes, 2012; Ronfeldt, 2012); however, few studies have been done on the retention of CTE teachers, and especially in the high labor demand areas within T & I (McCandless & Sauer, 2010). Knowing why a CTE teacher would choose to stay in the profession is important. Ways to support these novices may lead to efforts to increase the likelihood of retention. The focus of this study was aimed at examining the decision-making process of T & I teachers who have remained in the profession. Knowing and understanding factors that contribute to T & I teachers who have been resilient may inform current CTE practices and teacher support systems.

Statement of the Problem

The Oklahoma Department of Career and Technology Education (ODCTE) depends on teachers in its T & I division to teach students to become highly skilled professionals within their trade fields by being both career and college ready (Oklahoma CareerTech, 2016). The importance of T & I education is evident in ODCTE’s mission statement “To prepare our students for success in the workplace and in their community” (Oklahoma CareerTech, 2016, para. 2). The key to success of T & I programs are the teachers, many of whom come directly from business and industry, and who provide comprehensive industry standard training toward employment. Haddock and Jimerson (2015) reported, “Individually and collectively, teachers represent the single most powerful force in facilitating student success at school” (p. 488). Therefore, it is critical to recruit, develop, support, and retain highly-qualified T & I teachers who reflect the mission of ODCTE. Unfortunately, increased attrition of T & I teachers has added to the difficulty of meeting these demands.

Controversies exist concerning the current nationwide attrition rates of CTE teachers. However, AIR (2014) reported that “half the states across the country have major shortages of CTE teachers, with more shortages expected to result from retirement in the near future” (p. 9). Historically, Oklahoma loses T & I teachers at a rate of approximately 50% after just three years of employment (Self, 2001). Conversely, comprehensive high schools lose fewer than 17% of its new teachers over a five-year career span (Hughes, 2012; NCES, 2014). The lack of sustained employment of instructors in Oklahoma T & I is problematic and leads to adverse effects in consistent instruction, which runs counter to its mission. Further, not retaining talented T & I teachers may create gaps in training that could lead to unfulfilled job

vacancies or companies leaving the state because of potential employees' lack of proper training.

Often, T & I teachers begin teaching without the benefit of pedagogical backgrounds and typically learn elements of student engagement, instructional strategies, and classroom management while on the job (Green & Kemmis, 2013). Attainment or failure toward the implementation of these pedagogical foundations are directly related to the construct of self-efficacy in terms of motivational process and whether instrumental actions are initiated (Hallum & Schwarzer, 2008). Teacher mentoring supports are one benefit to aid new T & I teachers who lack previous teaching experience. Ingersoll and Strong (2011) discovered that student academic gains were substantial for classrooms in which the beginning teacher had access to consistent mentoring supports. A state level formalized mentoring program exists; however, it depends on the local schools to participate. Depending on the location of the school, a teacher may or may not receive mentoring support. The inconsistent mentoring support across the state poses an additional problem for T & I teachers as they transition from industry to the classroom.

This study addressed issues and circumstances that encourage T & I teachers to remain in the profession. One concern that warranted attention is a lack of practice CTE teachers have prior to teaching in the classroom (Zirkle, 2017). As compared to academic teachers, the majority of whom receive student teaching opportunities before entering the classroom, CTE teachers have limited chances for practice. Preservice teacher education and preparation are essential for CTE teachers to become accomplished teachers (Adams, 2010). Adams (2010) proposed six broad categories of accomplished or effective teaching: content and curriculum, knowledge of student and their learning, learning environments, assessment,

planning and instruction, and professionalism. Further insight is needed into CTE preservice teacher education to understand the experiences and preparation that are needed for the retention of quality instruction. Green and Kemmis (2013) suggested that, “inherent tensions exist between pedagogy and practice in vocational education and general education” (p. 103). This lack of practice on the part of CTE teachers may play a part in affecting their sense of self-efficacy and, in turn, affect CTE teacher attrition. In a study of adaptability of career decision-making, Gadassi, Gati, and Wagman-Rolnick (2013) found that a key component of career flexibility is “having a feeling of self-efficacy for successfully executing the activities needed to achieve one’s career goals” (p. 492). High teacher turnover rates, which may be influenced by a teacher’s self-efficacy, affects student performance because of a deficiency in consistent CTE preparation. Further, without the implementation of dependable rigorous academic and skill-based instruction, secondary students will not be equipped for CTE’s dual mission of preparing students for the workforce and post-secondary education.

Purpose of the Study

The purpose of this mixed methods study was to uncover reasons Oklahoma T & I teachers choose to remain in teaching. Of particular interest was examining various types of teacher supports and factors, including mentorship that may contribute to their decisions to remain in the teaching profession. Gaining an understanding of participants’ decision-making processes uncovered common themes which may have led to more informed practices within the current system.

Accounts of teachers who have been successful in the classroom, as evident by their sustained employment and satisfactory student job placement within industry, could serve to be useful to others in the profession. It is vital for Oklahoma CTE to employ and retain

teachers who are competent in trade skills as well as providing real-world classroom environments. Teachers who are not supported properly in their initial years of employment (i.e., first three years) result in high turnover rates which, in turn, lessens access to proper training that directly affect national and state economies. The findings of the study will add to the body of knowledge within the framework of CTE and potentially influence teacher support systems that may lead to increased retention in the context of CTE.

Research Questions

The following research questions guided this study:

- 1) What are the characteristics of currently employed T & I teachers who have taught a minimum of three years?
- 2) What are the levels of efficacy in student engagement, instructional strategies, and classroom management of career switchers who remain in T & I education?
- 3) Is there a relationship between years taught and self-efficacy?
 - a. *Null Hypothesis:* There is no relationship between years taught and self-efficacy.
 - b. *Alternative Hypothesis:* There is a relationship between years taught and self-efficacy.
- 4) What attributions do T & I teachers make that influence their decision-making?
- 5) What role did support and mentorship play in teachers' decisions to remain in the profession?

Theoretical Approach to Teacher Decision-Making

This study sought to identify influences that contributed to Oklahoma CTE teachers' decision-making process as they made commitments to remain in the profession. Two

theories were appropriate to guide this mixed methods study: Weiner's (1974, 1986) Attribution Theory and Self-Efficacy based on Bandura's (1986) Social Cognitive Theory. Weiner's Attribution Theory informed this study through the processes of motivational factors, an understanding of causation of behaviors and accounts for reasoning of individuals' behavior based on interactions with their surroundings over time. Therefore, it was logical to connect characteristics of Attribution Theory to factors that shaped and influenced teacher motivation. Self-efficacy Theory, based on Bandura's Social Cognitive Theory, enlightened this study further by accounting for individuals' perceptions of their own abilities - the major tenant of the theory.

Weiner's Attribution

Weiner's (1974, 1986) Attribution Theory is concerned with how individuals interpret events and how this relates to their thinking and behavior. The theory of attribution has served as a major research standard for social psychology. An attribution occurs in a three-stage process when a behavior is: (1) observed or perceived, (2) intentional, and (3) credited to internal or external causes. Important factors which shape attribution include ability, effort, task ability, and luck. Further, attributions are classified along three causal dimensions: (1) Locus of Control: extent to which individuals believe they can control events affecting them, (2) Stability: changes over time or stays the same, (3) Controllability: whether the person can control the cause (Weiner, 2010). Within this study, the component of locus of control was considered when framing questions dealing with beliefs CTE teachers had in their control of transitional change. Ideas of stability, within the theory, help shaped questions that dealt with attitudinal changes over time. For example, did CTE teacher's beliefs differ over time as they received support and gained experience? Lastly, the

dimension of controllability helped frame decision-making within this study by considering CTE teachers' ability to bring about change.

As Weiner developed his Attribution Theory further in 2010, he identified that learners are affected by external factors including environmental (e.g., school setting) as well as internal personal factors (e.g., prior experiences and prior knowledge). These variables shaped the types of attributions that individuals are likely to make. Additionally, the causal dimension of locus of control includes those which are external factors as well as those which are internal. Within the context of this study, potential internal causes focused on an individual's own ability, for example. External factors included students' abilities and support systems including mentorship and the building site in which the instructors teach. The locus dimension is related to feelings of pride and self-esteem. This is related to internal causations, which by definition, can be considered controllable.

Stability is a key component of Attribution Theory. This aspect of the theory examines behaviors as they progress over time in both stable and unstable manners. If individuals fail at something because they lack the ability to do the task, then their cause is considered stable. On the other hand, if an individual fails at a task because he or she was ill at the time, this is considered unstable. Therefore, when an individual succeeds, attributions to stable causes lead to positive expectations for success in the future. However, if failure occurs, attributions to stable causes can result in low expectations for the future. In the context of this study, a teacher's attributions early in his or her career affected his or her decision-making in the future.

The third causal dimension is the idea of controllability. This causal dimension accounts for an individual's perception of his or her ability to control an event. If a teacher

fails at teaching a lesson to a student and attributes this to a lack of planning and preparation, the cause is controllable. Within the same scenario, if a teacher fails because he or she believes he or she does not have the ability, then the cause is uncontrollable. An understanding of the controllability dimension was valuable to this study because it helped the researcher understand better a teacher's tenacity to remain as a teacher. Overall, Attribution Theory was pertinent to this study because it provided a context for understanding motivation as it related to teacher's decision-making process.

Self-Efficacy Theory based on Bandura's Social Cognitive Theory

The central element of Social Cognitive Theory is the belief that self-efficacy is based on people's judgments of their own capabilities and how their decisions affect future courses of action (Bandura, 1986). In a test of Bandura's (1986) model, McCauley (1985) reported that self-efficacy is a variable that "exerts significant influence on performance" (p. 293). From this perspective, self-efficacy is a likely indicator of an individual's future accomplishments and motivations. Self-Efficacy Theory holds that people's motivation and actions are based more on what they believe than what is objectively true (Bandura, 1985). In this regard, the theory is appropriate for this study because truth is garnered through the study participants themselves.

Within the context of this study, it was vital to understand the sources of perceived self-efficacy because of its diverse effects on behavior and thought patterns (Bandura, 1980). Concerning the sources of self-efficacy, the theory posits that people's beliefs in their capabilities are developed in four ways (Bandura, 2012).

1. **Mastery Experience:** Through experiences, individuals show either perseverance or failure depending on the task or situation. In this manner, an individual experiences

- “easy success they come to expect quick results and are easily discouraged by setbacks and failures” (Bandura, 2012, p. 13). On the other hand, resilience is displayed by people who manage failure so that it is informative rather demoralizing.
2. **Social Modeling:** Through social modeling, people observe perseverance in others which raises their beliefs in their own capabilities. These interactions form the basis of lowering or raising self-efficacy beliefs. For CTE teachers, this might include observing experienced teachers in a school setting. Observations of other more experienced teachers could be a factor in developing self-efficacy beliefs.
 3. **Social Persuasion:** People who are persuaded to believe in themselves are more perseverant in the face of difficulties.
 4. **Choice processes:** Through choices of activities and environments, “people set the course of their life paths and what they become” (Bandura, 2012, p. 13).

The foundation of Self-Efficacy Theory informed this study through its understandings that people are guided through the belief in their own abilities. From this standpoint, it was valuable to have an understanding of T & I teacher self-efficacy as it was shaped by a multitude of influences. In turn, self-efficacy played a pivotal role in understanding of teachers’ motivation when faced with difficulties.

Conceptual Framework

In this study, Weiner’s Attribution Theory and Self-Efficacy Theory based on Bandura’s Social Cognitive Theory framed the theoretical understanding of decision-making (see Figure 1). Within this study, an examination of teachers’ motivations to remain as a CTE teacher was best described and explained from the participants’ viewpoints. This conceptual

framework consisted of theories that account for personal perspectives to develop an understanding of the process of decision-making.

A key component of Weiner's (2010) Attribution Theory holds that individuals' thinking is shaped by their interpretation of events within their environment. T & I teachers made decisions concerning their future professional endeavors based, in part, on their own efforts to make a positive impact on students. Weiner's Attribution Theory supported the theoretical underpinnings in this study by providing an understanding of an individual's attributions toward success.

Self-efficacy, based on Bandura's Social Cognitive Theory, further informed this study by providing personal decision-making factors held by participants as they overcame barriers toward sustained employment. Further, the theory accounts for specific situations rather than a global understanding. This study sought understanding within the specific context of Oklahoma T & I teachers.

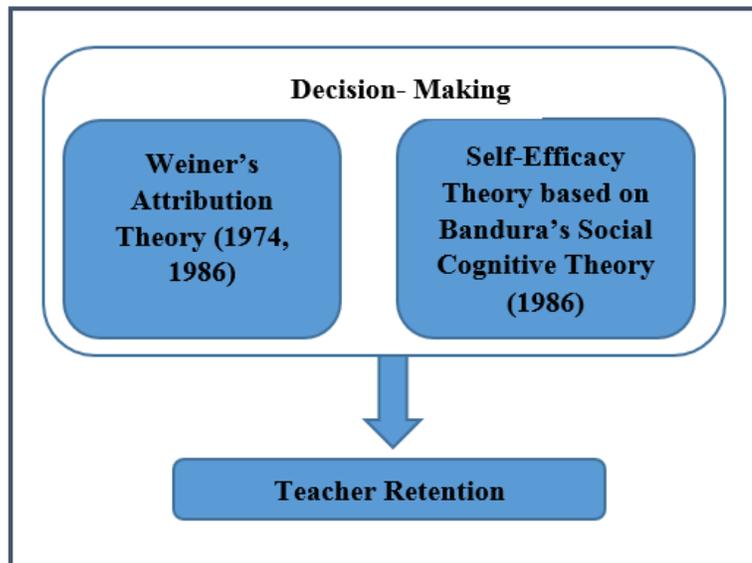


Figure 1: Theoretical Framework for Study (prepared by researcher)

Theoretical and Operational Definitions

CareerTech: The division of the Oklahoma education system that provides career and technology education for secondary and post-secondary students in day and night time training programs; also referred to as the Oklahoma Department of Career & Technology Education (ODCTE).

Career switchers: Individuals with limited or no previous university teacher training or degrees while teaching in the trade and industrial area in which they were employed formally (i.e. a former industrial welder who is now a welding teacher).

Career and Technology Education (CTE): The division of education that prepares youth and adults in a wide range of high skilled careers.

Communities of Practice (COP): A collection of professionals who engage on an ongoing basis toward a common endeavor. In the case of this study, the common venture is the formation of teaching practices within Oklahoma CareerTech.

Efficacy: People's judgments of their own capabilities and how their decisions affect future courses of action (Bandura, 1986).

Full-time teacher: A CareerTech instructor that teaches a day-time CTE course and is employed full time to do so.

Mentoring: Formal supports provided for new teachers that consist of university partners, CareerTech state agency, and building site teachers in order to develop highly effective teachers (Bullough, 2012).

Retention: Retaining qualified teachers in the profession for a sustained period.

Self-Efficacy: "How much effort people will expend and how long they will persist in the face of obstacles and aversive experiences" (McAuley, 1985, p. 283).

Sustained Employment: T & I teachers who have remained in the profession for three or more years.

Teacher Induction: Formal processes that aid in a beginning teacher's learning and improvement of teacher quality (Odell, Schwille, & Wang, 2008).

Teacher Induction Program (TIP): A model of teacher induction offered through the Oklahoma Department of CareerTech which includes university involvement as well as local site mentors and trade group mentors.

T & I: A division of the Association of Career and Technology Education.

Trade and Industrial (T & I) Teacher: A professional instructor within Oklahoma CareerTech Trade and Industrial Division who has taught a minimum of three years.

CHAPTER II

LITERATURE REVIEW

The purpose of this mixed methods study was to gain an understanding of factors and mindsets of Oklahoma T & I teachers who remained in the field and their attributions toward sustained employment. For the purposes of this study, sustained employment was considered to be individuals who have been employed a minimum of three years. Retention of highly qualified teachers within ODCTE is paramount to student success. Student success, as gauged by employment in industry, is the measurement of achievement for the 29 CareerTech center districts across the state of Oklahoma.

As a beginning point, it was necessary to have an understanding of the term of career switchers and how the term applies to Oklahoma T & I teachers. Secondly, an examination of attrition and retention factors was valuable within this literature review to understand the impacts on the current system. Lastly, support systems played an integral role toward the success of teacher retention and sustained employment. An understanding of support systems provided considerations of a dynamic that impacted teacher's decisions to remain in the field

Career Switchers: From Industry to Teacher

Mayotte (2003) indicated that “individuals coming to teaching as a second career can bring valuable experiences and skills to the profession” (p. 681). Valued previous

knowledge plays a vital role in and individual's decision-making as he or she transition from industry to the classroom. However, for some career switchers, the pathway to becoming a teacher is a substantial career change punctuated with challenges that can lead to a shortened career. Adding to the career transition challenges is the fact that many career switchers have limited teacher preparation as they enter the field. Brouwer, Tigchelaar, and Vermunt (2010) revealed that "those who enter teaching with little professional preparation have greater difficulties in the classroom and tend to leave teaching at higher rates than those with a substantial professional preparation" (p. 167). To gain an understanding into the unique challenges of individuals who transition from industry practitioner to teachers in T & I classrooms, this section of the literature review will explore career switchers and their motivations for entering the teaching profession.

Who are Career Switchers?

Mayotte (2003) defined career switchers as "individuals coming into teaching as a second career" (p. 681). In general, career switchers can be defined as any individual who takes a different career path than the one pursued originally. Morton, Williams, and Brindley (2006) categorized career switchers as individuals who are primarily over the age of 30; although, this was not a descriptive of all participants within this study. Further, Hunter-Johnson (2015) described these same individuals as second career teachers who have come into teaching from a previous professional career.

For the purposes of this study, career switchers were defined within the context of Oklahoma Career & Technology Education as persons who were employed in the industry in which they now teach, have no or limited teaching experience and are currently still employed in the CareerTech system. Within this literature review, career

switchers and second career teachers are used interchangeably to describe individuals within this study. Further, this literature review revealed that “career switchers offer an important pool of highly skilled and motivated teachers” (Boyd, Grossman, Ing, Lankford, Loeb, O’Brien, & Wyckoff, 2011, p. 1229). Chambers (2002) reported that “characteristics such as the ability to communicate effectively, capacity to multi-task, a strong work ethic and analytic thinking developed in previous experiences support transition to teaching” (p. 42). Boyd et al. (2011) made a case in favor of recruiting career switchers as effective teachers because they have content knowledge. This is certainly the case as all participants within this study whose primary reason for being hired was their industry knowledge.

Brouwer, Tigchelaar, and Vermunt (2010) discovered four categories utilized to describe second career teachers; motives, skills, knowledge and beliefs, and learning. In the motives category, second career teachers are summarized as being highly motivated to pass on expertise and to help young people (Brouwer et al. 2010). In the skills category, it was established that second career teachers bring transferable skills from previous careers that benefit classroom teaching. Among these skills are problem solving, planning, technical, managing, communication. Within the knowledge and beliefs category, it was revealed that second career teachers bring practical expertise and real-world applications to the learning environment. For T & I teachers, these elements aid in blending theoretical learning with real-world vocational training. In the learning category, Brouwer et al. (2010) discovered that second career teachers face challenges of autonomy and adaption to school culture. Adaptions to a school environment serve as an

additional challenge for T & I teachers who are experts in their previous careers, yet novices within the teaching profession.

A principle characteristic that career switchers draw on as they seek understanding of the school and teaching culture are their life experiences, which were described by Powell as mental frameworks. Mental frameworks are “perceptions of formal education, the context of previous occupations, and familial experiences, which when combined reflect personal professional cultures” (Powell, 1996, p. 42). Powell (1996) asserted that an understanding of these mental frameworks on the part of stakeholders will equip them to better facilitate the transition of career switchers into education. This study aimed to influence support processes made by teacher educators (and other teacher induction stakeholders) to provide a smooth transition from industry into the classroom as well as provide a source of support during the initial years of employment.

Motivations of Second Career Teachers

First career teachers are individuals who enter the teaching profession after successfully completing a bachelor of education degree, thus described as the traditional method of entry into teaching (Hunter-Johnson, 2015). Reasoning why individuals enter into teaching from a previous career can be varied, but underlying commonalities can be identified. Second career teachers are motivated to enter into the teaching profession from both intrinsic and extrinsic factors (Brouwer et al., 2010).

In a study of second career teachers, Chin and Young (2007) discovered that participants were “largely motivated by a drive for personal and intellectual fulfillment and tended to be somewhat confident about their knowledge of their subject areas” (p.

81). Further, Richardson, Watt, and Wilkins (2014) discovered that intrinsic factors play a major role in an individual's decision-making toward choosing a second career as a teacher. Intrinsic dynamics, such as social contribution, working with youth, and shaping the future relate to self-efficacy on the part of career changers who serve as motivational factors (Richardson et al., 2014). In the case of T & I education (Automotive instructor as example), these individuals may have a strong desire to teach their automotive knowledge to novice students who would, in turn, shape the student's future in terms of employment. Additionally, Berger and D'Ascoli (2012) offered the insight that vocational teaching "is also a pathway whereby industry-experienced professionals can move into new professional roles while maintaining continued exposure and connection to their original field of career interest" (p. 320).

Extrinsic motivators also offer insight into the transition from practitioner to classroom teacher. Second career teachers can be motivated extrinsically by "factors such as extended holidays, job security, and status of teaching profession" (Hunter-Johnson, 2015 p. 1361). In a study of motivational factors of career changing teachers, Richardson et. al (2014) discovered that time with family was a significant reason individuals considered a teaching career.

An additional extrinsic motivator that may influence career change are negative aspects from a previous career. Whereas some individuals are influenced positively from a previous career, there are others who leave for negative reasons, which are described as push factors (Priyadarshinin, & Robinson-Pant, 2003). Push factors included dissatisfaction with the nature of the previous career including boredom, alienation, and even isolation. Richardson et al. (2014) echoed this viewpoint by offering "career

switching is likely to occur as a result of an inadequate fit between the individual's interest, needs and personality, and her or his current occupation" (p. 319). As in the present study, Hunter-Johnson (2015) contended that despite the methods of teacher entry into the profession, "it is imperative that the emphasis be placed on minimizing the attrition rate of teachers and implementing strategies to retain qualified teachers (p. 1359).

Teacher Attrition

Staffing and retaining the nation's classrooms with qualified teachers has been an issue that has received widespread attention in recent years (Ingersoll, 2001). A failure to retain quality teachers across the United States impacts school districts on several fronts including operating costs, loss of human capital, and most importantly student performance (Ingersoll & May, 2012). High turnover rates of teachers can be explained as a revolving door effect which causes an alarming phenomenon of beginning teachers leaving at alarming rates (Brill & McCartney, 2008). This occurrence can have an effect on all teachers within public education, especially T & I, which is susceptible to high teacher turnover rates and deems a further examination within this literature review. This section of the literature review will address attrition for traditional and T & I teachers and reasons they leave the profession.

Impacts on the Role of the Teacher

It has been well established in literature (Althausen, 2015; Diez, 2010; Rockoff, 2004,) the importance of the positive role a teacher can have on student learning. Brill and McCartney (2008) contend that "no interaction in a school is as critical as that between teacher and student" (p. 750). The primary goal of most American public

schools is to build a corps of teachers committed to student achievement, and the greatest barrier to this goal is the high rates of teacher attrition (Brill & McCartney, 2008).

Teacher attrition, also known as teacher turnover, is a factor that can negatively affect the consistency of a teacher's role on student performance.

Teacher attrition, have negative effects in terms of a school's economic, institutional, and instructional cost (Brill & McCartney, 2008). High turnover rates also have adverse effects on student achievement (Goldhaber, 2002). The harmful effects of high teacher attrition are evident and serve to erode school districts' ability to consistently provide education that is impactful to its students. Donista-Schmidt and Zuzovsky (2016) described teacher turnover as "either teachers moving from one school to another, that is movers, or teachers leaving the profession altogether prior to retirement age, that is leavers" (p. 84). The teacher and student relationship is paramount within T & I education in which the teacher's workplace knowledge and expertise are an integral part of curriculum and training toward student employment.

A substantial amount of literature has been dedicated to attrition of teachers in America. Several research studies concerning teacher attrition rates (Boe, Cook, & Sunderland, 2008; Felsher, Shockley, & Watlington, 2013; Gottfried & Straubhaar, 2015) indicate a high rate of turnover as compared to other professions. For teachers in general, rates were reported to be around the 17% annually on the low end of the spectrum (Goldring, Riddles, & Taie, 2014; Hughes, 2012). Attrition rates are even higher for Oklahoma T & I teachers indicated by rates of upwards of 50% attrition within the first three years of employment (Self, 2001). These high teacher turnover rates create an employment gap resulting in teacher shortages. Teacher shortages can be defined in two

ways - the first being an observable quantitative measure, that is, the unfilled teaching positions. Conversely, a qualitative measure of the gravity of the teacher shortage is the hiring of an individual who is unqualified to be a teacher just to fill the position (Donista-Schmidt & Zuzovsky, 2016). Within this study, it is assumed that most T & I teachers are qualified based on their previous industry experience. However, it is noted that in most cases the T & I teachers may be considered unqualified in terms of teaching background and pedagogical expertise. It is for this reason, that some attrition is expected and in some cases warranted based on the teacher's ineffectiveness and not indicative of their lack of previous industrial qualifications.

Reasons Teachers Leave the Profession

Investigating explicitly the reasons why teachers leave the teaching profession can be perplexing. Teachers face a multitude of challenges with multifaceted decision-making aspects as they decide to leave or remain in the profession, which are shaped by both physical and personal dynamics. An examination of literature is warranted to understand the complexities concerning reasons why teachers leave the profession. An in-depth understanding of this situation may benefit future teacher supports that, in turn, may lead to the likelihood of quality instruction.

There is some evidence that salary or financial reasons influence teachers decisions to stay or leave the profession (Bisland, Marlow-Iroff, & O'Connor, 2007; Leigh, A., 2012; Rothstein, 2015). However, Brill and McCartney (2008) contended that "teacher attrition is primarily created by non-salary factors, most notably a lack of institutional supports" (p. 750). From this standpoint, teacher attrition can be attributed to a lack in contextual structures such as administrative supports, mentorship, and induction

programs.

Brill and McCartney (2008) advocated that “teachers seek environments where they are supported and treated as professionals” (p. 757). In many cases, a school’s environment is influenced in large part by the upper tiers of an organizational hierarchy within a school- in particular principals and administrators (Brill & McCartney, 2008). Administration plays a vital role within a school’s collective efficacy – “the school faculty’s shared perceptions that they can work together productively and effectively to promote student learning” (Hoy & Knoblauch, 2008, p. 168). Decisions to leave teaching based on administration support have merit. Teachers may leave the profession based on a perceived lack of support from administration. Kersaint (2005) contended that administrators “who are successful at retaining their faculty often involve teachers in decision-making, and those who do not are likely to find a majority of their staff unsatisfied” (p. 2). Brill and McCartney (2008) asserted that “the ability of teachers to trust the administrations they work for has a great effect on their decision to remain in the profession” (p. 765). Administrative support can be grouped under working conditions as factors that relate to teachers leaving the classroom (Flanders, Morgan, Navarro, Ricketts, & Tippens, 2013). In addition, student behavior can be classified under this same category. In a study of Missouri Construction CTE teachers, student discipline problems and lack of control over own classroom were listed among reasonable reasons teachers have considered leaving the teaching profession (Bruce, Gebken, & McCandless, 2010). Although inconclusive, these factors may relate to a lack of administrative support. Working conditions, such as administrative support and student issues may influence elements of classroom management. Jepson and Forrest (2006) asserted that “teachers

with low self-efficacy for classroom management may struggle to regulate classroom stress and might be more likely to leave the profession” (p. 184). An understanding of self-efficacy for classroom management will be explored within this study as a related factor to teacher attrition. Teachers leaving the classroom are primarily indicated through non-salary factors such as institutional supports, administration supports, mentorships, and induction programs (Brill & McCartney, 2008).

Self-efficacy, on the part of teachers, may be boosted through successful experiences and guidance through supports such as mentoring (Chiu & Klassen, 2011). Consequently, when these supports are not fostered properly it may lead to teachers leaving the profession. Mentor relationships are crucial supports for new teachers to strengthen pedagogy that is inclusive of student engagement and instructional strategies (Brill & McCartney, 2008). Strong mentor relationships can become an integral part of teacher induction programs. In a study on teacher induction effects within Chicago Public Schools, the need for mentorship emphasized a more valuable need than the induction program in and of itself (Kapadia, Coca, & Easton, 2007). The teacher induction program - Guidance, Orientation, Leadership, Development, Empowering New Teachers (GOLDEN), consists of a school-based mentorship relationship as well as 15 hours of professional development training over the course of the year (Kapadia et al., 2007). The study found that participation in the induction program alone did not strongly correlate to improve retention because teachers who declined to participate in induction felt that they already had the support and knowledge they needed to succeed. However, “strong support within the school and especially helpful mentoring relationships were associated with teachers being more satisfied with their experience, more likely to remain in the

profession, and more likely to remain at their current school” (Brill & McCartney, 2008, p. 768).

Teacher induction programs that do not provide consistent and supportive environments may be detrimental to new teachers continuing in the profession. This finding within the literature review merits an examination of mentorship within Oklahoma CTE as a potential determining factor of teachers’ decision to remain in the profession.

Teacher Retention

This section of the literature review will focus on teacher retention through an examination of individual decision-making process, including teacher attribution and efficacy. Further, it is important to understand the characteristics of effective / quality teachers to comprehend what school districts deem as a successful teacher. Lastly, a review of literature concerning teacher induction and mentoring offers insight toward current efforts to increase quality teacher retention and the effectiveness of these supports.

Teacher Attribution

Freedman (1984) defined attribution as “the process of making inferences about the motives underlying another’s behavior” (p. 95). Shores and Smith (2011) shape the understanding of attribution further by explaining that “individuals attribute their success and failures to either internal or external causes” (p. 24).

Early social psychologists such as Fritz Heider influenced the thinking garnered toward theories concerning attribution. Heider (1958) believed that “our construction of what ‘things’ there are in the environment, the causal relations among them, what

happens to them, and how they interact are all related to the attribution process” (Ickes & Harvey, 1978, p. 162). From this standpoint, attribution is believed to be a construct developed through and individual’s perceptions and experiences. These same acuties focus on attribution as a means of understanding our environment. Heider formed the “dynamics of interpersonal relations in cognitive terms,” which led to the identification of determinates of performance (Ickes & Harvey, 1978, p. 165). Heider identified three determinates that included: ability, task difficulty, and effort (Ickes & Harvey, 1978).

The contemporary theorist, Bernard Weiner, developed these categories further and proposed four causes of achievement outcomes: ability, effort, task, and luck. To further understand these causes in terms of motivational factors, Weiner (2010) developed two categories. Weiner asserted “two of these are internal to the person (ability and effort) and two are external (task difficulty and luck)” (p. 30). These categories shape the line of questioning within data collection methods. Questions related to what can be done to control disruptive behavior in the classroom represent inquiries into external factors of motivation.

At this juncture, it is relevant to delve deeper into Weiner’s (2010) Attribution Theory as it connects to motivational factors (internal & external) toward study participants’ decisions to remain in the field. As Weiner (2010) advanced his theory on attribution further, he accounted for additional aspects of dimensional properties and linkages to affect and expectancy (Weiner, 2010). In this model, Weiner (2010) considered “four major determinants of achievement outcomes” (p. 32). From the theorist perspective, external causes are not controllable by individuals, whereas internal causes are controllable through effort. For example, a teacher who has decided to leave teaching

might do so based on an external factor of disrespectful and unruly students. On the other hand, faced with the same students, another teacher might use reasoning and develop strategies internally to help control students' behavior and decide to stay in teaching. Assumptions can be made that a participant's reasoning process might be driven primarily through effort. In Weiner's (2010) model of attribution, "effort is internal, unstable, and controllable" (p. 32). In this study, the researcher might expect a response such as "I stayed as a teacher because I applied information from college classes in my own classroom" as a marker toward effort. Success, as defined by teacher retention and student achievement in this study, is represented in the dimension toward expectancy. It is important to note that dimensional causations depend on "how it seems to me" (Weiner, 2010 p. 32). This viewpoint is vital within this study, as truth emanated from the participants themselves.

The Role of Teacher Efficacy

According to Hamilton (2012), "Teacher efficacy is shown as a major factor in teacher retention and satisfaction" (p. 41). Self-efficacy can take on numerous meanings depending on the context in which it is placed. Voskuil and Robbins (2015) described self-efficacy as "determined individually and involves personal agency" in a study on youth physical activity (p. 2006). Additionally, Voskuil and Robbins (2015) asserted that "self-efficacy involves a self-appraisal process that includes beliefs held by youth about their capability for physical activity" (p. 2006). In a related study, concerning emergency medical dispatchers (EMDs), "self-efficacy as EMDs who believed they were capable of handling tasks effectively, were better able to deal with the stressful nature of the job, and therefore experienced greater well-being" (Armstrong, Rees, & Shakespeare-Finch, 2015,

p. 560). These research studies occurred in practical contexts that support self-efficacy based on Bandura's Social Cognitive Theory (1986).

Bandura (2012) hypothesized, "Social cognitive theory subscribes to a casual structure grounded in triadic reciprocal causation" (p. 11). Within Bandura's (1986) Social Cognitive Theory, causes for behaviors exist as an ongoing interplay between the three reciprocal determination factors: personal, behavioral, and environmental (Bandura, 2012). This study, which considers decision-making factors, considers all three determinates that account for teachers' decisions to remain in the field as a professional teacher. Self-efficacy functions as a portion of Bandura's Social Cognitive Theory toward an understanding of the self-belief system. Bandura (2012) believed that self-efficacy or "people's beliefs in their capabilities" are developed in several ways (p. 13). Foremost among development aspects is the concept of mastery experiences (Bandura, 2012). In this case, Bandura (2012) believed that if individuals "experience only easy successes they come to expect quick results and are easily discouraged by setbacks and failures" (p. 13). This reasoning could offer one aspect of why teachers choose to leave the profession. On the other hand, "Resilient self-efficacy requires experience in overcoming obstacles through perseverant effort" (p.13). In some regards, it may be obvious that teachers, who remain in the field, have built up their resilience through their own efforts. Bandura (2012) echoed this sentiment by stating "self-efficacy beliefs influence how well people motivate themselves and persevere in the face of difficulties through the goals they set for themselves, their outcome expectations, and causal attributions for their successes and failures" (p. 13).

Bandura's (2012) theoretical concept of self-efficacy plays an important role in

the context of professional teaching and its effects on student performance. Takahasi (2015) emphasized the role of self-efficacy by stating, “If teachers believe that they can positively affect student learning, they are more likely to put forth the effort to implement different pedagogical strategies, and to keep trying when faced with setbacks” (p. 732). Evidence of teachers’ perceptions of their self-efficacy was gauged through the Teacher’s Sense of Efficacy Scale (Hoy, Hoy, & Tschannen-Moran, 1998), within this study. This is achieved through the instrument’s measurement concerning specific teaching situations.

Characteristics of Effective/Quality Teachers

Although there is little consensus on the specifics of the construct of quality teaching, there are characteristics and practices of individuals that support the understanding of effective teaching (Ireland & Kaufman, 2016). In addition, numerous new teachers leave the profession because they simply do not master it, and as a result, a focus in research must consider the question of teacher quality (Lindqvist & Nordanger, 2016). A review of literature regarding teacher quality and effectiveness reveal several common features that are beneficial to this study.

First of all, The National Board for Professional Teaching Standards (NBPTS, 2016) set established five propositions that accomplished teachers must possess to be successful in the classroom. The propositions are as follows:

- Proposition 1: Teachers are committed to students and their learning
- Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students
- Proposition 3: Teachers are responsible for managing and monitoring student

learning

- Proposition 4: Teachers think systematically about their practice and learn from experience
- Proposition 5: Teachers are members of learning communities

The five propositions offer general characteristics that all teachers must have in terms of quality education. One state, Georgia, offers a similar framework of accomplished teaching that allows for observable and accountable measures to evaluate teacher quality (Georgia Systemic Teacher Education Program, 2005). The framework offers six broad categories of teaching skills and abilities to define and evaluate accomplished teachers: (a) Content and curriculum: teachers demonstrate a strong knowledge of content area(s) appropriate for their certification levels, (b) Knowledge of students and their learning: teachers support the intellectual, social, physical, and personal development of all students, (c) Learning environments: Teachers create learning environments that encourage positive social interaction, active engagement in learning, and self-motivation, (d) Assessment: Teachers understand and use a range of formal and informal assessment strategies to evaluate and ensure the continuous development of all learners, (e) Planning and instruction: Teachers design and create instructional experiences based on their knowledge of content, (f) Professionalism: Teachers recognize, participate in, and contribute to teaching as a profession.

As the result of policy initiatives and a movement toward statistical information, teacher effectiveness, in some states, is defined and evaluated in terms of outcomes-based models (Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012). Although it is controversial, some states use student performance as one element of evaluation

described as Value Added Models (VAM) (Koedel, Mihaly, & Rockoff, 2015). VAMs are used to estimate the value-added to student achievement from the effects of individual teachers. Although, not specifically termed as a VAM, some Oklahoma CTE districts utilize student performance and career placement as part of evaluation frameworks to determine teacher effectiveness. Currently, Oklahoma has three approved Teacher and Leader Effectiveness (TLE) evaluation frameworks - TAP Framework, Marzano's Causal Teacher Evaluation Model, and Tulsa's TLE Observation and Evaluation System (Oklahoma State Department of Education, 2017). Student performance is an element that can be incorporated into the three evaluation models in Oklahoma. Oklahoma student performance measures include student competency and licensing tests taken on the completion of program instruction. For example, Cosmetology students must pass a state-mandated test to be a licensed professional. Further, Automotive Service Excellence (ASE) is a national standardized test to become professionally qualified within automotive repair fields. An increased number of students within a program who fail to pass these certification and licensing tests reflects poorly on the teacher and may affect employment. A similar student performance standard is student follow-up reports that are conducted annually by all CTE instructors accounting for program graduates. On completion of a program, each student is contacted by the instructor within his or her program. The follow-up report occurs the following year after graduation- typically in January or February. The follow-up report is conducted to track the employment status of students within the field in which they trained. A program that has an insufficient follow-up report, as indicated by low numbers of students employed in the field, is at risk of funding reduction, program closure, and termination of the instructor.

Oklahoma T & I Teacher Certification

Many individuals who enter Oklahoma T & I teaching do not hold teaching credentials and therefore must begin with provisional certificates and progress toward a standard certificate. A Provisional Level I Certificate, as required by the Oklahoma Department of Education, is issued to individuals who have been offered a teaching position by a school district and will be teaching secondary students (Oklahoma CareerTech, 2011). Applicants for a Provisional Level I must have earned a high school diploma or equivalent and provide evidence of having three years of appropriated trade experience as a primary occupation (within the five years preceding initial certification) in the field taught. Applicants must complete the Career and Technology Education Orientation Training Program (New Teacher Academy) during the first sixty days of the school year for which the original certificate is issued. Provisional Level I has a one-year term validity. To have the Provisional Level I reissued, an individual has to successfully pass an occupational competency examination approved by the ODCTE. In many cases, the competency test is one of the National Occupational Competency Testing Institutes (NOCTI) series of skilled worker exams. Further, Provisional Level I may be successively reissued upon satisfactory completion of not less than six semester hours of credit toward standard certification including the basic T & I courses during the one-year term of validity.

T & I teacher will receive a Provisional Level II Certificate once they have completed all the requirements of Level I Certificate and meet additional requirements. Further requirements include the completion of forty-eight semester hours of approved credit of which up to twenty-four semester hours may be earned through passing and

occupational competency examination (Oklahoma CareerTech, 2011). The Provisional Level II Certificate has a five-year term of validity. A Provisional Level II Certificate may be reissued if the certificate holder has completed fifteen semester credit hours. Credits are selected from those on the applicant's degree plan for a baccalaureate degree in T & I.

A Standard Certificate is issued once a teacher graduates from an accredited four-year college or university authorized to recommend a graduate for standard certification and shall hold a baccalaureate degree in Career and Technology Education with a specialty in T & I Education (Oklahoma CareerTech, 2011). The Standard Certificate has a five-year term of validity. A teacher holding a baccalaureate degree in an area related to the subject he or she teaches after initial application for T & I certification, upon satisfactory completion of the NOCTI and completion of the Basic 15 core T & I hours, being admissible to Teacher Education and having the recommendation of the university, and being employed teaching an approved T & I program, may receive a Standard T & I Education Certificate. In the last few years, substantial changes have occurred to the process of teacher certification for T & I teachers. For the purpose of this study, the researcher will use the practices in place at the time of hire for the participants in the study.

Support Processes and Mentoring

Individuals who enter teaching from an industry background are supported through induction processes in their initial employment. There are several formats of teacher induction across Oklahoma, however, most formats offer structured supports during the first year of employment. O'Malley (2010) described induction as "a transition

program in purpose, intensity, structure and cost” (p. 319). From this perception, induction can take on many forms with the commonality being the growth of employees as they transition into a new career or position within a company.

Teacher Induction

Professional induction programs are purposeful efforts to help new employees become accustomed to their new working environment as well as navigating workplace expectations. Further, O’Malley (2010) asserted the following within the field of education concerning induction:

Effective induction programs model the best of classroom instruction: purposeful, meaningful, and transferable content; learners willing to apply new information in different settings; and teachers willing to adjust instruction so that it creates multiple opportunities for building confidence and competence. (p. 319).

A key element of O’Malley’s statement is the idea of learning within induction programs that do not take place in isolation and are applied to actual workplace situations. From this perspective, induction programs model the types of behaviors and expectations that an individual will experience while on the job in a collaborative manner. According to Biddix, Dopker, and Ortlieb (2010), “Collaboration has the potential to be a valuable apparatus for extending opportunities for success” in induction arenas (p. 109). One aspect of collaboration within induction processes is the professional growth that occurs during interactions with established expert professionals in the field. McKenna (1997) offered collaboration as “a platform in which first-year teachers can discuss concerns, problems, successes, and failures in confidence” (p. 52). A function of collaborative induction process is sharing sessions, in which new employees can share

their experiences in order to gain others perspectives and kinship (McKenna, 1997). The narrative findings of this study seek to add to these collaborative discussions by offering elements (others' perspectives) of how to deal with struggle.

Adults transitioning into an unfamiliar profession learn through embedded or situated learning environments (Cressy, Hicks, Martin, & Thomas, 2008). Embedded or situated learning exists within three domains: Social, such as family and community, formal learning settings such as those offered through college courses, and within the workplace (Cressy et al., 2008). All three domains impact learning and influence, at various levels, in the success of individuals within induction processes. Cressy et al (2008) described learners in a constant flux within each domain based on experiences and understanding. Induction within educational settings may rely heavily on work based experiences, but learning through college courses and the community are valued as well.

Although induction processes are aimed at aiding new professionals through transition, it is noted that the process can be difficult. Within the health care industry, Cressy et al., (2008) pointed to the fact that “becoming an expert professional practitioner has long been recognized as a challenging process” (p. 28). One of the challenges of transitioning into new employment through induction processes is the transfer between formal study and workplace knowledge (Cressy et al., 2008). Formal studies are based on theoretical learning to help explain professional practices. On the other hand, workplace knowledge is gained within the context of the learning situation—in this case the classroom.

Within an educational setting, induction programs are defined as “one whose purpose is to acculturate a novice teacher—pre-service or teacher of record—to the

profession and to facilitate the transition from learning to teach to teaching effectively” (Donne & Fan-Yu Lin, 2013 p. 44). Historically, the occupation of teaching has not had the kind of structured induction and initiation processes common to many white-collar occupations and characteristic of many of the traditional professions (Ingersoll & Smith, 2004).

The beginning years of a teacher’s career can be challenging without the proper support system (Watkins, 2005). Further, a lack of effective teacher support systems, such as mentoring, instructional development, and guidance can negatively impact student performance (Gardiner, 2010). Hopkins and Spillane (2014) indicated that a key component of educating teachers occurs on the job after employment. Hopkins and Spillane (2014) highlighted the importance of formal teacher induction structures in shaping opportunities for new teachers to learn about instruction.

ODCTE Teacher Induction

One teacher induction process through the Department of Oklahoma CareerTech, referred to as Teacher Induction Program (TIP) is an induction model in which individuals receive teacher preparation through university courses, mentoring at the district level and through an assigned building site mentor-typically this mentor designee is not in the same trade area (Self, 2001). Additionally, TIP is a coaching and mentoring program for new teachers that provides guidance through the first year, and if needed the second year (Oklahoma CareerTech, 2016). During induction, the new teacher joins a team consisting of an instructional coach from the university, an on-site mentor and an administrator, who work together to develop a customized plan. Through TIP, new teachers are required to meet with on-site mentors a minimum of 72 hours throughout the

school year. The instructional coach provides a minimum of five visits to the new teacher. On-site mentors are required to participate in approved mentoring training every three years, provide instruction to new teachers, and commit to spending at least 72 hours in one-on-one mentoring with new teachers. A mentor must have a minimum of five years CTE classroom teaching experience. As stated earlier, the mentorship typically lasts throughout the first-year of employment. It is possible to have a second year of the TIP program, and some schools choose this option.

Some states such as California use a two-year model with marked success (Bullough, 2012). A commonality between one-year and two-year induction models is the measure to gauge teacher effectiveness. One mode to measure teacher effectiveness is through standard grade-level achievement tests given to students (Bullough, 2012). Similarly, Oklahoma CareerTech uses student performance as one measure to gauge teacher performance (Bullough, 2012). The difference in the student performance (as a means of measuring teacher effectiveness) used at CareerTech is the completion and employment rates of students. Students who complete CTE training are expected to pass competency tests once training is completed and become employed within the field they trained. The problem with this measure of success for teachers lies in the fact that CTE programs typically require two years of training and teacher induction is completed within the initial year of employment. An examination of teachers who stay beyond three years allows for the acceptance of factors that exist beyond the initial years of employment.

An additional feature to note of the TIP process through the Oklahoma CareerTech system is the reliance on previous industry experience of new teachers. In

this sense, the new teachers are considered experts in their career field and novices at teaching the skill to other individuals. From this standpoint, teacher induction focuses more on learning pedagogical practices rather than the specific technical skills being taught (Green, 2014). Therefore, the current teacher induction model emphasizes influences in which the “philosophical approaches to teaching of the participants were their own vocational experiences, rather than their teacher education, colleagues, or school practices” is taken into account (Green, 2014, p. 49).

Teacher Mentoring

To bridge the gap various induction models incorporate mentorship relationships to transition into new employment. Studies have shown that a quality first-year induction/mentorship program can decrease the high teacher attrition rates that schools currently face (Berliner & Kang, 2012; Chan, 2014; Francis & Kane, 2013). In general terms:

Mentoring is a specific kind of cooperative human activity in which characteristic actions and activities (doings) are comprehensible in terms of relevant ideas in characteristic discourses (sayings), and in which the people and objects involved are distributed in characteristic relationships (relatings) (Aspfors, Edwards-Groves, Heikkinen, & Kemmis, 2014, p. 155).

The key element within a mentorship is the relationship between experienced employees and the new employee. The relationship between mentor and mentee can be a valuable asset to a new teacher or a hindrance to success. The role of mentors may be a factor that individuals attribute to remaining in the field. It is important to note that participants within this study potentially serve as current mentors for new teachers. In this sense, the role of mentors cannot be undervalued in terms of sustained employment of

expert teachers and new teachers alike.

Mentoring in the field of professional teaching can take on many forms that can be valuable to the success of beginning teachers. The roles mentors play within teacher education many times lead to a reduction in burn-out and an increase in student performance (Lofthouse & Thomas, 2014). For this reason, mentoring is viewed as a key element within TIP. Odell, Schwille, and Wang (2008) indicated that many first-year teachers assume the same responsibilities of veteran teachers as they learn on the job. This notion lends itself to the impact that a mentor within the same school can have on a new teacher. In this case, mentors have the same responsibilities as new teachers which can serve to guide new teachers in current practices and job expectations.

Owen and Solomon (2006) specified the positive effects a face-to-face mentor relationship can have on the success of beginning teachers. However, in the framework of mentorship within the Oklahoma CareerTech TIP process, new teachers may be reliant on others outside his or her own district (Self, 2001). For example, a new teacher will be assigned a mentor within their own career trade that may not reside within their school-- which, by nature, will consist of other manners of communication beyond face-to-face contact. Because of these valued supports, an examination of e-technology communications (email, internet and blogs) is needed to account for their role within the mentoring relationships (Butler, Crow, & Whiteman, 2013). In a study on technology's role in fostering educational mentors, Butler et al. (2013) considered mentoring through e-technologies having value that overcomes geographical barriers within some mentor relationships. Positive mentorship aspects, such as those offered through the Oklahoma CareerTech system, may be an additional reason that influence decision-making for

teachers who remain in the field.

Benefits of Current Support Systems and Mentoring

Among reasons that teachers leave is a lack of support. Providing support in an external fashion is the foundation piece of the Oklahoma CareerTech induction process. TIP within Oklahoma CareerTech is unique compared to other educational induction because the learners have limited teaching experience. Chapman, O'Neill, and Sharplin (2011) conducted research that supports the idea that "effective induction is associated with greater commitment to teaching and reduced attrition rates" (p. 137). Further examination of the Oklahoma CareerTech teacher induction processes, from past participants who are currently employed, was merited to study aspects that were deemed effective and had a direct influence on the reduction of teacher retention. The lack of teacher retention creates a larger problem for the Oklahoma CareerTech System that seeks highly qualified instructors from industry.

Summary

This literature review examined numerous aspects concerning teaching commitments and experiences and in particular those accounting for CTE. To begin, the literature review focused on career switchers. Career switchers were found to have valuable skills that can be transferred to other professional careers (Mayotte, 2003). Career switchers were found to be individuals who changed careers after stints in a previous career. Within this study, career switchers made a transition from business and industry to the classroom. Second career teachers were motivated by both intrinsic and extrinsic means. Intrinsic factors included such things as wanting to make a difference in your people's lives and imparting their knowledge to others. Extrinsically, individuals are

motivated by family concerns and negative aspects from a previous career (Hunter-Johnson, 2015).

.. Teacher attrition, also known as teacher turnover was found to impact school districts in their efforts to provide consistent training and teaching that impacts students (Ingersoll & May, 2012). Teachers leave the classroom for several reasons including contextual factors such as lack of support and student issues (Brill & McCartney, 2008; Goldhaber, 2002). Conversely, teacher retention are efforts on the part of schools to retain teachers and keep them in the classroom. To further understand retention and decision-making of teachers, a review of literature concerning teacher attribution and the role of efficacy was conducted. Teacher attribution are garnered through personal perception and experiences (Ickes & Harvey, 1978; Shores & Smith, 2011). Weiner's Attribution Theory (2010) accounted for four determinates of achievement outcome that inform decision-making processes. The role of teacher efficacy was another aspect that was reviewed in the literature. Self-efficacy plays a major role in teacher's decision-making because it is based on people's belief in their own capabilities (Hamilton, 2012; Voskill & Robbins, 2015). An understanding of teacher self-efficacy was found to be important because it shapes decision-making and it can be gauged through and established research instrument (Bandura, 2012; Takahasi, 2015). Further, a review of literature concerning characteristics of effective/ quality teachers was conducted to understand how school's defined and evaluated teachers. Effective teaching was gauged in various manners including student outcomes and frameworks that addressed specific aspects of teacher performance (Koedel, Mihaly & Rockoff, 2015; Lindqvist & Nordanger, 2016; NBPTS, 2016).

The support and mentoring teachers receive was reviewed to account for external influences that may lead to teacher retention. Oklahoma T & I teacher certification were prescribed steps that lead to a provisional teacher certification and eventually leading to a bachelorette degree and standard certification (Oklahoma CareerTech, 2011). Teacher induction are specific ways individuals are guided and supported as they enter the teaching profession (O'Malley, 2010). ODCTE teacher induction were found to be systematic efforts to aid new teachers with the implementation of assigned mentors and an instructional coach (Oklahoma CareerTech, 2016). Teacher mentoring was determined to be an influential factor that may positively affect teacher retention (Berliner & Kang, 2012; Chan, 2014; Francis & Kane, 2013). To strengthen this chapter, the researcher focused on gaps in the literature that did not specifically address teachers within a CTE context. Throughout an extensive literature review, the researcher suggested that the study on teacher retention must first be based on an understanding of individual's self-efficacy and on influences that affected decisions to remain as a teacher.

CHAPTER III

METHODOLOGY

This chapter explains the design of the study and the procedures featured in the study. The researcher carried conducted study using a mixed methods explanatory sequential design. This design utilized both quantitative and qualitative methodology, collecting data at two distinct phases. The first phase was collection and analysis of quantitative data followed by the subsequent collection and analysis of qualitative data. In an explanatory sequential design, “the researcher interprets how the qualitative results help to explain the initial quantitative results” (Creswell & Plano-Clark, p. 71). This approach was chosen to have a general understanding of the research questions through quantitative data collection and analysis and a deeper understanding through qualitative measures. The qualitative strand refined and explained quantitative statistical results by exploring participants’ views in more depth (Creswell, Ivankova, & Stick, 2006). IRB approval was obtained through Oklahoma State University, Stillwater to conduct the necessary research and all guidelines for the IRB were followed.

Philosophical Assumption

The mixed-methods design was chosen for this study to understand self-efficacy of T & I teachers and to examine the underlying supports and attributions that lead to sustained employment by using both quantitative design and qualitative design,

conducted sequentially. A pragmatism philosophical position was held within the framework of the study. Feilzer (2010) offered that pragmatism as an alternative worldview “sidesteps the contentious issues of truth and reality, and accepts, philosophically, that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical problems in the real world” (p. 8). This study sought understanding of teacher’s perceived impact on student’s performance and influences that shaped decision-making to remain in the field. These elements were considered through a pragmatic worldview to encompass understanding of the situation. Rotry (1999) contended that research conducted in a pragmatic manner does not attempt to precisely represent reality rather “to be useful, to aim at utility for us” (p. 26).

Rotry’s (1999) statement concerning a pragmatic research approach held true for this research that’s aim was to impact and be useful for future teacher supports. By understanding the realities of Oklahoma T & I teachers, stakeholders in teacher induction might be able to make more informed decisions on ways to support teachers better. Improved techniques might include such as a better induction process, consistent mentorship programs or prolonged supports that would potentially lead to teacher retention. Further, these ways may provide a guidepost for future T & I teachers who will face similar barriers to success.

Overview of the Study

One of several reasons that teachers leave is a lack of professional support. In fact, some beginning teachers receive no additional help which would indicate a failure of proper induction (Bickmore & Bickmore, 2010). The lack of teacher retention creates a larger problem for the Oklahoma Department of Career & Technology (ODCTE) that

seeks highly qualified instructors from industry. The critical link between the preparation of future workers by CTE teachers and the workforce in industry can have a huge impact on the economy. However, in the face of challenges, many teachers continue in the profession, and their efforts impact student learning in a positive manner. This study focused on aspects of T & I teacher retention through the perspective of the teachers themselves. This research viewed the problem through the positive lens of why currently employed teachers have decided to stay rather than why teachers have decided to leave.

The knowledge gained from this research may be transferable to similar experiences that may validate current support systems and add to the depth of knowledge concerning current practices toward sustained T & I teacher employment. Further, this research study sought to accomplish a more defined understanding of T & I educational teachers within ODCTE and to view employment perseverance through the participants' perspectives. Numerous research studies have focused on teacher self-efficacy concerning teachers within traditional K-12 schools; far fewer studies have been conducted on the self-efficacy of CTE teachers. This research added to the body of knowledge that is currently lacking concerning CTE teachers and aspects connected to sustained employment. In turn, the findings of this study may be a factor to alleviate turnover rates of Oklahoma T & I teachers and provide continuity in training across the state.

Research Design

Guided by a pragmatic theoretical perspective, this study was conducted through a sequential mixed methods approach. The utilization of a mixed methods design is “grounded in the fact that neither quantitative nor qualitative methods are sufficient, by

themselves, to capture the trends and details of a situation” (Creswell, Ivankova, & Stick, 2006 p. 3). Within the context of this study, the quantitative aspect of administering an instrument that gauges teacher self-efficacy was insufficient in terms of reporting individual experiences. The blending of follow-up face-to-face interviews added to the depth and breadth of reporting experiences of individuals within the study.

Johnson, Onwuegbuzie, and Turner (2007) suggested that the implementation of a mixed methods design allows for a “workable middle solution for many (research) problems of interest” (p. 113). Within this study, quantitative measures offered a limited understanding of the issues concerning the mindsets of CTE teachers because of their lack of focus on individual experiences. Further, qualitative interviews offered insightful narratives that supported the understanding of the complex issues within the study; however, the measures may not have accounted for larger representational populations. Alone, quantitative and qualitative processes would have provided inconclusive data that would have failed to answer the research questions set forth in this research. It was vital that both research approaches be integrated to build on each other to create a deeper understanding of the contextual issues. Consequently, the rationale for a mixed methods design within this study was warranted because of its twofold nature of providing numerical data and personal accounts; providing more definitive results.

Explanatory sequential (participant selection variant) design was employed to collect and analyze quantitative data at the onset of the study and used to enhance understanding through qualitative data collection and analysis. An Explanatory design is categorized through a sequential implementation of data collection. According to Creswell and Plano (2011), an explanatory design is effective when “the researcher wants

to assess trends and relationships with quantitative data but also be able to explain the mechanisms or reasons behind the resultant trends” (p. 82).

A participant selection variant form of explanatory sequential design was employed in this study prior to the qualitative phase. In a participant selection variant model, “quantitative information is used to identify and purposefully select participants for a follow-up, in-depth qualitative study” (Benetka, Braakmann, & Gelo, 2008, p. 282). Within this study, interview participants were selected based on data collected from the quantitative *Teacher’s Sense of Efficacy Scale* (TSES) instrument (see Appendix A). The study reported descriptive statistics and subscale scores from the initial quantitative phase from all participants. The data collected through the quantitative phase was handled in a confidential manner and all IP addresses that were obtained were eliminated once the information was imported into SPSS. The subscale scores measured efficacy in student engagement, instructional strategies and classroom management. The second qualitative phase reported narrative descriptions as well as comparative analysis among participants chosen for face-to-face interviews (see Appendix B).

Population and Sample

Population

The population consisted of Oklahoma T & I teachers, also referred to as career switchers, currently employed at one of the state’s 29 CareerTech center districts on 58 campuses. Names and contact information for these individuals were public record and were accessible through the ODCTE. Currently there are 546 individuals identified as currently employed T & I teachers, in Oklahoma CareerTech Centers.

Sample and Participant Selection

The population of 546 T & I currently employed teachers with accurate email addresses was contacted. A sample was drawn from the population who met the study requirement of three or more years of teaching. Three years of experience was determined through the survey question, *Have you completed three or more years at an Oklahoma Technology Center as a T & I teacher?* The rationale for three years of teaching experience was justified because a school can opt to use teacher induction for two years. Individuals who taught beyond three years would most likely be past the point of any formal teacher induction efforts. Within this study, teachers who had three or more years of teaching experience were considered to be experienced teachers. It was unknown, prior to conducting this research, how many individuals would participate based on this criterion. Upon completion of the initial survey and finalizing demographic questions, participants were asked if they wanted to take part in a face-to-face interview. Participants who indicated that they did not wish to take part in face-to-face interviews were not contacted again.

An explanatory participant-selection variant was applied in order to select interview participants based on the initial quantitative online survey study (Creswell, & Plano-Clark, 2011). Etkina and May (2002) utilized a participant variant by collecting quantitative data to categorize students with high and low conceptual learning gains, and then enacted thorough qualitative evaluation between these groups. In the same manner, individuals were interviewed with high and low sense of self-efficacy based on the initial quantitative measures.

The researcher selected six participants, in the second sequence of data collection, based on the results of the *Teacher's Sense of Efficacy Scale* that represented levels of high and low sense of efficacy. Teddlie and Yu (2007) referred to this type of sampling as outlier sampling. Outlier sampling “involves selecting those cases that are the most outstanding successes or failures related to some topic of interest.” (p. 81). Further, this sampling technique was believed to represent extreme successes or failures that were expected to yield valuable information about the topic. Extreme cases provided “interesting contrast with other cases, thereby allowing for comparability across those cases” (p. 81). The TSES instrument, within this study, produced a wide range of efficacy scores for T & I teachers. To compare teachers with a high and low sense of self-efficacy, three participants were selected from both ends of the spectrum. Participants who scored on or above a mean of 7.1 on the TSES were considered to have high self-efficacy. Conversely, those who scored below a mean of 7.1 were considered to have lower self-efficacy. It was unpredictable how many participants scored high and low on the TSES.

In a review of literature, no definitive number of participants were suggested for qualitative research. However, Fusch, and Ness (2015) suggested that quality qualitative research must reach data saturation. General data saturation guidelines and concepts can include: no new themes, no new data, no new coding, and the ability to replicate the study (Guest, Bunce, & Johnson, 2006). Berg and Lune (2012) offer qualitative research samples as one that have “small samples used to examine lived experience...results were rich and textured descriptions...” (p. 52). Further, Hamilton (2012) utilized eight participants in a study on a K-12 teacher population concerning teacher efficacy that was inclusive of interviews. Kordaki (2013) utilized 25 participants in a two-phased case

study concerning high school computer teachers' beliefs and attitudes. These studies were an additional source used to set the sample size parameters for this study. The researcher was prepared to conduct additional interviews if it appeared that additional data collection was needed or data saturation had not been achieved.

Instrumentation

Quantitative Data Collection Instruments

This study utilized the quantitative instrument *Teacher's Sense of Efficacy Scale* (short form) which was utilized to gain an understanding of the kinds of things that created difficulties for teachers in their school activities (see Appendix A). Preceding the TSES, participants answered a series of biographical questions. The biographical questions were integrated into the Qualtrics online format and existed as one cohesive survey.

Teacher's sense of self-efficacy scale. A teacher's efficacy belief is a judgment of an individual's belief in his or her own capabilities to bring about desired outcomes of student commitment and learning. Tschannen-Moran and Hoy (2001) confirmed, "Efficacy affects the effort they invest in teaching, the goals they set, and their level of aspiration" (p. 783). Further, teacher efficacy beliefs influence perseverance when things do not go as planned and resilience in the face of adversity. This simple idea regarding teacher efficacy is one that had noteworthy implications in terms of student achievement, but historically, has been challenging to measure as a construct. The TSES was developed by Hoy from the Ohio State University and Tschannen-Moran from the College of William and Mary to measure the construct of self-efficacy of teachers. The TSES was administered through the Qualtrics online survey tool. Permission was given

by the instrument authors to administer the scale through Qualtrics (see Appendix E). The questions were asked verbatim as they were for a standard written administration of the test.

Appropriateness of measure. Hoy and Woolfok (1990) hold the belief that teacher's sense of efficacy "is one of the few teacher characteristics consistently related to student achievement" (p. 137). This is important to note because the primary measure of success for CTE education teachers is student performance. Upon completion of CTE training (typically two years), students gain employment within the industry they have trained. Student achievement is further measured by sustained related industry employment which is gauged by a follow-up report by the T & I teacher the year after the student graduates. From this standpoint, student achievement stood at the forefront of teacher success within the system and a measure of efficacy added value to the current practices. Administering the TSES was appropriate for this study because it measured efficacy within a classroom context. Further, the short form of the instrument was appropriate for this study as it gauged understandings of experienced teachers (those who have completed three years or more) in issues they had faced in their school activities.

Scale content and scoring. The TSES can be administered in two formats 1). 12-question survey with a nine-point Likert-scale (short form) and 2). 24-question survey with a nine-point Likert-scale (long form). The short form and the long form, were developed for different audiences. For the purposes of this study, utilization of the short form was appropriate to gain an understanding of the things that created difficulties for in-service teachers in their school activities. The short form was appropriate for this study because it was developed to measure teacher efficacy of individuals who have

participated in classroom experiences (Hoy, Hoy, & Tschannen-Moran, 1998). The long-form was developed for pre-service teachers in order to gain their self-efficacy beliefs. Therefore, the short form developed for in-service teachers was used in this study.

Tschannen-Moran & Hoy established the scale based on Bandura's previous development of the construct of self-efficacy and the predictive effects it can have on future performance. Participants self-selected responses concerning their opinion to efficacy questions based on a 9-point Likert scale titled "How much you can do?". The Likert scale responses ranged from 1-nothing to 9-a great deal. The instrument provided subscales to account for efficacy in student engagement, instructional practices and classroom management. Following are the subscales and the corresponding survey questions (Tschannen-Moran & Hoy, 2001):

Efficacy in Student Engagement: Items 2, 3, 4, 11

Efficacy in Instructional Strategies: Items 5, 9, 10, 12

Efficacy in Classroom Management: Items 1, 6, 7, 8

Subscale scores were calculated using unweighted means of the items that load on each factor. Further, individual scores were considered having an above average level of efficacy, within the short form, if they were at or beyond the following overall and subscale means (Tschannen-Moran, & Hoy, 2001):

TSES: 7.1

Engagement: 7.2

Instruction: 7.2

Management: 6.7

Reliability. In previous factor analysis, three factors were examined as sub-scales of efficacy: 1). Instructional strategies, 2). Classroom management, 3). Student engagement. Reliabilities for sub-scales were 0.81 for instructional strategies, 0.86 for classroom management, and 0.81 for student engagement. Intercorrelations between the sub-scales of instructional strategies, classroom management, and student engagement were 0.60, 0.70, and 0.58 respectively ($p < 0.001$) (Tschannen-Moran & Hoy, 2001). As a result of the study evaluations, it is important to note that both the 24 - and 12-item scales could be considered to measure the construct of efficacy. The reliability for the 24-item scale was 0.94, and the 12-item scale was 0.90. The results of the three-study analysis indicated that OSTES was considered reasonably valid and reliable. The efforts of Tschannen-Moran and Hoy (2001) determined that “with either the 12 or 24-items scale, it is of reasonable length and should prove to be a useful tool for researchers interested in exploring the construct of teacher efficacy” (p. 801).

Validity. Tschannen-Moran and Hoy (2001) believed a “model of teacher efficacy suggest that a valid personal competence and an analysis of the task in terms of the resources and constraints in particular teaching contexts” is valid (p. 795). Further, at that point existing measures of teacher efficacy did not include both dimensions of efficacy. A new measure of efficacy was undertaken in the College of Education at The Ohio State University guided, in part, by the efforts of Tschannen-Moran and Hoy (2001). The new measure, named the *Ohio State Teacher Efficacy Scale* (OTSTES) and later developed into the current measure *Teacher’s Sense of Efficacy Scale* (TSES) was examined in three separate studies. To test validity of TSES, an assessment of correlations to two previous instruments measuring the construct of teacher efficacy was enacted. Previous

instruments included: The Rand Measure (1976) and the Gibson and Dembo Teacher Efficacy Scale (TSE, 1984). Factor analysis of TSE yielded two factors- Personal Teaching Efficacy (PTE) and General Teaching Efficacy (GTE). In the findings, total scores of the OTSTES were positively correlated to both the Rand items ($r = 0.35$ and $0.28, p < 0.01$) and both factors of Gibson's and Dembo's instrument: Personal Teaching Efficacy (PTE); $r = 0.48, p < 0.01$ and General Teacher Efficacy (GTE); $r = 0.30, p < 0.01$).

Qualitative Data Collection

This study employed face-to-face interviews upon completion of the initial quantitative data collection process. Interviewees were chosen among a pool of participants who completed the TSES instrument and indicated that they were willing to be interviewed. Not every participant who indicated that they were willing to participate in a follow-up interview was selected. An outlier sampling technique was applied at this point to account for individuals who represented the extreme levels of efficacy based on the previously administered instrument at both the high and low levels of efficacy. Interview participants were selected based on the high and low levels of efficacy in order to compare and contrast these extreme cases.

Interviews. The one-on-one in-person interviews took place at neutral sites that were in close proximity to the participants' school of employment. The neutral sites included CareerTech Center classroom/ shops and the homes of participants. The interviews were recorded through an electronic recording device. In addition, the researcher took written field notes during the interview to notate physical reactions to questions. The audio files, transcriptions, and written field notes were saved on the

researcher's password-protected computer to ensure participant privacy. A transcript of the interview was provided to participants as a means of member checking for accuracy in responses.

The personal information (biographical information) collected from the participants through Qualtrics (see Appendix A) included:

- Completion of three or more years as a T & I teacher
- Current school district campus,
- Name of program taught
- Age
- Gender
- Previous job type
- Years of previous experience
- Years taught
- Average students in am and pm class
- Type of certification
- Operation of personal business outside of teaching.

Biographical questions were asked at the onset of the online data collection and integrated as one cohesive survey that was also inclusive of the TSES. Names of participants were not published or made available to any public audience. Biographical information represented the participants in reporting, yet maintained their anonymity. Each participant chose his or her own pseudonym to represent him or herself within the study. The pseudonym for each participant was titled and reported in the following manner- *Teacher: Pseudonym* (Example: *Teacher: Allen J.*) The researcher created a key

code that matched the participant's name to his or her chosen pseudonym. The key code was stored in a locked file within the researcher's personal office. The key code was destroyed after the member checking phase of data collection.

Appropriateness of data collection. Qualitative data collected through interviews and subsequent analysis was appropriate because they refined and explained statistical results by exploring participants' views in more depth (Creswell, Ivankova, & Stick, 2006). The collection of data through interviews was applicable in this study because it provided individual narratives among participants that accounted for influences on decision-making. The data collected through the interview process enhanced the research by providing perspectives from both extremes of the TSES. Narratives were compared for individuals who displayed both high and low levels of self-efficacy which, in turn, offered a more comprehensive understanding of the research questions asked within the study.

Interview questions. This research used a series of semi-structured questions that were utilized to add depth and breadth to the initial survey as well as to provide a comparative element between respondents (see Appendix B). Concerning semi-structured interview questions, McIntosh and Morse (2015) believed, "It employs a relatively detailed interview guide or schedule, and may be used when there is sufficient objective knowledge about an experience or phenomenon" (p. 1). In this manner, semi-structured interview questions were appropriate within this research because participants had specific knowledge within the context of T & I education. The researcher asked the participants 14 interview questions as well as appropriate probing questions as needed (see Appendix B).

Conducting an interview is not necessarily viewed as a natural conversation, and it was important to build rapport with the interviewees to make them feel comfortable (Crabtree & DiCicco-Bloom, 2006). Question 1, “*Tell me about a typical day in your classroom*”, was a question to make the participant to feel at ease as well as place their experiences within the context of the study. Interview questions 2 through 8 were designed to specifically answer research question 2 (RQ2) -*What attributions do T & I teachers make that affect their decision-making?* Questions 2 and 3 were informed through Weiner’s Attribution Theory’s (1974, 1986) locus of control. Elements of pride in difficult tasks were linked with internal attributions. Interview questions 4 through 6 were informed through Attribution Theory’s causal dimension of controllability. The interview questions related to elements that individuals felt they had control over within a teaching context. Interview questions 7 and 8 were informed through Attribution Theory’s stability causal dimension. The causal dimension of stability is concerned with changes in mindsets over time. Interview questions 9 through 12 specifically addressed Research Question 3 (RQ3), *What role did supports and mentorship play toward decisions to remain as a professional teacher?* These interview questions accounted for influences and roles of supports that accounted for decisions to remain as professional teacher. Lastly, Question 13, *Do you have any further questions of me?*, was used as a final question to allow the participants to clarify any previous answers or to expand upon their answers.

Interview protocol. One way to account for credibility and trustworthiness in this qualitative study was to create an audit trail (Cope, 2014). To create an audit trail, the researcher was thorough in measures during the data collection phase of research. One

such measure was to have a clear and precise interview protocol prior to the data collection process. The interview protocol included the participant consent form, script of the interview (what questions were asked), how the interview was recorded, timeframes and locations in which the interview took place (Davis, Heath, Lakshmanan, & Perlmutter, 2010). Creswell (2013) offered guidelines for a structured interview process that include obtaining consent, location determinations, explanation of participant's rights, controlling interview to avoid transgression for the issues at hand, and good interview techniques including "good listener rather than a frequent speaker during the interview" (p. 166). The following steps were adhered to in order to comply with IRB regulations for this study:

- Collaborated with participants to choose an interview location that ensured privacy and was free of distractions.
- Participants signed consent form (see Appendix C).
- Confirmed with participants that the interview would last no more than one hour.
- Participants chose a pseudonym, rather than his or her name, that represented their narrative.
- Once seated and recording equipment was checked, the researcher explained the purposes of the interview, addressed confidentiality concerns, clarified any apprehensions, and assured the participant that they were not required to answer any questions that might compromise their anonymity or employment status.

- Researcher were asked questions 1 through 14 from the interview questions (see Appendix B).
- Researcher transcribed the interview.
- After the interview, provided transcripts to participants via email within two weeks after the interview. This measure allowed the participant to check for accuracy.
- Secured all collected digital data on a secure password-protected computer and hard copy data was locked file in the researcher's office. A copy of the data was stored on an encrypted password-protected flash drive in a locked file in the researcher's office.
- Provided findings, via email, to individual participants to check for accuracy.

Procedures

The following steps were followed for the procedural methods of this mixed methods study:

1. Obtained a contact list that included names and emails of currently employed T & I teachers from the ODCTE.
2. Sent invitation to participate email (see Appendix D) that included a link to biographical questions and TSES (see Appendix A) to current Oklahoma T & I teachers.
3. Consent was given by participants if they select "next" to the following question: You are indicating that you freely and voluntarily and agree to participate in this study and you also acknowledge that you are at least 18 years of age.
4. Data collected through the email link were available for a three week time span.

5. Reminders to complete the biographical information and survey were sent out two weeks after the initial email.
6. Individuals selected for a face-to-face interview were contacted via phone or email.
7. Interviews were scheduled with participants.
8. Interviewees signed a paper consent form (see Appendix C).
9. Interviews occurred over a four-week time period.

Data Analysis

This study utilized a sequential mixed methods design in which the first phase culminated with quantitative data which were utilized to choose participants for further qualitative data collection (see Table 1). Quantitative data collected through the TSES instrument was analyzed by using Statistical Package for the Social Science (SPSS) software. The TSES was administered through Qualtrics, and the subsequent data sets were exported into SPSS. The data were reported by utilizing descriptive statistics that accounted for the meaning of scores of the TSES and characteristics among participants (Salkind, 2008). Characteristics within the study included: age, gender, and years in industry before becoming a teacher, how many years taught, and program area taught. Age, years in industry before teaching and years taught were reported within range intervals determined after data collection.

Tschannen-Moran and Hoy (2001) used factor analysis to test the instrument and have consistently found three interrelated factors that are reported as subscales of the overall TSES: Efficacy in student engagement, efficacy in instructional practices and efficacy in classroom management. To determine the three factors' subscale scores, the

researcher computed unweighted means of the items that loaded on each factor. As mentioned previously, there are four survey questions that load for each of the three factors in the TSES short form version. Subscale scores were reported of all participants. The biographical information collected was reported in a tabulated table format. An overall TSES mean and mean of factors (efficacy in student engagement, instructional strategies, and classroom management) from participants was reported that included the characteristics among participants. Again, the researcher intended to describe the distribution of scores accounting for overall scores, factor loaded scores, and characteristics among participants. Individual scores from the TSES indicated where the individual falls in relation to all other scores in the same distribution (Fraenkel, Hyun, & Wallen, 2012). These scores were utilized to choose participants for qualitative interviews. Participant selection for the face-to-face interviews was based on the overall derived TSES score means. Participants were selected who outlayed furthest (high and low) from the instrument's previously established mean of 7.1.

The qualitative data collection was conducted through semi-structured interview questions (see Appendix B). Upon completion of the interviews, the script from responses was transcribed and hand coded. The researcher payed close attention to emergent themes that developed from the coding process. The data provided through the face-to-face interviews were inclusive of the narrative of each participant, anonymously, within the context of the study. Additionally, a narrative comparing interviewee responses was be reported. The process for qualitative data analysis was conducted using Berg's and Lune's (2012) Stage Model of Qualitative Content Analysis. The steps are as follows:

1. Identify research questions (Questions 2 and 3 within this research)
2. Determine analytic categories (sociological constructs)
3. Read through data and establish grounded categories (open and axial coding)
4. Determine systematic (objective) criteria of selection for sorting data chunks into the analytic and grounded categories
5. Begin sorting the data into the various categories (revise categories or selection criteria, if necessary).
6. Count the number of entries in each category for descriptive statistics. Review textual materials as sorted into various categories seeking patterns.
7. Consider the patterns in light of relevant literature and/ or theory. Offer an explanation (analysis) of findings. Relate analysis to the extant literature of the subject.

Codes developed within the study represented information the researcher expected to find before the study, information the researcher did not expect to find, and information that was conceptually interesting (Creswell, 2013). The codes were labeled through exact words of participants and phrases composed by the researcher (Creswell & Plano-Clark, 2011). Themes/Categories were developed from the initial coding process that represented broad units of information. The qualitative data were represented by individual narratives, identified by pseudonyms, of each participant and narratives of connections among participants that was inclusive of results from the TSES (see Table 1).

Table 1

Details of Data Sources, Analysis, and Methods

| Research Questions | Data Source | Data Analysis | Method/Application of Software |
|---|---|---|---|
| 1. What are the characteristics of currently employed T & I teachers who have taught a minimum of three years? | <i>Teacher's Sense of Efficacy Scale</i> Demographic Survey Questions | Descriptive Statistics | Quantitative Qualtrics Microsoft Excel |
| 2. What are the levels of efficacy in student engagement, instructional strategies, and classroom management of career switchers who remain in T & I education? | <i>Teacher's Sense of Efficacy Scale</i> | Descriptive Statistics | Quantitative Qualtrics SPSS ver.25. Pearson Product-moment Correlation |
| 3. Is there a relationship between years taught and efficacy? | <i>Teacher's Sense of Efficacy Scale</i> | Correlation Statistics | SPSS ver.25 Pearson Product-moment Correlation |
| 4. What attributions do T & I teachers make that affect their decision-making? | Face-to-face Interviews | Constant Comparative, Open & Axial Coding | Qualitative Coding Stage Model |
| 5. What role did supports and mentorship play toward decisions to remain as a teacher? | Face-to-Face Interviews | Constant Comparative, Open & Axial Coding | Qualitative Coding Stage Model |

Timeline for Conducting the Study

June 2017: Completed and defended proposal

June 2017: Submitted study for IRB approval

June–July 2017: Made committee recommended revisions

August 2017: Gained permission (consent) and contact participants.

September 2017: Began data collection process: Administered TSES. Scheduled Interviews. Analyzed online data.

October 2017: Interviewed participants. Analyzed Interviews.

October-February 2017: Analyzed all data and made final revisions

March 2018: Dissertation Defense

Researcher's Perspective

The researcher's background and experience in T & I Education provided a context from which to conduct research in a mixed methods framework. The researcher was driven by past experiences and struggles as a new teacher and an understanding that one can survive the initial barriers. The researcher has 22 years of experience as a professional teacher; 19 years within T & I education and three years in special education at a public school. Drawing on past experiences allowed the researcher to be empathetic toward individuals who took part in the study. During a twenty-two year teaching experience, the researcher noticed teachers face complications in the first years of employment. The researcher has observed and had informal conversations with teachers over time and realized they did not have sufficient time to prepare for the classroom or had inadequate supports which cause them to doubt their own abilities. In many instances, these difficulties have led to quality teachers leaving the classroom. On a larger scale, schools who have frequent turnover run the risk of not having continuous school improvement and a failure to meet school district initiatives. Interactions with other T & I teachers over the years have prepared and fueled a passion for this researcher toward this study. The researcher has an overriding goal of having all teacher's succeed in the

classroom that, in turn, positively impact students. This researcher was prepared in a traditional university teacher preparation setting and still had struggles early in teaching. T & I teachers, in most cases, have not had the luxury of previous teacher training, which enhances the inherent gap between teacher preparation and reality. An understanding of T & I teacher's decision-making within the professional may impact supports for future teachers within T & I.

The researcher was diligent to account for biases that may have existed during data collection. The researcher conducted the following techniques to attempt to avoid bias within the study:

- Structured interview questions that focused on the respondent's true point of view
- Allowed interviewees to answer questions openly and freely without regard to any retributions.
- Keep the interviews conversations to avoid interviewee providing similar answers to different questions.
- Participants' information would not be shared with their employer
- Utilized direct quotes to develop codes and themes
- Displayed positive regard and was cognizant of cultural assumptions
- Reflected developed themes to ensure the voice of participants was prevalent

The researcher developed rigor in both the quantitative and qualitative instrumentation and implementation. In the qualitative interview phase, bias management steps were established to emphasize the voice of the participant. Berg and Lune (2012) described research interviews as dramaturgical interviews in which the interviewer plays

an occupational role and society (interviewees) have knowledge to be explored. In this manner, the “dramaturgical interview should not be a dialogue, with more or less equal time allocated to each participant, because the whole point is to obtain information from the subject” (p. 137). Within this study, each participant was allotted the same time frame for interviews and be asked the exact same questions. To ensure that researcher bias was not introduced into the interview process, member checking took place in which the participants read the interview transcripts. A further step included in the interview process to exclude the researcher’s personal bias was to become a self-conscious performer. The interviewer as a self-conscious performer is one who prepares and rehearses lines, roles, and actions in advance (Berg & Lune, 2012). As a self-conscious performer, this researcher practiced lines of questions and prepared prior to the interview in order to remain as objective as possible during the actual interviews.

A further approach to account for researcher bias in the proposed mixed methods study on T & I teachers was through development of themes / categories as the researcher coded the information produced through qualitative data collection. Cutcliffe and McKenna (1999) suggested that researchers are well served by “enlisting the assistance of an ‘experienced’ or ‘expert’ colleague to verify the data categorization” (p. 376). For this research, the head of the researcher’s PhD committee served as the expert because she has numerous years of experience within Oklahoma CareerTech teacher induction processes.

In qualitative data collection process, the researcher utilized a strategy of reflexivity as a means to account for personal biases. Cumming-Potvin (2013) offered that “reflexivity remind the qualitative researcher to engage with the moment, while

being conscious of their cultural, linguistic, political and ideological origins, and those they are studying” (p. 218). Further, Berger (2015) asserted, “Reflexivity is commonly viewed as the process of a continual internal dialogue and critical self-evaluation of researcher’s positionality as well as active acknowledgement and explicit recognition that this position may affect the research process and outcome” (p. 220). From these standpoints, reflexivity was enacted to establish rigor within this study by constructing meaning from the participant’s view point. Reflexivity practices, within this study, ensured that the voice of the participant was put forward and not the perspective of the researcher. The researcher was cognizant of previous understanding and background in T & I and did not let it influence the research. Also, the researcher held the position that truths emanate from the participants themselves.

Having previous knowledge of T & I education aided in building rapport with the interviewees. Further, understanding the role of T & I teachers allowed this researcher to ask the interview questions in a conversational manner that allowed the participants to feel at ease. Previous familiarity, on the part of the researcher, concerning teachers having not only knowledge of their industrial skills, but how it applies in the educational context allowed for a more natural interview session.

From the researcher’s perspective, T & I instructors are the key element that drives situated learning within Oklahoma CTE. Situated learning emphasizes that much of what is learned is specific to real world applications in the workplace (Anderson, Reder, & Simon, 1996). Without previous knowledge from industry, students will not be trained properly in a custom that will gain them future employment. For example, a student learning Automotive Repair, must not only know how to repair cars but must

have the ability to deal with customer needs, price the repair work and complete the task in an allotted time. These aspects of situated learning within T & I education are not facets driven by the curriculum, but rather the previous experience of the teachers. This evidence of T & I teacher importance is the driving force of why qualified teachers lead to highly skilled students upon completion of T & I programs. Without teachers who have a strong background and years of experience within their field, students are not provided with a practical training that is embedded within the context of their future employment.

Limitations

Potential limitations of the study included population representation and lack of transferability to other professional divisions within the ODCTE. It was the aim of this study to represent the target population of instructors within ODCTE. Also, the study may not have represented all geographical locations throughout the state of Oklahoma. Further, the study may have been limited by the number of individuals who respond or did not respond. Despite efforts to include all current teachers in the sampling procedure, the study was limited in the representation of the full population of Oklahoma T & I instructors.

Significance of the Study

At the cornerstone of this study is student performance as it relates to teacher's decisions to remain in the field of professional teaching. The ODCTE provides a valuable service to the state and its economy by training competent and skilled individuals in numerous industrial fields (Oklahoma CareerTech, 2016). Without the training resources

provided by ODCTE, many Oklahoma companies would lack the necessary means to staff and train future employees for their businesses.

At the heart of T & I training are the teachers who have years of practical experience in industry; which are described as career switchers. These same individuals provide qualified and expert knowledge in the areas in which they teach. Without individuals with prior industry knowledge, ODCTE would not provide consistent and suitable training for individuals seeking industry (Oklahoma CareerTech, 2015). Many new T & I teachers within ODCTE struggle with transition within their first three years of employment due to numerous factors. One of the primary dynamics that cause teacher attrition is a lack of consistent and ongoing professional support through induction processes and professional mentorship (Oklahoma CareerTech, 2011). This study may have provided an additional level of support by an examination of what aspects of teacher's decision-making led to their sustained employment. The narrative offered through this research may have provided a valuable reflective tool for teachers as they face difficulties in their initial years of employment. Additionally, this study may have benefits for the communities of practices within the ODCTE whose aim is to provide support to new teachers toward sustained and successful employment. Stakeholders in teacher development (CareerTech center districts, university partners, and mentors) can utilize the findings of this study to structure future teacher induction process that are focused on aspects of 'why teachers stay', rather than 'why teachers leave' the profession of teaching. In addition, this study was significant because it offered great insight regarding designing teacher education programs and support systems conducive for career switchers.

Summary

This chapter explained systematically the procedures in conducting a mixed methods research using a sequential explanatory design. In addition, a thorough description of the use of a participant-selection variant and its implementation in this study was provided. Pragmatism was the theoretical perspective that informed the study in order to better understand possible elements that shape decision-making of T & I teachers. An understanding of decision-making by these individuals has the potential to provide a guidepost for future teachers in the field and potentially influence policies regarding new teachers.

The rationale behind the application of a mixed methods research design was to provide an in-depth understanding of the mindsets of the participants. In isolation, quantitative and qualitative measures would not have comprehensively answered the research questions set forth in the study. The utilization of an initial quantitative stage in the form of an online survey, TSES, created an understanding of self-efficacy of the entire sample. This quantitative data collection method provided the means in which to select participants for the second phase of the research. The second qualitative phase within the study was instrumental to further comprehend influences that shaped decisions-making factors that can take the form of internal and external motivators.

Both quantitative and qualitative phases of the research were designed to maintain the anonymity of the participants. The participants' privacy and confidentiality were protected in the findings and results of the study. No names were utilized in the reporting of the quantitative data and pseudonyms were developed to represent the interview participants.

Although this study was limited to the context of Oklahoma T & I teachers, it has the potential to inform teaching practices within other CTE divisions as well as teaching in general. Lastly, the study's significance holds that the findings have the potential to shape elements of teacher induction practices that may lead to increased teacher retention and quality teachers within Oklahoma T & I.

CHAPTER IV

FINDINGS

The findings for research questions 1 through 5 are presented in this chapter. To answer research question 1 and 3, the researcher completed the first phase of the mixed methods study by conducting an online survey that was administered through Qualtrics to all T & I instructors in Oklahoma. T & I teacher's names and contact emails are public record and were accessed through the ODCTE. There are currently 546 T & I Instructors across the state of Oklahoma at the time of the study. From that number, 218 individuals participated in the survey. As part of the survey, participants were asked if they had completed three or more years at an Oklahoma CareerTech school as a T & I teacher. This question was asked to narrow the participant pool to teachers with more than three years' experience. From the initial 218 who took the survey, 162 indicated that they had taught three years or more, and the survey continued through the line of questioning. For the 56 that indicated that they had not taught three or more years, the survey ended at that point for them. One hundred and fifty-six participants completed the survey to its entirety. The survey asked biographical information and included the TSES. Six participants completed the biographical questions, but not the TSES. The missing data from the six participants who answered only biographical questions were not reported in the correlation analysis; however, they were included in the characteristics portion of the

study. The survey was distributed to participants starting on September 12, 2017 and ended on October 5, 2017.

Prior to the distribution of the survey, test distributions revealed that the survey was showing up as spam in some emails. This was a concern to the researcher because the surveys were being sent to work (schools) emails in which the district firewall blocked the incoming email. To remedy the distribution issue of emails being blocked as spam, the researcher contacted Qualtrics for solutions. Qualtrics offered several solutions: piped text to include participant's names, creating a whitelist to avoid spam blocking, and changing the no reply email address. In addition, Qualtrics offered that the survey could also be sent as an anonymous link to blocks of email recipients. The first distribution of the survey was sent on September 12, 2017 as an invite over email as the distribution channel. After several days, the response rate was low. To increase the response rate and after receiving an IRB modification approval, the decision was made to send the survey as an anonymous link as the distribution channel. From the original distribution list of 546, emails containing the anonymous link were sent to blocks of ten email addresses at a time on September 19, 2017. On September 27, 2017, an email reminder was sent to the distribution contacts containing the anonymous link to the survey. At the stop date of October 5, 2017, 218 participants had responded to the email. The Qualtrics distribution summary revealed that 70 responses came from the invite over email distribution channel and 148 came from the anonymous link distribution channel. During the distribution time period, the researcher was contacted by one participant who did not know how to respond to the pull-down menu of CareerTech districts because he taught at a high school rather than at a technology center. In response, the researcher directed him to choose other from

the pull-down menu and then provide the name of his high school in the question that asked about what campus you teach at within your district. Throughout the data collection process and data analysis, the researcher maintained a daily research audit (see Table 2) to account for research actions.

Table 2

Survey Distribution and Response Rates (prepared by researcher)

| Date | Action | Time of Response After Action | Cumulative Number of Responses | Notes |
|-------------------------------|----------------------|-------------------------------|--------------------------------|--|
| Tuesday- September 12, 2017 | Distributed survey | | | Emailed survey to 546 participants |
| Wednesday- September 13, 2017 | | 24 hours | 45 | Discovered some emails were blocked by school firewalls Contacted IRB to change wording to include anonymous link |
| Thursday- September 14, 2017 | | 48 hours | 53 | |
| Tuesday- September 19, 2017 | Redistributed survey | | | Received IRB approval of changes to include modifications to the survey Resent with anonymous link |
| Wednesday- September 20, 2017 | | 24 hours | 135 | 103 participants met research criteria |
| Thursday- September 21, 2017 | | 48 hours | 157 | 118 participants met research criteria |
| Tuesday-September 26, 2017 | Email reminder sent | | 178 | 135 participants met research criteria |
| Wednesday- September 27, 2017 | | 24 hours | 219 | Reminder included closing date of October 3, 2017 154 participants met research criteria |
| Thursday- September 28, 2017 | | 48 hours | 228 | 159 participants met research criteria |

| | | | |
|---------------------------|--------------|---|---|
| Thursday- October 5, 2017 | survey ended | 238 (20 participants only answered the consent question 218 Total) | 162 participants met research criteria 90 participants indicated a willingness to interview 39.9% response rate |
|---------------------------|--------------|---|---|

To answer research questions 4 and 5, the second phase of the mixed methods study consisted of the researcher conducting face-to-face interviews. In these sections, a description and analysis of each individual case is followed by a cross-case and thematic analysis that relates themes common to all of the interviews (Creswell, 2013). Ninety survey participants indicated that they were willing to take part in face-to-face interviews. The overall mean score (7.29) of the TSES was calculated to determine which participants would be selected. Interview participants were chosen whose scores were outliers from the mean score of 7.29. Individuals with a score at or above 7.29 were considered to have an above average sense of efficacy; described as high scale participants for this study (Tschannen-Moran & Hoy, 2001). Individuals with a score below a TSES mean of 7.29 were considered to have a below average sense of efficacy; described as low scale participants for this study. To choose outliers based on the overall mean scores, three participants were chosen from the low end of the scale and three were chosen from the high end of the scale to compare narratives. A total of seven interviews were conducted and only six were used for the study. One interviewee indicated he had not completed three or more years as a T & I teacher, thus his interview was eliminated.

Face-to-face interviews took place at a location chosen by the participants. The interviews began on October 10, 2017 and concluded on November 2, 2017. The researcher traveled a total of 1,552 miles within the state of Oklahoma to conduct the interviews. Only one issue of concern occurred during the interview process. One of the

participants that was chosen did not have three years of teaching experience. This fact was not realized until after the interview occurred. He had answered the initial survey question, Have you completed three or more years at an Oklahoma Technology Center as a T & I Teacher?, incorrectly. The researcher consulted the dissertation chair and it was decided the data obtained through the interview would not be able to be included, because it did not meet the pre-established interview criteria. The researcher wanted to compare data produced by interviewees who had completed a minimum of three years' experience. The participant was contacted via phone and told his interview would not be used because he only had two years of experience. No transcription took place for this interview. Seven interviews took place, but only six met the requirements of the study.

Upon completion of the interview, each participant received an email containing the transcript of the interview within two weeks. The researcher transcribed the interviews verbatim into Word documents without the technological support of a speak-to-text program and stored them on an encrypted password-protected flash drive. Hard copies of the transcriptions were stored in a locked file in the researcher's office. Within two weeks, the transcriptions were emailed to participants. All participants confirmed the accuracy of the transcriptions.

Research Question 1: What are the Characteristics of Currently Employed T & I Teachers Who Have Taught a Minimum of Three Years?

To answer research question #1, results from the Qualtrics survey were utilized for the descriptive statistics of the sample population. Characteristics of currently employed T & I teachers were reported in the order they were presented to participants in the survey. The results of the survey indicated that of the 29 CareerTech districts across

the state, at least one person participated from 26 of the districts. Two individuals indicated other as the choice for CareerTech districts. These participants might be teaching within a high school or within a CareerTech Skills Center that has a T & I program; however, that information was not asked of the participants. At this point, the 162 participants represent individuals who indicated they have taught three or more years at an Oklahoma Technology Center as a T & I Teacher. For participants who responded negatively to this question, the survey ended.

Table 3

Participation by School District (n = 162)

| # | District | % | Count |
|----|-------------------|----------------|------------|
| 1 | Autry | 1.81% | 3 |
| 2 | Caddo Kiowa | 2.41% | 3 |
| 3 | Canadian Valley | 9.64% | 15 |
| 4 | Central Tech | 4.22% | 7 |
| 5 | Chisholm Trail | 0.60% | 1 |
| 6 | Eastern Oklahoma | 3.01% | 5 |
| 7 | Francis Tuttle | 6.63% | 11 |
| 8 | Gordon Cooper | 4.82% | 8 |
| 9 | Great Plains | 3.61% | 6 |
| 10 | Green Country | 0.00% | 0 |
| 11 | High Plains | 3.01% | 5 |
| 12 | Indian Capital | 3.61% | 6 |
| 13 | Kiamichi | 6.63% | 11 |
| 14 | Meridian | 2.41% | 4 |
| 15 | Metro Tech | 6.02% | 10 |
| 16 | Mid-America | 1.20% | 2 |
| 17 | Mid-Del | 3.01% | 5 |
| 18 | Moore Norman | 3.61% | 6 |
| 19 | Northeast | 5.42% | 9 |
| 20 | Northwest | 0.60% | 1 |
| 21 | Pioneer | 1.20% | 2 |
| 22 | Pontotoc | 1.81% | 3 |
| 23 | Red River | 0.00% | 0 |
| 24 | Southern Oklahoma | 3.01% | 5 |
| 25 | Southwest | 0.60% | 1 |
| 26 | Tri County | 1.81% | 3 |
| 27 | Tulsa Tech | 15.66% | 26 |
| 28 | Wes Watkins | 0.00% | 0 |
| 29 | Western | 1.20% | 2 |
| 30 | Other | 2.41% | 2 |
| | TOTAL | 100.00% | 162 |

Participants represented a wide spectrum of training areas within T & I Education. The ODCTE further categorizes training programs by career clusters (Oklahoma CareerTech, 2017). Some programs are in multiple career clusters (see Table 3), for the purposes of this study the primary career cluster was categorized for each program. There are a total of 16 career clusters within ODCTE. However, T & I education is only represented by 10 career clusters. All 10 career clusters in T & I education were represented in this study. Career clusters (see Table 4) were used to describe interview participants rather than specific program in order to maintain confidentiality. No efforts were made to restrict responses based on the number of sites a technology district has or how many T & I teachers were at a specific site. It must be noted that surveys received are those who chose to participate and that number is not representative of percentages of T & I teachers per campus or ODCTE CareerTech Center districts. As part of the biographical questions within the survey, participants were asked about what program area they taught in within T & I (see Table 5). The largest program area was represented by Automotive Service programs who had 29 survey participants. Several programs had a large number of participants including cosmetology, service careers, and welding.

Table 4

Trade and Industrial Programs Categorized by Career Cluster (n = 162)

| Career Cluster Representation | Trade and Industrial Program Name |
|--|--|
| Agriculture, Food, and Natural Resources | Culinary Arts |
| Architecture and Construction | Computer Aided-Drafting Construction Trades Electrical Trades HVAC/R Masonry Service Careers |
| Arts, Audio/Video Technology and Communications | Graphic Design Instrumentation and Control Systems Photography Sound Engineering |
| Business Management and Administration | Digital Media |
| Human Services | Cosmetology Project Search |
| Information Technology | Web Design |
| Law, Public Safety, Corrections, and Security | Law Enforcement |
| Manufacturing | Industrial Technology Manufacturing Precision Machining Welding |
| Science, Technology, Engineering, and Mathematics (STEM) | Applied Engineering Mechatronics |
| Transportation, Distribution, and Logistics | Automotive Service Technology Aviation Maintenance Diesel Technology Fleet and Facilities Maintenance |
| Operation | Heavy Equipment Power Sports |

Table 5

Participation by Program Area (n = 162)

| Program Name | Number of Participants |
|-----------------------------------|-------------------------------|
| Applied Engineering | 1 |
| Auto Collision | 6 |
| Automotive Service Technology | 29 |
| Aviation Maintenance | 8 |
| Construction Trades | 10 |
| Cosmetology | 19 |
| Culinary Arts | 1 |
| Computer Aided Drafting Design | 3 |
| Digital Media | 2 |
| Diesel Maintenance | 9 |
| Electrical Trades | 6 |
| Fleet and Facilities Maintenance | 1 |
| Graphic Design | 6 |
| Heavy Equipment Operation | 2 |
| HVAC/R | 9 |
| Industrial Technology | 1 |
| Instrumentation & Control Systems | 1 |
| Law Enforcement | 3 |
| Manufacturing | 4 |
| Masonry | 1 |
| Mechatronics | 1 |
| Photography | 2 |
| Power Sports | 2 |
| Precision Machining | 7 |
| Project Search | 1 |
| Service Careers | 11 |
| Sound Engineering | 1 |
| Welding | 16 |
| Web Design | 1 |

The survey participants were asked to provide their age. The average age of participants who answered the question was 48.02 years old (see Figure 2).

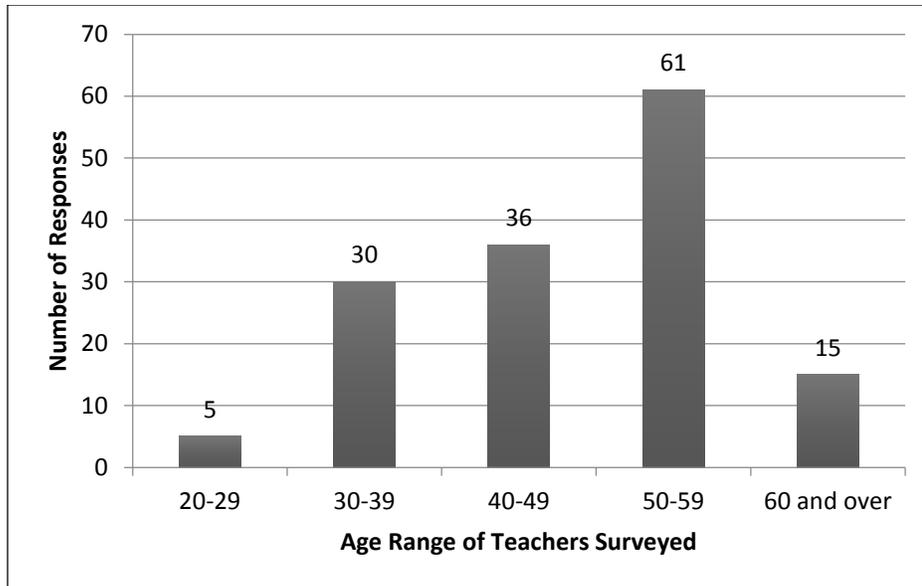


Figure 2: Age Range of Teachers Surveyed (n=147)

The next area of the survey was gender representation. Of the 162 that specified their district: 128 were male (79%), 30 were female (18.5%) and 4 (2.5%) did not wish to share this information (see Figure 3).

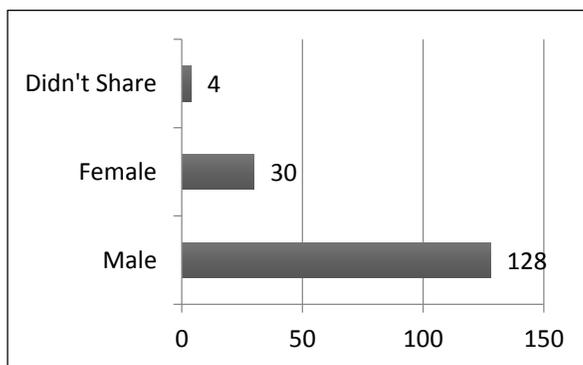


Figure 3: Gender Participation (n =162)

Various T & I teachers begin teaching from industry rather than through traditional teacher preparation avenues. To understand the background of participants, they were asked about employment before entering teaching (see Figure 4).

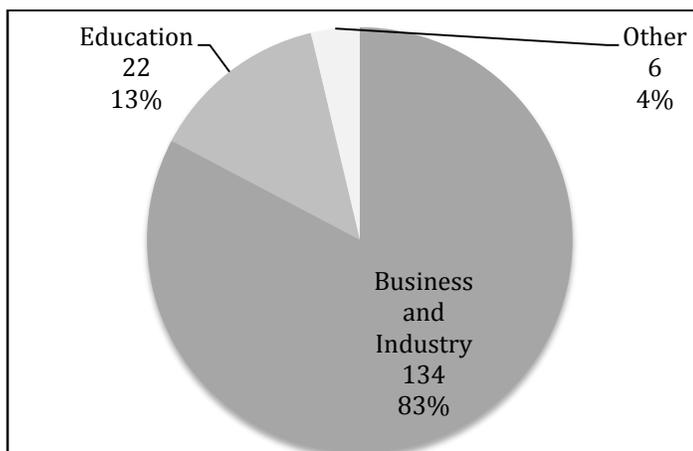


Figure 4: Job Prior to Teaching (n =162)

As indicated in the literature review, industry experience is one the key characteristics of T & I teachers, also described as career switchers (Hunter-Johnson, 2015). The survey included a question concerning the years employed in industry (see Figure 5). As indicated by the survey, participants bring a vast amount of industry experience into teaching. The largest majorities were represented by the 3 to 5 and 6 to 10 years of experience in their previous industry.

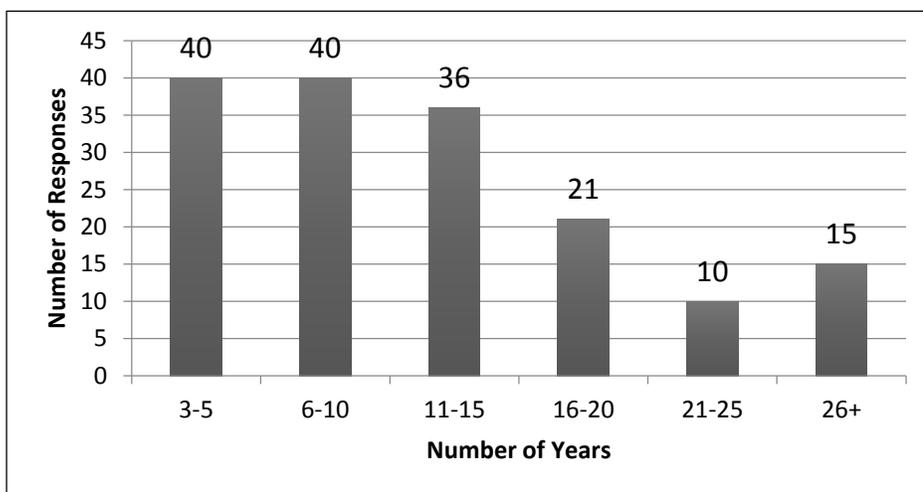


Figure 5: Years Employed in Industry (n =162)

Within this study, teachers who taught beyond their initial three years were considered experienced. Individuals who teach beyond three years would most likely be past the point of any formal teacher induction efforts. To understand how many years beyond the initial three year employment, participants were asked how many years they have been employed as a T & I teacher (see Figure 6).

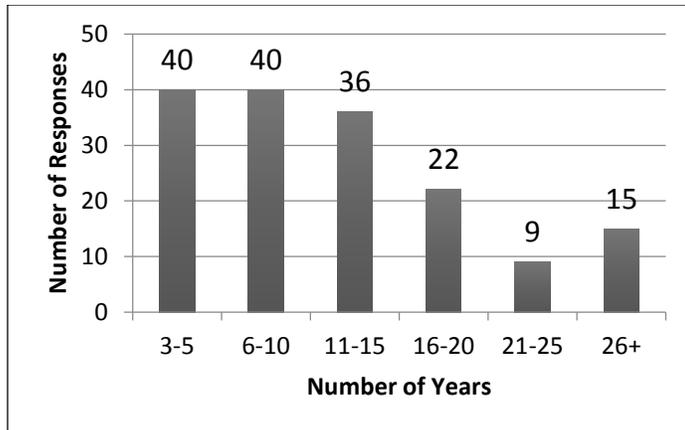


Figure 6: Years Teaching in Trade and Industrial Education (n=162)

Within the survey, participants were asked two separate questions concerning the number of students they teach throughout the day. Averages were calculated among survey participants concerning class size (see Table 6). A majority of T & I programs are designed to have two different class periods (AM and PM) that are typically three hours in length each. One question enquired as to the average student enrollment in their AM class and the second question asked about the average enrollment in their PM class. Descriptive statistics that represent class size include mean, mode, median, maximum, and minimum enrollment (see Table 7).

Table 6

AM vs. PM Class Size (n =162)

| Measurement | Students Per Class |
|--------------------|---------------------------|
| Average AM | 17 |
| Average PM | 16.4 |

Table 7

Class Size Statistics for all Classes (n =162)

| Measurement | Students Per Class |
|--------------------|---------------------------|
| Mean | 16.7 |
| Mode | 18.0 |
| Median | 16.0 |
| Max | 45.0 |
| Min | 3.0 |

Within the survey, participants were asked to indicate the type of teaching certificate that they currently hold (see Figure 7). Because many of the participants come from an industry background rather than education or formal teacher training, it was important to understand the type of teaching certificate they have achieved since employment. The survey indicated that of the 166 participants who answered the question: 15 (9.04%) have a Provisional Level I certificate, 56 (34.56%) have a Provisional Level II certificate, 86 (53.08%) have a Standard certificate, and 5 (3.01%) indicated that they did not know which type of certificate that they currently hold. The following is a chart of the current teaching certification of survey participants:

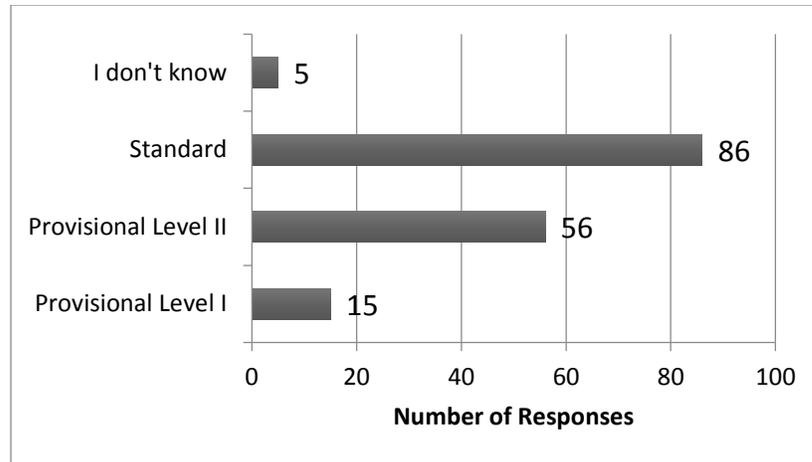


Figure 7: Teaching Certificate Types (n =162)

To understand the participant’s involvement in professional activities outside the classroom, participants were asked if they operate a business in addition to teaching (see Figure 8). The largest percentage of participants indicated they operate a business in addition to teaching.

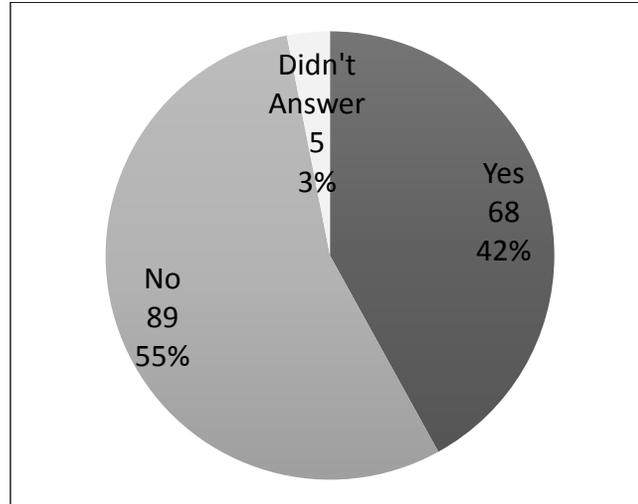


Figure 8: Operate a Business in Addition to Teaching (n=162)

The next twelve questions presented to participants were the TSES survey questions. The questions were presented verbatim as they appear in the TSES instrument

(see Appendix A). As indicated previously, six participants did not take the TSES portion of the survey.

Research Question 2: What are the Levels of Efficacy in Student Engagement, Instructional Strategies and Classroom Management of Career Switchers Who Remain in T & I Education?

The TSES has three interrelated constructs: student engagement, instructional strategies, and classroom management that are reported as subscale means (Tschannen-Moran & Hoy, 2001). To determine the efficacy of all three constructs, the researcher computed unweighted means of the items that load for each factor. Following are the groupings that coordinated with the survey questions (see Appendix A). Results of the 156 survey responses are reported by each of the three self-efficacy constructs with average scores (denoted as *M*) and standard deviations (denoted as *SD*) noted (see Table 8).

Descriptive Statistics for RQ2

The efficacy in Student Engagement construct was defined as a person's confidence in elements of teaching aimed at motivating students and helping them value learning (Tschannen-Moran & Hoy, 2001). Overall, Student Engagement score was 6.71 out of 9 and an *SD* of 1.5 (see Table 8). Within the construct of Student Engagement, the lowest score (*M* = 5.78) focused on the teacher's belief in their ability to assist families helping their children to do well in school. The highest score (*M* = 7.26) gauged the teachers' own abilities to get students to believe they can do well in school work.

The efficacy in Instructional Strategies construct was defined as "a person's confidence that he or she can design and implement activities, tasks, and assessments to

facilitate student learning” (Daugherty & Wolters, 2007 p. 182). The Instructional Strategies score was 7.48 out of 9 and an *SD* of 1.2. Responses to all four questions within the efficacy in Instructional Strategies construct were close to the overall subscale mean ($M = 7.48$). The highest score ($M = 7.94$) was the question concerning the teacher’s ability to provide an alternative explanation of example when a student is confused. The lowest score ($M = 7.16$) was the question, “How much can implement alternative strategies in your classroom?”

The efficacy in Classroom Management construct was defined as “strategies aimed at increasing or encouraging desirable student responses through praise, encouragement, attention and rewards” (Tschannen-Moran & Hoy, 2001 p. 791). The Classroom Management score was 7.70 out of 9 and an *SD* of 1.3 (see Table 8). The subscale score for efficacy in Classroom Management was the highest among all three subscale scores. All four questions related to classroom management were near the overall mean of 7.70 for the efficacy construct. The highest score ($M = 7.94$) was a question about controlling disruptive behavior in the classroom. This question had the single highest score among all twelve survey questions in the TSES. The lowest score ($M = 7.44$) gauged the participant’s own ability to calm students who are disruptive or noisy (see Table 8).

Table 8

TSES Descriptive Statistics (n =156)

| Subscale | Subscale Means | Average Standard Deviation | Instrument Item | Mean |
|--------------------------|----------------|----------------------------|--|------|
| Student Engagement | 6.71 | 1.5 | How much can you do to motivate students who show low interest in school work? | 6.79 |
| | | | How much can you do to get students to believe they can do well in school work? | 7.26 |
| | | | How much can you do to help your students value learning? | 6.99 |
| | | | How much can you assist families in helping their children do well in school? | 5.78 |
| Instructional Strategies | 7.48 | 1.2 | To what extent can you craft good questions for your students? | 7.53 |
| | | | How much can you use a variety of assessment strategies? | 7.28 |
| | | | To what extent can you provide an alternative explanation or example when students are confused? | 7.94 |
| | | | How well can you implement alternative strategies in your classroom? | 7.16 |
| Classroom Management | 7.70 | 1.3 | How much can you do to control disruptive behavior in the classroom? | 7.94 |
| | | | How much can you do to get children to follow classroom rules? | 7.67 |
| | | | How much can you do to calm a student who is disruptive or noisy? | 7.44 |
| | | | How well can you establish a classroom management system with each group of students? | 7.75 |

Research Question 3: Is There A Relationship between Years Taught and Self-Efficacy?

Variables: Years taught (YT), Student Engagement (SE), Instructional Strategies (IS), Classroom Management (CM), Overall Efficacy (SE + IS + CM)

This question was addressed through statistical correlation analysis, using both simple Pearson correlation coefficients and a multiple correlation coefficient (see Table 9 and Table 10). In the first stage of the analysis, through SPSS version 25, a combined factor score was calculated for each participant for each efficacy factor variable. Each factor score was composed of four corresponding questions based on a 9-point Likert-type scale. The combined scores for each variable (subscale score) thus had a total possible score of 36 (4 questions x 9 points). The total possible score for all three variables was 108 (SE+IS+CM=108). To determine a correlation between YT and SE, IS, and CM the data were analyzed first as a set of three bivariate correlations based on Pearson product-moment correlations coefficient (denoted as r), where each coefficient was a simple correlation between a single efficacy factor score and YT (Sheskin, 2007). Then, to examine the overall correlation between YT and the three efficacy factors taken in combination, a multiple Pearson correlation (denoted as R) was conducted to analyze the linear regression relationship among all three variables (SE, IS, and CM) in aggregate to the YT. The Pearson correlation statistical techniques were appropriate for this analysis because all the variables are continuous/intervals: YT is a continuous variable and the TSES 9 point Likert-type scales have sufficient range (9 points) to qualify for Pearson analysis. The correlations “express a relationship that is only associative and not

causal” (Salkind, 2008, p. 93). Therefore, care should be taken to avoid interpreting correlations as anything except indices of relationship between or among variables.

Pearson r Correlation Results

Table 9

Bivariate Correlations among SE, IS, & CM with Years Taught (YT) (n = 156)

| | | Student Engagement (SE) | Instructiona l Strategies (IS) | Classroom Management (CM) |
|---|---------------------|--|---|--|
| How many total years have you taught in T & I program? (YT) | Pearson Correlation | -0.052 | 0.115 | 0.03 |
| | Sig. (2-Tailed) | 0.523 | 0.152 | 0.714 |

The Pearson r Correlation, tested as a series of separate bivariate correlations, revealed no statistically significant correlation between the variables of years taught, student engagement, instructional strategies, or classroom management (see Table 9). Therefore, the null hypothesis (no relationship) was retained and the alternate hypothesis was rejected.

Pearson r Correlation Results

To calculate the r correlation, a linear regression analysis was run through SPSS. The three efficacy variables (SE, IS, & CM) were combined by the regression program and run simultaneously in combination to compute the multiple correlation coefficient. For this study and its correlation-based research question, this technique was done solely to understand relationship among variables and not used correlation to predict YT based on the three efficacy factors or to analyze in detail the predictive value of individual factors on the efficacy instrument. The researcher therefore believed a full multiple

regression analysis and equation would have provided more statistics than needed to answer the research question. For the purpose of this study, the multiple correlation of the three efficacy variables with YT was deemed sufficient and the analysis was limited to this calculation. Table 10 shows the results of the multiple correlation calculation, reporting both R and R^2 . To interpret the value of R^2 , R should be squared and then multiplied by 100 (Green & Salkind, 2011). Further, “the resulting statistic may now be interpreted as the percent of the criterion variable accounted for by the linear combination of the predictors” (Green & Salkind, 2011 p. 289).

Table 10

Multiple correlation of CM, IS, & SE toward YT

| Model Summary | | | |
|---------------|-------------------|----------|-------------------|
| Model | R | R Square | Adjusted R Square |
| 1 | .187 ^a | .035 | .016 |

a. Predictors: (Constant), CM, IS, SE

According to Green and Salkind (2011), “the sample multiple correlation and the squared multiple correlation are biased estimates of their corresponding population values. The sample R^2 typically overestimates the population R^2 and need to be adjusted downward. The adjusted R^2 reported by SPSS makes the adjustment” (p.289). The multiple correlation test revealed no significant correlation between YT and the three efficacy factors. Results from the multiple correlation verify the previous results from the Pearson r correlation tests, in which, no significant statistical correlation exists between the variables.

The absence of significant single and multiple correlations are further demonstrated graphically by the scatterplot shown in Figure 11. This plot shows marked circularity and no clear linear pattern. This scatterplot is typical when little linear relationship and low Pearson correlations between variables are present.

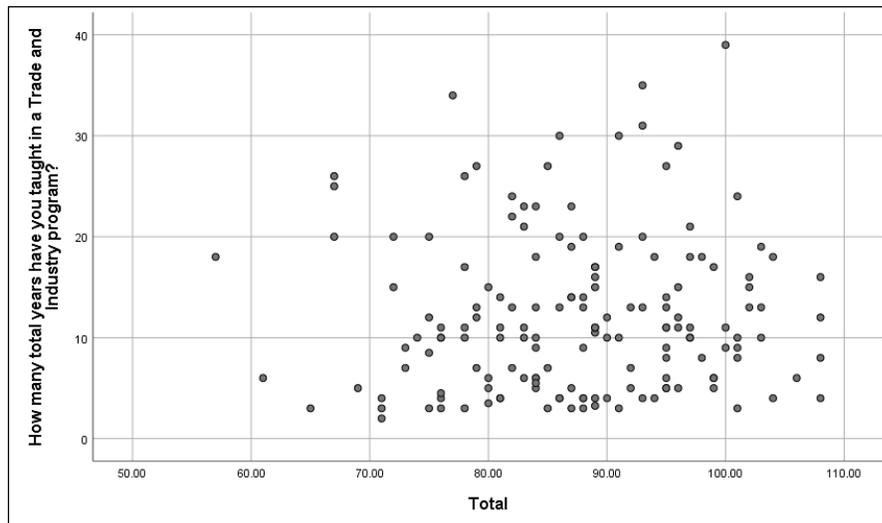


Figure 9: Scatterplot of Correlations between YT and overall total TSES

Although there was a lack of statistical significance within the correlation of years taught and an increase in efficacy, the trajectory of self-efficacy may not be uniform throughout adulthood (Chiu & Klassen, 2011). From this standpoint, it was imperative to understand how self-efficacy is influenced toward career decisions that could not be identified by quantitative analysis or pre-set numerical variables. The TSES may not be the only predictor of behavior, therefore it was valuable to conduct qualitative interviews to delve deeper into decision-making and self-efficacy of T & I teachers. In the following analysis, attributions toward sustained employment as a T & I teacher will be explored. Narratives provided through the qualitative interviews served to provide a more comprehensive understanding of aspects that influence decision-making.

Research Question 4: What Attributions Do T & I Teachers Make That Influence their Decision-Making?

To answer research question 4, the researcher asked questions within the face-to-face interviews that related to Weiner's Attribution Theory (1974, 1986) to understand decision-making processes of participants. Interview questions 2 through 8 (see Appendix B) connect to the three casual dimensions of attribution: locus of control, stability, and controllability (Weiner, 2010). An examination of the dimensions of self-efficacy of each individual, an analysis of all six cases individually and then a cross-case analysis inclusive of all cases was done.

Interview Participant Representation

Based on the outlier mean scores of the TSES, participants were chosen for the face-to-face interviews. The following mean scores represented the low end of the scale 5.58, 6.00, and 6.25 and the high end of the scale scores are 8.83, 9.0, and 9.0. The sample population closely mirrored the overall Oklahoma population in terms of categorizations of urban and rural designations. An urban designation consists of areas with a population of over 50,000 people (Burd, Fields, Holder, & Ratcliffe, 2016). Urban designations are further categorized into urban clusters which are populations between 2,500 to 49,999 people. Rural population designations are areas with 2,499 people or less. In Oklahoma, 66.2% of the population are designated as urban or urban cluster and 33.8% are designated as rural (U.S. Census Bureau, 2010). For this study, four interview participants (66.7%) were from urban or urban clusters and two interview participants (33.3%) were from rural areas. Urban and rural designations were based on the location of the campus in which the participants teach. Participants provided information

concerning the location of their school by answering survey question 3: What campus do you teach at within your district? In summary, the two main selection criteria for interviews were the scores on the TSES and the location of the campus where the participant taught. The researcher made no effort to also include as selection criteria the number of years taught and the number of years in industry although they were included in the table.

Table 11

Interview Participant Descriptors (n = 6)

| Pseudonym | TSES Scale | Career Cluster | Years Taught | Years in Industry | Population Designation |
|------------------|-------------------|-----------------------|---------------------|--------------------------|-------------------------------|
| Allen J. | High | Transportation | 8 | 12 | Urban |
| Patsy R. | High | Law, Public Safety | 4 | 20 | Urban |
| Reba M. | High | Human Services | 6 | 19 | Rural |
| John W. | Low | Transportation | 20 | 15 | Urban Cluster |
| Garth B. | Low | Manufacturing | 3 | 7 | Urban |
| Charlie P. | Low | Transportation | 26 | 20 | Rural |

To understand the complexities of the issue, it was important to choose people from varying backgrounds for interviews (Rubin & Rubin, 2005). Of the six interview participants, the researcher chose four males (66.7%) and two females (33.3%). Gender representation for the overall sample population consisted of 131 (78.92%) males, 31 (18.67%) females, and 4 (2.41%) that did not wish to share information. In order to represent various training areas T & I education, participants were chosen from six different T & I programs. The programs were described by career cluster for the purposes of this study to provide a layer of protection for the participants.

To report the data in a confidential manner, each interview participant chose their own pseudonym to protect their privacy. The chosen pseudonyms were used to represent the narrative of the six interview participants. The participants represented outliers based on the studies average overall TSES mean of 7.29. The first three narratives presented were individuals who were considered to have an above average sense of efficacy; described as high scale sense of efficacy (above 7.29 mean) and the preceding three narratives were individuals who were considered to have a below than average sense of efficacy; described as low scale sense of efficacy (below 7.29 mean) (Tschannen-Moran, & Hoy, 2001). It must be noted that these scores did not indicate teaching performance or effectiveness, rather a perception of one's own abilities. In the course of the interview analysis, if a participant referred to a specific person, their name also was changed to a fictitious name to protect their anonymity.

Rigorous research must include the entire data set in order to produce thick and rich qualitative data (Morse, 2015). To achieve rigor within this study, data was utilized from both the survey and the interview for the descriptive narrative of each interview participant. Each teacher narrative begins with a brief description about the individual's professional background, T & I program in which they teach, how they became a career-switcher, and how they structure their classroom environment. The teacher description continues with an exploration of attributions they made that influenced their decision-making processes leading to a commitment to teaching as a career (Hamilton, 2012). The researcher chose to weave together the interviews with the causal dimensions of Weiner's Attribution Theory (1974, 1986). Normally Chapter IV reports only the data with any theory application and analysis in Chapter V. In this case, separating the interviews

completely from the theory seemed unwieldy and devalued the comments made by the participants.

Interviews with Individuals with High TSES Scores

Teacher 1: Allen J.

Allen J. has taught eight years in the T & I program within the Transportation, Distribution, and Logistics career cluster. He taught his first three years in automotive in a different state. He has completed five years at his current school with an urban population designation. Prior to teaching, he worked in the industry for twelve years and took some college classes during this period, but did not complete a degree. He considered himself a career-switcher and acknowledge the transition by stating:

Yes, but at the same time this is a portion of transportation, a portion of automotive. It's just a little different in the fact of teaching...which that is a much different world than actually doing this [mechanic]. If I never would have gotten a teaching job- I wasn't even looking the teaching job. I don't know if I would have changed, because I really enjoyed doing what I did.

Since he began teaching he has earned a bachelor's degree in T & I education and currently holds a standard teaching certificate.

Classroom Structure

Allen J. co-teaches with another teacher in his classroom/shop, and they share teaching duties. The teachers share the same student population, and each teaches specific tasks within the trade. The teachers share a teaching assistant whose primary duty is to supervise students in the classroom. He teaches primarily high school students, with the exception of two to three adults in any given school year. His program is structured into

two three hour teaching periods: AM and PM, and he has different students in each period. Adults stay all day and are in both AM and PM periods. He reported that average enrollment is 40 students in the AM and 40 students in the PM. Between the teachers, they have an average total of 80 students throughout the day.

To gain an understanding of the structure of his class, Allen J. was asked to tell about a typical routine day in his classroom:

Our program is 80% in the shop. And they are actually working on cars in our program [live work]. We have two students per car and that is our teaching moment. It's not in the classroom, so sit and get or anything like that- it's while their doing the job and we expect them to look up information. Also, if we come by and ask them about information about what they are doing, we expect them to have found the repair procedure for that particular vehicle.

Attribution Analysis. Ahles and Conento (2006) contended that in the view of Attribution Theory “individuals seek to understand their environment, and in particular, try to understand what causes their own, as well as the behaviors of others” (p.610). From the same viewpoint, this study seeks to understand behaviors and actions that specifically led to decisions to remain as a teacher. Weiner (1986) built the theory on the foundation that people need to assign responsibility for events. In the following cases, this research study sought to understand accountability of actions that shaped T & I teacher’s decision-making that led to a commitment to teaching as a career. This analysis was described best through the three causal dimensions of Attribution Theory to account for elements that influence decision making for the six interview participants. The following section is

organized along the three causal dimensions of Weiner's Attribution Theory (1974, 1986): Locus of control, Controllability, and Stability.

Locus of control. This causal dimension was described in terms of internal and external motivators that led to sustained employment of the T & I teachers. Weiner (2010) suggested that "an external cause by definition is not controllable by the actor, whereas some internal causes are controllable" (p. 33). Successful outcomes were attributed to the internal motivators of pride and confidence (Weiner, 2010). When asked to give an example of something you have taken pride in over your teaching career Allen J. responded:

I would say it's more with the students...I take a lot of pride in the fact that I am supplying our community with people that can provide a career for themselves, for their families and bettering our community and I think that is the most rewarding thing that I get from it.

Allen J. stated that the positive influence he has made on students, in terms of employment, have made an impact on his decision to remain as a teacher. He continued by explaining: when he visits almost any shop [mechanics or auto parts] in the community he has former students who have graduated and are now employed in industry. This is a fact that he takes a great deal of pride in knowing that he has taught students skills, in which, they can make a viable living. His internal motivator of his own abilities has led directly to the external motivation of student success.

One element of successful outcomes that are attributed external motivators are expressions of gratitude (Weiner, 2010). Allen J. conveyed high levels of gratitude as he described employment opportunities for his students:

One benefit that we have here at [urban school] is that we have such a demand for our people [graduates of his program]. That is a good problem to have. If you don't have enough people to feed the workforce, then the polar opposite is that even though you educate a student, you can't get him or her a job within the area they live because there is just not a job to be had.

Allen J.'s locus of control that can be attributed to his sustained employment are inclusive of the positive effect he has on students. A primary driver to remain teaching in the classroom are the students themselves. He displays strong internal attributions which direct relate to his self-efficacy and the impact he can have on student performance. In this sense, the students are not viewed as a barrier to success, but rather a motivator. His self-efficacy is bolstered by his own capabilities and the direct correlation to student achievement, which in turn strengthens his resolve to remain as a teacher (Bandura, 1986).

Controllability. In the development of Attribution Theory, Weiner (1985) held the belief that if one can assign attribution to a given event, one can properly manage himself/herself and his/her environment. Weiner (1985) further contended, "Once a cause, or causes are assigned, effective management may be possible and a prescription or guide for future action can be suggested" (p. 548). Knowing the types of experiences T & I teachers had in their early careers and what control they had in given scenarios is of note for potential future courses of action. When asked about professional challenges he faced in his early career that he felt he had control or influence over, Allen J. had this to offer:

Student discipline would come to mind. You know you feel like you have control over that. How to address those issues. But at the same time, at the beginning I knew I had control but being able to figure out all the avenues of facing a situation such as that was kind of tough.

From Allen J.'s perception, he felt he had control over student discipline but made modifications in his approach constructed on new knowledge he had gained based on his environment. He shared that he had previous experience dealing with CareerTech students because he was involved in a work-based learning experience while in industry. While in industry, he worked with a local CareerTech that sent current students to work in his shop. From that experience, he believed he gained insights to the types of students that typically came from CareerTech programs. He formed a belief concerning student behaviors and how to address any issues because he previously dealt with them directly in a real-world industry scenario. This previous experience gave him confidence as he approached student discipline issues once he became a teacher. The source of Allen J.'s self-efficacy in classroom management can be attributed to his mastery experiences in industry (Bandura, 2012). In his case, he was able to judge his own capabilities in classroom management based on his previous interaction with students prior to being in the classroom. The previous experience served as an energizing facilitator for his performance and career choice (Bandura, 1994).

In the transition from industry to the classroom, teachers may face challenges that are beyond their control. In the understanding of behavior causations, this research sought to comprehend scenarios or situations in which the individual did not have control over. In theory, "If the cause of a need is uncontrollable and thus the individual is not

responsible, then there is sympathy from others followed by help” (Weiner, 2015 p. 304).

Participants were asked to explain challenges they faced in their early career they felt were beyond their control and how they overcame those challenges. Allen J. had this to offer:

We [he and the co-teacher] had situations where we were trying to teach a class, we were sitting in front of the class, sit and get, and we had students getting up and just leaving and some coming in during half the lecture and others getting the other half of the lecture and you’re going, “how is this possible”? I felt that was out of my control and I didn’t know what to do and it was frustrating.

Upon further investigation, it was revealed that the students were coming and going from his class to attend pull-out classes such as math. These classes were required of high school students in order for them to graduate and still attend a CareerTech program. He explained that he was not given a lot of guidance or direction on how to deal with the scheduling issue. In this scenario, he felt like he was not given adequate time to properly teach his student the required skills necessary for completion and certification. To deal with the issue, he explained that he and his co-teacher came up with an individualized plan that was “not an overnight thing and was long and drawn up plan of what we were going to do.” He explained:

We came up with a plan understanding that some work had to be completed in x amount of time. We came up with a plan known as the 9 week plan. So work was assigned and they had nine weeks in which to complete it. And there was going to be a real repercussion to it if they didn’t [complete the assignments] and the repercussion was they would have to repeat the entire section not just the portion

they didn't get done...because remember it's individualized not self-paced...It also puts the learning not in the classroom. It puts it out in the shop where they actually have their hands-on when they are there. That is a huge benefit for us!

Within this situation, he recognized that the event was not controlled or dictated by him, yet he believed he could take actions that would change his behavior toward the given occurrence. As a teacher, he was concerned that everyone was not receiving the same and proper training due to conflicts with time spent in his class. Allen J.'s resolve in the face of adversity reflects his personal drive to become successful despite circumstances he felt were beyond his control. His determination to continue to remain as a T & I teacher was evident in his response to, "Have you ever considered leaving as a result of challenges?" He indicated that he had never wanted to leave because of challenges and that was due, in part, because he teaches in a supportive environment and he felt he is surrounded by good people [co-workers].

Stability. One aspect of Attribution Theory (Weiner, 1974, 1986) is concerned with motivation and its potential changes over time. In this analysis, connections will be made between the teacher's experience over their career and attributional theory. A positive casual consequence of behavior is expectancy leading to the probable actions of choice, intensity, and persistence. (Weiner, 2010). All interviewees show some level of persistence in the fact that they are still employed beyond three years as a teacher. To comprehend how each has developed as a teacher since they were employed, the following statement was asked, "Tell me a little about how you have changed as a teacher compared to your first three years." Allen J. responded:

I was a lot more impatient with students for them to pick up information. Because, for me, in the field [industry] it was- you better get it, understand it and go. You were there because you had to make money. My first three years, I was really pretty much running a shop and I was very impatient sometimes with students. And not only with learning, but discipline issues...Now, I am like, well maybe there is a reason [student is misbehaving]. So, I try to talk with students and communicate and find out what's going on with the students. I would say that is my biggest change.

His response shows a measure of how he adapted his behavior in response to the transition from industry to the classroom. He interacted with his environment (classroom/teaching) and noticed, over time, that the primary difference between industry and education were aspects dealing with people. In industry, money driven factors dictated how he interacted with people (co-workers). In education, he came to the realization that the class environment was defined by student dynamics. His change in behavior can be attributed to unstable causes (student behavior) and his own recognition that the classroom operated differently than working in a shop. In further explaining the transition, he recognized that there are elements he still approaches students as if he is running a business such as work ethic. However, he acknowledged that he is a lot more personable when dealing with students. In this scenario his actions were defined by his choice to approach students in a way that was more conducive to learning. In doing so, he recognized an element of teaching that would allow him to enjoy the classroom and train students in a positive manner.

Teacher 2: Patsy K.

Patsy K. has completed four years and is starting her fifth year as a T & I teacher. She teaches within the Law, Public Safety, and Corrections & Security career cluster at an urban population school. Previously, she worked for 20 years in the industry in which she now teaches. She earned a bachelors and master's degree before entering teaching, but neither were in education. When asked if she considered herself as a career-switcher, she responded, "Yes, definitely. I don't have a criminal justice [degree] or anything. I did all that through my industry. I got all my credentialing through my 20 years I spent doing it."

Patsy K. indicated that she had been pre-law and was working toward becoming a lawyer. While taking college classes, she worked as a policewoman in order to make a living. Although she never practiced law, she finished her degrees in history, foreign language, and religion and continued to work as policewoman until she received her 20 year pension. She specified that she never wanted to be a teacher and never thought of teaching as a career plan. Her transition into teaching began when she taught short-term classes for adults. The idea of choosing teaching as a career was encouraged by a state assistant superintendent who told her that she would be good at it. Her decision to initially teach was brought about through social persuasion of professionals in the field (Bandura, 2012). Her self-efficacy was directly influenced in a positive manner because someone else recognized and voiced to her potential strengths she would have as a teacher. Another factor that influenced her to become a teacher was the fact that her son had recently been diagnosed with Asperger's Syndrome and she wanted to be on his daily

schedule. She completed the basic 15 college courses and currently holds a standard teaching certificate.

Classroom Structure

Patsy K. teaches juniors and seniors in high school. There are no adults in her T & I program. Her program is structured into AM and PM sessions that are two hours and forty-five minutes in length each. On average, her AM class has 25 students and her PM class has 16 students. She teaches a total of 41 students on average by herself with one teaching assistant throughout the day. She indicated that she structures her day by having the students begin with a bell-ringer activity then precedes to a short group activity or discussion. Continuing, she teaches for one hour (hands-on training) and then finishes the class with one hour of physical training (PT).

Attribution analysis. Throughout the interview, Patsy K.'s love for teaching was very evident by her responses. Her scores in all areas [subscales] of the TSES indicated she has a high self-efficacy within teaching as well. Her replies to interview questions showed an increased likelihood of her direct actions playing a role in her decision to remain as a T & I teacher.

Locus of control. Attribution Theory (Weiner, 2010) contends that “one is happy as well as proud when succeeding because of the internal causes of high ability or high effort” (p. 33). Patsy K. exerts a great deal of effort in her current role as a teacher, and it is evident in the positive impact she has made on her students. She takes a great deal of pride in her efforts that have led to student achievement. When asked to provide an example of something she has taken pride in over her teaching career, Patsy K. shared:

The thing that I have taken pride in the most is that I have five of my first year students. Which I felt like I had really failed my first year. That are in key leadership positions in Oklahoma. I have one that is a supervisor at the state capital and he guards the governor and all the senators and representatives. And he actually beat out a lot of really seasoned adults that had been in industry. So I was really proud of that.

In her example of things she has taken pride in, effort is at the forefront. Although she felt like she had failed the students in the beginning, through her efforts students achieved at a high level. Her self-efficacy in the classroom and subsequent student success served as a primary motivational influence to remain as a teacher. She felt that student success was the most rewarding aspect of her career and expressed it by stating “I have really helped someone.”

Student success as an influencer for her decision to remain as a teacher stand in stark contrast to her initial perception of teenagers [students] as she transitioned from industry into the classroom. Previously she had dealt with criminal youth offenders in her career as a police officer. She was hesitant to take on a job as a teacher because of her negative perception of teenagers and reiterated that she never wanted to be a teacher. She initially took the teaching position because she knew a job that suited her better would come open in the next year and this would help bide her time. In her first year of teaching, her perception of students changed.

Patsy K. explains:

In that year, it really kind of changed my life because I had the complete wrong perception of what teenagers were. And, honestly, they have taught me more

about myself and I have learned more as an individual about things and it changed my own perceptions from a group of high school kids. Which is really kind of amazing.

Her strong statement is a testament to the external motivator (students) toward a successful outcome (continue teaching). However, this is not to say that she was not internally motivated as well. Her effort and competence in the trade area were controllable internal causes of success. Her efforts in the classroom manifests themselves in the form of student success which, in turn, served as a motivational influence. The dedicated efforts she puts forth in teaching are mastery experiences that have helped shape her perception of students and increased her self-efficacy (Bandura, 1994). Her competence in law enforcement served as an internal motivator even though she was unsure of her abilities as a teacher. In her early career, her decision to remain in the field were based on her confidence in her own abilities. Her continued resilience in the face of adversity, her own feelings of inadequacies in teaching, were based on her actions having a direct and positive impact on the students. Both intrinsic and extrinsic motivators played a role in her decision-making. Her intrinsic motivator of confidence in her own ability can be attributed to the knowledge gained over 20 years in law enforcement. Her confidence gave rise to the maintenance of expectancy, which is a positive motivator (Weiner, 2010). The external factor of student success validated the effort she puts forth in the classroom. In concert, both forms of motivation served her transition into the class and continue to influence her to remain in the field. Indications of persistence as a teacher are best described by her statement: “I started teaching, and now I am never going back [to industry]!”

Controllability. The controllability dimension of causality relates to a variety of affects, ranging from happiness to remorse and anger (Figueroa-Munoz, Kakihara, & Weiner, 1991). Early career T & I might have issues they felt were both controllable and beyond their control. To understand better what she attributed to situations she felt she had control over, Patsy was asked about early professional challenges. She had this to offer:

I don't think I really understood until I came into this that it really is up to you to figure out what your curriculum is and really put your passion in it. And your curriculum is driven off that. They kind of give you key requirements to meet, but I really felt in control of my curriculum and obviously my student environment.

Patsy felt she could control the curriculum and student environment even though she had no previous experiences in those areas. Her enthusiasm for the criminal justice field played a positive role in her transition into the classroom. She further explained that the state did not provide standardized curriculum in her field. In most cases this might serve as a negative aspect for beginning teachers, but for Patsy it was a motivational factor. From her perspective, being able to shape and structure the curriculum that tailored itself to industry needs was a controllable causation in which she derived enthusiasm and a sense of joy. Her previous experience in law enforcement, or a para-military environment as she described it, was one that she thought her students would not like or adapt. To her surprise, the environment she created in the classroom had a positive effect on the students. Patsy explained:

I was worried my first year, because I thought these are inner-city kids and they are not going to respond to that very well [para-military environment] - and they

love it! They eat it up....I come in and push them to the edge and they come back the next day.

The control she had over the classroom environment in her early career empowered her to have an optimistic response to teaching. When queried about early career encounters she felt were beyond her control she indicated that not being able to choose students for her program was a challenge. From her previous experience she had an understanding that not all students are suited for law enforcement because of the physical demands. To take control of the issue, she worked with recruiters to establish criteria for future students. She attributed her knowledge and knowing her capabilities in the field to overcome the challenge of early student recruitment issues. For classroom concerns, she sought out other professionals in the field and attributes their assistance as a reason for her success.

I joined the T & I association and really just reached out to the other tech teachers.....and really tried to pick up great nuggets of the good stuff they had already filtered through and take that with me. I really got involved in my association which let me connect with a wide array of people beyond law enforcement.

Her self-driven nature played a key role in controlling issues as they presented themselves. Even though she was a novice at teaching, she had a willingness to understand aspects of teaching and reaching out to other professionals in the field strengthened her resolve. She has given a great deal of effort to become efficacious in the classroom and persist as a T & I teacher. She never considered leaving because of these early challenges because she described herself as someone who solves her own problems

and is not easily deterred. Her determination is an indicator not only of her internal motivators but her ability to control demanding situations.

Stability. Causal stability is linked with the expectancy of success (Figueroa-Munoz, Kakihara, & Weiner, 1991). This holds true in this study because the outcome for each participant was successful and sustained employment as a teacher. Decision-making attributions can change over time based on interaction with one's own environment (Weiner, 2010). Patsy K. offered the following about how she has changed as a teacher:

I was a hot mess (laughing). No idea what I was doing and confused. Honestly, it came with no direction. It was like here is the classroom, here is a bunch of kids- don't mess them up. I feel like I should have started a psychiatrist fund or something (jokingly).

In retrospect, Patsy K. attributes her uneasiness in the classroom to a lack of direction and support and also her own deficiency in teaching.

Teacher 3: Reba M.

Reba M. has completed six years as a teacher within the Human Services career cluster of T & I education in a rural populated school. She had a 19-year career in industry before becoming a teacher. During her career in industry, she earned her instructor's license in cosmetology and is currently working toward a bachelor's degree in business. She has a practitioner's license in two other states besides Oklahoma. When probed about being a career-switcher and transitioning from industry into the classroom, she offered the following:

I always wanted to be a teacher. Hair has always been in my blood. That is something I have known for a long time...after I had done that for so many years,

I told my husband. I said- Ok, it's time to go on. It's time to do something else [new challenge].

At the point she decided to go into teaching, she briefly stopped working in industry so she could obtain her instructor's license. She indicated that she had to take 600 hours of class and take a state board test for instructors. She obtained her current teaching position a year after completing her instructor's license requirements. She currently holds a Provisional II teaching certificate and is taking the steps to earn a standard teaching certificate.

Classroom Structure

Reba teaches high school juniors and seniors. Her program is structured into the typical AM and PM teaching session format. She teaches 12 students in the AM session and 17 students in the PM session on average. She teaches 29 students total on average with the aid of a teaching assistant. She describes a typical routine day in her classroom in the following manner:

They have to have 1000 clock hours for high school students. Each week we have a test. It's more hands-on. They have three hours of class on Monday, but the rest of the time they are here, they are on the floor working hands-on. Because a majority of the students come here are hands-on....You can't learn to cut hair sitting in a chair [within the classroom].

Attribution Analysis. Reba M. is the final interview participant that was chosen based on her high scores on the TSES. Having an above average efficacy, based on the TSES, may indicate a potential heightened perception of her own abilities that influence student learning. Throughout her interview, she conveyed learning as a transformational

change agent in the life of her students. In turn, student learning is guided and influenced by her knowledge of the cosmetology field and a great deal of effort she puts forth in teaching.

Locus of control. Motivational consequences can be attributed to both external and internal causations (Weiner, 2010). Pride and self-esteem are psychological consequences that lead to future behaviors towards successful outcomes. Reba M. is an individual who takes a great deal of pride in what she has accomplished thus far in her teaching career. Her feelings of pride are based on student achievement and the positive impact she makes on students in their daily lives. She felt that her students have grown as individuals beyond the cosmetology she teaches in class. For many of her students who come from impoverished backgrounds, cosmetology training serves as a potential avenue for financial independence upon graduation. Reba M. felt that her teaching efforts give students a variety of career options upon graduation. She stated:

A lot of the girls [students] when they get into cosmetology they see so many different fields. That is when I try to open the door. Ok, you don't have to just cut hair. You can do makeup, you can do nails, and you can do this. It's such a world of endless opportunities.

Empowering students by teaching skills in which they will be able to provide for themselves after graduation is a huge motivational factor for Reba M. She explained that many of her students go onto have successful careers in the cosmetology field. The example that she took the most pride in was a former student of hers who had moved to California to work in the theatrical makeup field. This student currently serves on her advisory board and is planning a visit back to talk with her current students. Students as

an external motivator have shaped her decision-making in a positive manner. When asked specifically if the students have made an impact on her decision to remain as a teacher, she offered the following:

I just like to see them grow. It keeps me going as a teacher and it's kind of like a natural high I think. I take pride in knowing that students use the skills that I have taught them to make a living and further their life.

Reba M. relied on her own competence in cosmetology as an internal motivator to overcome early career difficulties. Her knowledge of the cosmetology field are what she relied on to overcome her lack of teaching familiarity as a beginning teacher. In subsequent years, she has been able to sustain her teaching career because of the impact she makes on her students' lives. For Reba M., having former students come back to visit her and share about their lives is what she attributes to the positive outcome of her continued employment as a T & I teacher.

Controllability. As stated in the earlier literature review within this study, T & I teachers face many unique challenges as they transition from industry into the classroom. Many of these trials can be both in control of the teacher and beyond their control. The causal dimension of controllability relates to one's efforts and abilities in which ascriptions can be made toward predictable outcomes (Weiner, 2010). When an individual fails at a task, a controllable causation may be lack of effort resulting in the behavioral expectancy of guilt and regret. On the contrary, if a person fails because of uncontrollable causes such as lack of ability the resultant would be manifested in feelings of shame and humiliation. Aspects of controllability relate to internal causes toward success or failure. To understand the causal dimension of controllability within the realm

of teacher experiences, Reba M. was asked about challenges in her early career that she felt she had control over or could influence.

Just teaching. Showing them different techniques... And they say- wow look at that! They understood that they [students] could learn how to do it too. I always wanted to be a teacher. I went to school to be a pre-school teacher, but didn't end up liking it.

She believed she had the ability to show students cosmetology techniques which, in turn, resulted in the positive outcome of her students' willingness to learn the same tasks. Her past personal experiences within cosmetology is a causal antecedent leading to ascriptions of ability resulting in student achievement (Weiner, 2010). Reba M.'s interpersonal motivation gave rise to a behavior consequence of persistence. Along these lines, student achievement has influenced her decision to remain as a teacher.

In contrast, Reba M. had challenges in her early career that she felt were beyond her control. These instances are vital to understand as they possibly serve as negative motivators leading to the outcome of failure. An external uncontrollable challenge that she felt was beyond her control were issues of student attendance.

Dealing with the schools and the attendance. Oh my gosh, I really wanted to quit!

Because it was like- I am here teaching this and they have got to have this many hours. And, if they are out of school I have no control over the attendance.

She explained that her program is bound by hour requirements for students to become licensed in cosmetology. Students missing because of requirements at their home school and unexcused absences made it difficult for them to complete the mandatory hours toward licensure. Although she felt she could not control the challenge of student

attendance and scheduling issues, she could control the expectations within the program. Reba M. was proactive when recruiting students and explained to them the time commitments involved in cosmetology. As a result of her efforts in recruitment, she feels, students came into her program who were more focused on the commitment to learning. In fact, she said some students gave up other extracurricular activities because it interfered with cosmetology training. For students who had unexcused absences, she came in extra days so the students could make up the hours in order to graduate. In these instances, she turned an uncontrollable challenge (student attendance) into a controllable action (recruitment). Reba M. attributed her success in overcoming uncontrollable issues such as student attendance to efforts she put forth in recruiting students. Because of her self-determination, she never considered leaving teaching as a result of early career challenges. She believes there is a reason that she is still in teaching after all these years and, as she explained, “I might as well suck it up as see what it is.” Her mindset exhibits an expectancy toward a continued successful career in teaching.

Stability. The causal dimension of stability accounts for motivational fluctuations over time and considers attributions that are subject to future changes as one interacts with their environment (Weiner, 2015). Within this study, it may be expected that T & I teachers change to some degree as they progress in their career. Reba M. reported two areas in which she has changed since her initial employment that dealt with student and parent interaction. Initially, she had difficulty with student engagement. She explained:

I am not as scared as I was back then. I never thought I would be able to discipline someone or write someone up. It doesn't bother me now. It's like ok, these are the rules. If you don't follow my rules, there will be consequences.

She gained confidence when dealing with students because she realized if students became complacent, they would not be successful. In this instance, the student behavior was an unstable cause of motivation because it could be changed (Weiner, 2010). She recognized that she had difficulty interacting with students and had failures in managing students. An unstable cause “gave rise to the maintenance of expectancy, hope, guilt, and regret, all of which are positive motivators” (Weiner, 2010 p. 33). In Reba M.’s case, she adapted by giving more effort toward classroom management in order to achieve positive outcomes.

The ability to effectively interact with parents is another area she felt that she has grown professionally over the years. She explained that at times the parents are more of a challenge than her students. She felt that this was due, in part, to the area and community in which she teaches. Reba. M described a population in which illegal drug problems are rampant and some parents functioned within that realm. She described one frightening parent experience:

I had a dad that came up here because we were doing makeup one week and I told them for several weeks to bring a pumpkin [for the project]. I had a student that was not prepared and I gave her a zero. He [the dad] was mad and he was coming up here [to physically confront her].

Her experience allowed her to systematically deal with the issue at hand. She was able to diffuse the situation with the assistance of an administrator. Also, she set up a future meeting with the parent knowing he could be approached in a calm fashion. She admitted that she did not know how she would have dealt with that scenario in her early career. In her initial years of teaching she would have had an expectancy of failure when

dealing with a difficult parent. Through interactions in her teaching environment that is inclusive of parents, other teachers, administrators and students, she was able to have an expectancy of success in the area of parent involvement.

Interviews with Individuals with Low TSES Scores

Teacher 4: John W.

John W. has taught for 20 years within the Transportation, Distribution, and Logistics career cluster of T & I education. He worked in industry for 15 years before deciding to become a teacher in an urban cluster population school. He earned a bachelor's degree in agricultural business prior to becoming a teacher. He completed additional college classes in order to obtain a Standard teaching certificate in T & I education. In terms of being a career-switcher, he offered that teaching is totally different from his previous background in industry. He shared that he felt like he was always meant to be a teacher because he likes to figure things out [mechanical] and share that knowledge with other people.

Classroom Structure

John teaches high school juniors and seniors primarily in the typical three-hour block AM and PM class period format. He mentioned that he does have some adults who attend only the PM session. On average, he has 24 students in the AM session and 15 students in the PM. He teaches 39 total students on average with the aid of a part-time teaching assistant. Concerning his AM session, he mentioned several challenging schedule variations:

Eight o'clock is attendance...In my day, it is pretty confusing because at 9:45am almost half of my students are gone for the rest of the day to credit recovery or to

the academic center to do math, Algebra, and English in order to graduate high school. And then starting at 10:30am they start leaving depending on what school you're at- high school. They start leaving at 10:30am, 10:45am, and 11:15am. The morning schedule is a mess.

He mentioned that his PM schedule is not as hectic. However, in his PM session, high school and adults students have different beginning and ending times. He described his teaching as individually based because of the dissimilarities in student schedules make it problematic to instruct all the students at the same time. Students are guided through the theory based hands-on learning through daily plan books.

Attribution Analysis. John W. is the first interview participant chosen based on an overall score on the TSES (6.0) that was below the average standard mean (7.1). As mentioned previously, a TSES score below the average mean is not an indication of effectiveness as a teacher, rather a perception of one's own ability.

Locus of control. The causal dimension of locus of control considers external motivators- those who do perceive a connection between their behavior and subsequent consequences and internal motivators- those who believe that there is a strong connection between their behavior and subsequent consequences (Weiner, 1986). Internal motivators are based on one's own ability, skill or effort. Conversely, external motivators are believed to be a function of luck or some other factor outside one's control (Ahles & Conento, 2006). Positive outcomes can be attributed to both external and internal motivational factors. Pride and self-esteem are psychological consequences of attributions based on positive motivators (Weiner, 2010). Grounded on this attributional

aspect of decision-making, John W. was asked to give an example of something he has taken pride in over his career. John W. responded:

The biggest pride is every day when I go somewhere...I run into a former student. And they come to me and tell me- Hi, Mr. Wayne I am glad to see you. This is followed with a conversation about what is going on in their lives. They are making a living for themselves using the skills they learned in my class.

When asked if this was the bottom line goal of his teaching, he offered:

Yes, my goal is not necessarily for them to get a job and keep a job, but for them to become a better person. Help them grow. I teach beyond the diesel skills. I believe diesel is a tool that I am supposed to use to make them a better people or make them a better person.

John W.'s response is indicative of his perceived actions as having a positive impact in the lives of this students. In this manner, his decision-making was influenced on the external factor of student success as indicated by sustained employment. When asked if student accomplishments have impacted his decision-making to remain as a teacher, he responded:

Yes it has, tremendously. Because I like to teach and I love teaching what I teach [industrial skills]. Even when I am I am not at school. When I discover something or how to do something a little better, I am always thinking how I can show this in my classroom....I really like to show things to people that want to learn. That's what keeps me coming back. Because it's not about the pay. I could easily be making three times more working in industry.

In terms of sharing his knowledge with students, he believes his high aptitude in diesel mechanics have helped his students be successful while in his program. Causal ascriptions made toward one's own ability lead to an expectancy of success (Weiner, 2010). He believed his own abilities in the trade have been his major strength throughout his career and helped sustain his teaching career. In John W.'s case, wanting to share his abilities with others serves an internal motivator that has influenced his decision to remain a T & I teacher. External factors, such as his aforementioned motivational factor of student success are what he attributes to his continued employment as a teacher. However, he made a point to emphasize that monetary aspects did not influence his decision-making to leave teaching. A combination of both external and internal motivators will continue to positively serve him to teach beyond his current 20-year career.

Controllability. The causal dimension of controllability considers motivational causations that are both in control of the individual and beyond one's control. Uncontrollable causes may be internal such as illness or external such as elements of luck (Osborne, Rudolph, & Weiner, 2011). However, all controllable causes such as lack of effort are within the individual. In the initial analysis of the causal dimension of controllability, and examination of stimulus within the individual rather than external influences will take precedent.

When asked about professional challenges in his early career that he felt he had control over, John W. initially described his transition into the classroom to set the tone concerning early challenges. He explained that he took over for a teacher who taught repair on primarily agricultural equipment and his administration wanted the program to

be more diesel repair related because of the current job market. He felt his background in industry and a lifetime of being around trucks and heavy equipment suited his abilities to bring about change in the program. John W. believed he could control program elements that mirrored the real-life diesel industry. He developed mastery experiences within industry that guided his practices and provided a solid foundational source to advance his self-efficacy in teaching. From the beginning of his teaching career, he was confident that he could convey industry expectations to his students, how to stay safe on the job and the potential monetary gains that can be achieved in the industry and continues to instill these in his students. He stated,

The most important thing I wanted to teach was safety. I have been to a former student's funeral who was killed while working on heavy equipment. It's dangerous. Cause this [pointed to his own previous injury]. So, the work safety is huge. Huge for me....Also, I want students to understand you can make a good living in this field. I have a college degree myself, but I let students know that there are other ways at making a good living with your hands. Yes, it is manual labor but it is a very good living being a diesel mechanic...College is not the only way to make a good living.

He believed his previous knowledge in the diesel industry was vital for his students to be successful upon graduation. Additionally, having internal control (his own abilities) facilitated his transition from industry into the classroom. He did not teach diesel mechanic skills in isolation, but rather how these skills translated within the professional world. Even though he had the difficult task of reorganizing the program to fit the needs of the job market, he had an expectancy of hope. He attributes his own

abilities leading to positive outcomes- which manifested itself not only in the change of the program, but his own resilience to remain as a T & I teacher. In John W.'s case, his success as a teacher is linked to his ability and efforts toward an optimistic expectancy resulting in persistence to endure as a teacher. He continues to hold the belief that his energies and capabilities make an impact on his students, many of whom are making the transition from the classroom into industry.

In this analysis of uncontrollable causations of behavior, it is imperative to be cognizant of elements of transitional change. Throughout this line of questioning in the interview, John W. clarified differences between industry and the classroom and how these influenced his decision-making. In his early teaching career, he wanted to establish his classroom environment as an actual businesses that was inclusive of industry expectations (being on time and work ethic as examples). He explained that industry is customer driven and the focus in the classroom is on student learning. From his perspective, there were components beyond his control that prevented him from fully enacting his plans to create a classroom that closely mirrored industry expectations. John W. explained:

You hired me to teach this subject, but since there are students that sometimes don't want to be here, I had a hard time. It was probably the biggest struggle I had was figuring out how to motivate students...I believe that students are allowed to miss too many days. That was a big hurdle for me. Students can be tardy 16 times in a semester and still pass. And that does not translate into industry. They would get fired! So, that was a big adjustment.

In this illustration, John W. was negatively impacted because he believed that these were things he could not change. Essentially, he had to adapt to the school setting or leave the profession. Although these circumstances were external and beyond his control he was able to overcome the initial challenges during his career transition. When probed about how he was able to overcome the challenges, he explained that he relied on other teachers, mentors, and administrators. He combated the negative external influence with positive external motivators. He admitted that, in his estimate, it took 10 years to navigate the transition from industry to the classroom. He believed that he needed to change his mindset rather than change the system. From this outlook, he had an initial expectancy of failure but was able to persevere in the face of difficulty based on assistance from others and his own willingness to adapt.

Although he never considered leaving because of these initial challenges, he was influenced by other factors that shaped his decision-making. One such factor was the money or as he described the lack thereof. When he began to teach, he took a considerable pay cut. Several factors took precedence over monetary loss that influenced his decision-making. Although he could not control the pay he made as a teacher, he was influenced by external factors that he deemed of importance.

Spending time with family and not wanting to leave the community were influences. That was huge. When I started teaching, at that time I was a single parent. Single custodial parent of two little boys...and this position worked perfect to be a single parent.

His family commitments were a primary dynamic that he considered when weighing his career options. He explained that he was able to overcome monetary shortfalls by

working extra jobs in the summer when he was not teaching. From this standpoint, John W.'s satisfaction with teaching and family obligations outweighed making less money in a career toward his decision to remain as a T & I teacher.

Stability. The causal dimension of stability is considered independent of the locus causation of attribution (Osborne et al., 2011). Considering the stability dimension, some causes are regarded as enduring such as physical traits and unlikely to change overtime and some such as effort and attitude are considered temporary causes. Based on his response to the following interview question- *Tell me a little bit about how you have changed as a teacher compared to your first three years?*, John W. based his attitudinal attributes as temporary and unstable. He expounded:

I am more structured now than I was back then. I am better at scheduling and managing daily events- the schedule throughout the day. My first three years, the schedule was chaos. I tried to come in and do what the administration wanted me to do, plus pattern what had been going on before, which was just all shop work. I feel like I have a better handle on it now.

John W. had to adjust what was taught in his program based on the student time constraints. He explained that students come in and out of his program at different times. The varied student schedules was due to academic requirements that were met through pull-out classes and different start times depending on what high school his students attended. These are factors that he has experienced in the last three years of employment. He acknowledged that he did not know how he would have managed this situation if he faced it early in his career. The experience he had gained in the classroom allowed him to be more flexible when dealing with schedule fluctuations. In dealing with student

scheduling issues, John W.'s efforts toward the problem allowed him to become accustomed to change with the classroom.

Teacher 5: Garth B.

Garth B. has completed three years as a T & I teacher and is beginning his fourth at an urban school. The program he teaches is within the Manufacturing career cluster of T & I education. He worked in industry for seven years prior to becoming a teacher. Before becoming a machinist, he had a background in the military. He spent six years in the Army doing a job that was unrelated to machining. His transition into the machining industry began when he earned an associate's degree in gunsmithing. He transitioned from industry into the classroom by teaching short-term training classes for the business and industry division of the school where he is currently employed. He currently holds a Provisional Level II teaching certificate and is taking college courses in order to earn a Standard certificate and a bachelor's degree in education. When asked what the transition was like coming into the classroom from industry, he had this to offer:

Terrifying! I was afraid that I would not be able to and I have left my good job that I liked. The stress is way less here [teaching]....Well, it is a different stress. I don't have to worry about making this order date. You know, it's like totally different.

Garth B.'s emotional state was under duress during this transitional period and it suppressed his self-efficacy as a teacher (Bandura, 1994). The hesitancy he experienced in his early career was self-regulated and ultimately overcome because of his reliance on previous success in industry.

Classroom Structure

Garth B. teaches only adult students in an all-day format. He teaches the same students in the AM and PM class sessions. His average all-day enrollment is 15 students. He assessed that his students' age, on average, is in their low 20's. However, he regularly has students who are in their early 40's. Within his school, there are four other teachers in his trade. Not all teachers share the shop at the same time because there is nighttime sessions as well. He co-teaches with another teacher in which he instructs the beginning curriculum and students finish the advanced curriculum with the other instructor. He estimated that after students take the initial safety test, 75% to 80% of the curriculum is out in the shop working on projects.

Attribution analysis. Garth B. has the least teaching experience of all the interview participants which might offer a unique perspective on decision-making influences. Through the interview, he conveyed a resilient attitude in the face of challenges. His below average overall TSES score (6.25) has dissimilarity compared to the responses he gave in the interview. Both data sources are considered to completely understand his career decision-making process.

Locus of control. Interacting with one's environment shapes the motivators that influence decision-making. The locus of control is marked by the psychological effects towards success or failure. Pride in accomplishments is subsequently enhanced when ascription are made to internal motivators such as effort and aptitude (Weiner, 2010). Classifications of attributes "depend on how it seems to the perceiver" (Osborne et al., 2011 p. 200). To understand what he attributes to success, Garth B. was asked to give examples of things he has taken pride in over his teaching career. He said, "I love the

cultural, mutual respect that we have developed in the classroom...I enjoy the intelligent exchange of information, which is what teaching is.”

Garth B.’s statement indicates how his decision-making is influenced through the interaction with his surroundings. From this standpoint, he believes he has been successful as a teacher because of the direct influence he has had on students through social interaction. The fact that he teaches all adults contributes to his belief that his efforts are transformational toward positive outcomes in the lives of his students. Garth B. explained:

Some of the classes I teach are made up of students who are unemployed, under employed or recovering addicts. Some fresh out of prison. And I have gotten lots of contacts from people that were like, how much it has changed their life. They would say I would either be back in prison or six feet under if it wasn’t for machining.

Examples such as these increase Garth B.’s self-esteem as it relates to teaching. His efforts and the ensuing positive impact on students’ lives have been an internal motivator that shapes his decision-making. His causal perception of his efforts have led to an increased striving for achievement. He is motivated to continue to teach because he believes he is helping people not only become machinists but also improving their current status in life.

External factors, such as pay and the influence of others can play a role in the causation of behaviors. In the case of Garth B., he explained the influence of students over the pay he receives as a teacher:

I am a teacher, what pay (jokingly)? For me, it's definitely the impact I have on the students. It's definitely that. And secondly, I think the biggest attractor to the job is the schedule...I am working a school schedule so I am able to spend more time with my family...Because of my schedule while working in industry, I felt that I was a weekend dad and my wife was like a single mom. I can't put a money value on that.

Although Garth B. disregards pay as an external factor, he includes the influence of his family as a motivator to continue teaching. He believes the choice he has made to spend more time with his family supersedes the pay he would receive by working in industry. He holds the perception that his attribution of career choice and his efforts toward student success are what drive him to persist as a T & I teacher.

Controllability. The controllability dimension holds that “thoughts determine what we feel and feelings guide what is done” (Weiner, 2015 p.304). Judgments are often influenced by one's reality of situations that are both controllable and uncontrollable. In the transition from industry to the classroom, T & I teachers may face a myriad of stimuluses that influence their career decision-making. To comprehend his decisional mindset in his early career, Garth B. was questioned about challenges he felt he could control.

Classroom management. That comes from being in industry and mirroring what I experienced. I was a manager, supervisor at the shop. So, I know what it takes for the students to be successful on the job.

His previous experience in industry relates to causal ascription toward his abilities resulting in positive outcomes. From this perspective, he felt that his knowledge of the

machining trade directly correlated to managing a classroom. His response to the interview question aligned with his TSES subscale scores in classroom management (7.0). Classroom management was the only area in the TSES that he scored close to the average mean score. A vigorous sense of efficacy in aspects of classroom management were created through his mastery experiences within his previous industry (Bandura, 1994). His interview and survey responses are indicative of his capabilities in classroom management as being a strong influencer toward his decision-making process.

In his early career, Garth B. felt that there were challenges he could not control that influenced his decision-making as well.

Just the whole lesson plan. The plans of study and assigning hours. Trying to guess, if it takes this guy four hours to do it, and then it takes a different guy eight hours to do it. I had to assign it this many hours.

He explained further the challenge of assigning hours to students for certain tasks as part of the industry credentialing. Tasks within the curriculum are to be completed in a prescribed period of time for students to graduate in a timely fashion. This challenge did not lead to the psychological consequence of hopelessness because he was able to seek out assistance. In matters of instructional strategies, he felt that he was empowered by being part of the teachers institute for Oklahoma CareerTech. He described the institute as an 18-month process that taught him how to become an effective teacher. Based on his interview response concerning classroom challenges and his below average TSES subscale score on instructional strategies (6.5), it was evident that he struggled in his career transition with pedagogical issues. However, he was able to overcome these challenges because of his adaptability and his wiliness to change.

Garth B.'s self-reliant attitude can be attributed to his ability to overcome early career challenges and thrive as a T & I teacher. When asked if he ever considered leaving teaching as a result of challenges, he responded:

No. Challenge is something to be conquered, not run away from. If I find a challenge like that, I want to find a way to conquer it and get better at it. I have yet to see anything that is going to be a big enough challenge where I think I will change jobs over.

In this instance, his resiliency is an internal cause of success. His decision to remain as a teacher have been guided by aspects he can control (classroom management) and he has not been deterred by aspects he feels are beyond his control.

Stability. The causal dimension of stability leads to causal consequences resulting in actions (Weiner, 2010). Causal stability is the basis of expectancy shifts over time. Weiner (2010) states “simply put, if the cause will prevail in the future, then the prior effect will be anticipated to recur regardless of causal locus, whereas if the cause could change, then so might the outcome” (p.31). An anticipation of hope (success) is a causal consequence that leads to the positive actions of intensity and persistence. In Garth B.'s case, his effort is viewed as unstable over time because he felt that he could increase it as complications presented themselves. Conversely, his ability within the machining trade are attributed to stable causes as they support his efforts in the classroom. Garth B.'s outlook of success can be attributed to his ability to adapt as a teacher over time that have, in turn, benefited his students. When asked to tell how he has changed as a teacher compared to his first three years, he offered:

I am definitely much more confident at what they [his students] need to learn. My biggest thing is that I was going too fast and I would lose them and no one would ever say anything...I made the assumption that if they didn't stop me to ask questions, they didn't have questions. As opposed to everyone has the same question and no one is willing to ask it. I came to this realization when they were failing aspects of the curriculum.

His response indicates that the cause of his students' deficiencies were attributed to his lack of effort. If he would have stayed the course of action, his students might have failed. However, he was cognizant that change needed to occur (more effort) to bring about positive outcomes. Garth B. believed students were not succeeding because of a failure on his part. His example accounts for the change in cause (his efforts) bringing about a different outcome in students (not failing). His increased efforts in the classroom have led to an expectation of success in student performance. In turn, his students' attainment of skills and subsequent employment are what motivates him as a teacher.

Teacher 6: Charlie P.

Charlie P. has taught for 26 years within the Transportation, Distribution, and Logistics career cluster of T & I education at the same rural populated school. After spending three years in the Marine Corp., he worked for over 20 years in industry. When asked if he was a career switcher and about his career before teaching, he had this to offer:

Yes, very much so. I graduated out of high school and I am going to enlist in the Marine Corp. I got a Marine Corp. scholarship.....so I spent three years at OU with them [Marine Corp ROTC]. Got ready to take my pre-commission physical

and I couldn't pass it. So yeah, I had three years of college experience at OU, but none of it was in teaching.

After his military service, Charlie worked in the transportation industry in various capacities for over twenty years. He made the transition into the classroom by teaching night classes while he was still working in industry. He chose to teach at a rural school because it was his grandparent's homestead. He completed his bachelor's degree in T & I after nine years of teaching and currently holds a Standard teaching certificate.

Classroom Structure

Charlie P. teaches primarily juniors and seniors in high school and typically has one to two adult students each school year. He averages 12 students in both his AM and PM class sessions. He teaches a total of 24 students on average throughout the day by himself without a teaching assistant. His three-hour class period is spent with one-half the time in the shop and the other one-half in the shop. In the classroom, his curriculum is based on the state certification testing within his trade. He keeps students up to date with the industry standards by regularly assigning written assignments concerning current trends in the field. He explained that he structures his shop as you would see in industry, in which students are in groups with students trading off being the lead and shop foreman.

Attribution analysis. Charlie P. had the most years of experience of all the research interviewees. He acknowledged that he is eligible to retire but was influenced by several factors to continue teaching. Chief among the influences that motivate him to persist in teaching are the students. This fact stands in contrast to his survey responses which indicated that he has a below average perception of his own abilities in student

engagement, based on his TSES score (4.25). Responses to interview questions concerning his decision-making clarified his choice to remain as a teacher.

Locus of control. The locus dimension of causality affects personal levels of self-esteem and self-worth (Betancourt & Weiner, 1982). In this manner, “Attributions to internal, ego-related causes for success increase self-worth relative to external ascriptions for success, while self-ascriptions for failure to internal causes decrease self-esteem” (Betancourt & Weiner, 1982 p. 364). In his lengthy tenure as a T & I teacher, Charlie P. has ascribed his efforts and abilities as having a direct impact on his students. He believes that the life changing impact he has made in the lives of his students has greatly influenced his decision-making process. He takes a great deal of pride in his student’s accomplishments and is certain his self-regard is boosted by the success of his students. When asked to give examples of something he has taken pride in over his teacher career, he offered two enlightening examples of student success.

[student 1] I was most proud of a student, was a kid that graduated high school but could not read or write literally. I mean really couldn’t do much...I taught him brakes and how to do an A and B inspection on a semi-trailer and showed him how to operate a steam cleaner. This happened in my first year of teaching. And believe it or not he still works for the same local company that hired him after he graduated. In my opinion, this was a kid that would have had a drug problem if he wasn’t working. This [CareerTech training] made a huge impact on his life, you know.

In this scenario, Charlie P. believed his efforts in teaching the young man a skill are what allowed him to be financially independent. His feelings of pride were evident as he

described the impact he made on the student through teaching. In addition, he offered another example of student success that has inspired him to carry on teaching within T & I education.

Charlie P.: [student 2] I had a special needs student.

He was legally blind in one eye and couldn't see out of the other. He had one arm that was totally deformed...Because of his physical disability he had difficulty speaking too. Honestly, at first I didn't think I could teach him anything. He went through my program and learned skills to become employed. The kid has been employed now probably close to six years at a [local] paper. He works in the warehouse.

Charlie P. explained further that without the training provided for the student he would probably be unemployed. He described the community in which he teaches as having a high poverty level. The aforementioned [student 2] was able to earn a living by utilizing the skills taught by Charlie P. and thus preventing him from being impoverished. Charlie P. felt empowered by the success of the student. He admitted that at first he thought the student was unteachable in terms of the skills within his program. However, this did not deter him from teaching the student trade skills. In both cases, Charlie P. was motivated internally through his own abilities and externally by his student success. When asked if student success like the examples he offered made an impact on his decision to remain as a teacher, Charlie P. offered:

Yeah, I guarantee if it wasn't for the kids I wouldn't be here. I'll be real honest.

The pay isn't real great here. The money isn't what drives me. I like teaching kids. I love it when these kids succeed. I could tell a million stories about students

who have come back to visit me and tell me all about what they have accomplished.

It is clear as indicated by his examples, Charlie P. is internally motivated and takes pride in the endeavors and achievements of his students. He has developed a resilient sense of efficacy through the successful mastery of teaching experiences that have led to student employment (Bandura, 2012). Although, as he admitted, he is not motivated by pay, he has other external motivators. He explained that he has civic interests outside of the classroom and a teaching schedule allows him to be active in community organizations. Beyond the teaching schedule as a motivator, he counts the school insurance as another external reason to continue teaching. As an aging teacher, he accounts, the thing that drives him is the insurance because he is suffering from a medical conditional that would be costly if he was without insurance. He explained further that his insurance would not be as good if he were working in industry. The combination of internal motivators (student success) and external motivators (schedule and insurance), by his estimate, influence him to teach until he decides to retire from the profession.

Controllability. As with, but independent of locus causalities, controllability interconnections can be either external or internal to a person (Weiner, 2010). Charlie P. was asked about professional challenges he faced in his early teaching career that he felt he could control that account for internal controllability causation features.

When I began teaching, this was a brand-new program that did not exist prior to me coming here. And I had a pretty good ideas on what I needed to teach.

Because when I was in industry not only was I a line mechanic, but I was a manager and service administrator. So I knew from that side of it. Running a shop

floor, I knew things my mechanics didn't know. I needed one of my students to know.

Charlie P.'s response includes elements controlled internally that influenced his decision-making. From his previous experience in industry, he felt he could control the types of viable skills his student needed to obtain employment. Based on his answer to the interview question and his above average score in the TSES subscale score in the area of instructional strategies (7.25), Charlie P. displays a propensity for his own aptitude as an attribute toward student achievement.

Consistent with attributional theory, "an external cause by definition is not controllable by the actor" (Weiner, 2010 p.32). To account for decision-making influences that were external to himself, Charlie P. was asked about challenges in his early career he felt were beyond his control. He offered the following scenario:

The one thing I remember. I almost had a meltdown! I am putting in hours, hours and hours [preparing for class] and I mean I am literally up here at the school until 11 o'clock at night every night doing stuff. And I will never forget. The curriculum department guy came over and said- you're going to have to come up with a written test for every one of these tasks you have in the shop. It almost threw me over the edge. I thought if this is what this [teaching] is about, I gotta quit!..I am doing everything I can do and you're coming in here and telling me I am not doing enough? I will never forget that.

He considered this early experience as a reason that he contemplated leaving teaching. However, he was able to navigate the issue by consulting administration as well as pacing himself in terms of planning. Charlie P. feels he is capable of handling these types of

situations now because he is able to reflect before acting on uncontrollable influences. He is able to reason logistical aspects, such as curriculum, of teaching as a means to make his students successful. Because of these early experiences, he is able to balance what students need to learn in the shop with curricular expectations of his school. Through these mastery experiences, Charlie P. built a robust belief in his own self-efficacy (Bandura, 1994). He never considered leaving because of similar types of challenges because he looked beyond them and focused his energies on the students. He has come to the realization that there will always be demands in teaching that will be beyond his control. However, he chooses to accept these as norms within education and maintains an unwavering commitment to teaching.

Stability. The stability dimension of causality relates to anticipations for attainment or failure (Betancourt & Weiner, 1982). Success or failure can be influenced by one's experiences over time. Within this study, T & I teacher's causal ascriptions that influence decision to remain as a teacher may fluctuate. To account for the phenomenon, Charlie P. was asked to tell about how he has changed as a teacher compared to his first three years.

I think I don't get involved with my students as much as I used because my classes were a little smaller back then. I know I don't spend as much time up here after school. I used to spend hours and hours up here with students after school and on weekends...a lot of that is not just me it's those students wanted to work on stuff. I think we have lost a little bit of that work ethic. I think I worked a lot more in the shop than I do now.

From his statement, his motivation by students has waned to a degree since he first began teaching. This may be due, in part, to the amount of students he currently has to teach and his perceived lack of commitment to learning from the students. He also disclosed that as he has gotten older, he is physically unable to perform hands-on task like he did when he first started teaching. Charlie P. offered similar instances that are detriments toward his choice to remain as a teacher much longer.

I think I am a little more regimented on stuff than I used to be. I expect certain things out of them [students]. Unfortunately here [his school] behavior problems...we can't do a lot about it and our administration doesn't do much about them either. It's kind of a bad deal. I could have one commit murder out here and they are going to say don't do that again and slap them on the wrist. I wish I had better quality of students. I don't know what you gotta do.

In this instance, it appears that his attribution toward student success and support from other professionals as a motivator has shifted over time. His expectancy for success is linked to his current perspectives on classroom and support concerns. His concerns influence the dynamics of action and contribute to his attributional thinking toward motivation (Osborne et al., 2011). From his perception, negative aspects of teaching (student behavior and lack of support) are detrimental to his decision to remain as a teacher. Although he continues to hold the belief that he will maintain teaching, current perceived negative aspects of teaching may influence his decision to leave the profession.

RQ5: What Role Did Supports and Mentorship Play toward Decisions to Remain as a Teacher?

In the previous analysis of RQ4, it was noted that external factors can influence decision-making toward probabilities of achievement. In the transition from industry to the classroom, T & I teachers received supports and mentorships (external motivators) that may impact decisions to remain as a T & I teacher. One way self-efficacy was enhanced was through social modeling or vicarious experiences. Social modeling is the practice of observing and learning through others who have experience which, in turn, raises the belief in one's own abilities (Bandura, 1994). Supports from other professionals and mentorship programs are efforts to reduce teacher attrition and increase student achievement (Goldhaber, 2002). This section of the findings details sources of social modeling and vicarious experiences that made an impact on the participant's self-efficacy as a teacher and influenced T & I teacher retention. To answer RQ5, participants were asked questions specifically about their experiences with supports and mentorship. Interview questions 9-12 were utilized for data collection (see Appendix B). The findings were organized into two primary categories concerning the sources of supports and mentorship: Formal and Informal. Under the categories of Formal supports, three sub-categories developed through the coding process: On-site mentors, Administration, and Statewide supports. Administration support also contains the sub-theme concerning of lack of guidance. The theme of Statewide supports was further categorized into University mentorship, University courses/programs, and State Department supports. The second major theme established through the coding process concerned informal supports.

Informal supports are structured into the sub-themes of Teachers on campus and Teachers across the state.

Support and Mentorship

Supports and mentorship are resources utilized to strengthen a beginning teacher's self-efficacy in pedagogy and to ease the transition into the classroom from industry.

Teacher practices are the ways in which individuals employ pedagogy in action (Green, 2014). In order to support the practices of new T & I teachers, they are guided in both systematic (formal) and informal efforts aimed at teacher success.

Formal Supports

Often, formal supports are guided and structured through teacher induction processes (O'Malley, 2010). As a function of the Oklahoma Department of CareerTech's Teacher Induction Process (TIP), new teachers are assigned a mentor. Within these models, new T & I teachers are typically given an on-site mentor. An on-site mentor is an experienced (minimum of five years) teacher within the building that provides mentorship during the teacher's first, and in some cases the second, year of employment. On-site mentors can be a teacher within one's trade, however these mentors are persons that may not be teaching within T & I education (Self, 2001). In Oklahoma T & I, other formalized mentors exist at the state level, through professional trade groups, and at the university level. This section of the analysis will examine formal supports as they influence decision-making process of T & I teachers.

On-site mentors. In the TIP model, mentors are required to spend a minimum of 72 hours of one-on-one coaching and at least five visits with the new teacher (Oklahoma CareerTech, 2016). Some school districts may have additional parameters for mentorship

as guided by their administration and school policies. All six interview participants reported that they had an assigned on-site mentor their first year of teaching. The one exception, was Allen J. who reported that he did not have a mentor his first year teaching T & I in another state. However, when he began teaching in Oklahoma, he received an on-site mentor his first year of teaching. A majority of the participants reported that the on-site mentor was a key aspect that positively influenced their practices during the challenging transition into the classroom.

When we had a new teacher, they assigned an old teacher to them. And the school actually paid money to that teacher for helping...and I had a really good one.

When I really had problems, I would go talk with Sam and ask- How do you do this? And he would help me. That is one program they have done away with. And to me that was one that really worked.

There are two aspects of Charlie P's statement that are notable. The first is the pay (stipend) teachers receive to be a mentor and secondly the effectiveness of the mentorship program. He further explained that the mentorship program still exists, however the teachers do not receive a stipend. Depending all the school district, some mentor receive a nominal stipend for serving as a mentor for new teachers. Regardless if teachers were paid a stipend, because of their efforts, the on-site mentors played an instrumental role in the early development of the T & I teachers within this study. As a testament to the effectiveness of his on-site mentor, Charlie P. indicated that he has served as a mentor for other teachers without receiving a stipend. As with his mentorship experience, he feels that he has helped new teachers become comfortable with teaching which has allowed them to overcome early challenges.

As reported by some of the participants, the on-site mentor did not have to be in T & I education to be effective. Allen J. described his mentor as a teacher who had taught Child Care for many years.

She was very supportive! She would come over at least once a week and kind of be like-what can I do to help? Is there anything I can do?...She didn't have the expertise as far as automotive training, but as far as the teaching aspect of it, she did know how to do that. I was grateful for her help because I did not have that support in [another state].

Reba M. attested to the positive influence of her assigned on-site mentor as well. She explained that her mentor was an automotive teacher who she believed was supportive and very helpful when she experienced problems. The relationship she built with her on-site mentor is one that continues to this day and she consults him for teaching advice. Similarly, Patsy K., had an on-site mentor who was not within her trade. She explained that she had a child care teacher who mentored her in her first year of teaching. She felt that the on-site mentor was influential in her early teaching career and she wants to pass on the same type of positive support to other new teachers. She conveyed that she will serve as a mentor for a new teacher this year and hopes to be as supportive as her mentor.

Likewise, John W. attested to the importance of his on-site mentor as being someone who he could seek advice from when things were rough early on. He explained:

He was an automotive teacher. He is still here. He was really good... So, he would come in and the first month he was over here about every other day. And, he is pretty strict...and he is like-Don't be their friends, you are here to show

them [students] how to learn. Not mean to them, but they need to obey the rules.

So, that helped. He was really good with the grades and the grade book too.

A common concern of the interview participants were issues they experienced in their early career concerning logistics of being a teacher. In this case, the mentors empathized with their mentees because they made a similar transition from industry into the classroom (Schwille & Wang, 2008). A common perception of the participants was that their mentors had an understanding of teaching elements that would make them successful in their day-to-day practices.

Garth B. commented:

I was fortunate to have a mentor that was another machining teacher. He was instrumental in showing me some of the basic stuff of teaching. He walked me through a lot of things like Blackboard or LMS [Learning Management System] that were like a foreign language to me.

In all cases, it was logistical aspects of teaching that on-site mentors aided in their development the most. The interview participants had a strong belief in their own skills within the trade, but in most cases, a diminished self-efficacy as a teacher. On-site mentors played a vital role in navigating new teachers through day-to-day tasks as a teacher that helped ease the transition into the classroom. Interview participants reported receiving the following assistance from their mentor:

Allen J.: She was very supportive. She came over and reminded me to be sure I was putting in the grades. Showed me how the budget works. Showed me how to actually write a purchase order. The only thing I felt was lacking within the mentorship was not having someone in transportation. I probably would have

requested someone that was in transportation because they would have understood my classroom better.

Patsy K. commented:

She came in and really just helped me set up the grade book. And really adjust to school climate. Or what this is, and these are your requirements for working here. That was important I think...she understood things like how to register for August Conference and how to fill out a purchase order. That really helped because I was so focused on classroom things. I would also go to her for help. She helped me understand our Individual Performance Excellence Plans (IPEDS). That was like a foreign language until she explained it to me.

Reba M said:

He helped me from getting my stuff ordered through the computer for skills [SkillsUSA student organization] and he still helps me with skills...He helped with trips, competitions, ordering stuff. And a lot of times he was over here before I had a chance to ask.

John W. responded:

The most important things was the grade book. I had no idea how to make one or how to do it. How to handle students you know. I knew the subject and how to teach it, but I didn't know how to handle the students. I had to learn how to keep them busy all day and I had to have a backup plan. Because if my plan didn't work, what was plan B? He was really good with the grades and the grade book...showing me the curriculum, how things worked. As well as the five year

evaluation. Having a mentor was huge. If it wasn't for him I probably would have quit that first year.

Garth B. answered:

I actually had one of the other machining instructors as my mentor. They were instrumental because we all teach the same stuff....he was able to walk me through the curriculum. Having someone who was familiar with the curriculum was a big help.

Charlie P. said.:

He was a guy who taught computer classes. He primarily helped me with the paperwork that was required by the administration. Also, he helped me if I was having any classroom problems... My mentor was really critical in helping with my early development as a teacher

Participants explained that without an on-site mentor, it would have been difficult to overcome the early challenges encountered while teaching. Most counted the on-site mentor as the most valuable asset that aided their early development and, in turn, influenced their decision to stick it out in times of trouble. In these instances, the on-site mentor served as a positive role model in terms of organizational aspects of teaching. Through the guidance of the on-site mentors, the T & I teachers felt like their self-efficacy was boosted and their uncertainties calmed. A majority of the interview participants conveyed that their on-site mentors helped the most through informal conversations, which will be addressed further in the proceeding analysis.

Administration. School administrators can play a key role in influencing a school's efficacy as well as individual teacher's self-efficacy (Kersaint, 2005). This

section of the analysis will explore the theme that developed involving administration in both negative and positive connotations. Allen J. described specific skills sets that his administrators possessed that he felt supported his efforts in the classroom.

Allen J.: Each individual [administrator] tried to help me with where I was at the time. And of course their expertise. You take Louis Eagle for example and his expertise in computers. He helped us design a grade book that included everything...He pretty much came in and designed and developed that. I worked collaboratively with him to meet the requirements for our program. He was very supportive and very helpful. We still use a lot of stuff that he designed in our program to this very day.

The collaborative support provided by Allen J.'s administration is indicative of the encouragements that leads to a healthier self-efficacy (Biddix, Dopker, & Ortlieb, 2010). In his case, the collaborative efforts on the part of the administrator played a key role in building the self-esteem of Allen J. and increasing his proficiency in student managing systems.

Administrators often influence a school's culture that directly affects teacher's actions and subsequently student performance (Hoy & Knoblauch, 2008). Reba M. described her administration as being supportive and creating a family-like environment. She felt that the supportive atmosphere within her school put her at ease as a teacher. Because of the reassuring and compassionate culture provided by her administration, she felt she was able to seek their advice in an empathetic way. In this same manner, administration had the ability to positively influence the teacher on a personal level that

increased teacher retention. John W. described an instance in which his administrators went beyond their typical role to ease his transition into teaching:

I did not live in this area prior to becoming a teacher. My administration helped me find a house. Get my kids in school. Just a lot of personal stuff they helped me with. So, I was like-man they have done all this. I feel like I needed to give a good effort, a good try.

John W. felt that there were times his first year of teaching that he wanted out so bad he could hardly stand it. However, he felt he owed it to the administration because of all the personal things they had done to help him out beyond classroom supports. In his case, administration played a substantial role in developing his teaching self-efficacy as well as caring about his personal well-being. In these three cases, administration served as a positive influence toward decisions to remain as a teacher. Likewise, Garth B. stated that his administration has given him a lot of autonomy in the classroom throughout his career.

Garth B.: It is very well established that that this is my classroom, not theirs [administration]. As long as I am operating within the school's policies, I am given lots of freedoms to structure my classroom... It has made me feel valued as a professional.

Garth B. felt that he was able to make his own decisions within the classroom structure and his administration was very supportive in guiding him early in his career. Conversely, some participants reported administration experiences that played a negative role in their decision-making process.

Lack of guidance. One causation of teacher attrition is a lack of institutional support as perceived by teachers (Brill and McCartney, 2008). Often, institutional supports are direct actions on the part of a school's administrative staff (Hoy & Knoblauch, 2008). As T & I teachers transition into the classroom from industry, they seek guidance from other professionals and primarily administration as they are the first point of contact for many new teachers. Although none of the participants experienced hostile administrators, several conveyed that there was a lack of guidance or a lessened definition of their role as they began teaching. Patsy K. explains:

They put me in the classroom and they were like-just figure out your curriculum and I was like ok. Legitimately, I just sat there and I felt like- I don't know what to do, I have never done any of this before. I was kind of terrified! I mean I have been in the Middle East and everything [within previous criminal justice career] and I wasn't this frightened. I had 20 kids coming in and I was like- What do I do with them?

Patsy K. believed her administration did not do an adequate job of explaining established routines that would have eased her transition. Her self-reliant disposition played a role in figuring out what to do as a teacher rather than the administration. She had to seek out other sources of support beyond her administration to help guide her beginning practices. She believed that if the administration would have allowed her to shadow another program prior to taking over her own class, she would have been less confused and stressed out. Similarly, Charlie P. experienced these same types of frustrations with a lack of guidance from administration in his early career. He clarifies:

Early on I wish I would have known more about what I needed to do day to day. I always felt that the day to day structure was like – here you go! [from administration] A lot of this is just up to you. You just have to do it. And, it was kind of like a free-for-all there for a while. I had lots of questions that did not get answered [by administration] - I don't know how many hours I should spend doing this? I don't know how much? It is more like you end up doing crisis management and I don't like crisis management.

He further explained that it took him two or three years before he really got a handle on how to structure his daily teaching. He felt that his early career would have been less challenging if he would have received proper guidance from administration. Although Allen J. felt like he received strong administration support when he started teaching in Oklahoma, teaching in another state was another matter.

Allen J.: They said - here is your keys and here is your classroom and that was it. That was it! I mean there was no come over and check on you, there was nothing of that nature. They literally said here is the key, good luck. I will never forget that. It was night and day as far as the two states.

In his case, Allen J. provides a unique perspective on administration support. He values the support of administration because he has experienced what it is like without their support. The lack of administration support (in another state) is one of the primary reason he decided to leave the school and teach in another state.

Statewide support. In the continuation of formal supports and mentors, themes developed among the interview participants concerning assistance they received from sources outside their school. In this sense, statewide supports are considered any formal

supports or mentors the participants received that did not exist within their own school. From the perspective of the participants, statewide supports were received through three primary avenues: University mentors, University courses/programs, and the State Department. Participants described statewide supports that influenced their decision to remain as a teacher as well as those they deemed as ineffective.

University mentorship. Formalized mentors through state universities were another level of mentorship as reported by participants. University mentors served as instructional coaches and supported the efforts of the on-site mentor. Allen J. explained that he was assigned a university mentor that visited every couple of months throughout his first year teaching in Oklahoma.

Allen J.: She reiterated some of the things that Janet Black [on-site mentor] told me. She also talked about the five year evaluation and NATEF accreditations [a national automotive accreditation]...And also personal credentials. Ensuring that I was good on my credentials as far as ASE credentials goes...She did come in and do evaluations on me. I never felt threatened by these evaluations. They were very supportive of the fact that you need to this or you might need to try this. Very, very supportive.

Allen J. believed that his assigned university mentor was valuable because they addressed concerns that went beyond classroom teaching and were inclusive of required state and national accreditations.

University courses/programs. In order to assist individuals with no previous teaching experience, many teachers were required to attend university courses on pedagogy and classroom management- these courses are often referred to as the Basic 15.

These university courses consisted of 15 college credits that were completed in the initial years of employment. A further effort to support new T & I teachers is a program called New Teacher Workshop. The New Teacher Workshop is conducted in conjunction with a local university and the ODCTE . The workshop entails guest speakers (current teachers, university instructors, and state department supervisors) who address aspects of teaching CareerTech programs over a week-long format prior to teaching. The workshop was described by several participants as a crash course on how to teach.

Although these efforts were structured to help teachers make the transition into the classroom, some participants felt that the university led initiatives were ineffective. Patsy K. attended the New Teacher Workshop and felt overwhelmed which made her second guess her decision to become a teacher.

Patsy K.: They were talking about CTSO's [CareerTech Student Organizations] and other confusing lingo. I had no idea what they were talking about. Not a clue. It was a foreign language, it was Greek. And of course I was like- I'm pretty smart. And I thought maybe I'm not cut out for this...And for a very brief time, until I took over my classroom- it almost made me want to quit!

The anxiety she felt during the workshop were subsided as she talked with other teacher attendees who were experiencing the same frustrations. She expressed that she was overcome by the workshop because it was too much information in a short amount of time. In her opinion, she felt that the workshop would have been better served by taking place after she had classroom experience. From her point of view, the workshop was not beneficial because she had no frame of reference to understand what was discussed in terms of curriculum and classroom interactions.

John W. had a similar experience with the new teacher workshop. He acquired some good information, but he felt he did not benefit because of the workshop's format.

John W.: The New Teacher Workshop was very good. I do remember looking back that they had good information, but we needed to spread it out. I was on brain overload with all the information at once. We needed to be in class for about two to three weeks, then to have another day.

However, he believed the basic 15 courses were beneficial in his development as a teacher. He placed emphasis on the CTSO course that he believed increased his student achievement and involvement in his program. He held the belief that without the CTSO course, his students would not have been involved in SkillsUSA. Because he involved his students in SkillsUSA, they experienced success through vocational contest. He believed these student accomplishments helped keep him going as a teacher. He is continually surprised by students who exceed his expectations, as they complete, and is inspired by their achievements in SkillsUSA.

Similarly, Charlie P. completed the Basic 15 university courses and felt they helped him overcome early challenges in his teaching career.

Charlie P.: Taking those classes while I was teaching helped me be a better teacher because I would bring problems to those classes and they would really help me get through a lot of things. They showed us how to deal with issues that we might encounter in the future...I've got all my notebooks from those classes and I still use some of it.

Although it had been over 20 years since he took the classes, he still remembers their benefits and how they helped him in the classroom. He believed the university courses

played a vital role in his early development because they were addressing his current needs as well as developing him to deal with future issues.

Garth B. participated in a Teacher's Institute that he felt played a beneficial role in his development as a teacher. As he described, the program took place over 18 months and it was setup and organized through a local university and Oklahoma CareerTech. He further defined the program as a condensed version of the basic 15 - a hybrid program that met once a month, on weekends, in person as well as online.

Garth B.: I think the single most influential thing that I have done so far is the teacher's institute through CareerTech...I think I have learned more by taking that than I have in anything else. I have learned more about how to be an effective teacher...My abilities as a teacher have grown exponentially because of the teacher's institute. It was incredible!

State Department. Each T & I program is under the guidance of a supervisor through the Oklahoma State Department of Career and Technology Education (Oklahoma State Department of Education, 2017) State department supervisors are formally assigned T & I programs across the state, however their visitations and involvement is often less frequent than other formalized mentors. The primary role of the state department supervisors are to consult with T & I teachers to address issues concerning statewide alignment of curriculum and credentialing. Patsy K. recalled a time when a state department supervisor visited her program to discuss state requirements. She felt the most effective support provided by the state department supervisor was their knowledge of similar programs across the state. In her case, the state department supervisor was able to provide contacts to other teachers in criminal justice and coordinate visits to other

programs across the state. Patsy K. felt that she could reach out to the state department supervisor if she had questions about state credentials.

John W. believed that the state department, at times, was ineffective in their approach to the structuring of August Conference (required annual meeting).

John W.: They had trade group meetings, but it was very technical training. Diesel related training...looking back, for the new teachers it would benefit way more if the state department would pair up a mentor from another school for those teachers at least once a month. They could meet at August Conference to discuss issues they were having in class.

Charlie P. expressed a comparable lack of support from the state department. He recalled:

I had a couple of times that my state supervisor would come down and look and see what I was doing. But, I was never really given any direction.

In all the cases, it was evident that the lack of formal support provided through the state department resulted from their ambiguously defined role. Participants understood that that they could contact their state supervisor with issues concerning state requirements for their program, however felt they held limited value that supported their daily performance as a teacher.

Informal Supports

As reported by the participants, Informal supports came from a variety of sources but primarily consisted of individuals sought out by the novice teachers as a means of helping themselves (Desimore, L. M., Hochberg, E. D., Porter, A. C., Polikoff, M. S., Schwartz, R., & Johnson, L. J, 2014). Informal exchanges have value as they can improve a teacher's work life and increase retention (Birkeland & Johnson, 2003). Within

this portion of the analysis, the research participants identified other teachers as a strong source of support as they navigated the transition into the classroom. Teachers who provided support were sought out by the participants for their levels of expertise, experience, and a personal connection to them. The level of support received by the research participants served as an extension of the professional discourse that developed in a casual manner between both formalized mentors and other colleagues. Two themes emerged across the interviews that further defined the types of informal support the participants received: Teachers on campus and Teachers across the state. (Fraenkel, Hyun, & Wallen, 2012)

Teachers on campus. For many of the research interview participants, teachers on campus served as a sounding board in which they could vent their frustrations or talk through any difficulties they were experiencing in the classroom. For Allen J., these type of conversations took place with his assigned mentor and other teachers he felt he could reach out to in times of stress. He explains the casual connections he made with his mentor that went beyond pedagogical types of guidance.

Allen J.: Sometimes, it was just talking to me, letting me, allowing me to vent about certain situations such as you know...a student who I was having trouble with, so it was really nice. At [his other school] I didn't have that type of relationships which I felt comfortable enough to talk with another teacher.

For Allen J., these types of inadvertent conversations allowed him to address concerns without feelings of regret or judgment. The collegial relationship he built with other teachers affected his decisions to remain as a teacher in a positive light. He noted that his co-teacher, at times, was a better asset than his assigned on-site mentor. He believed that

the cooperative relationship he built with his co-teacher allowed him to derive solutions to classroom concerns that would have proved problematic if faced alone.

Equally, Charlie P. believed the informal aspects of his mentorship were a benefit to his early development. For him, regularly going to lunch with his mentor provided an opportunity to discuss any problems he was having in class without any constraints that might have existed within the formal structure of mentoring. Charlie P. believed he built a workplace friendship with his mentor that allowed him to voice any concerns without being judged. He has enacted this same type of informal approach as he has mentored new teachers over the years.

Garth B. articulated the importance of impromptu conversations he had with mentors (both assigned and informal) that helped him overcome early challenges. He explains:

I believe having these relationships definitely helped my early development as a teacher. It's just having that sound board to bounce ideas off. Or I am having this issue, how do I solve it or what can I do? I am losing their [students] interest, how to I handle that?

He noted one particular instance in which informal conversations with other teachers helped him with his approach to teaching. In his case, he felt the hardest part of teaching was lecturing to students and accommodating their learning styles. Through conversations with other machining teachers, he utilized a learning style inventory at the beginning of instruction to better understand his student's learning styles. To implement the inventory, he had ongoing discussions with other teachers about their experiences with learners as they progressed through the curriculum. From his standpoint, these

collegial exchanges established a helpful environment and culture that he did not experience in industry.

Similarly, Reba M. made connections with other teachers that reinforced her resolve to endure early challenges as a teacher. She described specific connections she made with other teachers during non-instructional times. She commented,

Like anytime we went somewhere [with other teachers], like skills. We would talk all the way there. Talking about if I needed anything. If I would not have had that, oh my gosh, I would not even want to think about that! It helped me tremendously because it was like therapy.

Teachers across the state. T & I teachers have the unique opportunity to make social connections to other teachers at an annual statewide conference (August Conference) that takes place prior to each school year. The conference presents avenues for teachers to meet other teachers in their trade as well as teachers across the broad spectrum of Oklahoma CareerTech. These connections were further enhanced as the interview participants visited similar programs to their own across the state to gain understanding of teaching. Patsy K. was greatly influenced by the connections that she made across the state that stabilized her decision to become a teacher. She explains:

Definitely my number one [support] was my association. The people I met throughout the CareerTech. I visited several other programs across the state and that was probably the most helpful. Because I learned something about myself [during the visits]. I am very, very visual... when I went out to Tuscaloosa and the teacher took me in and I said-show me what you do and treat me like I am a

student. She sat me down and showed me this is what I do. It made the connection between education and industry that I am in.

Patsy K.'s statement highlights the importance of the networks she made with other teachers across the state toward her development as a teacher. Her statewide visits to other programs, after she began to teach, established the logic of how to approach learning from a student's perspective. Through this understanding, she developed a strong foundation to further enhance her skills as a teacher.

Likewise, John W. was influenced by the connections he made at August Conference and how that parlayed into visiting other programs:

The biggest support for me is the other teachers. The diesel guys. It starts at summer conference [August Conference]. Everyone meets one another. Our trade group meetings allow for time to talk with each other. I think there are twelve other diesel programs across the state. So we get to hear from a lot of different people.

In continuation, he visited other diesel programs as an extension of conversations he had at August Conference. The visits allowed him to witness, first-hand, how a diesel program operates and how to setup his shop to ensure student success. He believes so strongly in these visitations, that he continues to visit other programs across the state and allows other diesel teachers to come to his campus. In his case, the collaborative informal learning that took place with other teachers across the state was invaluable toward his sustained professional growth.

Reba M. voiced these same types of informal supports she experienced across the state. She highlighted the fact of attending August Conference and SkillsUSA

competitions allowed her to talk with other cosmetology teachers. She felt that this was important because she was able to identify with other teachers who were have similar struggles. She believed, that having discussions with other cosmetologists allowed her to make informed decisions that positively affected her classroom and students.

Informal supports, in their various forms, assisted the participants in positive ways towards their own retention as a teacher. A common belief held by the research participants concerning informal supports was the sounding board aspect of the relationship. Casual conversations with fellow colleagues allowed for non-judgement benefits toward relieving mental stress or as one participant (John W.) put it- helped talk me off the ledge! The importance of informal support was not undervalued by the participants and served as an integral part of their early decisions to stick it out as a teacher.

Formal and informal supports and mentorship played a key role for the research participants as they made decisions to remain as a teacher. Formal supports such as on-site mentors, administration and statewide supports influenced decision-making to varied degrees. Most participants believed their assigned on-site mentor was an effective relationship that they relied on in times of unrest. Also, on-site mentors were a stabilizing factor in terms of developing day-to-day teaching procedures and enacting their curriculum. As it was recounted, administration played both positive and negative roles that influenced decision-making processes. Positive aspects of administration support included encouragement and personal assistance outside of the classroom. Negative aspects consisted of a lack of guidance in logistical facets of teaching. Informal supports that developed as a result of social interaction with their peers and mentors consisted of

individuals both within their school and across the state. Informal conversations with other teachers were encouraging and uplifting for the participants and helped them talk through difficult situations they faced while teaching in their early career.

Summary

This mixed methods study presented both quantitative and qualitative strands of data collection and analysis in order to answer the research questions set forth by the researcher. A quantitative strand aided in answering the first three research questions (RQ1, RQ2, and RQ3). In this phase of the research, a survey was distributed to Oklahoma T & I teachers. The survey had two parts: Biographical questions followed by the *Teacher's Sense of Efficacy Scale* (TSES) instrument. The biographical information collected among the participants allowed for an understanding of the sample and their backgrounds. The TSES portion of the survey revealed overall average TSES mean scores as compared to the author's reported values. The TSES also reported the subscales of Instructional Strategies, Student Engagement, and Classroom Management. The subscale mean scores were close to the instruments reported average values. The TSES instrument was analyzed for possible correlations to years taught and the overall means score of participants. The analysis revealed no direct correlation among the two factors. However, the quantitative strand connected to the qualitative strand in two distinct manners: Choosing the outliers for the face-to-face interviews and need to further explain teacher efficacy in a narrative method beyond what was revealed in the quantitative phase.

The qualitative phase of the research was implemented to answer research questions 4 & 5. The qualitative phase consisted of face-to-face interview with six

participants. From this phase of the research, several themes emerged that created a deeper understanding of the things that shape decision-making for the interview participants. Research question four was concerned with attributions T & I teachers make that influence their decision-making? A primary theme that developed among participants were student-centered motivational factors. It was revealed that in most cases, the success of students and their development served as a motivational factor. Every interview participant reported personal accounts in which the students influenced their decision-making in a positive manner.

Research question five concerned the supports and mentorship that played a role to remain as a teacher. From the perspective of the interviewees, the primary support was the assistance they received from their on-campus mentor. This formal support was a one-year relationship that was established in the first year of teaching. The on-site mentors provided support and guidance as the new teachers navigated the transition from industry into the classroom. In most cases, the relationship with the on-site provided informal relations in which the teachers could discuss issues they were experiencing. Many of these informal relationships continue to serve as a source of support for the participants.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This study was conducted to explore the levels of efficacy in career switchers who remained in Oklahoma T & I programs. The study focused on aspects of career decisions that influenced teachers to remain in the field beyond three years. Lastly, this study examined the roles of supports and mentorship as factors that influence decision-making processes. The academic interest for the study was based on the researcher's past and current experience within T & I education in Oklahoma.

The researcher has personally witnessed a high turnover of T & I teachers within his own campus. Through associations across the state, it has been recognized that this is not an isolated phenomenon. Nationwide, the high attrition rate of T & I teachers have been problematic to consistent training (Boe, Cook, & Sutherland, 2008; Felsher, Shockley, & Watlington, 2013). The researcher chose to explore the issue by considering the retention of teachers rather than the attrition: reasons they have chosen to stay rather than reasons they have chosen to leave. An understanding of the elements that positively influence T & I teacher's decision-making may provide insight for regional, state and national models that serve to support new teachers.

portion of the research was presented first followed by the qualitative narratives. Within the quantitative strand, a survey was conducted including biographical questions and the TSES of T & I teachers in the state of Oklahoma. The researcher found that this information was invaluable because no previous information in regards to biographical information currently existed, through the ODCTE, which supervises these programs.

In the quantitative strand, the TSES instrument provided data that represented a broad spectrum of T & I teachers across the state. The instrument provided valuable insight to teachers' belief in their own abilities as a teacher; described as self-efficacy within the study. Teacher self-efficacy was identified as a primary feature that influences career decision-making as well as improving student performance (Bandura, 2012; Takahasi, 2015). A Pearson *r* correlation was conducted to determine the correlation between years taught and self-efficacies. Through the analysis, it was determined that there was no correlation of an increase in self-efficacy based on numbers of years taught. The TSES instrument was utilized to select interview participants whose narratives aided in a further understanding of influences on self-efficacy and attributions toward decisions to remain as a teacher. A total of six interview participants were selected based on the outlier overall mean scores of the TSES. Three interview participants were selected with above average TSES scores and three were chosen with below average TSES scores.

In the qualitative strand, interview questions were structured to address attributions that influenced decision-making and supports that impacted career choice. The interviews were described in terms of the casual dimensions of attribution: Locus of control, stability, and controllability (Weiner, 2010). A cross-case analysis was conducted to develop thematic understanding of decision-making. The analysis of RQ4 was

structured into High Scale participants and Low Scale participants in order to differentiate among the cases. Within the qualitative one-on-one interviews, participants were queried concerning the role of supports and mentorship that influenced their decision to remain as a teacher. These questions were developed to answer RQ5.

Conducting a mixed methods study created more meaning for the research questions that were set forth by the researcher. In isolation, a quantitative would have captured biographical information and an overall numerical understanding of self-efficacy. However, this data was inconclusive, in and of itself, because it lacked the personal perspective of individuals who participated in the survey. Likewise, a study conducted in only a qualitative manner would have been inadequate because narratives would not have been guided through data that represented a larger portion of T & I teachers in Oklahoma.

Emerging Themes from High TSES Participants

Those with high self-efficacy presume advantageous consequences as a result of their efforts and view weaknesses as being overcome through effort (Bandura, 2002). The analysis of the TSES high scale participants was examined through the theoretical lens purported by Bandura concerning high self-efficacy awareness. The three TSES high scale interview participants were Allen J., Patsy K., and Reba M. The average overall mean TSES scores among these participants ranged from 8.83 to 9.00. Two of the participants are from urban designated population and one is from a rural designation population. The average teaching career among these T & I teachers was six years. Three common themes were identified among TSES high scale interview participants: Students as motivators, Transitional challenges, and Development as a teacher.

Students as motivators. All three participants attributed students and their achievements as influences that motivated them to persist as a T & I teacher. This common feature supports environmental determinants of Bandura's (2012) Social Cognitive Theory, in which individuals create environments that allow them to have better control of their lives. A common belief held by TSES high scale participants was that their actions and efforts increased their own self-efficacy as a teacher because it positively impacted their students. Self-efficacy as defined in the former literature review of this research, consists of self-appraisal of one's own ability that influences future actions (Voskuil & Robbins, 2015). In this sense, the teacher's actions related to student performance and, in turn, positively swayed their career choice. As a measure of success, the National Board for Professional Teaching standards (NBPTS, 2016) pinpointed the need for teachers who are committed to students and their learning. A strong commitment to students was evident as gauged by the interview responses of TSES high scale participants and thus has shaped the reason they remain in the classroom.

Allen J. conveyed that he is tremendously impacted by his student's performance. He believed that the skills he teaches in automotive have allowed his students to become gainfully employed upon graduation. The rapport he has developed with his students has created a lasting relationship that lingers even after students graduate. His connections with students served as evidence that his efforts in teaching have impacted other's lives and gives him purpose in his own life. Student performance serving as a motivational factor impacting career choice is unmistakable in Patsy K. as well. She attests that because of her students she is never going back to a career in industry. Admittedly, she never wanted to teach, however, the relationship and dedication to student learning have

impacted her greatly as a person as well as a teacher. She believes her passion for the field of criminal justice have strengthened because of her teaching and the difference it makes in the lives of her students. Her perception of teaching altered because of the personal growth of her students which transformed her into a career teacher. The influence of teacher-student relationships as a guiding dynamic of career choice was apparent for Reba M. As testament to her commitment to students, she describes the growth she sees in her students as a “natural high.” She believes her teaching has been transformational in the lives of her students who gain the ability to financially support themselves through cosmetology. The evidence of student as a motivator, supports discoveries made in the literature review. The intrinsic dynamic of shaping young people’s lives can play a major role in shaping decisions to remain as a teacher (Richardson et al., 2014).

Transitional challenges. All TSES high scale participants identified themselves as career switchers. Career switchers are individuals who take a different career path than the one pursued originally (Mayotte, 2003). From the perspective of these participants, they viewed teaching as an extension of their original career path. All maintained the belief that they continued to serve their industry, yet in a different capacity through teaching. Their beliefs supports Berger and D’Ascoli (2012) who contended that vocational teaching is a pathway for individuals to maintain a connection to their previous industry career. Although they made the conscious choice to switch careers, they recognized that the transition was awash with challenges that caused initial apprehension toward their career decision. All three recognized differences in their own professional behaviors when compared to how they approached a career in industry.

Some challenges were to be anticipated as they adjusted to school culture, however they offered unique perspectives on the matter (Brouwer, Tigchelaar, & Vermunt, 2010). All three TSES high scale participants noted the focus of their career shifted from a customer (output outcomes) to an individual growth (student centered) approach.

Allen J. described his previous career in automotive repair as one solely based on production and money being the bottom line. He acknowledged that his early teaching style based on outcomes (how many cars leaving the shop) was counterproductive to his student's growth. One particularly challenging aspect of teaching initially was meeting his students' needs toward high school graduation. To graduate, his students had to leave at various times to attend pullout classes. At the outset, he felt that the interruption of students leaving throughout his class period hampered the ability to finish repairing vehicles in a timely fashion. His initial approach to teaching was problematic because his student were not learning properly in his mind. Over time, his viewpoint changed as he came to grips with the fact that it did not matter how many cars were being repaired in a day. He was eventually able to refocus his approach that centered on student learning which included graduating from high school as well as being properly trained in automotive repair.

Even though her previous career in criminal justice was not customer based, Patsy K. recognized that the focus was not on personal growth of others. She experienced similar challenges as Allen J. in terms of logistics and dealing with students. Early on, she was hindered by the fact that not all students shared her same passion for criminal justice and were just bidding their time by taking her class. In time, she recognized that although not all of her students may be employed within the criminal justice field, she

could still positively impact them as individuals. Noting that the criminal justice field can be physically demanding, she wanted to uphold those same expectations in her classroom. At the start, she believed her stringent expectations would have negative repercussions on her students. What she became cognizant of over time was that the more she pushed her students physically the more they kept coming back. She believed that they benefited from this demanding style because they lacked structure in their own lives. She has come to the realization that not all students will be employed in criminal justice upon graduation, but because of her teaching they will understand employment expectations and be better citizens. The challenge of meeting student expectations was apparent for Reba M. as she transitioned from industry into the classroom. Over time she acknowledged that the focus was not on customers, but the outcomes of the students.

All three participants recognized student-centered challenges that influenced their early career decisions. However, none of them left the teaching profession as a result of these challenges. Each participant was able to persist as a T & I teacher because their perception of teaching changed to focus on student needs. In the development of personal self-efficacy, “some setback and difficulties in human pursuits serve a useful purpose in teaching that success usually requires sustained effort” (Bandura, 1994 p.72). Sustained effort was a benchmark for all participants in their development as a teacher toward career perseverance. Although each teacher continues to deal with issues based on student concerns, they were able to adjust their mental frameworks (the context of their familial occupational experiences) that is conducive to sustained employment as a teacher (Powell, 1996).

Development as a teacher. A majority of T & I teachers are hired based on their industry experience. Boyd et al. (2011) contended that career switchers make effective teachers because of their previous knowledge. In light of relevant literature regarding the importance of previous industry experience, an analysis of participant experiences considered this element as an establishment toward sustained employment. Previous industry experience may have been a determinant when deciding to teach, however, this only served as a beginning point in the development as a teacher. Among TSES high scale participants, two distinct aspects attributed to their decision to remain as a teacher. The first was based on aspects of relationship building with students and secondly the skills taught beyond the expertise in industry.

All three participants reported that among the reasons they chose teaching was because of their extensive awareness within their previous career. Although they relied on this knowledge, none of the participants conveyed this as a reason they persisted as a T & I teacher. Rather, they attributed their success as a teacher based on a better understanding of the students and their individual needs. In line with Weiner's Attribution Theory (2010), individuals' thinking is shaped by their interpretation of events within their environment.

As these individuals developed as teachers, they made career decisions based on constructive interactions with students. Patsy K. indicated that she has learned to structure her teaching based on the interests of the students. This allowed her to guide what she teaches to keep the interest of her students and makes it applicable to their own lives. She believes she has developed as a teacher because of the relationship she has built with each individual student. She described a student base in which a majority have

a background as first generation U.S. citizens. Understanding facts such as this have helped her to understand students' personal backgrounds and develop a teaching style that enriches students' lives as well as developing industry skills. She stated that she has changed as a teacher because she can relate what the students are learning to their particular experiences. From this standpoint, she has learned about teaching job employment skills that go beyond what she teaches in criminal justice. When she first began teaching, she based all her curriculum on her expertise within the industry. As a key development aspect to her teaching career, she now includes soft-skills such as teamwork and mutual understanding of others as an integral part of her curriculum. She believes an understanding of these facets make students more successful upon graduation. Also, she believes making adaptations as a teacher have allowed her to convey her passion for criminal justice to students.

Allen J. attributed his evolution as a teacher toward a better understanding of students as well. At first, he interpreted students' lack of understanding automotive repair concepts to laziness or an unwillingness to learn. However, as he has learned to be patient with students, he realized the need to put their world within the learning context. From this perspective, he has learned that students need someone to listen to their concerns and be guided through personal problems that might influence their classroom performance. He believes he has changed as a teacher because he is able to put aside outcomes (as he gauged by cars repaired) and focus on the needs of the students. One of the primary skills he believes he teaches beyond automotive repair is the ability to communicate effectively. Previously, he was so focused on automotive repair training, he forgot about what skills they needed to maintain employment. In his development as a teacher, he has

incorporated communication skills by having each student address customers who brought in live work projects to diagnosis problems with their vehicle.

Reba M. has also developed as a teacher because of interactions with her students. In her beginning years of teaching she was intimidated by students. Once she understood their backgrounds, many whom were impoverished, she knew that they needed structure and discipline in order to meet the expectations within the cosmetology industry. She felt that students related to her and hence the skills in cosmetology once she became emphatic toward their personal backgrounds. This phenomenon allowed her to be less intimidated by student interaction and focus on student's needs and concerns as they learned. An understanding of students' inadequate upbringings stressed to her the importance of what students were learning, in her program, as adding value to their personal lives. Her industry experience stimulated her early development as a teacher, however a better understanding of her students helped sustain it. Beyond cosmetology, she has instilled in her students the importance of time management within the industry. She believes that her students, upon graduation, are able to balance home life commitments with career obligations. An understanding of time management on the part of her students have allowed them to sustain a career within their chosen cosmetology field. In turn, student's successful continual employment is a major attribute toward her choice to continue as a teacher.

Several themes developed among TSES high scale participants that describe the attributions that influenced their decision-making process. The primary motivator was student success as a result of their efforts as a teacher. Their self-efficacy increased as they developed proficiency as a teacher. All reported that they relied on their industry

knowledge to guide their early career and positive interactions with students as a reason they remained a teacher. All three interview participants described some degree of challenge as they transitioned into the classroom. However, none felt that these challenges forced them to leave teaching as a career. Their commitment to teaching may be due, in part, to their own self-efficacy or, as this research unfolds, as a resultant of supports they received.

Emerging Themes from Low TSES Participants

An assumption of Bandura's (2002) theory on self-efficacy holds that those with low self-efficacy expect their efforts to fail. This analysis of TSES low scale participants indicates that the theory may not be predictive of participants in this case. Three common themes were identified among TSES low scale interview participants: Student influence, External motivators and Industry supervisors.

Student influence. As with the preceding group of TSES high scale participants, this assemblage conveyed student scenarios as influences toward decision-making. Students as a determinant can serve as both internal and external motivators as measured by the individual (Smith & Shores, 2011). Within the context of these participants' environment, they considered student success as an external motivator guided by their efforts which are considered an internal motivator. These motivational elements indicate that the participants had a great deal of interaction with their environment (classroom setting) which relates to their attributional process (Ickes & Harvey, 1978). For all TSES low scale participants, classroom (student-teacher) interactions resulted in positive attributions toward student achievement and accomplishment.

For John W., student success stands at the forefront of attributional causations that have influenced his decision to remain a T & I teacher for over twenty years. His attribution towards students is related to his own experience as a student. He stated that the T & I instructors he had when he was in diesel school were good and they guided his early career decisions. Because of this influence, he wanted to have the same type of impact on his own students. Evidence of his impact was conveyed through the pride he takes in his student's accomplishments. He held the belief that the successful employment of his students have contributed to his long tenure as a teacher as well as bettered the community. He is continually affirmed of his influence on students because he sees and talks with former students in the community and they discuss their successful sustained employment in industry- many of which who graduated his program over 10 years ago. These interactions leave a tremendous impression on his decisions to continue teaching.

Garth B. conveyed similar instances of student accomplishments that have influenced his decision-making process. He believed that because of his efforts in teaching machining to adult students, he has changed individual lives in a positive manner. He discussed instances in which his students described how without machining they would be in jail or deceased. These transformational descriptions, on the part of his students, are what inspire him to endure as teacher. As a result of student influences, he desires to involve students in further activities that will increase their self-worth such as taking an active role in student leadership organizations. From his perspective, student achievements have served not only as a motivator for his career decision but also

encouraged him to become more deeply involved as a teacher in professional activities outside the classroom.

Among all TSES low scale participants, Charlie P. has the longest tenure as a teacher. He attributes his continuous success as a teacher primarily to the students. He measures student success through the employment obtained after completing his program. He believes his efforts have led to some students avoiding low wage jobs and becoming impoverished. A large majority of his students have gone onto be successful in industry and are able to provide for their own families. This fact is a point of pride for Charlie P. and affirms his self-efficacy as teacher. He holds the belief that if it were not for the students he would not still be here (teaching).

External motivators. Extrinsic motivators can serve as influences that both affect decisions to switch careers and sustain prolonged involvement in a career (Hunter-Johnson, 2015). A commonality among all three TSES low scale participants is the effect of external motivators that influenced their decision to remain a T & I teacher. Within Bandura's (2012) Social Cognitive Theory, one way individuals' behavior is influenced is through personal determinants. Personal influences shaped participants' decision making in various ways. For John W., the influence of family attributed to his decision to transition from industry into the classroom. He is the custodial parent of two young children and a career in industry was not conducive to raising them properly in his mind. Although he does not account for pay as an external motivator, he noted that he had a financial downturn when he became a teacher. To counter this, he attributes time off at holidays and in the summer that have allowed him to obtain industry-related employment. From this standpoint, the teaching schedule serves as an external motivator

that allows him to spend more time with family and make up for financial downfalls as a teacher.

For Garth B., he was profoundly influenced by external factors that shaped his decision to switch careers and continue to remain a teacher. He believes his decisions to become a T & I teacher have allowed him to be more effective as a parent of two young children. He felt that an industry career schedule was having a negative impact on his family, especially his son who is diagnosed with autism. His decision to continue being a teacher, and the flexible schedule, have allowed him to maintain some normality in the lives of his own children. The external motivator of family outweighed the circumstance of making less income as a teacher compared with his salary in industry.

For Charlie P., external features have played a major role in his decision to remain as a teacher. He admitted that pay was not a motivator to endure as a teacher, however the insurance he receives as a teacher serves as a primary influence in decision-making process. Conversely, the external motivator of insurance did not influence his initial decision to switch careers to become a teacher. As he has matured in age he values the asset of insurance as an external motivator to continue teaching into retirement.

Industry supervisors. In some cases, career switchers are influenced to change employment based on negative experiences in previous jobs (Priyadharshini & Robinson-Pant, 2003). However, that is not the case with the TSES low scale participants. In fact, all three felt that their previous job experiences have guided their actions as a teacher. Mayotte (2003) contended that previous industry experience can play a vital role in decisions to transition from industry into the classroom. From the perspective of TSES low scale participants, comparative social interactions within industry experience have

translated to positive relations with students. A distinction among all these participants is the fact that they had all served, at some point, as a supervisor or manager in their previous career in industry. They all believed that their administrative role in industry directly related to managing students in their classrooms.

In his previous career within diesel industry, one of John W.'s roles was to supervise other mechanics. He felt that because of this experience it made it easier to interact with students and emphasize the career expectations within the diesel industry. In the initial stages of his teaching career, he felt in control of classroom management aspects of teaching because he had previously supervised other workers. Most importantly, he believed that he is able to convey to his students the importance of safety as he attributes it to his lived experiences in industry.

Garth B. served as a shift production manager in his previous career within the machining industry. As a manager he was on the hiring team, coordinated worker scheduling, and was responsible for tracking attendance. He believes that these experiences have allowed him to teach his students the real life expectations of a machining career beyond the hands-on skills. Because he hired and fired workers in his previous career, he understands the qualities his students need to possess in order to be successful upon graduation. As he has developed as a teacher, he has been able to draw upon his supervisory role in industry to integrate soft-skills into his curriculum.

As a manager and service administrator in his previous career in industry, Charlie P. understood the skill sets that workers needed to be successful on the job. He feels that his former supervisory role has allowed him to teach valuable aspects of the career that are not included in the standard curriculum. As an example, he offered that his students

need to have some degree of welding skills to gain competitive industry employment. He noted that welding is not an inclusive aspect of the curriculum within his industry training. As he designed his program from the ground up, he purchased equipment for his students, such as welders, that allowed his students to learn valuable skill he learned while in industry.

Commonalities among All Interview Participants

A comparative analysis across all six participants revealed common themes that focused on influences on their decision-making processes and factors contributing to career transition. These themes are: Student achievement as inspiration and Differences in the realities of industry and the classroom.

Student achievement as inspiration. All six interview participants included their students' achievements and accomplishments as a source of inspiration that influenced their decision to remain as a T & I teacher. Responses from interviewees regarding influences support the extant literature which revealed that some second career teachers are motivated to pass on expertise to younger people (Brouwer et al., 2010).

In their early career, some participants explained that the success students were having while learning in their classroom confirmed their decision to switch careers from industry to teaching. Reba M. reported that the hands-on cosmetology skills she taught served her students kinesthetic learning style. She believed that a lot of her students attended CareerTech because of the hands-on experiences. She fed off the success her students were experiencing because of her teaching. In the same manner, John W. explained that his students were hooked into learning because of the hands-on teaching aspect of his teaching. He felt that the student's excitement for learning the skills he was

teaching fueled his desire to teach. In both instances, the success of their students affirmed their self-efficacy in both their industry expertise and their abilities to teach those skills to others.

As an indicator of student success, several of the interview participants noted their students began to showcase the skills they learned in class through the vocational student organization SkillsUSA. SkillsUSA offered an avenue for students to compete against students from other CareerTechs that were training in similar career areas. Patsy K. reported that her student's involvement in leadership activities while in her class directly translated to becoming leaders in criminal justice upon graduation. Charlie P. offered the example of one of his students who had joined the army after graduation. He believed the young man was able to move up in rank and make a career in military service because of the confidence he gained through leadership activities. In both illustrations, the teachers felt that as students were having success, they became increasingly satisfied with teaching as a career.

As all the teachers advanced their teaching careers, their students graduated and gained employment within industry. Many of these same students come back to visit and share their employment experience with the teacher and their current class. The success stories, as expressed by former students, encouraged the teachers to continue making a positive impact in the lives of their current students. Allen J. relayed that the employment of his graduates in local car dealerships have opened the door for current students to partake in job shadowing experiences. As Garth B. has visited former students on the job site, he has learned of their sustained employment leading to transformational changes in their lifestyle. As he noted, many of his former students working in industry are now able

to provide for their families and leave behind a former life of crime and drug use. In both cases, the success students were having after graduation was a huge influence towards their decisions to strive harder as a teacher.

Differences in the realities of industry and the classroom. The pattern concerning differences in industry careers and teaching was considered in light of the relevant literature. In the previous review of literature on career switchers, it was revealed that individuals may experience challenges related to the career transition (Brouwer et al., 2010). A common theme that developed among all six interview participants were the differences between their previous career in industry and their current teaching career that influenced their career choice. These are of importance to note as decisional making influences that continue to affect participants beyond their first three years of employment. As put forth by interview participants, a primary difference between the careers was the focal point and purposes that drove both occupations. On the one hand, a career in industry was driven by monetary and customer driven concerns and conversely, education and teaching is focused on student learning. The variances in job environments were of concern to all six participants that caused some to reconsider their decision to become a teacher. The transition into teaching presented numerous challenges for the teachers in this study that were conveyed in several examples.

One aspect that challenged some of the interview participants was the attendance of students. John W. described a scenario within his school in which students could be tardy 16 times in a semester and still pass. He said this was difficult to stomach because if this same behavior was displayed by individuals in industry they would be fired. He continues to come to grips with poor attendance issues as not being valued by his school

and being detrimental to future employment of his students. Garth B. contends with similar issues dealing with student's attendance issues. In industry, he was given the authority to terminate employment of workers who were late or did not show up for the job. As a teacher, he feels his hands are tied because he cannot simply kick a student out of his program if they are experiencing attendance issues. In both examples provided through their perspectives, the value and importance of daily attendance is held in opposite regards between industry and education.

Another challenge faced by some participants regarding the differences between industry and the classroom dealt with the pace of enacting policies. Patsy K. was particularly frustrated at the slowness demonstrated by her school when it came to decisions that affect students as compared to her industry of criminal justice. She explained a time when she wanted to take students to a beneficial ethics luncheon and she ran into issues of permissions, paperwork and transportation that prevented attendance. As she expounded, in industry she could just get a vehicle and take individuals to a similar event without jumping through a bunch of hoops. She felt that examples such as this negatively affect her autonomy as a teacher. Similarly, Charlie P. was undesirably influenced by school policies concerning students. He believed that dissimilarities exist between industry and the classroom in matters of individual's misbehaviors. He explained that if a person acted inappropriately on the job in industry they would be reprimanded and eventually fired. Contrary to this belief, in his school bad behaviors were either ignored or not properly dealt with in his mind. Although neither left the profession as a result of these challenges, both acknowledged that these are issues they continue to struggle with to this day. As noted by participants, one of the biggest

difference between industry and the classroom is centered on students. One particular challenge experienced by the T & I teacher participants were issues of student schedules as they related to high school graduation requirements. Issues of student conflicting schedules stood in stark contrast to their previous industry environment that functioned under more structured work schedules.

One of the most prominent differences noted by the participants dealt with students schedules which conflicted with instruction time. Historically, most Oklahoma T & I programs structured instruction into two three hour blocks of time (AM and PM sessions). As a result of changing high school graduation requirements, CareerTech schools have to accommodate student's schedules to allow them to graduate and still attend a T & I program. An outcome of the changing graduation requirements has led to reduced instruction time within many T& I programs. Many felt that the reduced time in class affects their ability to properly train students in industry skills. Further, because of the reduced instructional times many T & I teachers felt they are not able to complete their entire curriculum. Two of the teachers who have taught over twenty years, Charlie P. and John W. reported that the scheduling challenges have occurred within the last five or six years. All participants, save Garth B. who teaches adult students, reported challenges dealing with conflicting student schedules that interrupted instruction.

John W. has experienced interruptions to teaching due to inconsistencies in student schedules and described the challenge in this manner:

I start at 8:00 am and then I have students that leave at 9:45 am to attend credit recovery classes. Essentially, they miss half the instruction time in my class. Then depending on what high school they attend, they have three different leave times.

I don't have any high school students that attend the entire three hours of my class.

He testified that the reduced time in class has not allowed him to enact all the curriculum within his program that will make his students successful on the job. As a result of the recent scheduling changes he has been forced to drop Automotive Service Excellence (ASE) certification from his program because the time frames could not be met. He believes this has hampered his students who are no longer able to get a nationally recognized certification in his industry.

In the same manner, Charlie P. indicated that the student scheduling conflicts have made it very hard to present curriculum.

I think I did a better job teaching 15 years ago than I do today mostly because we had the students a lot longer. I have one sending school that I lose every Friday because of sending school events. And the first Wednesday of every month I lose them because we have to have early release so that the high school can more vertically align their curriculum...now we are reduced to two hour blocks because some of them to attend pull-out classes.

He feels that because of the reduced amount of time students are in his class, he has difficulty guiding individual students through his curriculum. Over time he has had to cut portions of his curriculum simply because he did not have adequate time to teach them.

Reba M.'s cosmetology program has 1000 hours of required class time for high school students in order to obtain certification. She believes that because her students miss class due to high school activities, they struggle to reach the 1000 hours before they

graduate high school. A majority of her curriculum is taught through a lock-step method in which all students are taught together. When students are gone because of a required high school activity, they miss portions of her hands-on curriculum. To accommodate the student's need to meet the time requirements for her program, often she stays numerous days beyond her contract in the summer to allow students to make up the time.

Although her program is not bound by time requirements, Patsy K. admits that it is problematic at times to be consistent in teaching because of conflicting student schedules. As she has developed as a teacher, she has the desire to expand what she teaches in criminal justice to make her students more marketable for future employment. However, because of the varied student schedules, she has to adapt and rethink her future plans.

As with other the other interview participants, Allen J. has experienced complications in teaching due to student scheduling issues. He described his student leaving in the middle of instruction or coming in late because they were attending on campus pull out math classes. These classes are needed for the high school students in order to meet math requirements for graduation. He recognized that the interruptions in the course of his presenting curriculum was a barrier to success for his students. To combat the issue, he and a co-teacher coordinated to develop a plan that student had to accomplish a certain amount of the program curriculum during each nine week period. While, as he disclosed, he still continues to experience inconsistent training because of the student schedule conflicts, the situation has become less of a hindrance because of the program's new scheduling plan.

Participant's attributions made toward conflicting student schedules as an influence in their decision-making is of concern. First, the T & I teachers were concerned that, because of the interruptions in instruction, it affects the quality of student coming out of the programs. All felt that they wanted their teaching efforts to yield the most skilled worker possible to provide job openings in the community within their trade area. Second, because they continued to have close ties to their industry they did not want students coming out of their programs that were not properly trained which could cause potential safety risks. As an ongoing concern, the teachers have had to adapt and in many instances do away with valuable aspects of their curriculum due to reduced times in class on the part of the students. Most understood the importance of students attending required high classes, yet still voiced concerns of this issue affecting their performance as a teacher. The external negative motivator of conflicting student schedules is still prevalent and remains a challenge that teachers consider when weighing career decision dynamics.

Formal and Informal Themes Concerning Mentoring and Supports

In order to answer RQ5, interviews were analyzed and coded into emergent themes. The emergent themes connected to the previous literature review that indicated that teacher attrition is lessened through proper support and mentorship (Gardiner, 2010; Hopkins & Spillane, 2014; McKenna, 1997; O'Malley, 2010). Two primary themes developed among all participants, formal and informal supports, which were categorized to describe the impact of supports received by these individuals.

From the perspective of the individuals who were interviewed for this study, on-site mentors play the most vital centralized role that influenced their decision to remain as a teacher. In all cases, an assigned on-site mentor was an experienced co-teacher. In most

cases, the mentor was not someone within the trade that they taught. All six interviewees believed that the on-site mentors were a valuable access due the ease of accessibility. They felt that they could seek them out for timely resolution to issues they faced in the classroom. The on-site mentors provided much needed logistical advice such as curriculum development and structuring daily instruction.

Support provided by the teacher's administration revealed that they can be both a positive influence and a hindrance toward success. A common belief held by participants was that administration was supportive and encouraging. However, most felt administration fell short in terms of guidance. Commonly, administration did not offer assistance that would have guided the teachers in their early careers. In most cases, the interviewees believed that administration gave them the keys to the door and a tour of the school and offered no specific guidance.

The last formal support theme that emerged among all cases were statewide supports that influenced early development as a teacher. Statewide supports came in the form of university courses and programs that teachers participated in within their initial years of employment. These formal supports, for the participants, provided diverse levels of support with varying degrees of success. Those that believed that formal university supports provided positive support indicated that they appreciated the ability to address current issues they were experience in the classroom. Detractors believed that university supports were ineffective because they had no previous frame of reference in which to base their understanding. Another state wide formal support reported by participants was the ODCTE. Although, in some cases, individuals identified the state department as a

source of formal support most agreed that it was inconsistent and they did not provide guidance that benefited them in the classroom.

In the emergent theme of informal supports, two categories: teachers on campus and teachers across the state were identified that described the support received by participants. In a majority of the cases, the informal support from teachers on campus developed through dialogue with their on-campus mentor. A familiarity among participants were the informal conversations they had with mentors that helped them talk through issues and act as a sounding board. Participants have sought out other T & I teachers on their campuses in their initial years of employment. In this manner, co-teachers were able to coach or provide assistance because of their own lived experiences as a teacher. Participants felt comfortable talking with other teachers because they were empathetic towards their needs.

The final informal support that the interviewees identified as supportive were other teachers within their trade who taught across the state. Participants connected with other teachers across the state at an annual teacher conference and through program visits. In these cases, teachers across the state provided support in a collegial way. A common held belief was that the teachers across the state were supportive because they taught the same curriculum and dealt with similar issues in the classroom and shop. Informal conversations with other like-minded teachers served as a non-threatening collaborative effort that served all who were involved. Informal supports by both teachers on campus and across the state were instrumental for T & I teachers in this study as they transitioned into the classroom and continued to develop as a teacher.

Conclusions

The results of the data collected and analyzed led to conclusions about T & I teachers' self-efficacy, the attributions they make that influence their decision-making and the support received that play a role in their decisions to remain as a teacher. The conclusions established are supported by the literature and the theoretical framework discussed in Chapter II. Several conclusions have been made from the findings of this study:

1. **A better understanding of the population of T & I teachers across the state was achieved in the study.** In the initial stages of this research, the researcher contacted the Oklahoma State Department of Career and Technology to gain information about T & I teachers across the state. It came as a surprise how much the state department did not know concerning the characteristics and backgrounds of the teachers across the state. This study provided an improved understanding of the characteristics that can be utilized to better serve the population of Oklahoma T & I teachers. Conclusions concerning teacher characteristics revealed this population is diverse in terms of professional background, teaching experience, and age. However, the population is less diverse in terms of gender representation.
2. **The large portion of the population who responded to the research study indicated a willingness and eagerness to tell their story.** The participants indicated a desire to share their experiences and how they had developed as a teacher indicated by a large number of individuals who participated in the study.

The sampled size for the population (546) was 218 individuals resulting in a response rate of 40%.

3. **Self-efficacy does not necessarily increase as years taught increases.** The data analysis of the Teacher's Sense of Efficacy revealed there was no statistical correlation that indicates that self-efficacy is bolstered by years of experience. From this analysis, the assumption cannot be made on the part of stakeholders (administration, state department, and state wide entities) that teachers who have lots of teaching experience do not continue to struggle with student engagement, instructional strategies, and classroom management. It can be concluded that T & I teacher's self-efficacy can be fluctuate across the entirety of their career (Bandura, 2012). This research discovered that one's self-efficacy is an ever evolving aspect of decision-making and an understanding of this may impact teacher's career choice as a T & I teacher.
4. **The impact upon students and the community were powerful motivators which affected decisions to remain in teaching.** For example, Allen J. attributed his success in the classroom to student success and less to external motivators such as pay. Based on his overall scores from the TSES and his responses to the interview questions, Allen J. has a passion for teaching and his students. His TSES subscale scores for classroom management (9.0) were above the mean of standard instrument scores of 6.7 and that is reflected in his current practices (Tschannen-Moran & Hoy, 2001). He feels his efforts are making a difference in the lives of his students and also have made an impact on him as a teacher. John W. also attributed student success as his primary reason he has had

a lengthy teaching career. He believes that his efforts have made a direct impact in the lives of his students and in turn has influenced his decision to remain as a T & I teacher.

Charlie P.'s locus of causation was ascribed towards his efforts and abilities that influenced his decision to remain as a teacher in his early career. He held the belief that student accomplishments have served as a major source of inspiration to continue as a teacher. He counted his teaching schedule and the value of his medical insurance as external motivators.

In contrast, John W. perceived his efforts have made a direct impact upon students but scored below average (6.75) for the student engagement subscale score on the TSES. Through the TSES instrument, John W. indicated that his perception of student engagement is low. The subscale of student engagement measures one's perception of classroom efforts toward student motivation and helping students value learning (Tschannen-Moran & Hoy, 2001). The diminished perception of his own self-efficacy in the area of student engagement, as gauged by the TSES, may be resultant of a narrowed focus on the measurement. Through the interview, he was able to convey a strong sense of efficacy that has, in turn, influenced his decision-making toward remaining as a T & I teacher.

- 5. Self-efficacy in teaching was boosted through mastery experiences in classroom organizational tasks as well as the feeling of having control over issues which arise and the ability to acclimate when having control was not possible (Bandura, 1994).** Allen J. was able to be resilient as he learned through his experiences about what worked in the classroom and what did not. He had

overcome early career challenges such as classroom scheduling issues and had adjusted his teaching approach to be more student centered. Additionally, Allen J. was able to overcome in the face of difficulty because he felt that he had control over issues such as classroom management and previous experience working with students in industry. Even in situations beyond his control, he was able to acclimate himself and not let it drive him away from teaching.

Charlie's experience gained in industry translated to his perception of control over instructional strategies. Conversely, he felt overwhelmed by uncontrollable circumstances in his early career that negatively influenced his decision-making. However, he was able to persist as a teacher because he adapted and felt supported.

Over time, the effort Patsy K. put into teaching and an improved understanding of her students were among the primary reasons that she remains in the classroom. Based on her overall high TSES mean scores (9.0) and specifically the subscale of student engagement (9.0), positive interactions with students have aided in her decision-making toward a sustained teaching career. The strength she garners from student interaction was evident during her interview as well. When discussing student dynamics, Patsy offered the following, "The bottom line is learning that the whole thing is about relationship building my enthusiasm [for teaching], or how I approach it makes a difference in how they learn it."

Her statement speaks to her strong teaching efficacy and how it empowers the students as they learn. Her own abilities and knowledge of the criminal justice

field have served as internal motivators towards success. Her students have served as external motivators that have resulted in the outcome of gratitude.

6. **A teacher's own affective state as he/she experiences transition into the classroom was a source of self-efficacy.** Patsy initially judged her own capabilities as being inadequate. She did not allow her emotional uneasiness to weaken her self-efficacy. In her early career she took risks through trial and error to overcome deficiencies in classroom pedagogy. She recalled several big projects that she described as epic fails. However, she was not deterred and learned what not to do from her own mistakes. From these early experiences, the attributions she made were unstable because she felt that she could adapt and change as a result of bad experiences. She was able to objectively identify teaching techniques that were not effective and eliminated them from her practices. Patsy displayed stable causes for success through her strong belief in her ability to teach and an unwavering determination to remain as a teacher. Ascriptions of her perceived failures to a lack of understanding and absence of guidance did not decrease her future expectancy of success (Figueroa-Munoz, Kakiyama, & Weiner, 1991).

Reba M.'s high overall scores on the TSES (8.83) and particularly her high score in the subscale of classroom management (9.0) stand in contrast to her early teaching career. Her perception of her own abilities [in a teaching role] have changed towards positive outcomes due in large part to her intensity of effort of in the areas of student engagement and classroom management. The confidence she gained in student and parent interaction are a testament to her stability of behavioral causations over time. Reba M. attributed her own abilities as an

internal motivator and student achievement as an external motivator. As a result of her success in managing her classroom and developing a professional report with students, she has developed a robust belief in her own self-efficacy as a teacher (Bandura, 1994). Even in the face of difficult situations, she has not allowed these circumstances to negatively influence her to leave the profession.

7. **External factors played a role in the decision to remain in teaching.** Garth B. was influenced by family and wanting to spend more time with them. He believed that the schedule of a T & I teacher better suited his lifestyle and allowed him to spend more time with his family. The influence of family was a more prevalent external influence than pay. Charlie P. indicated that external factors can be detractors as well. He specified that students who do not possess a high degree of work ethic and teachers who do not feel supported in terms of student discipline detracts from his decision making.
8. **Assistance from other professionals played a role for individuals as they made decisions to remain as a teacher.** Garth B. struggled in his early career with instructional strategies, but was able to overcome the challenge because he sought assistance from other professionals. His self-resilient attitude is a positive aspect that has allowed him to overcome early hindrances and to continue to be successful in the future. Considering all influences that impacted his decision-making, Garth B.'s believes he will endure as a T & I teacher and continue making a positive impact in the lives of his students. From the perspective of the interview participants, instructional leaders such as mentors and administrators can play a strong role in the on-going development of teachers. However, a

disconnect exists between administration, on-site mentors and state wide supports. A valuable asset in navigating the nuances of teaching in the initial transition into the classroom were on-site mentors. The importance of the on-site mentor was a recurring theme among all participants. They valued the guidance of the on-site mentors in terms of classroom structuring and teaching expectations. However, most conveyed a divide between the on-site mentor and other supports. An apparent lack of structure linking university courses, administration and mentorship existed. These teachers believed that they would have benefited from specific guidance on the part of their administrators to understand expectations. In most cases, the teacher's administration was not always an integral part of the induction process. Teachers in this study believed they would benefit from on-going support beyond the initial mentorship received as a new teacher. Supports and mentorship that connect establishing classroom structure, professional teacher expectations, and student-centered goal planning would have benefited early development as a teacher, from the perspective of the participants.

9. **Career switchers are a viable asset to student success.** In the previous literature review, a prevalent discernment highlighted the importance of career switchers as being highly skilled and motivated that directly impacted students (Boyd, et al., 2011; Chambers, 2002). This study supports previous literature concerning career switchers as being a key element toward student achievement. All six interview participants considered themselves to be career switchers because they became a teacher after a previous career in industry. From the perception of the participants, they believed their extensive knowledge within their field made a difference in

their students learning. It was a commonly held belief, on the part of these teachers, that students benefited from T & I training because they knew how to convey and relate learning that connected to real-world scenarios. In this sense, the T & I teachers in this study knew how to make their students successful upon graduation because they understood the skill sets required within the context of their respective trade. A common theme among the interview participants was pride in student employment and success experienced upon graduation from their T & I programs. Many reported that previous students came back to their classes to share about their lives and how they were able to establish themselves in a career because they had taken part in their T & I program. From this standpoint, the career switchers in this study believed their teaching efforts had a direct and positive impact in their student's success.

10. Understanding teacher's attributions impact teacher retention. Through the interview process, it was apparent that these teachers take a great deal of pride in their students and their accomplishments. All six interview participants discussed how the impact they made in the lives of their students had influenced their decision to stay in the teaching profession. In all cases, these T & I teachers attributed their decision to remain as a teacher toward their students. It was evident that a majority of the interviewees made financial sacrifices in term of decreased pay as compared to their previous industry, however this was offset because teaching allowed more time with their family and the satisfaction they had in making a positive difference in young people's lives. Teacher's positive attributions towards students as a factor that influenced their decision-making

have a two-fold effect: Retention of T & I teachers who are passionate about their students and students who are excited about learning resulting in positive outcomes. Conclusive evidence can be drawn within this study that directly links Weiner's (2010) Attribution Theory toward sustained employment. This study revealed that individuals made decisions to remain as a teacher as they interacted within their teaching environment and how that served as a motivational factor to persevere in the face of challenges.

Implications

This study offers many implications for research and for practice. Some of these are discussed in this section.

Implications for Research

The results of this study support the literature theory base. The theoretical framework that combined Weiner's Attribution Theory (1974, 1986) and Self-Efficacy Theory based on Bandura's Social Cognitive Theory (1986) was supported by the data in this research. Weiner's Attribution Theory (1974, 1986) contends that decision-making is shaped by the attributions individuals make to explain their behaviors and thinking. Based on the qualitative narratives, this is true of the participants within this research. As in theory, this research explored decision-making as classified among the theory's three casual dimensions (Locus of Control, Stability, and Controllability). Participants provided insight into their decision-making that supported the theory's principles of internal and external factors, environmental influences, and attitudinal changes over time. Qualitative data produced through the face-to-face interviews supports and expands the literature base on Attribution Theory.

Self-Efficacy Theory based on Bandura's Social Cognitive Theory (1986) was supported by the data in this research with the exception of self-efficacy across career-span. As discussed in Chapter II, self-efficacy is based on people's judgment of their own capabilities and how their decision affect future courses of action. The data collected through the TSES instrument supports the theoretical underpinnings concerning teacher efficacy. Interviews with T & I teachers provided a thick and rich understanding of self-efficacy within the context of T & I education.

This research further advances the literature base concerning the impact of supports and mentorship toward decision-making for teachers. Research participants within this study discussed elements of support that were effective and those that needed further development. The qualitative data collected in the interviews adds to the base of understanding concerning aspects that lead to teacher retention and those that lessen teacher attrition.

Implications for Practice.

The first implication for practice is the need for increased efforts to be put in place that ease the transition from industry to the classroom for career switchers. Literature suggests that second career teachers benefit because of their previous experience (Chin & Young, 2007; Richardson, Watt, & Wilkins, 2014). A more defined link between industry and T & I needs to exist in order provide competent workers for prospective industries. Teachers are an extension of the industry in which they were formally employed and school districts need to make a concerted effort to further establish these collaborative relationships.

The second implication for practice is for administrators to play a more inclusive role within teacher induction processes. Brill and McCartney (2008) contended that a major factor leading to teacher attrition is the lack of institutional supports, namely administration. In several cases within this study, participants described scenarios in which they were just handed the keys and told good luck by their administrators. Administrators are often the key element that sets the tone and culture within a school (Hoy & Knoblauch, 2008). From this standpoint, administrators can be a valuable contributor within teacher induction models.

The third implication for practice is the development of student-centered mastery experiences for teachers. Several teachers in this study expressed their frustration that their pre-service teacher training was confusing because they did not have a previous base of understanding. Future models need to focus on specific classroom examples and scenarios based on a student's perspective. If T & I teachers are developed with an understanding of their students learning styles and backgrounds, they may become more effective at implementing instructional strategies. Creating experiences that are student-centered may allow new teachers to develop into an effective teacher as defined by propositions put forth by the National Board for Professional Teaching Standards (NBPTS, 2016).

The final implication for practice is the needed on-going support for teachers in the early stages of their career and beyond. Support and mentorship programs need to focus on aspects of teacher development that enhance one's ability to convey their previous industry experience to students. T & I education is a unique educational arena in which individuals are content experts but may need guidance teaching those skills to

others. In this manner, early career supports need to focus on translating industry knowledge toward student competence (Green, 2014). In subsequent years, teachers may benefit from supports that would increase their self-efficacy in student engagement, instructional strategies and classroom management to avoid being burnt out as a teacher. Teachers with vast amounts of teaching experience were amongst those interviewed. Within this population of teachers, they indicated they would benefit from support that would help them to continue to be effective in the classroom.

Recommendations

Recommendations have been divided into two areas: recommendations for research and recommendations for practice. There are four recommendations for research and three recommendations for practice presented in this section.

Recommendations for Research.

- 1. A Quantitative study should be performed on the correlation of efficacy toward other factors.** The purpose of correlation research is to determine a relationship among two or more variables (Fraenkel, Hyun, & Wallen, 2012). Within the current research correlation were only drawn among years taught and self-efficacy. Further quantitative research may reveal significant correlations among other variables such as previous industry experience, teaching certification, and population designations (urban and rural) toward self-efficacy that show a cause and effect relationship.
- 2. Analyze the effects of administrative supports on mentorship/ teacher induction processes.** Through this study, the importance of administrative support emerged as a theme. A lack of guidance on the part of administrators

can negatively affect teacher's decision to remain in the profession (Kersaint, 2005). A study needs to be conducted that analyzes how the role of administrators affects the retention of new teachers. The focus of the study should be on non-salary factors such as institutional supports (Brill and McCartney, 2008).

- 3. A longitudinal study of teacher efficacy across career-span.** This study revealed that one's self-efficacy does not remain constant (Bandura, 2012). Teacher's efficacy may be affected in both positive and negative manners as individuals interact with their environment. A multiphase study that includes longitudinal data collection can account for the changes in teacher efficacy over time (Creswell & Plano-Clark, 2011). Accounting for fluctuations or changes in teacher self-efficacy throughout their career may lend itself to lessen teacher attrition.
- 4. Conduct a qualitative study with Herzberg's Motivational Hygiene as the theoretical base.** Qualitative research studies create understanding of issues/cases that are descriptive and detailed that encompass lived experiences (Berg & Lune, 2012). A qualitative study on the job satisfaction of T & I teachers would create and understanding of what makes people satisfied at work within the context of Career and Technology Education (CTE). Conducting a study with Herzberg's Motivational Hygiene Theory (1974) within a theoretical framework may provide motivational profiles of institutions (schools) that pinpoint areas that teachers are either satisfied or

dissatisfied with their working environment. An understanding of teacher's job satisfaction may enhance the retention of effective employees.

Recommendations for Practice.

- 1. Multi-year induction process.** New teachers in Oklahoma T & I may benefit from induction process that goes beyond just their first year of employment. Some state enact induction process that last multiple years with marked success (Bullough, 2012). This study indicated that that the third year of a T & I teacher's career is a milestone that some teachers never reach. Supports leading up to three consecutive years of employment may allow teachers to overcome the initial challenges and created improved systems to enhance retention of effective teachers. Several interview participants indicated that they did not know what questions to ask during pre-service and in-service training because they had not previous framework of understanding. Having supports beyond the first year would allow teachers to understand what types of questions that should be answered based on their own experiences.
- 2. Create a unified systematic support system for new teachers.** Through this research, there was an apparent disconnect amongst teacher induction stakeholders. A cohesive system needs to be in place that offers guidance for new teachers from administration, mentors, and state wide support systems. Linking the supports in an interconnected framework would provide continuity leading towards a more effective teacher development.
- 3. Provide a state wide standard on new teacher expectations.** A shared theme among interview participants was the feeling that they were handed the

keys and left alone with no support. To alleviate future issues regarding this matter, state wide guidelines need to be adopted that provide standardized expectations and guidelines for administrators and mentors towards common goals that effectively serve new teacher's needs. The state wide standards need to encompass on-going training and updates for administrators, mentors, and teachers directed from university partners and the state department of CareerTech.

- 4. Focused administration support.** A commonality among the interview participants was an apparent lack of direct guidance on the part of their administrators. Future supports, as provided by administrators, need to focus on pedagogy and teaching delivery for new T & I teachers as an element of the induction process.

Conclusions: Final Thoughts

At the onset of this study, the importance and value of T & I was supported by the literature base concerning CTE (AIR, 2014; Boettcher, 2017; Green, 2014). The multifaceted role of T & I teachers are instrumental in providing consistent educational experiences that make students both college and career ready (AIR, 2014; O'Conner, 2012). Often times, T & I teaching positions are filled by teachers with vast amounts of industry experience and limited teaching experience (Zirkle, 2017). In this study, these individuals were referred to as career switchers. This study sought to provide insight into career switchers who were able to persist beyond three years of employment.

Participants who participated in the entirety of the TSES ($n = 156$) indicated average or above average efficacies in instruction strategies, student engagement, and

classroom management. These markers provide clues that Oklahoma Teacher's efficacy is affected in a positive manner once they reach three years of employment. Knowing this information may give new T & I teachers a sense of hope and understanding that their teaching skills will develop in time. However, a continuous need to develop T & I teachers throughout their career is needed. This research indicated that one's self-efficacy does not automatically increase as years taught increases. The necessity for on-going support for teachers across their career-span was reinforced by this research that indicated there was not a direct correlation between increased self-efficacy throughout one's career. In this manner, it is vital that stakeholders in teacher development understand that constant support is needed in order to retain well-qualified and competent teachers (McCandless & Sauger, 2010; NRCCTE, 2011).

Participants in the face-to-face interviews with this study ($n = 6$) consistently specified that on-campus mentors played a huge role in their transition from industry into the classroom. From their perspective, the on-campus mentor is what made the difference as they weighed options to stay or leave the profession. These mentors need to be linked to administrative guidance and state wide supports in order to provide an all-encompassing support system for new T & I teachers. This study highlighted the importance of T & I teachers being instrumental change agent in the lives of their students. From this standpoint, T & I teachers need to be provided with consistent and cohesive opportunities that offer professional growth that impact student performance and enhance their lives upon graduation of a T & I program.

The need for students to be college and career ready upon graduation continues to be a priority for Oklahoma CareerTech center districts. T & I teachers are instrumental in

teaching highly-skilled areas that will make students employable and prepared for post-secondary learning opportunities. This study confirmed the importance of caring and committed teachers and the impact they make on students' lives. Creating a unified and structured support system for new T & I teachers is paramount in order for them to persist beyond a three year teaching career. Evidence from this study has the potential to be utilized by stakeholders in teacher induction in a manner that strengthens teacher resolve to remain in the field while making an impact on student achievement.

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APPENDICES

APPENDIX A

Survey Instrument: Biographical Questions and Teacher's Sense of Efficacy Scale

Questions were presented in the following order. Survey participants did not see the question numbers.

If you choose to participate, please click NEXT. By clicking NEXT, you are indicating that you freely and voluntarily and agree to participate in this study and you also acknowledge that you are at least 18 years of age.

NEXT (1)

Q1 Have you completed three or more years at an Oklahoma Technology Center as a Trade and Industrial Teacher?

Yes (1)

No (2)

Q2 In what school district do you currently teach?

▼ Autry (1) ... Other (30)

Q3 What campus do you teach at within your district? If your district has only one campus, type the word

Q12 What is the name of the Trade and Industrial program you teach?

Q4 What is your age? If you do not want to answer this question, it can be left blank.

Q5 What is your gender?

- Male (1)
- Female (2)
- I don't wish to share this information (3)

Q7 Prior to teaching in a CareerTech program, what kind of job did you hold?

- Business and Industry (1)
- Education (2)
- Other (3)

Q8 How many years were you employed in your previous job?

Q9 How many total years have you taught in a Trade and Industry program?

Q10 On average, how many students do you teach in your AM class?

Q11 On average, how many students do you teach in your PM class?

Q13 What type of teaching certification do you currently hold?

- Provisional Level I (1)
- Provisional Level II (2)
- Standard (3)
- I don't know (4)

Q14 In addition to teaching, do you operate a business?

- Yes (1)
- No (2)

I don't wish to answer this information (3)

Q15: Teacher's Sense of Efficacy Scale Directions: This questionnaire is designed to help gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. The scale indicates

"How much you can do?" for each scenario.

Q16 How much can you do to control disruptive behavior in the classroom? *Q16 – Q28 have the same responses

1 - Nothing (1)

2 (2)

3 - Very Little (3)

4 (4)

5 - Some Influence (5)

6 (6)

7 - Quite A Bit (7)

8 (8)

9 - A Great Deal (9)

Q19 How much can you do to motivate students who show low interest in school work?

Q20 How much can you do to get students to believe they can do well in school work?

Q21 How much can you do to help your students value learning?

Q22 To what extent can you craft good questions for your students?

Q23 How much can you do to get children to follow classroom rules?

Q23.0 How much can you do to calm a student who is disruptive or noisy?

Q24 How well can you establish a classroom management system with each group of students?

Q25 How much can you use a variety of assessment strategies?

Q26 To what extent can you provide an alternative explanation or example when students are confused?

Q27 How much can you assist families in helping their children do well in school?

Q28 How well can you implement alternative strategies in your classroom?

Q29 Are you willing to take part in a face-to-face interview?

Yes (1)

No (2)

Q30 What is your first and last name?

Q31 What phone number can you be reached at?

Q32 Alternative phone number you can be reached at?

APPENDIX B

Interview Questions

1. Tell me about a typical routine day in your classroom.
2. Give me an example of something you have taken pride in over your teaching career?
3. Have these things made an impact on your decision to remain as a teacher? If so, in what ways?
4. What professional challenges did you face in your early career that you felt you could control or have influence over? (example: school structure, curriculum or student interaction)
5. What challenges did you face in your early career you felt were beyond your control? (example: school structure, curriculum or student interaction)
6. How did you overcome challenges early in your career?
7. Have you ever considered leaving teaching as a result of these challenges? If so, what changed your mind and kept you going?
8. Tell me a little about how you have changed as a teacher compared to your first three years.
9. What formal or informal supports, if any, do you believe have helped you be successful in the classroom?
10. Were you assigned a mentor, either at the local or state level, when you first started teaching? If so, what role did they play in helping you get established as a teacher?
11. Do you feel that having a mentor helped in your early development? If so, how?
12. What do you feel was lacking, in terms of support and mentors, that would have benefited you in your early career?
13. According to the following definition of career-switcher: An individual with limited or no previous university teacher training or degrees while teaching in the trade and industrial area in which they were formally employed. Do you consider yourself a career-switcher?
14. Do you have any further questions of me?

APPENDIX C

Participant Information and Consent Form

Title: SELF-EFFICACY OF OKLAHOMA CAREER AND TECHNOLOGY EDUCATION TRADE AND INDUSTRIAL TEACHERS AND INFLUENCES THAT AFFECT RETENTION: A MIXED- METHODS STUDY

Investigators(s): Jayson Floyd, Ph.D. Doctoral Candidate in Workforce and Adult Education: Adviser: Mary Jo Self, Faculty Adviser in Workforce and Adult Education.

Purpose: The purpose of this study is to investigate the self-efficacy levels of Oklahoma CTE trade and industrial (T & I) teachers and to examine various types of teacher supports that might contribute to teacher retention. Gaining an understanding of participants' decision-making processes could improve practices within the current system. This study will provide an avenue to examine aspects that can affect teacher retention and strengthen classroom practices.

What to expect: This research study is administered online with a possible follow-up face-to-face interview. Participation in the research will involve completion of an online survey. The first section are biographical questions concerning your teaching background. The second section is the Teacher's Sense of Efficacy Scale, consists of 12 questions on a 9-point Likert type scale. You may skip any questions that you do not wish to answer. You will be expected to complete the online survey once. It should take less than 20 minutes to complete. Upon completion of the online survey, you will have the opportunity to take part in a face-to-face interview. The interview is not required and not all participants will be scheduled for an interview. The interview will be scheduled at a time and place that is convenient to you. The interview will concern aspects of teaching, teacher supports as well as reviewing the results of the online survey. You may skip any interview question you do not want to answer. The face-to-face interview will take approximately 1 hour.

Risks: There are no risks associated with the project, which are expected to be greater than those ordinarily encountered in daily life.

Benefits: There are not direct benefits to you. However, you may gain an appreciation and understanding of how research is conducted. The study will enhance a better understanding of what factors contribute to Oklahoma T & I teachers remaining in teaching.

Compensation: No compensation

Your rights and Confidentiality: Your participation in this research is voluntary. There is no penalty for refusal to participate, and you are free to withdraw your consent and participation in this project at any time.

Confidentiality: The records of this study will be kept secret. Any written results will discuss group findings and will not include information that will identify you. Research records will be stored on a password-protected computer in a locked office and only researchers and individual responsible for research oversight will have access to the records. Data will be destroyed three years after the study has been completed.

Contacts: You may contact any of the researchers at the following addresses and phone numbers, should you desire to discuss your participation in the study and/or request information about the results of the study:

Jayson Floyd, Ph.D. Doctoral Candidate in Workforce and Adult Education:

(405) 249-9715

Mary Jo Self, Faculty Adviser, 261 Willard Hall, Oklahoma State University,

(405) 744-9191

If you have questions about your rights as a researcher volunteer, you may contact the IRB Office at 223 Scott Hall, Stillwater, OK 74078, (405) 744-3377 or irb@okstate.edu

PARTICIPANT RIGHTS:

I understand that my participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time, without penalty.

CONSENT DOCUMENTATION:

I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and of the benefits of my participation. I also understand the following statements:

I affirm that I am 18 years of age or older.

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my participation in this study.

Signature of Participant

Date

I certify that I have personally explained this document before requesting that the participant sign it.

Signature of Researcher

Date

APPENDIX D

Invitation Letter to Participants

I am a doctoral student at Oklahoma State University College of Education and I am conducting a study on Trade and Industrial teachers within the Oklahoma Department of Career & Technology Education system. Participation in the study includes an online survey. All of these survey questions will take approximately 20 minutes to complete. Upon completion of the online portion of the study, you may take part in a face-to-face interview that is scheduled at a time and place that are convenient for you. The interview is not mandatory and not all participants will take part in interviews. The face-to-face interview will last no more than one hour. Upon completion of the interview, you will be provided with the transcript to proof read for clarifications.

Your participation will be confidential as your name or your schools name will not be used in the findings of the study. The results of study will be offered in a narrative format in which your information is identified through a pseudonym of your choosing. The school in which you teach will not be named in the study.

Follow this link to the Survey:

Take the survey

Or copy and paste the URL below into your internet browser:

https://okstatecoe.az1.qualtrics.com/jfe/form/SV_6JPmIR7XTI9oqnb

You may contact any of the researchers at the following addresses and phone numbers, should you have any questions concerning the study: jaysonf@okstate.edu, (405) 249-9715 or contact my OSU advisor, Dr. Mary Jo Self at maryjo.self@okstate.edu, (405) 744-9191. If you have any questions about your rights as a research volunteer, you may contact the Oklahoma State University Institutional Review Board (IRB), 223 Scott Hall, Stillwater, Ok 74078 or by calling (405) 744-3377. You may also email the IRB at irb@okstate.edu.

Thank you for your time and I look forward to meeting you in person for an interview,

Jayson Floyd

Graduate Student, Oklahoma State University

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

APPENDIX E

Permission to Use Teacher's Sense of Efficacy in Qualtrics

Begin forwarded message:

Resent-From: <jaysonf@okstate.edu>

From: Anita Woolfolk Hoy <anitahoy@me.com>

Date: June 22, 2016 at 2:44:02 PM CDT

To: "Floyd, Jayson" <jaysonf@okstate.edu>

Cc: Anita Hoy <hoy.17@osu.edu>

Subject: Re: Teacher's Sense of Efficacy Scale Question

You are welcome to use the instrument that way in your research.

Anita

Anita Woolfolk Hoy, PhD

Professor Emerita

The Ohio state university

7655 Pebble Creek Circle, Unit 301

Naples, FL 34108

anitahoy@mac.com

415-640-2017

<http://u.osu.edu/hoy.17/>

On Jun 22, 2016, at 2:09 PM, Floyd, Jayson <jaysonf@okstate.edu> wrote:

Hello Dr. Woolfolk Hoy,

My name is Jayson Floyd. I am a PhD student at Oklahoma State University. I am contacting you because I am utilizing the Teacher's Sense of Efficacy Scale as part of my dissertation study. The study will examine Oklahoma Career & Technology Education Teachers as they make decisions to remain in the field. In a recent meeting with my doctoral chair, it was asked if I can import your instrument into Qualtrics in order to be sent electronically to participants. If this is something that has been done in the past, I would like to seek your permission to use the instrument (verbatim) in Qualtrics.

Thank you for your time and I look forward to hearing back from you.

Jayson Floyd

VITA

Jayson C. Floyd

Candidate for the Degree of

Doctor of Philosophy

Thesis: SELF-EFFICACY OF OKLAHOMA CAREER AND TECHNOLOGY
EDUCATION TRADE AND INDUSTRIAL TEACHERS AND
INFLUENCES THAT AFFECT RETENTION: A MIXED METHODS
STUDY

Major Field: Workforce and Adult Education

Biographical:

Education:

Completed the requirements of the Doctor of Philosophy in Workforce and Adult Education at Oklahoma State University, Stillwater, Oklahoma in May, 2018.

Completed the requirements for the Masters of Education in Adult Education at the University of Central Oklahoma, Edmond, OK in 2004.

Completed the requirements for the Bachelors in Science in Special Education at the University of Central Oklahoma, Edmond, OK in 1995.

Experience:

Service Careers Instructor, 2007 – Present
Canadian Valley Technology Center, Shawnee, OK

Occupational Services Instructor, 1998 – 2007
Gordon Cooper Technology Center, Shawnee, OK

Special Education Teacher, 1995 – 1998
Lake Park Elementary, Bethany, OK

Professional Membership:

Oklahoma Association of Career and Technology and Education Teachers
OkACTE), Association of Career and Technology Education (ACTE), SkillsUSA