

ANALYZING PERCEPTIONS OF MENTORING:
VOICES OF OKLAHOMA NON-TRADITIONALLY
CERTIFIED CAREER AND TECHNOLOGY
EDUCATION TEACHERS

By

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 2013

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ACKNOWLEDGEMENTS

There are many people who have helped me along this journey. First and foremost, I must thank my husband, Ryan. He encouraged me to keep on studying/writing. He picked up the slack when needed, and he helped me close the computer from time-to-time to have fun with the family. Thank you, Ryan! Next, I must say a huge thank you to my son, Wyatt. We would read one “kid” book and one school chapter/article until he fell asleep most nights. Any young child who allows mom to read Dewey’s *Democracy and Education* as a bedtime book deserves a *thank you!* He has always encouraged me!

My parents and sister are very appreciated as well. They have been a driving force towards accomplishing this goal in life. They have been incredibly supportive of my educational and career goals. Thank you for all of the “talking through ideas,” and watching Wyatt when I needed to write.

Finally, I would like to thank my committee members, Drs. Lynna Ausburn, Mary Jo Self, and Bernita Krumm, for sharing their expertise with me throughout this process. I would also like to thank my advisor and committee chair, Dr. Belinda Cole, for her time and assistance during this process. Her support and guidance has made this research possible.

Name: ANDREA MICHELLE ELLIS

Date of Degree: JULY 2013

Title of Study: ANALYZING PERCEPTIONS OF MENTORING: VOICES OF OKLAHOMA NON-TRADITIONALLY CERTIFIED CAREER AND TECHNOLOGY EDUCATION TEACHERS

Major Field: OCCUPATIONAL EDUCATION STUDIES

Abstract:

The purpose of this research was to examine mentoring practices for new teachers. In an effort to analyze the characteristics of effective mentors and mentoring practices, the primary goal of this study was to determine Oklahoma non-traditionally certified CTE teachers' perceptions of characteristics and elements of the mentoring process from the perspective of the new teacher. This research focused on progressivism as a philosophy through which mentoring theory, learning transfer theory, teacher induction programs, and teacher retention/attrition were studied. Eighty-four non-traditionally certified CTE teachers in Oklahoma participated in an online survey regarding mentor characteristics and mentoring program elements. The online survey used the Mentor Role Instrument (MRI) and the Survey of Mentors of Beginning Teachers (SMBT) in addition to a demographics section. A link to the online survey was distributed via the researcher's email. The results of the online survey were analyzed and statistically significant results were found in many areas. For the MRI, the psychosocial mentor roles appear to be more influential on a positive perception of the mentor than the career development mentor roles. The *acceptance* and *friend* mentor roles had the highest mean score for the participants. All four of the SMBT factor areas (*teacher involvement/support, staff development, administrative support, resource materials*) were considered relatively important for mentoring programs by the participants in this study. Of the four factor areas, *teacher involvement/support* held the highest mean score. The protégé teachers mentioned having the most difficulties in the areas of *learning district policies/being new, their mentor not being helpful, and instructional methods/classroom management*. Overall, the protégé teachers wanted more *help with culture, procedures, and deadlines* within their positions. Finally, recommendations for further research and recommendations for practice were stated.

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CHAPTER I

INTRODUCTION

Teachers today come from diverse backgrounds. Some have gone through traditional teacher education programs at the undergraduate level, and some have industry training rather than formal teacher preparation (Jorissen, 2003). Unfortunately, some non-traditionally certified teachers leave the profession after only a year or two of teaching (Ingersoll & Smith, 2003). In an effort to retain teachers, and ultimately help them develop as successful members of the teaching community, prior research has suggested that a quality mentoring program must be maintained (Allen, Cobb, & Danger, 2003; Hellsten, Prytula, & Ebanks, 2009; Howe, 2006; Mattoon, 2008; Meyer, 2002). Research has further suggested that a quality first year mentor/induction program can reduce the high teacher attrition rates schools currently face (Allen et al., 2003; Hellsten et al., 2009; Howe, 2006; Mattoon, 2008; Meyer, 2002).

In an article by Briggs and Zirkle (2009) the researchers' findings included a lack of consistency in mentoring between districts, a perception that mentoring is more successful when the mentor and the new teacher taught similar content areas, and that new teachers preferred ample support from their mentor and the school administration. To address the latter two findings, the

authors recommended further research to determine “which characteristics would describe the most successful mentors for beginning alternatively-licensed teachers” (Briggs & Zirkle, 2009, p. 14). Thus, this proposed research study focused on mentor characteristics and mentor program practices from the perspective of the protégé teachers that participate in the study.

Theoretical/Conceptual Framework

Mentoring is an area supported by multiple theories. Various learning theories and teaching theories have been proposed to impact the mentoring process (Barrera, Braley, & Slate, 2010; Briggs & Zirkle, 2009; Howe, 2006; Ingersoll & Smith, 2003; Jorissen, 2003; Labaree, 2005). This research focused on progressivism as a philosophy through which mentoring theory, learning transfer theory, teacher induction programs, and teacher retention/attrition are studied. These theoretical areas were chosen based on a combination of the author’s personal experiences as a non-traditionally certified teacher and from the relevance of each theory to this particular study.

Progressivism. A progressivist view toward education is at the heart of Career and Technology Education (CTE) (Paulter, 1999). Similarly, progressivism is a fundamental element of alternative and/or provisional teacher certification methods (Paulter, 1999). As such, progressivism (also called pragmatism) was the philosophy through which this research studied education and teacher induction programs.

Many different philosophies can be applied to an educational setting (Elias & Merriam, 2005). Although each of these theories might be utilized, a progressivist approach

to education lends itself to looking for the practical and best practices in regard to teacher preparation (Labaree, 2005).

Progressivism, as an educational philosophy, combines socialization and practical applications of learning with the existing purely “academic” purpose of education (Elias & Merriam, 2005, p.61). According to Elias and Merriam (2005), people should be educated intellectually, morally, spiritually, and aesthetically, while also engaged in activities and institutions in society during the learning process. John Dewey (1916), a progressive educationalist, encouraged life-long learning and wrote about using a student-centered method of teaching to combine liberal and practical education. He explained that a learner should be able to take the knowledge from past experiences and academic studies, and apply that knowledge to new challenges (Dewey, 1916). This idea can be applied to new teacher mentor programs. New teachers (the learners) will need to learn from lived experiences, as well as those learned from the mentor, and apply that information to the classroom on a daily basis (Taranto, 2011).

Another tenet of progressivism is the use of the teacher’s experiences as a learning resource for students (Elias & Merriam, 2005). Teachers’ past and/or current experiences can be used as a teaching resource to better prepare students (Christensen, Horn, & Johnson, 2011). The value of experiential learning in progressive education is specifically applicable to CTE classrooms and to the mentoring process of a new teacher. The mentoring experience itself could be as valuable to a new teacher as the prior understanding the teacher brings from industry (Jorissen, 2003).

Mentoring Theory. Mentoring theory has been analyzed by many researchers with the hope of improving retention rates of new teachers (Allen et al., 2003; Barrera et al., 2010; Briggs & Zirkle, 2009; Gibson, 2009; Hudson, 2004; Hudson, Skamp, & Brooks, 2004; Oliver, 2009; Tang & Choi, 2005; Scandura & Pellegrini, 2007). According to Scandura and Pellegrini (2007), traditional mentoring theory proposed that the mentor held a certain power and influence over the protégé, and as such, a primary function of the mentor was to serve as a guide and/or sponsor. These mentoring relationships traditionally provide that a wise, older mentor work with a younger mentee (Gibson, 2009). Gibson (2009) stated, “The traditional relationship assumes that the protégé would like to increase similarity with the mentor” (p.158). Other researchers have indicated that the nature of the mentor/protégé relationship should be a focus to determine best mentoring practices (Allen et al., 2003; Barrera et al., 2010; Briggs & Zirkle, 2009; Gibson, 2009; Hudson, 2004; Hudson et al., 2004; Tang & Choi, 2005; Salinitri, 2005; Scandura & Pellegrini, 2007). Hudson (2004) explained that *specific mentoring*, which requires that the mentor and the mentee be teaching the same subject area, is more beneficial to the incoming teacher than a general mentoring approach in which subject area is not considered in pairing the mentor and the mentee. Tang and Choi (2005) asserted that “mentoring contributes significantly to the professional development of beginning teachers and mentor teachers, and hence the quality of the teaching force itself” (p. 383).

Ultimately, the basic premise of all mentoring theory is that mentors can help new teachers learn how to be more effective and successful teachers (Allen et al., 2003; Barrera et al., 2010; Briggs & Zirkle, 2009; Gibson, 2009; Hudson, 2004; Hudson et al., 2004; Tang &

Choi, 2005; Salinitri, 2005; Scandura & Pellegrini, 2007). Salinitri (2005) described mentoring:

Creating an enduring and meaningful relationship with another person, with the focus on the quality of that relationship including factors such as mutual respect, willingness to learn from each other, or the use of interpersonal skills. Mentoring is distinguishable from other retention activities because of the emphasis on learning in general and mutual learning in particular. (p.858)

This idea, viewed from a progressivism perspective, and combined with learning transfer theory, teacher induction programs, and the need for teacher retention, is the foundation for this study.

Learning Transfer Theory. Although there is much research on Mentoring Theory and Learning Transfer Theory, research combining the two theories in a new theoretical combination, was not found during research on this study. Mentoring theory and learning transfer theory were combined in this study by addressing how a new teacher takes the knowledge learned in the mentoring process and applies that knowledge to real-life classroom situations (Thomas, 2007). According to Leimbach (2010), there are three key components of the Learning Transfer Model: 1) learner readiness activities, 2) learning transfer design activities, and 3) organizational alignment activities.

Learner Readiness Activities. Learner readiness activities help prepare and motivate the learner (the new teacher) to learn and apply that learning (Leimbach, 2010). Additionally, using these activities, teachers can determine how the knowledge learned/applied will align with their professional goals (Leimbach, 2010). Activities

included in this category are those that address “motivation, learner goals, self-efficacy, and testing of prerequisite skills” (Leimbach, 2010, p. 83).

Learning Transfer Design Activities. Learning transfer design activities are those activities designed to maximize the transfer of learning to application in real-life settings (Leimbach, 2010). Leimbach (2010) explained that learners should practice and model intended learning, set specific goals for learning, and review possible applications of learning. Activities such as practice and role-modeling are included in this component (Leimbach, 2010).

Organizational Alignment Activities. Similar to learner readiness and learning transfer design activities, organizational alignment activities are also essential to learning transfer (Leimbach, 2010). Leimbach (2010) stated, “the transfer of learning also relies on the degree to which the organization is aligned with and supports the learning and the use of new skills” (p. 85). He explained that the organizational culture must encourage learning transfer and provide activities/opportunities for the learner (or new teacher) to grow (Leimbach, 2010). Activities that address manager support/coaching, peer support, job connection, and learning culture are promoted in this category (Leimbach, 2010).

Learning transfer will be essential to the success of a new teacher (Thomas, 2007). The new teacher must be able to apply knowledge and teaching methods to real-life classroom situations. If mentoring and teacher induction programs are successful, learning transfer occurs, and teacher retention may be more likely to occur.

Teacher Induction Programs. Teacher induction programs are an important piece to the teacher preparation process (Taranto, 2011). The purpose of induction programs is to

better prepare teachers to be successful in the teaching profession (Joerger, 2003). To serve this purpose, teacher induction programs come in a variety of formats. Mentoring, collaborative environments such as learning communities, workshop formats, and a combination of these are discussed in the literature (Driscoll, Parkes, Tilley-Lubbs, Brill, & Pitts Bannister, 2009; Howe, 2006; Joerger, 2002; Osgood & Self, 2002; Taranto, 2011).

While each of the induction formats have shown to be successful at times, it seems that many of the induction programs researched included more than one single format (Howe, 2006; Joerger, 2003; Osgood & Self, 2002; Taranto, 2011). In a study by Osgood and Self (2002), the teacher induction program for trade and industrial education teachers in Oklahoma included a New Teacher Institute that provided information in a workshop format and the establishment and support of an induction team. The induction team included “a local instructional leader, a local trained mentor, an identified content expert in the new teacher’s specific discipline, a university field-representative, and an occupational specialist from the state agency” (Osgood & Self, 2002, p. 7). Osgood and Self (2002) recommended that a “better selection of mentors” be implemented (Osgood & Self, p. 25).

Mentoring is a consistent element in many of the induction programs (Driscoll et al, 2009; Howe, 2006, Joerger, 2002; Osgood & Self, 2002; Taranto, 2011), and some of the previous research calls for a better alignment of new teacher needs with regard to mentors (Howe, 2006; Long 2009; Osgood & Self, 2002). Although there are varying types of induction programs, the emphasis of this research study was on new teacher perceptions of the formal mentoring processes within induction programs. This emphasis in combination with mentoring theory and learning transfer theory can be used to address the teacher retention needs of school districts today.

Teacher Retention and Attrition. A progressivism approach to teacher induction partnered with positive mentoring and learning transfer activities might help address a growing concern for schools. Although schools face many challenges, the concern addressed here is the falling teacher retention rates (Allen et al., 2003; Hellsten, et al., 2009; Ingersoll & Smith, 2003; Jorissen, 2003; Mattoon, 2008; Meyer, 2002; Oliver, 2009; Steinke & Putnam, 2008). Because of concerns about a shrinking educational workforce, non-traditional certification methods are becoming increasingly important. The numbers of new teachers that choose a non-traditional route to teacher certification is a verification of this importance (Jorissen, 2003). As stated by Jorissen (2003), “The nature of the preparation of alternate route teacher is...of central concern to teacher educators, school personnel, and policy makers invested in this approach to staffing schools” (p. 42).

Ultimately, educational institutions must find a way to prepare teachers, especially non-traditionally certified teachers, to be effective in the classroom (Mattoon, 2008). As new teachers work with mentors in a positive learning relationship that is founded both in progressivism and in learning transfer activities, the teachers might enjoy their work more. This enjoyment is an element that can reduce teacher attrition and increase teacher retention (Oliver, 2009).

The overall goal of any induction program is to have new teachers complete a professional development program (such as mentoring) that will help them be successful in the classroom, and thus, improve the retention rate of those teachers (Oliver, 2009). Based on this goal, progressivism is truly the foundation of the theoretical framework. The practical approach to learning is an essential element of the new teacher mentoring process.

Huba and Freed (2000) explained that “Learner-centered environments promote retention by transforming institutions into welcoming places in which intellectual and personal growth takes place” (p.60). By using a learner-centered approach to training new teachers, the mentoring process may create a positive outcome for the new teacher and the school.

Conceptual Framework

Progressivism holds many educational tools useful in the classroom setting (Elias & Merriam, 2005). By combining two of these tools/theories, mentoring theory and learning transfer theory, schools may be able to create a mentoring program within the teacher induction program that provides an opportunity for new non-traditionally certified CTE teachers to be as successful as possible. Mentoring theory provides the belief that mentors are an effective tool in teacher induction programs (Briggs & Zirkle, 2009).

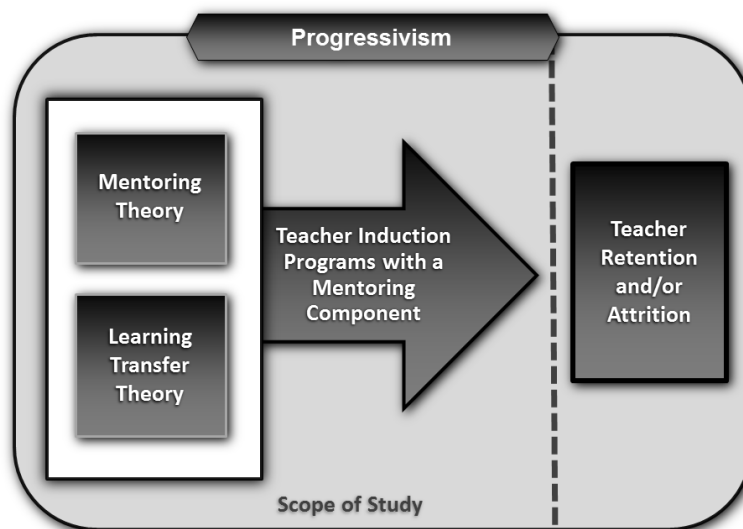
Additionally, mentoring theories provide actions and elements of effective mentors, mentees, and overall mentoring programs (Scandura & Pellegrini, 2007). As previously discussed, the notion that more support and preparation can make a difference in new teacher success is fundamental to any induction program research. However, when mentoring is discussed, researchers can address not only the mentoring process alone, but also the learning process and the application of learning by the new teacher.

Therefore, learning transfer theory weaves into the mentoring/induction process as a way of addressing the learning needs of the new teacher. By including constructive activities such as learner readiness activities, learning transfer design activities, and organizational alignment activities, the mentoring process within a teacher induction program will allow the

new teacher to gain more knowledge and be able to apply that knowledge in various settings. This application of knowledge in classroom settings will allow the teacher to feel more comfortable in their newly chosen profession as a teacher and thus, continue to teach (Jorissen, 2003).

Finally, teacher retention/attrition is the outcome of the mentoring process (Oliver, 2009). Using a progressivism approach, schools can use an induction program that applies mentoring theory combined with learning transfer theory to ultimately affect teacher retention/attrition. As shown in Figure 1, teacher retention/attrition is the outcome of applying mentoring theory and learning transfer theory to the teacher induction process within a progressivism approach to education. The scope of this study was limited to addressing how progressivism, mentoring theory, learning transfer theory, and mentoring/induction programs work together to prepare protégé teachers for the classroom environment. As the dotted line in Figure 1 depicts, this study did not analyze the effect of these theories on teacher retention/attrition.

Figure 1. Theoretical/Conceptual Framework



Statement of the Problem

The problem in this study was that although many studies and models have addressed mentoring programs and/or induction programs (Allen et al., 2003; Hellsten et al., 2009; Ingersoll & Smith, 2003; Jorissen, 2003; Mattoon, 2008; Meyer, 2002; Steinke & Putnam, 2008), there are limited models specifically for non-traditionally certified CTE teachers (Briggs & Zirkle, 2009, p. 14). Non-traditionally certified CTE teachers often have varied backgrounds within education (Osgood & Self, 2002). Many of these new teachers are coming from industry (Mattoon, 2008) and, as such, may have different learning needs to develop as effective classroom teachers than teachers that have taken a traditional pathway to certification (Szuminski, 2003). This is problematic because as non-traditionally certified CTE teachers enter the teaching field, mentoring programs and/or induction programs should be targeted to the dynamics of this particular group of new teachers.

The support a new teacher receives during the first years of teaching can impact the teacher's success and retention (Hellsten et al., 2009). The mentoring process is a major factor to consider when determining why teachers change professions (Long, 2009). Furthermore, the effectiveness of the mentoring process can determine the retention/attrition of teachers (Hellsten et al., 2009). In order to further analyze the mentoring process, and ultimately develop a better mentoring program, the new or protégé teachers' perceptions of the mentoring process should be discovered and analyzed (Briggs & Zirkle, 2009). For this reason, this study will determine the perceptions of the non-traditionally certified CTE teachers in Oklahoma with respect to the mentoring practices in induction programs.

Purpose of the Study

The purpose of this research was to examine mentoring practices through the perceptions of Oklahoma non-traditionally certified CTE teachers. Due to teacher shortages in CTE teaching fields, there are more non-traditionally certified teachers entering education directly from an industry environment (Mattoon, 2008). These teachers' success during the first few years of teaching is dependent upon the support the new teacher receives (Hellsten et al., 2009) and/or the induction program in which the new teacher participates. Thus, in an effort to analyze the characteristics of effective mentors and mentoring practices, the primary goal of this study was to determine Oklahoma non-traditionally certified CTE teachers' perceptions of characteristics and elements of the mentoring process from the perspective of the new teacher.

Research Questions

The following research questions were explored in this study:

RQ1: What characteristics do Oklahoma non-traditionally certified CTE teachers perceive make a good mentor?

RQ2: How do the perceptions of the characteristics of a good mentor differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?

RQ3: What practices do Oklahoma non-traditionally certified CTE teachers identify as most helpful in the mentoring process?

RQ4: How do the perceived practices of successful CTE teacher mentoring differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?

Definition of Key Terms

Conceptual Definitions

Alternative Placement/Certification: Certification gained through the Oklahoma State Department of Education Alternative Placement program. This program was designed for prospective teachers that already hold a bachelor's degree in a field other than education. (The Certifications section of Chapter Two will provide more information.)

Career and Technology Education Teacher: The teacher of an Oklahoma Department of Career and Technology Education (ODCTE) funded Career and Technology Education course/program. This will include teachers both in middle and high schools, and those teachers in Technology Centers.

Learning Transfer Theory: Educational theory that focuses on using educational methodologies to maximize the application of learned knowledge and skills to real-life situations. The real-life situations can be similar or different from the original learned knowledge and/or information.

Mentoring: "Mentoring occurs when a senior person (the mentor in terms of age and experience) provides information, advice and emotional support to a junior person (i.e., the mentee) in a relationship lasting over an extended period of time" (Barerra, et al., 2010, p.62)

Mentoring Theory: The theory that ultimately hold that mentoring can be useful in helping students (regardless of age) to learn the skills and knowledge necessary.

Non-traditionally Certified Teacher: Any teacher who gained teaching certification/licensure through a path other than through earning a traditional 4-year bachelor degree in a teacher education program from an accredited higher education institution

Protégé Teacher: The new teacher who is entering the teaching field, and as such, is going through the mentoring process as the teacher being mentored rather than the more experienced mentor. The protégé teacher is also referred to as the following: protégé, new teacher, mentee.

Provisional I/II Certification: Certification gained through the Oklahoma State Department of Education Provisional I/II program. This program was designed for prospective teachers that have industry experience and have a high school diploma, but may or may not hold a bachelor's degree. The program is designed to help the teacher get a bachelor's degree in a teaching field. (The Certifications section of Chapter Two will provide more information.)

Teacher Attrition: Also referred to as teacher turnover, teacher attrition refers to teachers leaving the profession of teaching.

Teacher Induction: A process through which a new teacher goes that is meant to help the teacher learn the nuances of teaching and ultimately be more successful. Teacher induction is typically focused on giving teachers the tools (literally and figuratively) to stay in the teaching profession.

Teacher Retention: Teachers being retained, or staying, in the profession of teaching and education.

Traditionally Certified Teacher. Any teacher who gained teacher certification by completing an accredited teacher education undergraduate degree program and the traditional certification requirements of the State Department of Education.

Operational Definitions

Demographic Data: Data provided by participants to determine and describe the sample of the study. Data collected included age, gender, race, highest level of education completed, undergraduate major (if applicable), number of years the participant had taught at the time of the study, the content area teaching at the time of the mentoring experience, whether or not the mentoring experience was through a formal mentoring program, method of attaining teacher certification, type of teacher certification held at the time of the study, and whether or not the teacher had ever served as a mentor in addition to being a protégé teacher in the mentoring process.

Dependent Variable: The dependent variable in this study is the demographics of the non-traditionally certified teachers.

Formal Mentoring: Mentoring that was established with specific requirements for completion and regularly-scheduled, required meetings.

Participants: Non-traditionally certified CTE teachers that completed the online survey ($N=84$).

Perceptions of Non-Traditionally Certified CTE Teachers Relating to Mentor Characteristics: perceptions provided via the Mentor Role Instrument (MRI) (See Chapter Two for more information.)

Perceptions of Non-Traditionally Certified CTE Teachers Relating to Mentoring

Elements: perceptions provided via the Survey of Mentors of Beginning Teachers (SMBT)

(See Chapter Two for more information.)

Independent Variable: The independent variable in this study is the perceptions of protégé non-traditionally certified CTE teachers.

Informal Mentoring: Mentoring that did not have requirements or schedules, but instead was established in a more casual manner.

Instructional Strategies: Strategies used by classroom teachers to educate students. This can also be referred to as pedagogical strategies or teaching methodologies when in the field of teaching.

Mentor Role Instrument: A questionnaire created by Ragins and McFarlin (1990) to assess protégé teachers' perceptions of mentors. The instrument was based on Kram's Theory of Mentor Roles (Ragins and McFarlin, 1990). This instrument measures the protégé teachers' perceptions of good mentor characteristics.

Respondent: All CTE teachers that completed the online survey ($N=176$). This includes both traditionally and non-traditionally certified teachers.

Survey of Mentors of Beginning Teachers: A questionnaire developed by Barrera (2008) to determine the perceptions of first-year teachers regarding mentoring program practices. This instrument measures the protégé teachers' perceptions of mentoring elements.

Assumptions, Limitations, and Delimitations

Assumptions, limitations, and delimitations are inherent in all research. It is imperative that researchers do their best to acknowledge any of these that may affect their

study (Gay, Mills, & Airasian, 2006). This will allow the researcher to reduce the degree of bias and limit flaws in the study's logic. The assumptions, limitations, and delimitations addressed in this paper are categorized as being imposed by population/sample, methodology, instruments, or overall study design/rationale.

For the purposes of this study, the following definitions of assumption, limitation, and delimitation were used:

Assumption: "An assumption is any important 'fact' presumed to be true but not actually verified" (Gay et al., 2006).

Limitations: "Limitations are shortcomings, conditions or influences that cannot be controlled by the researcher" (Drake, 2005)

Delimitations: "A *delimitation* addresses how a study will be narrowed in scope, that is, how it is bounded" (Pajares, 2007).

Assumptions

Assumption #1 – (Overall Study) – Mentoring programs will continue to be used in teacher induction programs. The study was based on a current trend for mentoring programs. The relevance of the study and thus, external validity, could be affected if there is a societal change in induction programs for teachers that does not include mentoring. This study, based on a review of literature and the author's understanding of Oklahoma educational institutions, will assume the importance of mentoring will remain in future induction programs. The study will also address mentoring and the perceptions of mentoring when discussing any results.

Assumption #2 – (Population/Sample) – Every non-traditionally certified CTE teacher in Oklahoma received the email invitation to participate in the study. It was

assumed that each member of the population would receive an email invitation to participate in the study. External validity could be a concern if there are members of the population who do not receive an invitation to participate in the study. Because a list specifically of non-traditionally certified CTE teachers in Oklahoma does not exist, the researcher (with the assistance of the Oklahoma Department of Career and Technology Education) emailed an invitation to participate to all CTE teachers in Oklahoma. Only the data from non-traditionally certified teachers were analyzed for this study.

Assumption #3 – (Instrument/Methodology) – The participants responded to the questions honestly. It was the assumption of the study that the participants would honestly respond to the online survey with 100% effort. Internal validity could be affected if participants were not truthful with their responses. The consent statement and the instructions for the surveys encouraged the participants to answer honestly and to the best of their abilities. Additionally, any extreme outlying data were analyzed for accuracy and potentially excluded from data analysis and results of the study.

Assumption #4 – (Instrument/Methodology) – The participants responded to the survey questions as they would typically respond. Because this was a cross-sectional survey study, all data were gathered from a participant in one time period. Thus, it was assumed that the responses from the participants were evident of their typical, daily thoughts and feelings. Internal validity could be affected if participants responded to the questions based on their mood or an attitude that is not typical of their nature. The consent statement and the instructions for the survey asked that the participants respond to the questions as they would typically respond. Additionally, any extreme outlying data were analyzed for accuracy and potentially excluded from data analysis and results of the study.

Limitations

Limitation #1 – (Population/Sample) – It was not possible to know if a valid sample size participated in the study. The exact number of non-traditionally certified CTE teachers in Oklahoma is unknown. Records for this data are not currently kept. Because determining an appropriate sample size is based on the number in the total population (which is unknown), the researcher had no way of knowing whether or not an adequate sample size was attained.

Limitation #2 – (Population/Sample) – This study assessed the perceptions of only non-traditionally certified CTE in Oklahoma. This research used a specific population of teachers – non-traditionally certified CTE teachers in Oklahoma. The study was not intended to give information about any other group of teachers or people. The external validity was affected with this limitation because of the specificity provided by the study. When discussing results and conclusions, the researcher did not over-generalize to a larger population. The study cannot be generalized to traditionally certified teachers, teachers outside of CTE, teachers outside of Oklahoma, or any combination of these groups.

Limitation #3 – (Population/Sample) – Non-traditionally certified teachers who have stopped teaching prior to this study have not been included. Any non-traditionally certified teachers who left teaching prior to this study was not included in the study because a lack of contact information for those teachers. The internal validity could be affected. The remaining teachers may have a more positive view of the mentoring process than those who are no longer teaching. Unfortunately, the contact information for the former teachers was not available. Therefore, those teachers could not be surveyed. When describing results,

conclusions, and recommendation for further research, this limitation was mentioned and further research of these individuals could be recommended.

Limitation #4 – (Methodology) – The online survey may be blocked from the teachers’ school computers. Many schools have software programs that limit the websites that can be viewed while on the school’s network. If the teacher’s school blocked the website that contained the survey, the teacher was unable to complete the study while at school. This may have limited the number of responses, and thus, affected internal validity. The researcher worked to find a website that was allowed by most schools in Oklahoma. This mitigated the limitation as much as possible.

Limitation #5 – (Methodology) – The response rate for an online survey may be low. The survey was an online survey, and thus the response rate could be low (Wright, 2005). The link to the survey was emailed to all possible participants. There is potential that possible participants would not open the email or choose not to follow the link to take the survey. If the response rate is extremely low, internal validity could be affected (Wright, 2005). A second email was sent two weeks after the initial email reminding the possible participants to follow the link and complete the survey. Furthermore, this type of survey was selected instead of a mailed, paper-pencil survey because of the increased likelihood of participants completing the survey.

Limitation #6 – (Instrument) – A participant could submit more than one survey. There was no identifiable information taken by the survey. As such, the researcher had no way of knowing that each participant completed only one survey. This could affect the reliability and validity of the data because the survey was intended to be completed only once by each participant. The consent statement and instructions for the surveys asked that

the participant complete the survey only once. Also, any extreme replications of participant responses were analyzed to determine their validity, and excluded as necessary.

Delimitations

Delimitation #1 – (Research Purpose/Design) – This study was not meant to test how progressivism, mentoring theory, and learning transfer theory affect teacher retention/attrition. The purpose and design of the study is such that the primary focus of the study was to determine the perceptions of non-traditionally certified CTE teacher in Oklahoma with regard to mentor characteristics and elements of a mentoring program. The internal/external validity is not affected if the researcher keeps the focus of the study and findings to only those addressed in the research questions. The results and conclusions were presented in alignment with the purpose and research questions of the study.

Delimitation #2 – (Population/Sample) – The population is non-traditionally certified CTE teachers in Oklahoma. The population was chosen based on the current research need and gap in the knowledge base. Oklahoma was chosen based on convenience and location of the researcher. This study's external validity was affected by this choice. The study is not generalizable to teachers outside of CTE, teachers outside of Oklahoma, or CTE teachers who were traditionally certified. When writing the results and conclusions of the study, the researcher took care to not generalize the results to inappropriate populations.

Delimitation #3 – (Population/Sample) Years of experience will not be a determinant of participation. Regardless of years of experience, all non-traditionally certified CTE teachers in Oklahoma were invited to participate in this study. The years of experience in teaching or in industry could have an effect on the responses given by the participant and, thus, affect the internal validity of the study. Analysis was completed to

determine if there was a difference in the responses from teachers with varying years of experience. However, that was not a focus of this study and the responses of all participants will be equally valuable to the study.

Delimitation #4 – (Methodology) – This study was a cross-sectional census survey research study. Because this study gathered all information needed from a participant at one time, the study was not able to show any changes over the career of the teacher. Based on the purpose of the study and the research questions, this delimitation should not affect the internal or external validity of the study. Instead, this delimitation bounded the scope of the study. This study was not meant to be a longitudinal study. The study has been designed to be a snapshot of the opinions of the participants at the time the survey was completed.

Significance of the Study

The significance of this research was two-fold. First, this study will expand the theory base related to induction programs for non-traditionally certified CTE teachers in Oklahoma by examining mentoring theory, learning transfer theory, teacher induction programs and teacher retention/attrition through the lens of progressivism. Secondly, this study has practical significance for mentoring and/or induction programs. By analyzing the perceptions of teachers, educators could develop a mentoring professional development program that better meets the needs of new CTE teachers (Briggs & Zirkle, 2009). Ultimately, this research study could help induction programs to progress and thus, increase non-traditionally certified CTE teachers' likelihood of staying in the teaching profession.

CHAPTER II

REVIEW OF LITERATURE

CTE teacher education is a multi-dimensional body of research. As such, the literature review for this research was multi-dimensional and included the progressivism approach to education, mentoring theory, and learning transfer theory as they apply in an educational setting. Additionally, this literature review also addressed teacher induction programs and teacher retention/attrition in light of these areas of research. Finally, teacher certification methods in Oklahoma and the instruments for this study are discussed in this chapter.

Progressivism in Education

Expanding beyond the traditional “academic” goals in education, the progressivism (also called pragmatism) movement changed the idea of education in the United States (Elias & Merriam, 2005, p.61). Socialization and practical applications of learning were added to the academic goals to create a more pragmatic and progressive form of education (Elias & Merriam, 2005). This change in the paradigm of education strengthened support for CTE and adult education endeavors (Warner, 2009).

While discussing the definition of progressivism, Labaree (2005) states:

It means basing instruction on the needs, interests and developmental stage of the child; it means teaching students the skills they need in order to learn any subject,

instead of focusing on transmitting a particular subject; it means promoting discovery and self-directed learning by the student through active engagement; it means having students work on projects that express student purposes and that integrate the disciplines around socially relevant themes; and it means promoting values of community, cooperation, tolerance, justice and democratic equality. (p. 277)

According to Labaree (2005), progressivism in American schools is commonly described as “child-centered learning, discovery learning, and learning how to learn” (p.277). Pogrow (2006) included the ideas of “distributed learning, leadership, whole language, restructuring, thinking outside the box, and new paradigms” when describing progressivism as seen in education.

Progressivism is not a new concept though. Dating back to the sixteenth century, progressivism has promoted experiential and practical education for centuries (Elias & Merriam, 2005). Bishop John Comenius and Jean Jacques Rousseau, in their writings, encouraged experiential learning rather than traditional education (Elias & Merriam, 2005).

Progressivism is seen throughout the work of education theorists including, but not limited to, Herbert Spencer, John Dewey, Johann Pestalozzi and Friedrich Froebel. Although not called “learner-centered” at the time, Herbert Spencer promoted instruction based on the needs of the students and pushed for activities that engaged the students in an effort to expand the students’ knowledge and skills (Spencer, 1864). Spencer (1864)

believed that quality [progressive] education should consist of intellectual, moral and physical education.

Similarly, John Dewey (1916), a progressive educationalist, promoted the combination of liberal and practical education, and encouraged life-long learning. He believed in using a student-centered approach to teaching where the teacher focuses specifically on the needs of each student and develops instructional methods that will meet those needs (Dewey, 1916). As the ‘godfather’ of progressivism, many of the fundamental ideas of progressivism today can be found in Dewey’s writings (Labaree, 2005).

Theorists such as Johann Pestalozzi, Friedrich Froebel, Jean Jacques Rousseau, and many others have articulated the need for education that focuses on the needs of the learner, applies learning through application, involves enjoyment in learning, and prepares students for life after schooling (Elias & Merriam, 2005). For this reason, progressivism has had a great impact on education (Pattison, 1999).

The progressive teacher focuses on the needs of the learner (regardless of the learner’s age) (Pogrow, 2006). By focusing on the needs of the learner, the teacher is able to determine both the content taught and the manner in which the content is taught (Dewey, 1916). Dewey (1916) explained that “the teacher should be occupied not with subject matter in itself but in its interaction with the pupils’ present needs and capacities” (p. 183).

It is important to note that this type of education does not mean that the students “run wild” or that the teacher does less work. To the contrary, progressive teachers must

have a thorough understanding of their subject matter and work to provide experiential learning opportunities for students to learn that subject matter (Dewey, 1916). It is the goal of the progressive educator to provide “a general destination for the class” (Paulter, 1999). However, as Paulter (1999) stated, “they would not act as authoritarian figures in seeking that destination and would, in fact, encourage alternative perspectives – Thus avoiding indoctrination” (p. 31). This impacts the student-teacher relationship and the instructional methods.

Two distinctive elements of progressive education are the nature of the student-teacher relationship, and an involvement in active and experiential learning (Elias & Merriam, 2005). The student-teacher relationship in progressive education contradicts that of traditional education. Traditional education student-teacher relationships consists of an environment in which the teacher is the knower and the giver of knowledge to the students (Elias & Merriam, 2005). This relationship tends to be uninviting for students to ask questions and develop relationships with their teacher. The progressive education student-teacher relationship is vastly different from the environment just described. The relationship is more of a facilitator of learning, teacher as co-learner; the teacher can be seen as a guide through the educational process (Pattison, 1999). Pattison (1999) discussed that progressivism “viewed the teacher as a guide, consultant, and resource; the learner as responsible for learning in partnership with the teacher; and education as an instrument of social change” (abstract). Furthermore, Dewey (1916) stated, “The educator’s part in the enterprise of education is to furnish the environment which stimulates responses and directs the learner’s course” (p. 180).

Progressive education focuses on the learner (Pattison, 1999). Through combining an academic subject matter with both social and practical application, progressivism can positively affect the learning environment for new teachers by encouraging new teachers to use past experience and academic knowledge to face new challenges (Elias & Merriam, 2005). By focusing on the needs of the learner and providing instruction that promotes applying past knowledge, engaging in specific real-world learning situations, and combining all knowledge learned (past or current), new teachers are able to prepare for and lead their classrooms (Taranto, 2011).

While progressivism is very practical in educational methodology and pedagogy, progressivism also encourages the use of active, engaging, experiential learning activities (Paulter, 1999). Learning through hands-on activities that allow students to apply past knowledge, apply past experiences, and learn from the current experience is the foundation of progressive education (Dewey, 1916). This can be true for adult learners as well (Elias & Merriam, 2005).

Progressive education supports adult education (Elias & Merriam, 2005). Adult learners, such as the teachers who participated in this research, can be influenced by education that is engaging, and that uses practical and experiential learning as a key to teaching new skills (Pattison, 1999). Elias and Merriam (2005) explained that “some of the basic principles in adult education originated in progressive thought: needs and interests, the scientific method, problem-solving techniques, the centrality of experience, pragmatic and utilitarian goals, and the idea of social responsibility” (p. 51).

Progressivism can be seen in teacher certification and teacher preparation programs (Green & Ballard, 2011). When one looks specifically at non-traditional certification methods for teachers, progressivism is the foundation of any non-traditional certification method (Paulter, 1999). Non-traditional certification methods allow teachers to use their previous experience from industry to better educate students (Mattoon, 2008).

For example, Oklahoma non-traditional certification methods require teachers to have subject area experience before they are able to earn a teaching certificate (discussed more in the certification methods section of this chapter). The idea of having subject area experience aligns with the thoughts of progressivism. Progressivism promotes using experiences as both a learning tool and a teaching tool (Elias & Merriam, 2005). Through the sharing of the teacher's subject area experiences, the students are likely to have examples and activities that will more aptly prepare them for the future (Dewey, 1916). Using real-life scenarios to teach is fundamental to Career and Technology Education, professional development, and other forms of adult education (Elias & Merriam, 2005). The idea of progressive, hands-on, experiential learning as a means of helping new teachers learn the art of teaching leads to the idea of using mentoring as a tool in preparing teachers to be successful.

Mentoring Theory

The basic premise of the mentoring theory literature reviewed was that mentoring can help new teachers become more successful in their classrooms. Although only a few will be discussed here, there are many definitions of mentoring (Allen et al, 2003; Barrera et al., 2010; Gibson, 2009; Hudson, 2004; Salinitri, 2005; Scandura & Pelligrini, 2007;

Tang & Choi, 2005). Some research has defined mentoring as an older, more experienced mentor providing information as a guide or sponsor would to a younger, less experienced protégé teacher (Barrera, et al., 2010; Gibson, 2009). While other researchers focus less about age or seniority, and more of the mentoring relationship itself.

Geri Salinitri (2005) explained mentoring as “creating an enduring and meaningful relationship with another person, with the focus on the quality of that relationship including such factors as mutual respect, willingness to learn from each other, or the use of interpersonal skills” (p. 858). Allen et al. (2003) explained that through mentoring both the protégé and the mentor should “benefit, improve and expand their teaching repertoire” (p. 177). Furthermore, Osgood and Self (2002) explained that “a mentor’s function is to advise, counsel, and guide the new teacher through problems that may arise in the novice’s professional life” (p. 10).

The effectiveness of mentoring as a strategy in educational institutions and the work place is established in the literature (Eble & Gaillet, 2008; Tang & Choi, 2005). Eble and Gaillet (2008) described in *Stories of Mentoring: Theory and Praxis*, that mentoring can be traced to the early author, Homer. Tang and Choi (2005) relayed that “mentoring contributes significantly to the professional development of beginning teachers and mentor teachers, and hence the quality of the teaching force itself” (p. 383).

In Kram’s (1983) study, phases and functions of the mentoring process were studied through analyzing 18 mentoring relationships. Each participant was interviewed twice to learn about the individual’s career relationships and about the mentoring

relationship being studied (Kram, 1983). Kram (1983) found that the mentoring relationship can affect the career development and psychosocial development in both the mentor and the protégé. Included in career functions are sponsorship, exposure-and-visibility, coaching, protection, and challenging assignments (Kram, 1983). Included in psychosocial functions are role modeling, acceptance-and-confirmation, counseling, and friendship (Kram, 1983). The Mentor Role Instrument used in this study was originally developed based on Kram's Theory of Mentor Roles.

Hudson (2004) explained there is a need for specific mentoring in which the protégé is mentored by an experienced teacher in the same teaching field. This allows for the protégé teacher to learn from specific situations and lessons. He explained that the goal of the mentor should be to “develop the mentee's overall teacher ability” (Hudson, 2004, p. 144). The 2004 publication further asserts that there are five factors in the mentoring process: pedagogical knowledge, system requirements, feedback, personal attributes, and modeling. By taking into account all factors in this model, Hudson (2004) believed the mentor has a better likelihood of helping the protégé teacher become a successful teacher.

Allen et al. (2003) studied the outcomes of mentoring sessions for 11 pre-service teachers who tutored elementary school students. Each of the pre-service teachers was paired with a classroom teacher for the mentoring experience. The study found that the mentoring process increased the pre-service teacher's reflection on instruction strategies, and that the pre-service teachers were more likely to adapt instruction to the needs of the students. Additionally, the study reported the pre-service teachers felt that “just knowing

they had the additional support of a mentor helped them feel successful” (Allen et al., p. 181).

Clark and Byrnes (2012) analyzed 136 beginning elementary school teacher’s perceptions of first-year mentoring support. The researchers found that the majority of first-year teachers perceived mentoring as a helpful support (Clark & Byrnes, 2012). The researchers reported that “beginning teachers seem to prefer mentoring which helps meet immediate needs with less time spent on reflection or analysis” (Clark & Byrnes, 2012, p. 51). Time to meet with the mentor via common planning periods and “release time for observing teachers” (p. 51) were also reported as important aspects of effective mentoring support (Clark & Byrnes, 2012). Release time to observe other teachers was found to be directly related to the perception that mentoring was helpful (Clark & Byrnes, 2012). Overall, the Clark and Byrnes (2012) study found that mentoring support can be valuable in allowing beginning teachers to feel supported and encouraged in their chosen professions.

In a 2009 study by Oliver, 38 protégé Mathematics and Science teachers participated in a pilot mentoring program. The program involved a reduction in teaching responsibilities that allowed time for the protégé teacher, professional development opportunities specific to the needs of the teacher, opportunities to attend specific conferences, and a well-trained mentor (Oliver, 2009). The study noted that “enabling reflective practice was central to the mentoring conversations between mentees and mentors” (Oliver, 2009, p. 7). Overall, the protégé teachers found the program incredibly useful, and noted that the mentor and mentoring program afforded the teachers

instructional strategies, classroom management, and an understanding of the teaching processes (Oliver, 2009).

Briggs and Zirkle (2009) studied the perceptions of 456 “alternatively-licensed CTE teachers” (p. 4). The questionnaire they used asked for perceptions regarding employment status, university coursework, mentoring activities, and future career plans (Briggs & Zirkle, 2009). Mentoring activities cited by teachers as “topics needed in future mentoring programs” (Briggs & Zirkle, 2009, p. 12) were teacher tasks, teacher licensing and professional development, institutional issues related to the state, and school and mentoring program operations (Briggs & Zirkle, 2009). More specifically, Briggs and Zirkle (2009) concluded that new CTE teachers found the following as the most important topics to be addressed in mentoring: planning, time management, student assessment, ways to prevent teacher burnout, how to deal with classroom management issues, and working within the political and cultural make-up of their individual school buildings and school districts. Additionally, Briggs and Zirkle (2009) concluded that teachers

believed that mentoring is the most useful when mentors and mentees are carefully matched based on similar teaching content, when duplication of university materials and employment materials is reduced, when paperwork is reduced as much as possible, when mentors take the time to meet with their assigned mentees, and when university and school employees realize that alternatively-licensed career and technical mentees are overwhelmed with everything when they begin teaching, and they could use whatever help the

mentor, university teacher educators, and school district administration can provide to help them succeed. (Briggs & Zirkle 2009, p. 13)

Mentoring is not without limitations (Meyer, 2002). Some sources claim that mentoring is successful only when used as a component of a more comprehensive induction program (Wilcox & Samaras, 2009). Alternatives to traditional mentoring include learning communities, peer mentoring, and other forms of induction programs (Driscoll et al., 2009; Meyer, 2002; Sanderson, 2003; Taranto, 2011). Further, information about various induction programs can be found in the *Teacher Induction Programs* section of this chapter. Mentoring is also affected by various learning theories. For the purpose of this research, learning transfer within mentoring and induction programs was addressed.

Learning Transfer Theory

Also affecting the nature of the teacher preparation process is learning transfer. Learning transfer is also referred to in the literature as transfer of learning, transfer of knowledge, transfer of training, and extended learning (Alderman & Beyeler, 2008; Burns, 2008; Leimbach, 2010; Thomas, 2007). The term *learning transfer* was used for this study because of its prevalence in the literature.

Learning transfer can be described as “the ability to appropriately apply information and skills learned in one setting to a similar or different setting” (Thomas, 2007). Haverila, Myllylä, and Torp (2009) explained that “transfer takes place whenever our existing knowledge, abilities and skills affect the learning or performance of new tasks” (p. 2). Leimbach (2010) added that learning transfer is the “transfer of

learning to actual job performance” (p. 82). To discuss this concept, models will be described that have been shown in the literature to be tools in achieving learning transfer.

Benjamin Bloom (1956) published a well-known educational work titled *Taxonomy of Education Objectives*. That work focused on how people learn and move through the educational processes. Bloom (1956) explained that there are six levels of learning. In order of complexity the levels are knowledge, comprehension, application, analysis, synthesis, and evaluation. Knowledge is the lowest level based on complexity and psychomotor skills. Knowledge involves remembering information and facts (Bloom, 1956). Comprehension is the next step in the learning process. In the comprehension level, the student gains understanding based on prior knowledge (Bloom, 1956). However, comprehension does not necessarily mean the student will be able to apply the understanding (Thomas, 2007). The third step in the learning levels is application of knowledge and comprehended understanding to situations in real-life. Throughout this phase, the student should be supported by the teacher, mentor, or coach in an effort to try new ideas and explore (Bloom, 1956). Analysis is the fourth level, and is characterized by the student categorizing information, comparing and contrasting ideas, and examining processes and information (Bloom, 1956). Synthesis involves the student constructing a position and creating a justification for that position on a topic. Additionally, synthesis also includes being able to reorganize learning and structure ideas and knowledge as necessary (Bloom, 1956). Finally, the evaluation stage allows the student to reflect on the information learned, understood, applied, analyzed, and examined in an effort to assess the process and determine new ideas and practices for the future (Thomas, 2007). Through the use of high order thinking skills via Bloom’s

Taxonomy, students can achieve the transfer of learning to application in various situations (Thomas, 2007).

Leimbach (2010) described his model for learning transfer in an article titled *Learning Transfer Model: a Research-Driven Approach to Enhancing Learning Effectiveness*. Leimbach (2010) explained that the Learning Transfer Model consists of three key components: 1) learner readiness activities, 2) learning transfer design activities, and 3) organizational alignment activities. To promote the importance of the learning, learner readiness activities are used to help new teachers “integrate the learning into their work environments and work systems” (Leimbach, 2010, p. 84). Learner readiness activities are also used to help new teachers form an understanding of how the learning will align with their career ambitions (Leimbach, 2010). Learning transfer design activities are learning activities that are likely to increase learning transfer. Leimbach (2010) explained that practicing and modeling, setting learning goals, and reviewing the application of knowledge are three activities that can enhance learning transfer. Learning transfer design activities include encouraging the new teachers to practice their teaching and to model after other teachers (Leimbach, 2010). Leimbach (2010) explained that learners should establish goals and use reflection practices to develop a practical understanding that can be built upon. Also, organizational alignment is necessary for the most learning transfer to occur. Organizational alignment refers to the support the organization places toward the learning and use of the skills (Leimbach, 2010). Leimbach (2010) stated, “the transfer of learning also relies on the degree to which the organization is aligned with and supports the learning and the use of new skills” (p. 85). Manager support/coaching, peer support, job connection, and learning

culture are all factors that can enhance organizational alignment thus enhancing learning transfer (Leimbach, 2010).

Haverila et al. (2009) studied learning strategies for adult learners as they researched ways to improve learning transfer. Specifically, they looked at web-based teacher education courses. Haverila et al. (2009) cited a model of meaningful learning created by David Jonassen that included eight criteria used to assess learning transfer in a teacher education program. The criteria were to ensure the learning environment was active, constructive, intentional, collaborative, complex, conversational, contextualized, and reflective (Haverila et al., 2009). The researchers concluded that through the application of this model “the transfer effect seemed to occur” (p. 8). Finally, the researchers noted that learning transfer should continue to be studied to determine best practices for education (Haverila et al., 2009).

Alderman and Beyeler (2008) studied preservice teachers’ understanding and application of motivation techniques in a descriptive and exploratory qualitative study. Seven preservice teachers volunteered to participate in the study. Alderman and Beyeler (2008) found that the preservice teachers wanted the ability to transfer their understanding of motivation to their classroom environments.

In an article titled, *Informal Learning and Transfer of Learning: How New Trade and Industrial Teachers Perceive Their Professional Growth and Development*, Burns (2008) described her study in which 28 alternatively certified trade and industrial education teachers were asked to complete a questionnaire including two instruments. The first instrument addressed formal and informal learning regarding specific

competencies, and the second addressed the application of those competencies in the classroom. The study suggested that “competencies learned both in formal and informal settings may lead to higher rates of perceived transfer of learning than those learned strictly through formal methods” (Burns, 2008, p.19). The article discussed that interaction with other teachers and training specific to the new teacher’s content area can assist in learning transfer (Burns, 2008).

In any type of learning environment, the ultimate goal of an educational program is that the student can apply the knowledge learned in the classroom to real-life situations (Leimbach, 2010). Learning transfer is essential in the teacher preparation and induction processes (Alderman & Beyeler, 2008). When learning transfer is successful, learners are able to apply knowledge to real-life, practical situations (Thomas, 2007). The students, the protégé teachers in this study, must be able to take information from college courses, mentoring experiences, and other induction program elements and apply that information to their classroom teaching. This is especially true in a CTE classroom that typically is very hands-on and project driven (Burns, 2008). Studying how learning can transfer to application is essential to the best practices for teacher preparation (Alderman & Beyeler, 2008; Burns, 2008).

Teacher Induction Programs

Teacher induction programs can help prepare new teachers to be successful in their first few years of teaching (Kang & Berliner, 2012). Joerger (2003) stated, “Thoughtfully designed induction activities and programs are warranted since the turbulent first years of teaching have a major impact upon the initial experience of

beginning teachers” (p. 7). By affording new CTE teachers a program in which they can learn about many of the day-to-day concerns, these new teachers can feel more confident in their teaching (Osgood & Self, 2002; Camp & Heath-Camp, 2007). Induction programs can also help the teacher learn classroom management, how to work with administrators, how to complete the required paperwork, and best practice for classroom pedagogy (Joerger, 2003).

Benefits of teacher induction programs include benefits to the teacher, students, and schools (Joerger, 2003). Research has shown that teachers can gain self-confidence and satisfaction in the early years of teaching through these programs (Taranto, 2011). Additionally, teachers can better understand instructional strategies, classroom and student management techniques, and the nuances of teaching through completion of an induction program (Bullough, 2012; Kang & Berliner, 2012). Although induction program format varies across states, programs, and school districts, many of the induction programs described in the literature address instructional strategies, classroom and/or student management techniques, assessment of learning, and day-to-day requirements such as scheduling, forms, and reports (Joerger, 2003; Jorissen, 2003; National Research Center for Career and Technical Education (NRCCTE), 2011; Osgood & Self, 2002).

Most induction programs use mentoring as the sole tool for preparing new teachers (Bullough, 2012). Other induction programs include elements such as workshops, seminars, mentoring, induction teams, reflection and other reflective techniques, learning communities, or a combination of these (often referred to as a comprehensive induction program)(Meyer, 2002; National Center for Education

Evaluation and Regional Assistance (NCEE),2009; Sandford & Self, 2011; Taranto, 2011).

Taranto (2011) studied 16 new teachers going through an induction program within a public school system in Pennsylvania. The new teachers participated in an induction program consisting of a professional learning community that provided professional development and an opportunity for the new teachers to ask questions and discuss ideas (Taranto, 2011). The new teachers described in Taranto's (2011) study also received support from a variety of individuals including "veteran teachers, district administrators, building principals, and university professors from schools of education" (p. 5). The new teachers primarily used Web 2.0 technologies to participate in the learning communities and communication with the supporters. The study found that teachers responded positively to using the online learning community model (Taranto, 2011). Teachers noted they were able to use the online discussion boards to "relate with other teachers and reflect on my own practices" (Taranto, 2011, p. 12). The study participants (teachers, administrators, and university representatives) recommended three changes in the format of this induction program: (1) second- and third- year teachers be included as support teachers, (2) all district administrators participate as support rather than only a few, (3) the online discussion board be setup in an ongoing format rather than a one-week per month format (Taranto, 2011). Overall, through the use of multiple mentors (i.e., support individuals) in an online learning community, the induction program was able to provide the support new teachers felt they needed (Taranto, 2011).

Joerger (2003) studied 64 agricultural education teachers to compare the "(a) the levels of stress and job satisfaction received from their teaching roles; (b) the frequency

of occurrence of selected forms of assistance; and (c) the impact of the selected forms of assistance provided by local school district personnel” (p. 9). The study had three major findings. First, the teachers were experiencing high levels of stress and moderated levels of satisfaction. Secondly, there were six forms of assistance provided to teachers most often, “(a) an orientation on the school, (b) planning time before school started in the fall, (c) workshop for new teachers, (d) parental support for the program, (e) an orientation tour of school facilities, and (f) a mentor or buddy teacher” (Joerger, 2003, p. 12-13). Lastly, Joerger (2003) found that teachers perceived that eight forms of assistance had “a major impact on the experience of the beginning teacher” (p. 14). In order of importance, the eight forms of assistance were:

(a) adequate materials, textbooks, and workbooks; (b) parental support for the program; (c) availability of information for purchasing supplies/equipment; (d) the existence of planning time before school started; (e) an extra planning period provided for beginning teachers; (f) curriculum guides made available; (g) the principal provided helpful evaluation and feedback; and, (h) a list of available resources and vendors. (Joerger, 2003, p. 14)

Kang and Berliner (2012) analyzed the 1999-2000 School and Staffing Survey (SASS) and the 2000-2001 Teacher Follow-up Survey collected by the National Center for Education Statistics. The study included 5,788 teachers across the United States. The purpose of Kang and Berliner’s (2012) study was to “examine the relationship of teacher induction programs to teacher retention” (p. 271). The researchers found there were four activities that were commonly practiced during induction programs: “supportive communication, regularly-scheduled collaboration, seminars, and common planning

time” (Kang & Berliner, 2012, p. 280). Additionally, Kang and Berliner (2012) found there were three activities during induction that reduced turnover rates for beginning teachers: (a) extra classroom assistance, (b) participation in seminars, and (c) common planning time with mentors. Finally, Kang and Berliner (2012) noted being highly structured, focused on professional learning, and collaboration were three similarities of all *high-quality induction programs*.

Sandford and Self (2011) studied the perceptions of school administrators with regard to the Oklahoma CareerTech New Teacher Induction (NTI) program. Fifty-one administrators completed surveys and participated in face-to-face interviews over three school years: 2000-2001, 2001-2002, and 2004-2005. The study found that administrators were concerned for the new teacher in the following areas: (a) information about known expectations, organizational intricacies, mandates, requirements, policies and procedures and, student interaction and management; (b) lack of teaching ability and perceptions of new teacher needs; and (c) time management (Sandford & Self, 2011).

Teamwork/perspectives/feedback, known expectations, time management, and cost were all given as negative perceptions of NTI by the administrators. However, Sandford and Self (2011) noted that these perceptions were worded more as “suggestions for improvements than dissatisfaction” (p. 194). Overall, the administrators thought NTI to be beneficial to new teachers noting two areas specifically as positive: “higher education/university representative NTI team member participation and, mentor support and relationship to the new teacher; and teamwork/perspectives/feedback” (Sandford & Self, 2011, p.195). Sandford and Self (2011) discussed that there have been seven changes in the format of NTI based on this research and other observations:

1. Recognition for the NTI team members has been added.
2. NTI has been changed to a divided model. New CTE teachers have a series of one- and two-day institutes/workshops before and during the school year rather than one five-day session before school.
3. More communication in the form of monthly updates and yearly reports are being provided to all levels of administration in the school where there are NTI teacher participants.
4. Teacher certification courses have been adapted to emphasize “time and stress management and legal issues” (p. 198). Assignments in these courses are intentionally developed to address the needs of new CTE teachers
5. Electronic communication has been increased. Paperwork and forms are now available in digital formats, and mobile devices are used to communicate with new CTE teacher more often
6. Administrator and mentor training is required every 2-to-3 years.
7. Teachers that participated in NTI as a new teacher are now returning to NTI as a mentor teacher or administrator. This has allowed for networking and friendships.

(Sandford & Self, 2011)

The NRCCTE and the Southern Regional Education Board (SREB) partnered to create an induction model for non-traditionally certified CTE teachers. The induction model focused on increasing the new teacher’s career commitment, competency, and self-efficacy. NRCCTE (2011) explained that the model included:

196 hours of professional development delivered through a 10-day summer institute prior to the first year of teaching; three, two-day workshops during the first year; and a second 10-day summer institute at the conclusion of the first year. In addition, the model includes the support of coaching from the professional development instructor, on-site guidance from a mentor and administrator, and participation in an electronic community of practice. (p. *ii*)

The field test results for the three years of the study found that teachers' self-efficacy improved in the areas of instruction, classroom management, and student engagement. Additionally, the NRCCTE (2011) found the following:

- Teachers were positive about their school working environments,
- Teachers reported that the induction model professional development was intensive, time-consuming, helpful, and applicable instructionally,
- Teacher commitment to the profession remained steady at 80% throughout the school year,
- 70% of the teacher cohort remained in the teaching profession for the 2011-2012 school year, and
- the induction model showed promise in supporting the broader context of school reform.

The NRCCTE (2011) further discussed the importance of continued training for teachers to enhance teaching abilities not only in technical fields, but in the academic fields that are incorporated into CTE courses. Although, the findings in this study were

positive, the NRCCTE (2011) recommends that professional development be provided to help these teachers additionally.

After a review of teacher induction literature, it is clear that teacher induction programs can help new teachers. CTE teacher responsibilities are ever-increasing, and training must be provided for the teachers to be successful (Camp & Heath-Camp, 2007). Joerger (2003) explained, “the practice of school districts providing beginning teachers with support and assistance during the initial years is needed to ensure that the early imprinted teaching experiences are positive and gratifying” (p. 7). As shown in the literature, comprehensive induction programs and induction programs including only mentoring may be able to help improve the teacher retention rates of new CTE teachers (Bullough, 2012; Kang & Berliner, 2012).

Teacher Retention and Attrition

Teacher shortages, and subsequently teacher retention, are growing concerns in educational settings (Allen et al., 2003; Hellsten et al., 2009; Ingersoll & Smith, 2003; Jorissen, 2003; Mattoon, 2008; Meyer, 2002; Steinke & Putnam, 2008). Teacher retention refers to retaining teachers in the classroom. Teacher attrition refers to teachers leaving the profession of teaching. Teacher retention can affect the overall climate of the school, the learning environment within the classroom, and whether or not programs even stay open (Ingersoll & Smith, 2003).

The need for retaining teachers is clear in the current CTE literature (Backes & Burns, 2008; Mattoon, 2008). Studies have shown that employees who feel secure in their jobs are more likely to stay in position (NRCCTE, 2011). Teachers with a high level

of success and confidence in their positions are more likely to stay in their chosen profession (Gardner, 2010).

In a study by Backes and Burns (2008), new teachers were asked why they are changing professions to enter the teaching field. At the beginning of their respective New Teacher Institute, 125 new teachers who attended the Trade and Industry or Healthcare Science New Teacher Institutes at two universities in Georgia were surveyed. The goal of the research was to determine why these teachers wanted to become teachers in an effort to ensure that the needs of the teacher were met. Backes and Burns (2008) noted that by understanding the motivation of the new teachers, and meeting their needs in an induction program, a higher retention rate could be achieved. The study reported five reasons given for entering the teaching field: (a) religious or secular calling, (b) hours, (c) pay and benefits, (d) love of subject matter, and (e) other. Many of the teachers chose one of the first four options and also wrote in a response for other. Ultimately, the new teachers reported wanting to be successful in the classroom.

Similarly, Steinke and Putnam (2008) studied the factors that contributed to technology education teachers taking a specific job position. The goal of the study was to determine what draws people to teaching technology education, and work to meet the needs of the new teachers in a retention effort. Steinke and Putnam (2008) surveyed 230 technology education teachers and state-level administrators. The study found the most important factors in selecting a position included:

...the school provided yearly raises for all teachers, the school has resources available for professional development, the school has resources available for the

classroom and labs, the school has a new teacher induction program to orientate new teachers to the school, and the school has a collaborative work environment. (Steinke & Putnam, 2008)

Steinke and Putnam (2008) recommended that schools use these factors as a guide to creating an environment in which teachers want to work. Using factors such as these, and other similar research findings, not only can recruit teachers to the school, but also help to retain teachers (Ingersoll & Smith, 2003; Steinke & Putnam, 2008).

The NRCCTE explains that CTE's response to teacher shortages is recruitment of business and industry professionals (NRCCTE, 2011). Teacher shortages and a search for business and industry professionals to become teachers have created an environment that encourages the use of a variety of certification methods for new teachers to enter the teaching profession (NRCCTE, 2011). Evidence of this is seen in the increasing numbers of new teachers who choose a non-traditional pathway to teacher certification (Jorissen, 2003). This increase in non-traditionally certified teachers requires the education system to re-evaluate the induction programs used to insure teachers' success (Mattoon, 2008).

Oklahoma Certification Methods

Teacher certification is an important factor in how educational institutions get and retain teachers (Elliott, Isaacs, & Chugani, 2010). For the purpose of this research, two categories of certification have been defined 1) traditional certification and 2) non-traditional certification. Traditional certification is defined as *any teacher who gained teacher certification by completing an accredited teacher education undergraduate degree program and the traditional certification requirements for State Department of*

Education. Non-traditional certification, in this study, is defined as *any teacher who gained teaching certification/licensure through a path other than through earning a traditional 4-year bachelor degree in a teacher education program from an accredited higher education institution.*

Because this study was based in Oklahoma, the certification pathways in Oklahoma need discussion. According to the Oklahoma State Department of Education (OkSDE) and the ODCTE, there are three pathways to becoming a career and technology education certified teacher in the State of Oklahoma. All three of the pathways to certification end in the teacher gaining a Standard Teaching Certificate. However, the pathways differ considerably. These pathways are referred to as traditional, alternative, and provisional (ODCTE, 2013; OkSDE, 2011; OkSDE, 2013). In this study, alternative and provisional certification pathways are both viewed as non-traditional certification pathways.

Traditional. Teachers using the traditional pathway to certification have successfully graduated from a teacher education program at an accredited college or university that has been approved by the Oklahoma Commission for Teacher Preparation (OkSDE, 2013). In addition to this degree, the teacher is required to pass a minimum of three examinations: the Oklahoma General Education Test (OGET), the Oklahoma Subject-Area Test (OSAT) for each area taught, and the Oklahoma Professional Teacher Examination (OPTE) (OkSDE, 2013). After meeting these requirements, a teaching license is granted to the new teacher (OkSDE, 2013).

Oklahoma requires a new teacher to successfully complete one year of teaching in an Oklahoma accredited school, and receives the recommendation from their school administrator to move from a teaching license to a standard teaching certificate (OkSDE, 2013). The standard teaching certification is valid for five years, after which time renewal is required (OkSDE, 2013).

Alternative Certification. Traditional certification and alternative certification are alike in many ways. Alternative certification requires that the teacher pass the same examinations as traditional certification (OkSDE, 2011). Additionally, alternative certification mandates that the teacher has already earned an undergraduate degree (OkSDE, 2011). However, the type of undergraduate degree differs.

To receive alternative certification, the future teacher must hold an undergraduate degree in a teaching field, but not necessarily in a teacher education field (OkSDE, 2011). For example, a person with a Bachelor of Science degree in Chemistry does not have a degree in a teaching area, but the person does not have a teacher education degree (e.g., science education). The future teacher will also have to complete additional college coursework in education based on the recommendations and requirements from the OkSDE (OkSDE, 2011). Once the teacher has been given an alternative license to teach in Oklahoma, the teacher will be given three years to complete all of the requirements for a standard certificate (OkSDE, 2011).

Provisional Certification. Provisional certification is different from traditional and alternative certification pathways in that provisional certification does not require that the future teacher already hold an undergraduate degree (ODCTE, 2011). However,

the future teacher must meet a list of requirements for each level of provisional certification. The two levels of provisional certification are Provisional Level I and Provisional Level II (ODCTE, 2011).

Provisional Level I. After being offered a teaching position by a school district, a teacher can apply for Provisional I certification. According to the ODCTE, the applicant must also meet the following requirements:

- The applicant must have a high school diploma or have passed the General Education Diploma (G.E.D.) test.
- The applicant must have had three years of industry experience during the five years immediately prior to applying for certification in the subject area to be taught.
- A request must be made by the employing school superintendent for the certification to be granted.
- Within the first sixty days of school, the applicant must complete the Career and Technology Education Orientation Training Program (New Teacher Academy).
- The State Program Administrator for the appropriate teaching area must recommend the applicant for Provisional Level I certification.
- The applicant must submit “a statement from an institution approved to offer a degree in Trade and Industrial Education that the applicant has an approved plan of study for the Level II [certificate] and the Standard

Certificate” (ODCTE, 2013). This shows the teacher’s intent to earn an undergraduate degree in Career and Technology Education.

(ODCTE, 2011)

The Provisional Level I certificate is only valid for one school year (ODCTE, 2011). However, this certificate can be reissued if the teacher passes an occupational competency exam and completes a minimum of six hours of college credit toward standard certification (ODCTE, 2011). Provisional Level I requirement must be met within five years.

Provisional Level II. To apply for the Provisional Level II certification, the teacher must have completed all requirements for Provisional Level I certification. Additionally, the teacher must have completed 48 hours of college credit and receive a recommendation from the Director of Teacher Education at the college from which they are earning the teaching degree (ODCTE, 2011).

The Provisional Level II certificate is valid for five years and is renewable as long as 15 hours of college credit from their approved plan of study has been completed during the previous five years (ODCTE, 2011). After completing the requirements for Provisional Level II, and earning an undergraduate degree in Career and Technology Education, the teacher may apply for a Standard Certificate that is renewable every five years (ODCTE, 2011).

Residency Year. In previous years a residency year was required for first-year teachers. This program included mandatory mentoring and an increased number of observations by the school administrator (M. Self, personal communication, January 9,

2013). Additionally, the protégé teacher worked with a college representative (typically faculty). The college representative also conducted observations of the protégé teacher (Oklahoma Administrative Code, 2013). The school administrator, mentor, and college representative determined whether the protégé teacher had successfully completed the residency year program. This program is no longer a requirement for a teaching certificate (M. Self, personal communication, January 9, 2013). Participants in this study were not asked if they had completed a residency year program.

Teachers of Adult Students Only. CTE instructors teaching only adult students (no high school students) are not required by the Oklahoma State Department of Education to earn a teaching certification (M. Lewis, personal communication, February, 12, 2013). However, many schools encourage or require the teacher to earn a teaching certification in the appropriate field (M. Self, personal communication, January 9, 2013). Participants in this study were not asked whether or not they were required to complete the mentoring process.

The Instruments

This study uses literature from progressivism, mentoring theory, learning transfer theory, teacher induction, and teacher retention/attrition to guide the nature of the study. The instruments selected for this research have been chosen because of each instrument's ability to contribute to the stated purpose of the research which was to examine mentoring practices through the perceptions of Oklahoma non-traditionally certified CTE teachers.

The instruments used in this study were the *Mentor Role Instrument* (MRI) and *Survey of Mentors of Beginning Teachers* (SMBT). Neither instrument was specifically designed for the population in this research, Oklahoma non-traditionally certified CTE teachers. To explore this further, both instruments are discussed.

The MRI was developed by Ragins and McFarlin (1990) to determine protégé teachers' perceptions of mentor roles. The study looked primarily at differences in cross and same-gender mentoring relationships. Ragins and McFarlin (1990) based the MRI on Kram's (1985) mentor role theory (discussed in the Mentor Theory section of this chapter). The instrument divides the mentor roles surveyed into Psychosocial Roles and Career Development Roles. Psychosocial Roles include mentor roles pertaining to friendship, social interaction, parenting, role modeling, counseling, and acceptance. Career Development Roles include mentor roles pertaining to sponsorship, coaching, protection, challenging assignments, and exposure. Ragins and McFarlin (1990) used a pretest sample of 69 protégé teachers. The original instrument consisted of 59 items. After analysis of the pretest results, the final instrument was comprised of 33 questions. All questions used a 7-point Likert scale ranging from (1) Strongly Disagree to (7) Strongly Agree.

Ragins and McFarlin (1990) then disseminated 810 surveys with a demographics section added to employees of research and development organizations in the Southeastern United States; 510 were returned and usable for analysis. The researchers found that the number of previous mentor relationships, the length of the mentoring relationship and the protégé teacher's age were all factors that influenced whether the protégé teacher thought the mentor was providing psychosocial or career development

roles (Ragins & McFarlin, 1990). The study further found that “gender did not significantly influence protégés’ perceptions of career development and psychosocial roles” (Ragins & McFarlin, 1990, p. 332).

The SMBT was originally developed by Barrera (2008) during his dissertation research. The purpose of the dissertation was to “examine South Texas first-year teachers’, mentors’ and administrators’ perceptions of teacher retention via mentor-mentee programs and measure the perceptions of characteristics, or practices, associated with successful teacher mentoring and induction programs” (Barrera, 2008, p. 50). Barrera (2008) explained that the instrument was developed through a review of literature and reviewed by experts for validity and reliability. First-year teachers received a survey comprised on 26 Likert scale questions and four open-ended questions. Mentors and administrators received a survey comprised of 27 Likert scale questions and 4 open-ended questions. (The survey for the first-year teachers was used in this research study.) Barrera (2008) studied 51 first-year teachers using the SMBT instrument and a demographics section to determine their perceptions of mentoring and induction program practices. The study found that “creation of a climate that encourages teachers to seek assistance when needed” was the most essential factor in teacher retention. Additionally, the open-ended questions were analyzed to gather more information about the participants’ responses.

Barrera et al. (2009) also used the SMBT to gather the perceptions of mentor teachers “regarding the quality of the teacher mentoring programs in their schools” (p. 64). The study surveyed 46 mentor teachers in South Texas public secondary schools. Barrera et al (2009) found two teacher involvement/support factors were believed to be

essential: (1) “a teacher mentoring program that has well-defined goals,” (p. 67) and (2) “the creation of a climate that encourages teachers to seek assistance when needed” (p. 67). Staff development that “provided strategies and activities to better serve students in populations” (p. 67) was noted to be essential to the mentoring process (Barrera et al., 2009). Additionally, all of the administrative support factors were deemed absolutely essential to successful mentoring programs. Finally, Barrera et al. (2009) recommended that all teacher mentoring programs be “continuously evaluated to ascertain their effectiveness so that teacher retention can be enhanced, ultimately resulting in improved teacher quality” (p. 72).

Conclusion

Progressivism, mentoring theory, and learning transfer theory can work together in an educational setting to better understand how protégé teachers learn and adapt to their new careers. If these educational concepts are applied to teacher induction and teacher retention/attrition, mentoring/induction programs could be developed to help reduce teacher attrition. Additionally, certification methods in Oklahoma need to be understood by all teacher mentoring/induction program administrators. Furthermore, the instruments discussed in this chapter align with the purpose of this study, and assessed the perceptions of protégé teachers regarding mentor characteristics and mentoring elements. By understanding the perceptions of protégé teachers, the certification methods available and the concepts that support learning by protégé teachers (progressivism, mentoring theory, and learning transfer theory), best practices for teacher preparation could be further developed.

CHAPTER III

METHODOLOGY

The primary objective of this research was to determine what characteristics Oklahoma non-traditionally certified CTE teachers perceive make a good mentor. Additionally, the study examined the elements of a successful CTE teacher mentoring program according to Oklahoma non-traditionally certified CTE teachers. To do this, the researcher used a quantitative, descriptive research model using a cross-sectional census survey.

Research Design

To determine the perceptions of the participants, this research used a quantitative, descriptive design by employing an online survey methodology. Gay et al. (2006) explained that descriptive research “determines and describes the way things are” and “may also compare how subgroups...view issues and topics” (p. 159). More specifically, a cross-sectional census survey was used to gather data. Because the data for this study was collected in a single online survey session completed by the participant, and no follow-up data were gathered, this survey was classified as cross-sectional (Gay et al., 2006). Additionally, this research study attempted to collect data from the entire population of non-traditionally certified CTE teachers in Oklahoma; thus, the survey was

considered a census survey (Gay et al., 2006) requiring no sampling strategy. The independent variable in this study is the perceptions of protégé non-traditionally certified CTE teachers. The dependent variable in this study is the demographics of the non-traditionally certified teachers.

Population and Sample

Salkind (2008) defined a population as “All the possible subjects or cases of interest” (p. 393). A sample can be defined as “a subset of a population” (p. 393). The population for this study was all non-traditionally certified CTE teachers in the state of Oklahoma. Because the researcher, with the assistance of the ODCTE, had access to the entire population for this study, the entire population was invited to participate, and the sample included those who voluntarily completed the online survey.

The exact number of teachers included in this population is unknown because data has not been kept on which teachers in Oklahoma CTE are non-traditionally certified. However, all non-traditionally certified CTE teachers in Oklahoma can be accessed by utilizing the ODCTE teacher email distribution list. After gaining permission from the ODCTE (Appendix F), the researcher accessed the online database containing the email distribution list. The researcher used the provided sorting mechanism to insure all CTE teachers in Oklahoma were included, and all non-instructional personnel were not included in the email list for this study. The list was then exported as a .csv file and opened in Microsoft Excel. Using this list, emails were sent to all Oklahoma CTE teachers through the researcher’s Oklahoma State University email address. The recipients of the email invitations did not know how the researcher attained the email

address, and no individuals responded to the email asking how the researcher attained the email addresses.

When sending the emails, the researcher put her own email address in the “To:” line, and all other email addresses in the “Bcc:” line. This avoided email addresses being publicized and the teachers knowing who had received an invitation to participate. Additionally, the Oklahoma State University email system only allows accounts to send approximately 800 emails per day. Thus, the emails were sent over multiple consecutive days for each invitation.

During the online survey, the participants were asked to choose the method by which they were certified (or becoming certified). Only the data from Oklahoma non-traditionally certified CTE teachers, and teachers who were seeking non-traditional certification, were used for this study. The lack of an exact population size limits this study in generalizability.

Participants

As discussed in the previous section, email addresses for all CTE teachers in Oklahoma were accessed with the permission of the ODCTE via an online database accessed by the researcher. The list of email addresses for all CTE teachers in Oklahoma totaled 2482. Approximately 200 emails were undelivered because of invalid email addresses, resulting in a target population of approximately 2280. Responses received totaled 176, for a return rate of 7.72 percent. Of the 176 responses received, the demographics section was not completed for 21 surveys. These 21 surveys were not used in data analysis because the question regarding the teacher’s certification method was in

the demographic section. Therefore, the certification method was unknown for these 21 respondents. Fifty-three completed surveys noted traditional certification for the pathway, as such these 53 surveys were not used in data analysis either. The final set of surveys not used in data analysis were the 18 marked *No teaching certificate and not working to get one*. Many of these teachers wrote in the comments that they were teaching in an adult only program that did not require a teaching certificate.

The remaining 84 surveys all noted being (or becoming) certified through a non-traditional pathway. Thus, the final sample includes only the 84 *participants* who self-designated as non-traditionally certified. For the purpose of this study, a non-traditionally certified teacher has been defined as, *any teacher who gained teaching certification/licensure through a path other than through earning a traditional 4-year bachelor degree in a teacher education program from an accredited higher education institution*. Teachers completing the online survey were not asked why they were (or were not) certified to teach in a particular area.

The demographics of the sample are presented in Table 1. Of the sample, 47.6 percent were male ($n=40$) and 52.4 percent were female ($n=44$). The mean age for the sample was 45.14 years ($SD=9.31$) and the mean years of teaching experience was approximately 8 years ($SD=5.82$). From the researcher's review of relevant literature, the sample participants were grouped into age groups of 24-29 years, 30-39 years, 40-49 years, 50-59 years, and 60+ years (Kang & Berliner, 2012).

The majority of the sample was Caucasian (78.6 %, $n=66$). Almost half of the sample reported that they had served as a mentor at some point in their career in addition

Table 1
Demographic Characteristics of Sample (N = 84)

	<i>N</i>	<i>%</i>	<i>M</i>	<i>Min</i>	<i>Max</i>	<i>SD</i>
Gender						
Male	40	47.6				
Female	44	52.4				
Age			45.14	24	63	9.31
24-29 years	5	6				
30-39 years	18	21.4				
40-49 years	32	38.1				
50-59 years	26	31				
60+ years	3	3.6				
Years of Teaching Experience			8.07	1	25	5.82
Race						
Caucasian/White	66	78.6				
African American	5	6				
Native American	8	9.5				
Hispanic/Latino	2	2.4				
Multiracial	1	1.2				
Other	2	2.4				
Highest Level of Education						
Completed HS or GED	2	2.4				
Completed Vocational Program	1	1.2				
Attended College -No Degree	9	10.7				
Completed Associate Degree	8	9.5				
Completed Bachelor's Degree	33	39.3				
Completed Master's Degree	28	33.3				
Completed Doctorate Degree	3	3.6				
Mentoring Program Type						
Formal	43	51.2				
Informal	41	48.8				
Experience as a Mentor						
Has been a mentor	41	48.8				
Has not been a mentor	43	51.2				
Total	84	100.0				

to being a protégé teacher (48.8%, $n = 41$). Furthermore, approximately half of the sample reported they had been in a formal mentoring program (51.2%, $n = 43$), defined for this study as *mentoring that was established with specific requirements for completion and regularly-scheduled, required meetings*.

Most of the sample were well educated, including those who held a bachelor's degree (39.3 %, $n = 33$), master's degree (33.3%, $n = 28$), or a doctorate degree (3.6%, $n = 3$). However, there were other education backgrounds represented such as having completed a two-year associate degree (9.5%, $n = 8$), having attended college without earning a degree (10.7%, $n = 9$), having completed a vocational program (1.2 %, $n = 1$), and having earned a high school or general education diploma (2.4%, $n = 2$). For those sample participants who completed associate's, bachelor's, master's, or doctoral degrees ($n = 72$), the undergraduate majors varied. Information regarding the highest level of education earned and that of the undergraduate major were collected in two separate survey questions. There were twelve sample participants that selected a level of education equal to or higher than an associate's degree, but did not write in their undergraduate major (as shown in Table 2 as *No Response*).

The undergraduate majors have been grouped by career area, and the frequencies are presented with other demographic data in Table 2. Responses for Agriculture (Non-education) included two responses for Agri-Business. The Business (Non-education) group included various areas of business such as business administration, management, marketing, accounting, finance, etc. In the CareerTech Education grouping majors such as trade and industrial education, workforce education, and family and consumer sciences were included. Majors such as mechanical engineering technology, electrical

Table 2
Undergraduate Major Frequencies (N = 72)

	<i>N</i>	%
Agriculture (Non-education)	2	2.8
Business (Non-education)	19	26.3
CareerTech Education	8	11.1
Engineering & Technology	6	8.3
Health Related (Nursing & Dentist)	13	18.1
Sciences (Non-education)	9	12.5
Professional Studies	3	4.2
No Response	12	16.7
Total	72	100.0

Note: Only sample participants who reported completing an associate's, bachelor's, master's, or doctoral degree were included in this table.

engineering, and civil engineering were included in the Engineering and Technology grouping. In the Health Related grouping, majors such as nursing and dental hygiene were included. The Sciences (Non-education) grouping included majors such as psychology, biology, biochemistry, and general science. Finally, the Professional Studies grouping included responses such as professional studies and general studies.

Although the entire final sample used a non-traditional path to certification, as presented in Table 3, many of the sample participants had earned a standard teacher certificate (60.7%, $n = 51$) by the time this study was conducted. Other sample participants held a provisional or alternative certificate (34.5%, $n = 29$), or were working to complete the requirements to earn their initial provisional/alternative certificate (4.8%, $n = 4$) at the time they completed the survey for this research. The majority of the sample used (or were currently using) the alternative method of becoming certified to teach (64.3%). This leaves the remainder of the sample using the provisional method to teacher certification (35.7%).

Table 3
Current Certification Held by the Sample (N = 84)

	<i>N</i>	<i>%</i>
Standard Certificate	51	60.7
Provisional/Alternative	29	34.5
Trying to get initial Provisional/Alternative	4	4.8
No teaching certificate and not working to get one	0	0

As shown in Table 4, the content area in which the protégé teacher was teaching at the time of mentoring varied as well. Trade and Industry was the most often indicated content area during the mentoring experience ($n = 26$). Health Education ($n = 19$) and Business and/or Marketing Education ($n = 18$) were also frequent responses to content area during mentoring. Other content areas given were Science, Technology, Engineering, and Mathematics (STEM)($n = 5$); Family and Consumer Sciences ($n = 6$); Nursing ($n = 4$); and Non-CTE Fields ($n = 3$).

Table 4
Content Area at the Time of Mentoring (N = 84)

	<i>N</i>	<i>%</i>
Business and/or Marketing Education	18	21.4
Family & Consumer Sciences	6	7.1
Health Education	19	22.6
Nursing	4	4.8
Science, Technology, Engineering, and Mathematics	5	6.0
Trade & Industrial Education	26	31
Non-CTE Field	3	3.6
No Response	3	3.6

Instruments

Two instruments were used in this study. The first was an online survey designed to collect information regarding the characteristics of a good mentor. The Mentor Role Instrument (MRI) developed by Ragins and McFarlin (1990) was used to gather the new teachers' perceptions of good mentor characteristics/actions. This survey included 33 questions to be answered using a Likert-type scale with response categories ranging from Strongly Agree to Strongly Disagree. The survey explored career development mentor roles (sponsorship, coaching, protection, challenging assignments, and exposure) and psychosocial mentor roles (friendship, social interaction, parenting, role modeling, counseling, and acceptance). The survey included three items for each of the eleven mentor roles. Permission from the author of the survey to use the Mentor Role Instrument is provided in Appendix G.

The second instrument was an online survey designed to collect information regarding the elements of a good mentoring program. The Survey of Mentors of Beginning Teachers (SMBT) developed by Barrera (2008) was given to mentees and used to gather the new teacher's perceptions of a good mentoring program. This survey included 26 questions to be answered using a Likert-type scale with the following response categories: Absolutely Essential, Mostly Essential, Somewhat Essential, and Not Essential. This survey also included four open-ended questions. Permission from the author of the survey to use the Survey of Mentors of Beginning Teachers is provided in Appendix H.

It should be noted that neither instrument was developed specifically for CTE teachers or specifically for teachers in Oklahoma. However, the wording and syntax of both surveys were fairly general toward mentoring. As such, no wording changes were needed.

Additionally, the following demographic information was collected at the end of the survey: age; gender; race; highest education level achieved; undergraduate major (if applicable); number of years taught; the content area in which the teacher taught at the time of the mentoring experience; whether or not the teacher had also been a mentor; the type of mentoring experience (formal or informal); the method used to earn teacher certification; and the certification held at the time of the survey. Although demographics were collected, there was no personally identifying information needed. This insured confidentiality and privacy of the responses. Both instruments and the demographic information were collected in the same online session accessed by the respondents using the email link described in the procedures section.

Procedures

The researcher first gained the approval from the researcher's dissertation committee and the Oklahoma State University Institutional Review Board to complete the research proposed (Appendix I). After those steps were completed, the researcher, with the assistance of the ODCTE, sent an email to all CTE teachers in Oklahoma. As discussed in the Population and Sample section of this document, the exact number of all non-traditionally certified CTE teachers in Oklahoma is unknown because data has not been kept on which teachers are non-traditionally certified. However, all of the non-traditionally certified CTE teachers in Oklahoma could be accessed by utilizing the

ODCTE teacher email distribution list. This email distribution list was utilized to send an email to all Oklahoma CTE teachers. In the demographics section of the survey, the survey respondents were asked to choose the method by which they were certified. Only the data from the 84 volunteer Oklahoma non-traditionally certified CTE teachers were used for this study ($N = 84$).

The invitation email included (1) a brief description of the study, (2) a definition of mentoring, (3) an invitation for the teachers to participate in an online survey via a provided hyperlink, (4) the participant consent statement, and (5) the author's contact information (Appendix A). In an effort to recruit more survey participants, a reminder email was distributed approximately two weeks after the original email invitation was sent (Appendix B). Additionally, a document containing Frequently Asked Questions (FAQ) was provided as an attachment to both emails (Appendix C). This served to address questions and/or concerns regarding the study.

The invitation email provided all information necessary for participation in the study, including the link to the survey. The online survey link directed the survey respondent to a webpage that repeated information provided in the email and provided a consent statement (Appendix D). After reading the consent statement, the survey respondent could choose to agree to the consent statement and take the survey (Appendix E). Alternatively, the person could choose to not participate by either clicking the appropriate hyperlink or by simply closing the internet browser.

There was no electronic tracking information associated with the survey website. Therefore, there were no consequences for the teacher regardless of whether they

complete the survey or not. When the survey respondent finished the survey and clicked submit, the survey responses were automatically stored in a database.

The invitation emails and the online survey consent webpage both described that there was no identifiable information collected in this study. The data were collected and stored in an online secure system until the researcher exported the data. Survey Monkey was used as the online survey system. A password protected account was created and only the researcher had access to that password. Additionally, the survey was setup such that it did not record IP addresses or use other such tracking devices. After the data were exported to the researcher's personal computer from Survey Monkey, the researcher insured the electronic data were kept in a secure location at all times by storing the data in a password protected file/folder on the researcher's personal external hard drive. This hard drive required a unique password to access information on the drive, and as such insured that only the researcher had access to the data. Additionally, when the researcher was not accessing the data, the external hard drive was kept in the locked filing cabinet in the researcher's home office.

The quantitative data collected have been reported as an aggregate. Specific statements provided in the open-ended questions have been cited by topic only. No personally identifiable information was used. Because there was no identifiable information gathered, these data will be kept indefinitely for further analysis.

Although the online survey collection method required that teachers read and do not simply delete the email, this method has been chosen to increase the participation from diverse geographical locations within Oklahoma. This method was preferred over a

paper/pencil survey because of the more timely responses and the ease of completing the survey online (Evan & Mathur, 2005).

Data Analysis

Data were analyzed using IBM's SPSS version 21. The research questions for this study were:

RQ1: What characteristics do Oklahoma non-traditionally certified CTE teachers perceive make a good mentor?

RQ2: How do the perceptions of the characteristics of a good mentor differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?

RQ3: What practices do Oklahoma non-traditionally certified CTE teachers identify as most helpful in the mentoring process?

RQ4: How do the perceived practices of successful CTE teacher mentoring differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?

The results from the MRI portion of the online survey were analyzed to answer research questions #1 and #2. Based on the design of the instrument, both a career development and a psychosocial score were developed and analyzed. Each subset of questions within the career development (sponsor, coach, protect, challenging

assignments, exposure) and psychosocial (friendship, social, parent, role model, counselor, acceptance) mentor roles were calculated and analyzed. Frequencies, means, chi square, and analysis of variance using the demographic variables were determined during data analysis as shown in Table 5.

To answer research question #3 and #4, the results from the SMBT were analyzed similarly to that of the MRI described above. The SMBT divided the instrument items into four factors (*teacher involvement/support, staff development, administrative support, resource materials*). A sub-score for each factor area was computed by taking the mean of all instrument item scores for that factor area. The factor area sub-scores were analyzed according to the appropriate research question. Frequencies, means, chi square, and analysis of variance using the demographic variables were determined during data analysis as shown in Table 5. The four open-ended questions were coded and analyzed primarily by the frequency of responses. Any themes were noted, synthesized, and analyzed in the findings.

Table 5.
Data Source and Data Analysis Procedure for Each Research Question.

Research Questions	Data Source	Procedures
1. What characteristics do Oklahoma non-traditionally certified CTE teachers perceive make a good mentor?	MRI	Frequency Distributions Means Chi Square
2. How do the perceptions of the characteristics of a good mentor differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?	MRI and demographic survey	Frequency Distributions Means ANOVA
3. What practices do Oklahoma non-traditionally certified CTE teachers identify as most helpful in the mentoring process?	SMBT	Frequency Distribution Means Chi Square <u>Open-Ended Questions</u> Synthesis/Analysis of Themes Frequency of Responses
4. How do the perceived practices of successful CTE teacher mentoring differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?	SMBT and demographic survey	Frequency Distributions Means ANOVA

CHAPTER IV

FINDINGS

The findings for Research Questions #1 thru #4 are presented in this chapter. As described in Chapter Three, frequency distributions, means, and chi square were used to analyze Research Questions #1 and #3. Research Questions #2 and #4 were analyzed using frequency distributions, means, and analysis of variance. Analysis of variance (ANOVA) is “a parametric test of significance used to determine whether a significant difference exists between two or more means at a selected probability level” (Gay et al., 2006, p. 359). If the ANOVA shows a significant *p*-value, the researcher knows that there is a significant difference in the means (Williams, 2010). However, the researcher does not know where that difference lies without more analysis (Gay et al., 2006). *Post Hoc* tests can help determine what differences in the means are present in the data (Price, 2000). The Tukey’s Honestly Significant Difference (HSD) and the Least Significant Difference (LSD) *post hoc* tests were used for this study. *Post hoc* tests were only used if the ANOVA produced a significant *p*-value.

The Tukey’s HSD *post hoc* test is one of the most commonly used *post hoc* tests (Price, 2000). This *post hoc* test was selected because it has “good power and tight control over the Type I error rate” (Field, 2000). Furthermore, as Price (2000) stated,

“Tukey's HSD is a versatile, easily calculated technique that allows you to answer just about any follow up question you may have from the ANOVA” (Part IV). The LSD *post hoc* test was designed to examine all possible comparisons of means (Stevens, 1999).

Williams (2010) explained:

The main idea of the LSD is to compute the smallest significant difference (*i.e.*, the LSD) between two means as if these means had been the only means to be compared (*i.e.*, with a *t* test) and to declare significant any difference larger than the LSD. (p. 1)

For this research study, when ANOVA produced a significant *p*-value, the Tukey HSD and LSD *post hoc* tests were analyzed to determine between which means there was a significant difference.

Research Question 1:

What characteristics do Oklahoma non-traditionally certified CTE teachers perceive make a good mentor?

To answer research question #1, frequency distributions, means, and chi square statistics were run on the data from the MRI portion of the online survey. As described in Chapter Three, a psychosocial score and a career development score were computed for each sample participant. Overall, the mean psychosocial score ($M=4.30$) was higher than that of the career development score ($M=3.97$).

The obtained distribution of frequencies was different than what was expected to have been obtained by chance for the career development and psychosocial items. As shown in Table 6, of the career development items, two instrument items were

Table 6
MRI Career Development Items, Means, Standard Deviations, Chi-Square (N=84)

Role Subscale	<i>M</i>	Instrument Item	<i>M</i>	<i>SD</i>	χ^2
Sponsor	3.94	helps me attain desirable positions	4.39	2.02	7.00
		used his/her influence to support my advancement in the organization	3.69	1.96	15.00
		uses his/her influence in the organization for my benefit	3.73	2.03	11.83
Coach	4.19	suggests specific strategies for achieving career aspirations	4.08	2.10	3.33
		gives me advice on how to attain recognition in the organization	3.76	1.90	6.67
		helps me learn about other parts of the organization	4.74	1.93	17.67*
Protect	3.72	"runs interference" for me in the organization	4.11	1.88	7.83
		protects me from those who may be out to get me	3.69	1.95	10.00
		shields me from damaging contact with important people in the organization	3.37	2.01	16.83*
Challenging Assignments	3.85	provides me with challenging assignments	3.81	1.94	2.83
		assigns me tasks that push me into developing new skills	3.76	1.99	7.67
		gives me tasks that require me to learn new skills	3.98	1.93	7.17
Exposure	4.12	brings my accomplishments to attention of important people in the organization	4.54	1.79	13.33
		creates opportunities for me to impress important people in the organization	3.86	1.88	7.33
		helps me be more visible in the organization	3.98	1.90	7.50

Note. $df=6$ for all items; * χ^2 with $df=6$ would be significant at the .01 level if χ^2 is above 16.81.

determined to be significant at the $p < .01$ level. These were *My mentor helps me learn about other parts of the organization* ($\chi^2=17.67, p < .01$) and *My mentor shields me from damaging contact with important people in the organization* ($\chi^2=16.83, p < .01$). Looking further at the career development items, the highest mean from an instrument item was reported for *My mentor helps me learn about other parts of the organization* ($M=4.74$). The two mentor roles with the highest means reported were *coaching* ($M=4.19$) and *exposure* ($M=4.12$).

The scores for the psychosocial mentor roles and instrument items overall held higher means than the career development mentor roles and instrument items (shown in Table 7). Instrument items within the *acceptance* mentor role such as *My mentor accepts me as a competent professional* ($M=5.69$), *My mentor sees me as being competent* ($M=5.67$), and *My mentor thinks highly of me* ($M=5.38$) were among the highest reported instrument items. *Friendship* mentor role items such as *My mentor is someone I can trust* ($M=5.43$) and *My mentor provides support and encouragement* ($M=5.40$) were also marked highly.

From a comparison of the means for each mentor role (*sponsor, coach, protect, challenging assignments, exposure, friendship, social, parent, role model, counselor, acceptance*), two roles had a mean score of over 5.00 on a 7.00-scale: *friendship* ($M=5.28$) and *acceptance* ($M=5.58$). Other mentor roles with relatively high means include *role model* ($M=4.71$), *counsel* ($M=4.31$), and *coach* ($M=4.19$).

Many of the instrument items within each mentor role had similar mean scores. However, the *social* mentor role did not. The item *My mentor and I frequently have one-*

Table 7
MRI Psychosocial Role Items, Means, Standard Deviations, Chi-Square (N=84)

Role Subscale	<i>M</i>	Instrument Item	<i>M</i>	<i>SD</i>	χ^2
Friend	5.28	provides support and encouragement	5.4	1.86	62.33*
		is someone I can trust	5.43	1.84	58.83*
		is someone I can confide in	5.01	2.04	31.83*
Social	3.38	and I frequently have one-on-one informal social interactions	4.62	2.06	15.50
		and I frequently get together informally after work by ourselves	2.79	1.93	42.50*
		and I frequently socialize one-on-one outside the work setting	2.73	1.95	36.14**
Parents	2.51	reminds me of one of my parents	2.57	1.85	64.33*
		is like a father/mother to me	2.52	1.86	91.17*
		treats me like a son/daughter	2.44	1.81	97.50*
Role Model	4.71	serves as a role model for me	4.87	1.84	21.33*
		is someone I identify with	4.94	1.83	30.33*
		represents who I want to be	4.33	1.95	9.67
Counsel	4.31	serves as a sounding board for me to develop and understand myself	4.57	2.10	15.00
		guides my personal development	4.2	1.97	3.33
		guides my professional development	4.17	1.86	13.00
Acceptance	5.58	accepts me as a competent professional	5.69	1.46	68.33*
		thinks highly of me	5.38	1.56	50.33*
		sees me as being competent	5.67	1.56	74.50*

Note. *df* was 6 for all except “and I frequently socialize one-on-one outside the work setting” which was *df*=5; * χ^2 with *df*=6 would be significant at the .01 level if χ^2 is above 16.81; ** χ^2 with *df*=5 would be significant at the .01 level if χ^2 is above 15.09. Also, all results have been rounded to two decimal places.

on-one informal social interactions had a mean of 4.62. Whereas the other two instrument items in this mentor role had low means of 2.73 and 2.79 respectively. Of importance was also the mentor role and instrument items that were scored the lowest.

My mentor treats me like a son/daughter ($M=2.44$) scored the lowest of all 33 instrument items. This item is followed closely by *My mentor is like a father/mother to me* ($M=2.52$) and *My mentor reminds me of one of my parents* ($M=2.57$). Thus, the *parent mentor role* ($M=2.51$) held the lowest reported mean of sample participant responses. Other mentor roles with means under 4.00 included *social* ($M=3.38$), *protect* ($M=3.72$), *challenging assignments* ($M=3.85$), and *sponsor* ($M=3.94$).

Research Question 2:

How do the perceptions of the characteristics of a good mentor differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?

To answer research question #2, a series of ANOVA statistics were calculated to compare the effect of each demographic area on the mean score for each mentor role. The results of the ANOVA statistics were presented by demographic area (protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process, the type of mentoring program (formal/informal), or if the sample participant had prior experience as a mentor).

Protégé Teacher's Age

One-way ANOVA statistics were computed to compare the effect of the teachers' age group on the mean mentor role score for age groups of 24-29 years, 30-39 years, 40-

49 years, 50-59 years, and 60+ years. As shown in Table 8, there was a significant effect for age group on the mean *sponsor* mentor role score at the $p < .05$ level

Table 8.
ANOVA Results for Effect of Age Group on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	2.641	0.040
Protector	1.904	0.118
Coach	1.795	0.138
Challenging Assignments	1.083	0.371
Exposure	1.889	0.121
Friend	1.223	0.308
Psychosocial Mentor Roles		
Social	0.616	0.653
Parent	0.795	0.532
Role Model	2.160	0.081
Counselor	1.605	0.181
Acceptance	1.467	0.220

Note: $p < .05$ is in Boldface. $df = 4$ for all between group values, and $df = 79$ for all within group values.

for the five age groups [$F(4, 79) = 2.641, p = 0.040$]. *Post hoc* comparisons using the Tukey HSD test did not indicate the location of the significant effect. Thus, the LSD *post hoc* comparison was used to determine that there were four significant effects for the *sponsor* mentor role based on the age group. First, the LSD test indicated that the mean *sponsor* mentor role score for participants in the 24-29 years age group ($M = 4.733, SD = 1.847$) was significantly higher than the 60+ years age group ($M = 2.222, SD = 1.759$). Second, the LSD test also indicated that the mean *sponsor* mentor role score for participants in the 30-39 years age group ($M = 3.426, SD = 1.714$) was significantly lower than the 40-49 years age group ($M = 4.521, SD = 1.556$). Third, the LSD test indicated that the mean *sponsor* mentor role score for participants in the 40-49 years age

group ($M = 4.521$, $SD = 1.556$) was significantly higher than the 50-59 years age group ($M = 3.615$, $SD = 1.800$). Finally, the LSD test indicated that the mean *sponsor* mentor role score for participants in the 40-49 years age group ($M = 4.521$, $SD = 1.556$) was significantly higher than the 60+ years age group ($M = 2.222$, $SD = 1.759$). There was not a significant effect found for any other mean mentor role score based on the age group of the participants (shown in Table 8).

Gender

One-way ANOVA statistics were computed to compare the effect of gender on each of the mean mentor role scores. A t-test could have been used to compare the means for gender. However, ANOVA was used for consistency within the reporting of results. There was not a significant effect for gender on any of the mentor roles at the $p < .05$ level (shown in Table 9).

Table 9.
ANOVA Results for Effect of Gender on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	1.196	0.277
Protector	0.003	0.955
Coach	0.242	0.624
Challenging Assignments	0.831	0.365
Exposure	0.404	0.527
Psychosocial Mentor Roles		
Friend	0.013	0.910
Social	0.003	0.957
Parent	1.472	0.228
Role Model	1.490	0.226
Counselor	0.473	0.494
Acceptance	0.001	0.981

Note: $df = 4$ for all between group values, and $df = 79$ for all within group values.

Race

One-way ANOVA statistics were computed to compare the effect of race on each of the mean mentor role scores. There was not a significant effect for race on any of the mean mentor role scores at the $p < .05$ level (shown in Table 10).

Table 10.
ANOVA Results for Effect of Race on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	0.572	0.722
Protector	0.721	0.609
Coach	0.262	0.932
Challenging Assignments	1.001	0.423
Exposure	0.352	0.879
Psychosocial Mentor Roles		
Friend	0.702	0.623
Social	1.134	0.349
Parent	0.834	0.529
Role Model	0.74	0.596
Counselor	0.158	0.977
Acceptance	0.703	0.623

Note: $df = 5$ for all between group values, and $df = 78$ for all within group values.

Level of Education

One-way ANOVA statistics were computed to compare the effect of the level of education the participant had achieved on each of the mean mentor role scores. There was not a significant effect for the level of education the participant had achieved on any of the mentor roles at the $p < .05$ level (shown in Table 11).

Table 11.
ANOVA Results for Effect of the Level of Education on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	0.774	0.592
Protector	0.313	0.928
Coach	0.818	0.559
Challenging Assignments	0.787	0.583
Exposure	0.800	0.573
Psychosocial Mentor Roles		
Friend	0.996	0.434
Social	0.359	0.903
Parent	0.609	0.722
Role Model	0.910	0.492
Counselor	0.725	0.631
Acceptance	1.284	0.275

Note: *df* = 6 for all between group values, and *df* = 77 for all within group values.

Undergraduate Degree Major

ANOVA statistics were computed to compare the effect of the participants' undergraduate degree major on each of the mean mentor role scores for the following majors: *Agriculture, Business (non-education), CareerTech Education, Engineering and Technology, Health Related, Professional Studies, Sciences (non-education), and No Response*. As shown in Table 12, many significant effects were found.

For the mean *sponsor* mentor role scores, a one-way ANOVA found that there was a significant effect of undergraduate degree major on the mean *sponsor* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 2.385, p = 0.031$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 5.026, SD = 1.475$) was significantly higher than the *Sciences* majors ($M = 2.519, SD = 1.741$). There was not a significant difference in the effect for

Table 12.
ANOVA Results for Effect of Undergraduate Degree Major on Each Mentor Role (N=71)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	2.385	0.031
Protector	2.270	0.040
Coach	3.190	0.006
Challenging Assignments	2.498	0.025
Exposure	2.041	0.063
Psychosocial Mentor Roles		
Friend	3.315	0.005
Social	0.864	0.539
Parent	1.020	0.426
Role Model	3.543	0.003
Counselor	3.707	0.002
Acceptance	1.899	0.084

Note: $p < .05$ is in Boldface. $df = 7$ for all between group values, and $df = 64$ for all within group values.

undergraduate degree major on the mean *sponsor* mentor role score for any other undergraduate degree majors.

For the mean Protector Mentor Role scores, the one-way ANOVA found that there was a significant effect for undergraduate degree major on the mean *protector* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 2.270, p = 0.040$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 4.846, SD = 1.051$) was significantly higher than the *Sciences* majors ($M = 2.556, SD = 1.481$). There was no significant difference in the effect for undergraduate degree major on the mean *protector* mentor role score for any other undergraduate degree majors.

For the mean *coach* mentor role scores, the one-way ANOVA found that there was a significant effect of undergraduate degree major on the mean *coach* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 3.190, p = 0.006$]. *Post hoc* comparisons using the Tukey HSD test indicated that there were two significant effects for the *coach* mentor role based on the undergraduate degree majors of the participants. First, the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 4.923, SD = 1.498$) was significantly higher than the *Sciences* majors ($M = 2.593, SD = 1.579$). Second, the Tukey HSD test indicated that the mean score for the *Business* majors ($M = 4.719, SD = 1.525$) was significantly higher than the *Science* majors ($M = 2.593, SD = 1.579$). There was no significant difference in the effect for undergraduate degree major on the mean *coach* mentor role score for any other undergraduate degree majors.

For the mean *challenging assignments* mentor role scores, the one-way ANOVA found that there was a significant effect for undergraduate degree major on the mean *challenging assignments* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 2.498, p = 0.025$]. *Post hoc* comparisons using the Tukey HSD test did not indicate a significant effect. Thus, the LSD *post hoc* comparison was used to determine that there were four significant effects for the *challenging assignments* mentor role based on the undergraduate degree major of the participants. First, the LSD test indicated that the mean score for the *Business* majors ($M = 4.544, SD = 1.775$) was significantly higher than the *CareerTech Education* majors ($M = 2.542, SD = 1.479$). Second, the LSD test indicated that the mean score for the *Business* majors ($M = 4.544, SD = 1.775$) was significantly higher than the *Science* majors ($M = 2.963, SD = 2.065$). Third, the LSD

test indicated that the mean score for the *Health Related* majors ($M = 4.923$, $SD = 1.634$) was significantly higher than the *CareerTech Education* majors ($M = 2.542$, $SD = 1.479$). Finally, the LSD test indicated that the mean score for the *Health Related* majors ($M = 4.923$, $SD = 1.634$) was significantly higher than the *Science* majors ($M = 2.963$, $SD = 2.065$). There was no significant difference in the effect for undergraduate degree major on the mean *Challenging Assignments* mentor role score for any other undergraduate degree majors.

For the mean *friend* mentor role scores, the one-way ANOVA found that there was a significant effect for undergraduate degree major on the mean *friend* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 3.315$, $p = 0.005$]. *Post hoc* comparisons using the Tukey HSD test indicated that there were two significant effects for the *friend* mentor role based on the undergraduate degree majors of the participants. First, the Tukey HSD test indicated that the mean score for the *Business* majors ($M = 5.754$, $SD = 1.535$) was significantly higher than the *Science* majors ($M = 3.444$, $SD = 2.351$). Second, the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 6.256$, $SD = 0.925$) was significantly higher than the *Science* majors ($M = 3.444$, $SD = 2.351$). There was not a significant difference in the effect for undergraduate degree major on the mean *friend* mentor role score for any other undergraduate degree majors.

For the mean *role model* mentor role scores, the one-way ANOVA found that there was a significant effect for undergraduate degree major on the mean *role model* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 3.543$, $p = 0.003$]. *Post hoc* comparisons using the Tukey HSD test indicated that there were three

significant effects for the *role model* mentor role based on the undergraduate degree majors of the participants. First, the Tukey HSD test indicated that the mean score for the *Business* majors ($M = 5.246, SD = 1.567$) was significantly higher than the *Science* majors ($M = 3.185, SD = 1.804$). Second, the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 5.769, SD = 0.875$) was significantly higher than the *Science* majors ($M = 3.185, SD = 1.804$). Third, the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 5.769, SD = 0.875$) was significantly higher than the *CareerTech Education* majors ($M = 3.417, SD = 1.561$). There was not a significant difference in the effect for undergraduate degree major on the mean *role model* mentor role score for any other undergraduate degree majors.

The final significant effect of undergraduate degree major on a mentor role was found in the *counselor* mentor role. A one-way ANOVA was conducted to compare the effect of the participants' undergraduate degree major on the mean *counselor* mentor role score. There was a significant effect for undergraduate degree major on the mean *counselor* mentor role score at the $p < .05$ level for the eight categories [$F(7, 64) = 3.707, p = 0.002$]. *Post hoc* comparisons using the Tukey HSD test indicated that there were three significant effects for the *counselor* mentor role based on the undergraduate degree majors of the participants. First, the Tukey HSD test indicated that the mean score for the *Business* majors ($M = 4.929, SD = 1.514$) was significantly higher than the *Science* majors ($M = 2.963, SD = 1.844$). Second, the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 5.462, SD = 1.391$) was significantly higher than the *Science* majors ($M = 2.963, SD = 1.844$). Third, the Tukey HSD test indicated that the mean score for the *Health Related* majors ($M = 5.462, SD = 1.391$) was

significantly higher than the *CareerTech Education* majors ($M = 2.958, SD = 1.914$).

There was not a significant difference in the effect for undergraduate degree major on the mean *counselor* mentor role score for any other undergraduate degree majors.

Additionally, one-way ANOVA statistics were used to determine the effect of undergraduate degree major on the *exposure, social, parent, and acceptance* mentor roles. No significant effect was found for the three mentor roles.

Number of Years Taught

ANOVA statistics were computed to compare the effect of the number of years taught by the participants' on each of the mean mentor role scores for 1-3 years, 4-10 years, 11-15 years, and 16+ years. As shown in Table 13, significant effects were found for the *challenging assignments* mentor role, the *exposure* mentor role, and the *counselor* mentor role.

Table 13.
ANOVA Results for Effect of the Number of Years Taught on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	2.635	0.055
Protector	2.171	0.098
Coach	1.816	0.151
Challenging Assignments	4.531	0.006
Exposure	2.989	0.036
Psychosocial Mentor Roles		
Friend	0.629	0.598
Social	0.950	0.420
Parent	2.656	0.054
Role Model	1.121	0.345
Counselor	2.913	0.039
Acceptance	0.597	0.619

Note: $p < .05$ in Boldface. $df=3$ for all between group values, and $df= 80$ for all within group values.

A one-way ANOVA was conducted to compare the effect of the number of years the participant taught on the mean *challenging assignments* mentor role score. There was a significant effect for undergraduate degree major on the mean *challenging assignments* mentor role score at the $p < .05$ level for the four categories [$F(3,80) = 4.531$, $p = 0.006$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for 4-10 years taught ($M = 3.115$, $SD = 1.632$) was significantly lower than 11-15 years taught ($M = 5.000$, $SD = 1.633$). There was not a significant difference in the effect for number of years taught on the mean *challenging assignments* mentor role score for any other number of years taught group.

A one-way ANOVA was conducted to compare the effect of the number of years the participant taught on the mean *exposure* mentor role score. There was a significant effect for undergraduate degree major on the mean *exposure* mentor role score at the $p < .05$ level for the four categories [$F(3,80) = 2.989$, $p = 0.036$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for 4-10 years taught ($M = 3.573$, $SD = 1.760$) was significantly lower than 11-15 years taught ($M = 5.020$, $SD = 1.507$). There was not a significant difference in the effect for number of years taught on the mean *exposure* mentor role score for any other group.

A one-way ANOVA was conducted to compare the effect of the number of years the participant has taught on the mean *counselor* mentor role score. There was a significant effect for undergraduate degree major on the mean *counselor* mentor role score at the $p < .05$ level for the four categories [$F(3,80) = 2.913$, $p = 0.039$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for 4-10 years taught ($M = 3.802$, $SD = 1.680$) was significantly lower than 11-15 years taught ($M =$

5.196, $SD = 1.510$). There was no significant difference in the effect for number of years taught on the mean *counselor* mentor role score for any other group.

Content Area in Which the Teacher Taught during the Mentoring Process

The participants' responses to the content area taught during the mentoring process were grouped into eight categories: *Business and/or Marketing Education; Family and Consumer Sciences; Health Education; Nursing; Science, Technology, Engineering, and Mathematics (STEM); Trade & Industrial Education; Non-CTE Field; and No Response*. ANOVA statistics were computed to compare the effect of the content area in which the teacher taught during the mentoring process on each of the mean mentor role scores. As shown in Table 14, significant effects were found for the *challenging assignments* mentor role and the *counselor* mentor role.

A one-way ANOVA was conducted to compare the effect of the content area taught by the participant during the mentoring process on the mean *challenging assignments* mentor role score. There was a significant effect for the content area taught on the mean *challenging assignments* mentor role score at the $p < .05$ level for the four categories [$F(6, 74) = 3.271, p = 0.007$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for participants teaching *Nursing* ($M = 6.500, SD = 0.577$) was significantly higher than those teaching in *STEM* ($M = 2.533, SD = 1.386$) and from those teaching in *Trade and Industry* ($M = 3.321, SD = 1.601$). There was not a significant difference in the effect for content area taught at the time of mentoring on the mean *challenging assignments* mentor role score for any other group.

A one-way ANOVA was conducted to compare the effect of the content area

Table 14.
Effect of the Content Area Taught by the Participant on Each Mentor Role (N=80)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	1.982	0.079
Protector	1.667	0.141
Coach	1.748	0.122
Challenging Assignments	3.271	0.007
Exposure	1.641	0.148
Psychosocial Mentor Roles		
Friend	1.375	0.236
Social	1.026	0.415
Parent	0.361	0.901
Role Model	2.167	0.056
Counselor	2.841	0.015
Acceptance	1.240	0.296

Note: $p < .05$ in Boldface. $df = 6$ for all between group values, and $df = 74$ for all within group values.

taught by the participant during the mentoring process on the mean *counselor* mentor role score. There was a significant effect for the content area taught on the mean *counselor* mentor role score at the $p < .05$ level for the four categories [$F(6, 74) = 2.841, p = 0.015$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean score for participants teaching *Nursing* ($M = 6.667, SD = 0.272$) was significantly different than those teaching in *STEM* ($M = 3.067, SD = 1.722$) and from those teaching in *Trade and Industry* ($M = 3.910, SD = 1.788$). There was no significant difference in the effect for content area taught at the time of mentoring on the mean *Counselor* mentor role score for any other group.

Prior Experience as a Mentor

As described in Chapter 3, some participants had served in the mentor role in addition to the protégé role prior to participating in this research. One-way ANOVA statistics were computed to compare the effect of prior mentor experience on each of the mentor roles. There was no significant effect for the level of education the participant had achieved on any of the mentor roles at the $p < .05$ level (shown in Table 15).

Table 15.
ANOVA Results for Effect of Prior Mentor Experience on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	1.530	0.220
Protector	2.551	0.114
Coach	1.012	0.317
Challenging Assignments	0.954	0.332
Exposure	1.677	0.199
Psychosocial Mentor Roles		
Friend	1.944	0.167
Social	1.836	0.179
Parent	0.146	0.703
Role Model	1.756	0.189
Counselor	3.667	0.059
Acceptance	2.888	0.093

Note: $df=1$ for all between group values, and $df= 82$ for all within group values.

Formal/Informal Mentoring Program

One-way ANOVA statistics were computed to compare the effect of the type of mentoring program (formal or informal) on each of the mentor roles. There was not a significant effect for the level of education the participant had achieved on any of the mean mentor role scores at the $p < .05$ level (shown in Table 16).

Table 16.
Effect of the Type of Mentoring Program on Each Mentor Role (N=83)

	<i>F</i>	<i>p</i>
Career Development Mentor Roles		
Sponsor	0.563	0.455
Protector	0.396	0.531
Coach	0.066	0.798
Challenging Assignments	0.243	0.623
Exposure	0.369	0.545
Psychosocial Mentor Roles		
Friend	0.087	0.769
Social	0.022	0.883
Parent	2.388	0.126
Role Model	0.091	0.764
Counselor	0.362	0.549
Acceptance	0.284	0.596

Note: *df*=1 for all between group values, and *df*= 82 for all within group values.

Research Question 3:

What practices do Oklahoma non-traditionally certified CTE teachers identify as most helpful in the mentoring process?

To answer research question #3, the responses from the qualitative questions were analyzed for themes and presented using frequency counts. Additionally, frequency distributions, means, and chi square statistics were run on the data from the SMBT. As described in Chapter Three, a sub-score for each of the mentoring program factors (*teacher involvement/support, staff development, administrative support, resource materials*) was computed for each participant. Overall, the mean scores for the mentoring program factors were similar, ranging from *M*=4.043 (*staff development factors*) to *M*=4.254 (*teacher involvement factors*) (shown in Table 17). Both the highest

and the lowest mean scores of all SMBT instrument items were reported for items within the *teacher involvement/support* factor. The highest mean score was reported for *Creation of a climate that encourages teachers to seek assistance when needed* ($M=4.68$, $SD=0.519$). The lowest mean score for an instrument item was reported for *Creating a professional portfolio that demonstrates professional growth as a teacher* ($M=3.46$, $SD=1.046$).

Table 17
SMBT Sub-score Means, Standard Deviations, Chi-Square (N=84)

SMBT Factor	<i>M</i>	<i>SD</i>
Teacher Involvement/Support	4.2540	0.537
Staff Development Training	4.0437	0.620
Administrative Support	4.165	0.691
Resource Materials	4.0731	0.668

Participants were asked to consider the following question when responding to the *teacher involvement/support* instrument items: *What teacher involvement/support factors are perceived as necessary for mentors to achieve success in training first-year teachers?* As shown in Table 18, all of the *teacher involvement/support* instrument items were determined to be significant at the $p<.001$ level. As stated previously, the highest and lowest mean scores for instrument items from this factor area were also the highest and lowest mean scores for all SMBT instrument items (shown in Table 18).

The second factor area was *staff development training* and had the following question to be considered when responding to the instrument items in that area: *What staff development training factors are perceived as necessary for mentors to achieve success in training first-year teachers?* Every instrument item within the *staff*

Table 18.

Teacher Involvement/Support Items, Means, Standard Deviations, Chi-Square (N=84)

Instrument Item	<i>M</i>	<i>SD</i>	<i>df</i>	χ^2
A teacher-mentoring program that has well defined goals.	4.4	.778	3	57.810*
Creating a professional portfolio that demonstrates professional growth as a teacher.	3.46	1.046	4	24.929*
Discussing with peers skills necessary to be successful in the teaching profession.	4.49	.685	2	30.500*
Creation of a climate that encourages teachers to seek assistance when needed.	4.68	.519	2	59.357*
Being part of a support group made up of other beginning teachers.	3.98	1.006	4	42.667*
Having a mentor who provides support in coaching with needed strategies for student success.	4.51	.668	3	73.619*

Note: χ^2 with *df*=2 would be significant at the .001 level if χ^2 is above 13.816. χ^2 with *df*=3 would be significant at the .001 level if χ^2 is above 16.266. χ^2 with *df*=4 would be significant at the .001 level if χ^2 is above 18.467.

**p* < .001.

development training factor was determined to be significant at the *p*<.001 level (shown in Table 19). The highest mean score for a *staff development training* item was reported for *Quality staff development that addressed instructional strategies* (*M*=4.32, *SD*=0.679). Conversely, the lowest mean score of the *staff development training* items was found for *Social functions to help beginning teachers build relationships with colleagues* (*M*=3.70, *SD*=0.929).

The third SMBT factor area was *administrative support* factors and gave the following question for participants to consider: *What administrative support factors are perceived as necessary for mentors to successfully train first-year teachers?* Of the

Table 19.

Staff Development/Training Items, Means, Standard Deviations, Chi-Square (N=84)

Instrument Item	<i>M</i>	<i>SD</i>	<i>df</i>	χ^2
Staff development that included instructional strategies that influenced student outcomes.	4.3	.741	3	45.619*
Quality staff development that addressed instructional strategies.	4.32	.679	2	17.357*
Social functions to help beginning teachers build relationships with colleagues.	3.7	.929	4	41.357*
Staff development that provided strategies and activities to better serve students in special populations.	4.02	.912	4	49.095*
Workshops or conferences that provided professional development in teacher's area of education.	4.18	.907	3	31.143*
Provided with federal, state and local policy changes in education.	3.75	1.096	4	28.500*

Note: χ^2 with *df*=2 would be significant at the .001 level if χ^2 is above 13.816. χ^2 with *df*=3 would be significant at the .001 level if χ^2 is above 16.266. χ^2 with *df*=4 would be significant at the .001 level if χ^2 is above 18.467.

**p* < .001.

administrative support factor instrument items, all items were significant at either the *p*<.005 or *p*<.001 levels (shown in Table 20). The highest mean score for an *administrative support* instrument item was found for *Allowed time to visit as a team (mentors, mentees, administrators) to reflect and evaluate on the school year* (*M*=4.37, *SD*=0.803). The lowest mean score for an *administrative support* instrument item was found for *Teaching assignments, responsibilities and teacher duties were based on teacher experience* (*M*=3.93, *SD*=0.967)

Table 20.

Administrative Support Items, Means, Standard Deviations, Chi-Square (N=84)

Instrument Item	<i>M</i>	<i>SD</i>	<i>df</i>	χ^2
Allowed time to visit as a team (mentors, mentees, administrators) to reflect and evaluate on the school year.	4.37	.803	3	52.476*
Given the opportunity this year to collaboratively analyze what was observed in the classrooms of experienced teachers.	4.21	.879	4	68.857*
Planning was provided that focused on teacher expectations for mentor training.	4.18	.894	3	30.952*
Mentoring program was explained of my duties and responsibilities in the program.	4.25	.863	3	39.143*
Confidentiality laws between teachers and students were explained.	4.23	.949	3	39.143*
Time was provided at the end of each grading period to evaluate the teacher-mentoring program.	3.99	1.00	3	16.095**
Teaching assignments, responsibilities and teacher duties were based on teacher experience.	3.93	.967	4	45.524*

Note: χ^2 with *df*=2 would be significant at the .001 level if χ^2 is above 13.816. χ^2 with *df*=3 would be significant at the .001 level if χ^2 is above 16.266. χ^2 with *df*=4 would be significant at the .001 level if χ^2 is above 18.467.

p* < .001. *p* < .005.

The final SMBT factor area is the *resource materials* factor. The question given for this factor was *What resource materials factors are perceived as necessary for the success of mentors in training first-year teachers?* The *resource materials* instrument items were all determined to be significant at the *p*<.001 level (shown in Table 21). The highest mean score within the *resource materials* factor instrument items was found to be *Requirements for a teacher certificate as an educator have been fulfilled* (*M*=4.26, *SD*=0.983). The lowest mean score within the *resource materials* factor instrument items was found to be *An Educational Organization informed me of my rights as an educator and offered legal support* (*M*=3.63, *SD*=1.117).

Table 21.

Resource Materials Items, Means, Standard Deviations, Chi-Square (N=84)

Instrument Item	<i>M</i>	<i>SD</i>	<i>df</i>	χ^2
Requirements for a teacher certificate as an educator have been fulfilled.	4.26	.983	3	45.905*
Information was provided by the school district about the teacher-mentoring program.	4.08	.921	3	23.333*
The district provided financial or compensatory time for mentors participating in the teacher-mentoring program.	4.19	.911	3	32.381*
Technology (computers, TV/VCR, overhead projectors) was provided to assist in implementing technology into the classroom.	4.25	.863	3	38.762*
Regular communications about the district and campus occurred through vehicles such as newsletters, memos or e-mails.	3.93	.929	3	16.286*
An Educational Organization informed me of my rights as an educator and offered legal support.	3.63	1.117	4	21.595*
The district provided a curriculum guide with clear objectives and timelines required to teach.	4.17	1.004	4	62.429*

Note: χ^2 with *df*=2 would be significant at the .001 level if χ^2 is above 13.816. χ^2 with *df*=3 would be significant at the .001 level if χ^2 is above 16.266. χ^2 with *df*=4 would be significant at the .001 level if χ^2 is above 18.467.

**p* < .001.

The qualitative data were analyzed for trends. The first open-ended qualitative instrument item was *My school was/has been most supportive of me during the mentoring process in the following areas*. As shown in Table 22, participants claimed to have support in *all areas of instruction* the most often (*f*=20, 23.8%). The participants noted having an *outstanding mentor* the least frequently (*f*=2, 2.4%).

The second open-ended qualitative instrument item was *What has been the most difficult part of your assignment in the teacher-mentoring program?* Three areas were

Table 22.

Most Supportive Areas from the Participant's School (N=84)

	<i>f</i>	%
Administration Support	7	8.3
All areas of instruction	20	23.8
Allowed Time	9	10.7
Developing as an effective teacher	10	11.9
Outstanding mentor provided	2	2.4
Professional Development	5	6.0
School/Mentor not supportive	9	10.7
No Response	22	26.2

found to be the most frequently noted difficulties for participants (shown in Table 23).

Instructional methods and classroom management, Learning district policies / being new, and *Mentor Not Helpful (or off-site)* were equally stated to be the most difficult part of the new teacher's assignment ($f = 12, 14.3\%$). The item noted as a difficulty the least frequently was *Asking for help* ($f = 3, 3.6\%$).

Table 23.

Most Difficult Part of the Mentoring Program (N=84)

	<i>f</i>	%
Asking for help	3	3.6
Instructional methods & classroom management	12	14.3
Lack of Communication / Unclear Expectations	8	9.5
Learning district policies / being new	12	14.3
Little or no difficulties	5	6.0
Mentor Not Helpful (or off-site)	12	14.3
Not enough time allowed	11	13.1
No response	21	25.0

The third open-ended qualitative instrument item was *In what areas would you have appreciated more support from the school for the teacher-mentoring program?* As

shown in Table 24, The most commonly noted area for more support needed was *Help with Culture, Procedures, and Deadlines needed* ($f=13, 15.5\%$). Following this, the second most commonly noted area of need was *More time needed* ($f=11, 13.1\%$). Within the *More time needed* category, three specific time needs were noted: *More time needed in general* ($f=3, 3.6\%$); *More time needed to observe other programs* ($f=2, 2.4\%$); and *More time needed with the mentor* ($f=6, 7.1\%$).

Table 24.

Areas of More Support Needed from the Participant's School (N=84)

	<i>f</i>	%
All areas - needed more support in all ways	4	4.8
Better mentor pairing needed	9	10.7
Classroom management help needed	2	2.4
Better compensation needed	1	1.2
Expectations need articulated more clearly	9	10.7
Help meeting teaching certification requirements needed	2	2.4
Help with Culture, Procedures, and Deadlines needed	13	15.5
Help with Curriculum & instructional strategies needed	6	7.1
More feedback needed	2	2.4
More time needed (10, 11.9%)	11	13.1
More time needed in general ($f=3$)		
More time needed to observe other programs ($f=2$)		
More time needed with the mentor ($f=6$)		
Plenty of Support - No Additional Needs	5	6.0
No response	20	23.8

Research Question 4:

How do the perceived practices of successful CTE teacher mentoring differ by the protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, or the content area in which the teacher taught during the mentoring process?

To answer research question #4, a series of ANOVA statistics were computed to compare the effect of each demographic area on the mean score for each SMBT Factor Area (*teacher involvement/support, staff development, administrative support, resource materials*). The demographic areas used were protégé teacher's age, gender, race, level of education, undergraduate degree major, number of years taught, the content area in which the teacher taught during the mentoring process, the type of mentoring program (formal/informal), or if the participant had prior experience as a mentor.

A one-way ANOVA was conducted to compare the effect of the participants' age group on the each of the mean factor area scores for age groups of 24-29 years, 30-39 years, 40-49 years, 50-59 years, and 60+ years. As shown in Table 25, there was a significant effect for age group on the mean *administrative support* score at the $p < .05$ level for the five age groups [$F(4, 79) = 2.940, p = 0.025$]. *Post hoc* comparisons using the Tukey HSD test indicated that the mean *administrative support* score for participants in the 30-39 years age group ($M = 4.508, SD = 0.364$) was significantly higher than the 24-29 years age group ($M = 3.400, SD = 0.724$). There was not a significant effect for any other age group on the mean *administrative support* factor area. Additionally,

Table 25.
ANOVA Results for Effect of Age Group on Each SMBT Factor Area (N=83)

	<i>F</i>	<i>p</i>
teacher involvement/support	2.298	0.066
staff development	1.702	0.158
administrative support	2.940	0.025
resource materials	0.640	0.635

Note: $p < .05$ is in Boldface. $df = 4$ for all between group values, and $df = 79$ for all within group values.

there was not a significant effect for age group on any other factor area (*teacher involvement/support*, *staff development*, or *resource materials*) (shown in Table 25).

One-way ANOVA statistics were computed to compare the effect of each of the remaining demographic areas (gender, race, level of education, undergraduate degree major, number of years taught, the content area in which the teacher taught during the mentoring process, the type of mentoring program (formal/informal), or if the participant had prior experience as a mentor) on each of the mean SMBT Factor Area scores. As shown in Table 26, there was not a significant effect for any demographic area on any of the mean SMBT Factor Area scores at the $p < .05$ level.

Table 26.
ANOVA Results for Effect of Demographics on Each SMBT Factor Area (N=83)

	<i>F</i>	<i>p</i>
Gender (<i>df</i>=1, 82; <i>N</i>=83)		
teacher involvement/support	2.694	0.105
staff development	3.072	0.083
administrative support	0.531	0.468
resource materials	0.590	0.445
Race (<i>df</i>=5, 78; <i>N</i>=83)		
teacher involvement/support	0.783	0.565
staff development	0.893	0.490
administrative support	0.947	0.455
resource materials	1.831	0.116
Level of Education (<i>df</i>=6, 77; <i>N</i>=83)		
teacher involvement/support	1.059	0.394
staff development	1.071	0.387
administrative support	1.419	0.218
resource materials	0.300	0.935
Undergraduate Degree Major (<i>df</i>=7, 64; <i>N</i>=71)		
teacher involvement/support	1.829	0.097
staff development	1.401	0.220
administrative support	1.498	0.184
resource materials	0.472	0.851
Number of Years Taught (<i>df</i>=3, 80; <i>N</i>=83)		
teacher involvement/support	0.635	0.595
staff development	1.403	0.248
administrative support	1.022	0.387
resource materials	0.184	0.907
Content Area during Mentoring (<i>df</i>=6, 74; <i>N</i>=80)		
teacher involvement/support	1.042	0.405
staff development	0.978	0.446
administrative support	0.456	0.838
resource materials	0.562	0.759
Type of Mentoring Program (Formal/Informal) (<i>df</i>=1, 82; <i>N</i>=83)		
teacher involvement/support	1.410	0.239
staff development	0.134	0.716
administrative support	1.312	0.255
resource materials	0.261	0.611
Prior Experience as a Mentor (<i>df</i>=1, 82; <i>N</i>=83)		
teacher involvement/support	1.410	0.239
staff development	0.394	0.532
administrative support	0.118	0.732
resource materials	0.034	0.854

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Teacher shortages are leading to an increase in non-traditionally certified CTE teachers (Mattoon, 2008). These teachers need support and preparation to become effective teachers (Hellsten et al., 2009). Mentoring can be a means of teachers gaining the support and preparation that is needed (Hudson, 2004). The purpose of this study was to examine mentoring practices through analyzing the perceptions of Oklahoma non-traditionally certified CTE teachers.

Eighty-four non-traditionally certified CTE teachers in Oklahoma participated in an online survey regarding mentor characteristics and mentoring program elements. The online survey used the MRI and SMBT instruments in addition to a demographics section. A link to the online survey was distributed via the researcher's email. The results of the survey were analyzed and statistically significant results were found in many areas.

To design this study, a conceptual framework combining progressivism, mentoring theory, learning transfer theory, teacher induction programs, and teacher retention/attrition was used. All of the participants of the study were non-traditionally certified CTE teachers who had been through some form of mentoring program. Because

no significant differences were found between the responses of those in formal versus those in informal mentoring programs, this chapter does not differentiate between the two. Many of the participants also noted going through some type of teacher induction program in addition to their mentoring experience. These types of non-traditional teacher preparation programs look for practical education and best practices for preparing teachers, which aligns with progressivism beliefs about education (Labaree, 2005). Additionally, many non-traditional teacher preparation programs also work to combine the theory of education with the practice of teaching (Howe, 2006; Joerger, 2003, Osgood & Self, 2002; Taranto, 2011). Participants supported this element of progressive teacher preparation by noting the combination of theory and practice in their comments regarding mentoring programs.

Mentoring theory was represented throughout the study's design by focusing survey questions specifically on participants' perceptions of mentoring practices. Although this study did not address how the mentor and protégé teacher were paired, this study did address the nature of the mentoring relationship and which elements of a mentoring program participants considered the most important.

The need for mentoring programs to consider learning transfer theory is strong in the findings of this study. According to the participants, protégé teachers need to be involved in activities such as Leimbach's (2010) *Learner Readiness Activities*, *Learning Transfer Design Activities*, and *Organizational Alignment Activities*. Participants mentioned being motivated to be a successful teacher (*learner readiness*), wanting more support in the learning process (*learning transfer design*), and wanting a climate that was supportive of learning to be a teacher (*organizational alignment*).

Many of the protégé teachers who participated in this research noted being involved in an induction program that included mentoring. The results of this study could be applicable to induction programs as well as mentoring programs. However, the participants were only specifically asked about their mentoring experiences, not their induction program experiences. Furthermore, although testing how teacher retention/attrition was affected by particular mentoring practices was out of the scope of this study, literature suggests that an effective combination of the teaching/learning strategies in the theories addressed by this study could lead to increased teacher retention (Ingersoll & Smith, 2003; Jorissen, 2003; Mattoon, 2008).

Summary of the Findings

Through analyzing the results of the MRI portion of the survey data, the psychosocial mentor roles appear to be more influential on a positive perception of the mentor. The *acceptance* mentor role had the highest mean score for the participants. This indicates that the protégé teacher needs to feel that the mentor views them as competent in the teaching field. As discussed in Chapter 2, this finding is consistent with literature on teacher retention/attrition (Gardner, 2010; NRCCTE, 2011).

The second highest mean score for a mentor role was for the *friend* mentor role. This indicates that the protégé teachers need to feel that the mentor *provides support and encouragement, is someone they can trust, and is someone they can confide in*. Supporting this finding, mentoring theory literature explains that protégé teachers want colleagues who understand the frustrations of teaching and who will suggest “strategies to make teaching more manageable” (Wilcox & Samaras, 2009, p. 183). Literature on

teacher induction programs also support this finding (Joerger, 2003; Osgood & Self, 2002; Sandford & Self, 2011).

The mentor role with the lowest score was the *parent* mentor role, indicating there is little need for the mentor to act in a parental role during the mentoring process. Some of the mentor role areas were affected by demographic areas. The protégé teacher's undergraduate degree major affected the ratings for the following mentor roles: *sponsor*, *protector*, *coach*, *challenging assignments*, *friend*, *role model*, and *counselor*. The protégé teacher's years of experience teaching influenced the ratings for the *challenging assignments*, *counselor*, and *exposure* mentor roles. The protégé teacher's content area taught at the time of the mentoring experience impacted the ratings for the *challenging assignments* and *counselor* mentor roles. Finally, the protégé teacher's age group only influenced ratings for the *sponsor* mentor role.

All four of the SMBT factor areas (*teacher involvement/support*, *staff development*, *administrative support*, *resource materials*) were considered relatively important for mentoring programs by the participants in this study. Of the four factor areas, *teacher involvement/support* held the highest mean score. This indicates that the participants view this factor slightly more important than the others. The SMBT *administrative support* factor area was influenced by the protégé teacher's age group. No other SMBT factor areas were significantly affected by any of the demographic areas.

The SMBT items with the highest and lowest ratings are also important to note. The highest ratings were received by *Creation of a climate that encourages teachers to seek assistance when needed*. Learning transfer theory elements such as Leimbach's

(2010) *Organizational Alignment Activities*, support the idea that a positive and supportive climate can be essential to protégé teachers learning to be effective teachers. Equally as important is the item that received the lowest ratings, *Creating a professional portfolio that demonstrates professional growth as a teacher*.

Protégé teachers mentioned in the open-ended questions that support in various instructional techniques were provided through their mentoring experience. However, the protégé teachers mentioned having the most difficulties in the areas of *learning district policies/being new, their mentor not being helpful, and instructional methods/classroom management*. Very few protégé teachers mentioned *asking for help* as a difficulty.

Overall, the protégé teachers wanted more *help with culture, procedures, and deadlines* within their positions. Additionally, many protégé teachers noted wanting more time for various tasks. Literature on progressivism in education explains that education should be focused on the learner (Pattison, 1999; Taranto, 2011). The findings from this study are consistent with progressivism, in that protégé teachers mentioned wanting relevant information that could be applied to their everyday teaching experiences (Dewey, 1916; Elias & Merriam, 2005; Paulter, 1999).

Conclusions

The results of the data collected and analyzed led to conclusions about teachers' needs with regard to the mentoring/induction processes. The conclusions developed are supported by the literature and theory base discussed in Chapter Two. Several conclusions have been made from the findings of this study:

1. **Not all demographic groups viewed mentoring in the same way.** The perceptions of mentor characteristic varied by undergraduate major, number of years of teaching experience, content area, and age group (for one area only). Perceptions of mentor characteristics did not vary by race, level of education, prior mentoring experience, or type of program (formal or informal). The perceptions of mentoring program elements did not vary by demographic with the exception of *administrative support* which varied by age group only. Ultimately, mentor characteristics were impacted by demographic area more than the mentor program elements were impacted by demographics.
2. **Teachers have suggestions for mentoring processes.** Many of the teachers who participated in this research had suggestions for mentoring programs. Some of these suggestions included:
 - “A more robust instructional program like the former "tools for teachers" was far more helpful than the mentoring program. It built a cohort of people I could turn to for help even more so than the people in my department.”
 - “There needs to be more hands on training.”
 - “Administration should meet with mentors and mentees regularly.”
 - “Mentors should be more aware of the needs of new teachers, those who have never been in the classroom. This should also be the administrations duties.”

- “Mentors should be more hands on, not just someone a new teacher has to call on when needed. Most new teachers don't know what to ask. Someone needs to be available when the teacher is working on their first year of experience.”
- “The teacher-mentor program could have been so much better had I been paired up with the same subject matter teacher.”

From this data, it can be concluded that teachers have ideas about how to create an ideal mentoring process. Thus, teachers should continue to be asked for suggestions in the design of the mentoring process.

3. **Content areas within CTE have differing procedures for non-traditional certification.**

The number of college courses, clock hours of professional development, and degree major requirements vary substantially among the various CTE areas (M. Self, personal communication, January 9, 2013).

Given the write-in comments, there seems to be a lack of consensus in the requirements for gaining non-traditional teacher certification. This inconsistency is supported by the researcher’s review of both the OkSDE and ODCTE website sections regarding teacher certification (Oklahoma Administrative Code, 2013; ODCTE, 2011; ODCTE, 2013; OkSDE, 2011; OkSDE, 2013). Inconsistencies in certification requirements make navigating the non-traditional teacher certification process more difficult for protégé teachers, administrators, and college representatives (M. Self, personal communication, January 9, 2013). Additionally, not all teachers are required to complete a mentoring or induction program (M. Self, personal

communication, January 9, 2013). This too varies between content area and school district, and adds to potential confusion in the non-traditional teacher certification process.

4. **Expectations for administrators, mentors, and protégé teachers are not clear within the mentoring program.** When asked in what areas protégé teachers wanted more support, responses such as “More specific outcomes they expected from me,” “Knowing what was expected of me,” and “Nothing was explained” were received. One participant noted, “I would have appreciated knowing what was expected of me in the beginning.”

Teachers’ desire for expectations to be clear is found often in education research (Barrera, et al., 2010; Briggs & Zirkle, 2009; Sandford & Self, 2011). Expectations for the mentoring process must be clear and constant for teachers to feel secure in their new instructional positions (Barrera, et al., 2010).

5. **Teachers value the *Creation of a climate that encourages teachers to seek assistance when needed more than other mentoring program elements.***

This study did not analyze the climate or culture of school settings. However, this was the highest mean score item for the SMBT portion of the online survey. Briggs and Richardson (1992) supported this, by explaining that teachers need to feel encouraged to ask questions and seek help as necessary. In a 2010 study, Gardner found that the perceived level of administrative support had a large influence on teacher satisfaction and retention. Supporting this conclusion further, McCharen, Song, and Martens (2011) stated:

School leaders, who desire to improve a school's culture, must foster an atmosphere that helps teachers know where they fit in and how they can work as a community to support teaching and learning. Creating a school culture requires instructional leaders to develop a shared vision that is clearly communicated to faculty and staff. Additionally, leaders must create a climate that encourages shared authority and responsibility if they are to build a positive school culture. (p.689)

Implications

There are 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. More specifically, the theoretical framework combining progressivism, mentoring theory, learning transfer theory, teacher induction, and teacher retention was supported by the data in this research. Progressivism holds that learners need practical content taught in a variety of learning methods that best meet the needs of the learner. From the write-in comments, this too is true for the participants of this study. Teachers commented about wanting only the information needed at the time, and about wanting a teaching method used that was more conducive to learning than "death by PowerPoint." This data supports and expands the literature base on progressivism.

Mentoring theory and learning transfer theory were also supported by the data in this research. As discussed in Chapter Two, mentoring theory holds that mentoring can

help new teachers become more successful in their classrooms. Many study participants commented that the mentoring process was (or could be) very helpful to a protégé teacher. One participant stated, “Mentoring new teachers, whether they are CTE or any other teacher is absolutely essential.”

Learning transfer theory is a process by which learners apply knowledge learned to real-world situations. The goal of learning transfer theory is to design instruction to maximize the application of learned theory and/or skills. Leimbach’s model of learning transfer states that three key components must be addressed for successful learning transfer to occur: 1) learner readiness activities, 2) learning transfer design activities, and 3) organizational alignment activities. In the SMBT portion of the survey, the participants of this study supported Leimbach’s model by commenting on the importance of motivation to be a successful teacher (*learner readiness*), the desire for more support in the learning process (*learning transfer design*), and the need for a climate that encouraged learning to be a teacher (*organizational alignment*).

The importance of teacher induction programs were also supported by the results of this study. Multiple participants of this study made comments regarding the importance of training programs for new teachers that included mentoring and other forms of induction programs. One teacher commented, “...there is a strong need for a thorough orientation program to get teachers and employees moving in the right direction.” Another participant stated, “Teachers need as much support as we give the students.” Although teacher retention/attrition was out of the scope of this study, one participant’s write-in comment included, “Mentors help with teacher retention.”

Implications for Practice.

The first implication for practice is that protégé teachers need to feel accepted in their positions and need to be viewed as competent by their mentors. Supporting this, Lentz (2007) found that protégé teachers who viewed themselves as highly competent and capable “reported greater perceptions of career success” (p. 95). Connecting theory base regarding teacher retention/attrition to this conclusion, Gardner (2010) explained that teachers need to feel supported and accepted to ultimately stay in the teaching profession.

Secondly, protégé teachers need support, encouragement, and someone in whom they can confide. Clark and Byrnes (2012) explained that new teachers need mentors to be good listeners and to encourage the new teacher. Additionally, Osgood and Self (2002) stated that the “lack of support is one of the main reasons that teachers leave their profession” (p. 3).

Fourth, protégé teachers struggle the most with *learning district policies/being new*, their *mentor not being helpful*, and *instructional methods/classroom management*. Briggs and Zirkle (2009) explained that new CTE teachers need professional development “which focuses on teachers, tasks such as classroom and lab management, instruction, and making presentations” (p. 13). Hudson, Usak and Savran-Gencer (2009) described that protégé teachers want their mentors to be good listeners, assist with timelines throughout the year, and assist the protégé teacher with reflections on teaching.

Fifth, protégé teachers want more *help with culture, procedures, and deadlines*, and overall *more time*. Howe (2006) supported this concept by stating, “Teachers need a

gradual acculturation into the profession with a structured and well-supervised clinical instructional period” (p. 292). The literature supports the idea that mentoring needs additional time to collaborate and address needs of the protégé teacher (Cook, 2012; Long, 2009).

Recommendations

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

Recommendations for Research.

1. **A qualitative study should be performed to gather more detailed perceptions from Oklahoma CTE teachers regarding mentoring.** Gay et al. (2006) explained that the purpose of qualitative research is to create a “deep and holistic or complex *understanding* of a particular phenomenon” (p. 399). Because qualitative studies can provide more detailed insight to the thoughts of the participants (Rossman & Rallis, 2003), this type of research could provide ideas for further improving mentoring/ induction programs.
2. **Analyze the importance of andragogy in the mentoring/induction processes.** Andragogy is the study of how adults learn (Chan, 2010). More specifically, “andragogy is centered on the idea that the lecturer does not possess all the knowledge and that students are encouraged to participate in the classroom by utilizing their own experiences” (McGrath, 2009, p. 102). This research study did not take into account in any differences in learning

strategies for the adult protégé teachers. Applying andragogy theory to mentoring and/or induction strategies could provide better outcomes for protégé teachers.

3. **Analyze cognitive load theory as it relates to new non-traditionally certified CTE teachers.** Cognitive load theory posits that there is an optimal amount of learning that can take place at any given time (van Gog, Paas, & Sweller, 2010). The theory further explains that there is a point at which cognitive overload can happen (Kalyuga & Sweller, 2004). Cognitive overload is the point at which the learner is presented with too much information to process effectively (Kalyuga & Sweller, 2004). The learner becomes overwhelmed and either little or none of the knowledge is learned (van Gog, Paas, & Sweller, 2010). Based on the qualitative comments from the participants in this study – specifically the need for more time and comments about too much information given to the participant at once – cognitive overload may be occurring at various times during the first year of teaching for the participants in this study.
4. **Analyze the need and usefulness of creating portfolios as a means of reflection.** Participants rated creating a professional portfolio as the lowest of the SMBT items. This author further recommends that other reflective techniques be compared to the portfolio development process to determine if there might be reflective techniques that the protégé teachers, administrators, and college representatives feel are more effective.

5. **Replicate this study for all CTE teachers in Oklahoma (including both non-traditionally certified and traditionally certified).** This would allow for more generalizability. Additionally, Oklahoma CTE programs could use the results of this type of study to adapt mentoring/induction programs to better meet the needs of the new teachers.

Recommendations for Practice

1. **Non-traditional teacher preparation program administrators should analyze how/if the program meets the needs of protégé teachers.**

Furthermore, if protégé teacher needs' are not being fully addressed, program administrators should consider changing the program dynamics to better meet the needs new teachers. Items noted by the participants of this study as needing more emphasis include *help with culture, procedures, and deadlines* and *instructional methods/classroom management*. These areas could be a focus for protégé teacher training and development.

2. **All mentoring programs should provide training for administrators and mentors.** From the findings of the study, training on how to be an effective administrator or mentor in a mentoring program could make the mentoring process more effective for protégé teachers. This training could help administrators learn how to *create a culture of support, encouragement, and resources for teachers*. Additionally, the mentors could learn how to support and guide the protégé teacher while insuring that the teacher feels appreciated and competent. This type of training could also give suggestions to

administrators and mentors on how to create more time for the mentoring process.

- 3. Pairing of mentors and protégé teachers should be deliberate and carefully chosen.** This study did not analyze the pairing of mentors and protégé teachers. Additionally, this study did not ask if the mentor was paid for being a mentor. Based on the responses from the open-ended questions regarding mentors, this author recommends mentors and protégé teachers be carefully paired. Literature supports the idea that the mentors and protégé teachers should be matched purposively by content area, personality, age, or a combination of these (Bottoms, Egelson, Sass, & Uhn, 2013; Cook, 2012). Administrators should also consider what is happening in the personal and professional lives of possible mentors and whether the possible mentor wants to take on the responsibility of being a mentor. Ultimately, administrators should carefully choose the mentor program partners based on a number of factors discussed in previous research (Cook, 2012).

Conclusion: Final Thoughts

The 84 participants of this study provided their perceptions regarding mentoring programs and mentor characteristics. The findings and conclusions were supported by previous research on mentoring within educational settings. Ultimately, new non-traditionally certified teachers want to feel success in their new career path (Briggs & Zirkle, 2009). The participants indicated that support, encouragement, acceptance, and time were key factors in the mentoring process. Administrators and mentors should be aware of the need for these factors when participating in a mentoring program.

Ideally, mentoring programs should contain a few broad elements. A mentoring program should be required of non-traditional first-year CTE teachers. These teachers will have many questions and will need guidance as they move from an industry to a classroom environment. Administrators and mentors should be trained in how to effectively facilitate the mentoring process. The pairing of the mentors in these programs should be deliberate. Factors such as the mentors willingness and available time should be assessed. Additionally, personalities, ages, experiences, and teaching assignments should also be considered in the pairing process.

More specifically, the mentoring process itself should contain a few key elements. First, and foremost, the administrator, protégé teacher and mentor should sit down together to discuss expectations. The expectations the administrator has for the mentor and protégé teacher should be clear. Also, the expectations the mentor and protégé teacher have for the administrator should also be addresses. By making expectations transparent for all involved better lines of communication can be created.

The mentoring process should include the mentor observing the protégé teacher. This is common in most mentoring programs. However, it is also important that the protégé teacher observe other teachers as well. Through observing other teachers, the protégé teacher may be able to develop new ways of teaching that are more effective.

Regular communication is an essential part of the mentoring process. Regularly scheduled times for the mentor and protégé teacher to meet allow for questions, comments, and suggestions to be addressed. This also allows time to review upcoming

deadlines, procedures, etc. that need to be completed. Most importantly, regular communication creates time for reflection on instructional practices.

Although the participants of this study noted not liking portfolios, this researcher believes that some form of reflection is a necessary component of mentoring. By assessing what worked, what did not work, and what needs “tweaked,” instructional practices can be improved. The method of reflection can vary. Some administrators may prefer written reflections, while others may prefer a more conversational approach. This researcher recommends that if the written reflection method is chosen, conversations (feedback) about those reflections be used as well.

Overall, this study supported and expanded the literature based regarding mentoring of teachers in CTE programs. While the participants’ perceptions of their own mentoring experiences varied from very positive to very negative, the majority of participants viewed the mentoring process itself as important. In the end, participants clearly noted wanting a mentoring program that encouraged asking questions, encouraged seeking advice from others, had clear expectations, and empowered them to improve their own teaching quality.

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APPENDICES

Appendix A: Invitation Email

Dear Teachers:

I am requesting your participation in my dissertation research study. I am a student at Oklahoma State University completing my final requirements to earn my Ph.D. in Occupational Education Studies. My dissertation focuses on mentor characteristics and mentoring programs for Career and Technology Education (CTE) teachers. Specifically, I am examining CTE teacher perceptions of good mentors and good mentoring programs from the mentee's perspective. Over the next few weeks, I hope to collect data for this study. **In order to do this, I need your help!**

The online survey will take approximately 20-30 minutes to complete and must be completed in one session. No identifiable information will be recorded. Your participation in this study is completely voluntary, and you are free to withdraw at any time. If you choose not to participate, or choose to withdraw, there will be no form of reprimand or reproach. Additionally, the principle risks associated with this study are those associated with a breach in confidentiality. To minimize these risks, no identifiers are to be associated with your data and no signed record of your consent will be collected.

To participate in this study, you need to have had a mentor (or currently have a mentor) at some point in your career. For the purpose of this study, a mentoring is defined as:

"Mentoring occurs when a senior person (the mentor in terms of age and experience) provides information, advice and emotional support to a junior person (i.e., the mentee) in a relationship lasting over an extended period of time" (Barerra, et al, 2010, p.62)

Have you had a mentor during the course of your career?

- If you answered **"Yes"** to the above question and **CONSENT** to participate in this research study, please click on the following link:

[insert link]

Selecting this link and completing the online survey will act as informed consent, and will show that you, the participant, have been advised to the procedures to be used in this study and are participating voluntarily.

Attached is a document containing Frequently Asked Questions. This document is intended to address any questions/concerns you have regarding the study. If you have further questions about the study, please feel free to contact me, my advisor Dr. Belinda Cole, or the OSU Institutional Review Board using the contact information below.

Thank you for your time and participation!

Andrea M. Ellis, M.Ed.
Oklahoma State University
Stillwater, OK 74078
Phone: (580) 369-0505
andrea.ellis@okstate.edu

Dr. Belinda Cole
Oklahoma State University
Stillwater, OK 74078
Phone: (405) 744-9502
belinda.cole@okstate.edu

Dr. Shelia Kennison, IRB Chair
219 Cordell North – OSU
Stillwater, OK 74078
Phone: (405) 744-3377
irb@okstate.edu

Appendix B: Reminder Email

Dear Teachers:

Two weeks ago, I contacted you about participating in my dissertation study. Thank you to those who completed the online survey. For those of you who have not had an opportunity to participate, I encourage you to do so during this next week when data collection will cease. As you may remember, my dissertation focuses on mentor characteristics and mentoring programs for CTE teachers from the mentee's perspective. If you choose to participate, *please complete the online survey as soon as possible prior to [insert date]*.

The survey will take approximately 20-30 minutes to complete and must be completed in one session. No identifiable information will be recorded. Your participation in this study is completely voluntary, and you are free to withdraw at any time. If you choose not to participate, or choose to withdraw, there will be no form of reprimand or reproach. Additionally, the principle risks associated with this study are those associated with a breach in confidentiality. To minimize these risks no identifiers are to be associated with your data and no signed record of your consent will be collected.

To participate in this study, you need to have had a mentor (or currently have a mentor) at some point in your career. For the purpose of this study, a mentoring is defined as:

"Mentoring occurs when a senior person (the mentor in terms of age and experience) provides information, advice and emotional support to a junior person (i.e., the mentee) in a relationship lasting over an extended period of time" (Barerra, et al, 2010, p.62)

Have you had a mentor during the course of your career?

- If you answered "Yes" to the above question and **CONSENT** to participate in this research study, please click on the following link:

[insert link]

Selecting this link and completing the online survey will act as informed consent, and will show that you, the participant, have been advised to the procedures to be used in this study and are participating voluntarily.

Again, attached is document containing Frequently Asked Questions. This document should address any questions/concerns you have regarding the study. If you have further questions about the methodology or purpose of the study, please feel free to contact me, my advisor Dr. Belinda Cole, or the OSU Institutional Review Board using the contact information below.

Thank you for your time and participation!

Andrea M. Ellis, M.Ed.
Oklahoma State University
Stillwater, OK 74078
Phone: (580) 369-0505
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Online Mentoring Survey
Frequently Asked Questions and Answers

Q. Who will see my responses?

A. *No identifiable information will be collected via the online survey. As such, only your responses, not your identity, will be recorded. The researcher, the researcher's dissertation committee, and the Oklahoma State University Institutional Review Board have access to data that is collected.*

Q. Will my answers be tracked to me?

A. *No. There is NO identifiable information to be collected via the online survey and no internet tracking will be used. As such, only your responses, not your identity, will be recorded.*

Q. How long will the survey take to complete?

A. *The survey for this research study should take approximately 20-30 minutes to complete.*

Q. Why should I participate?

A. *This research could help administrators and teacher educators develop better mentoring programs in the future. Your participation could positively affect how future teachers are inducted.*

Q. Do I have to participate?

A. *The choice to participate in this research study is entirely yours. Your participation in this study is completely voluntary, and you are free to withdraw at any time. If you choose not to participate, or choose to withdraw, there will be no form of reprimand or reproach.*

Q. What will you do with the results?

A. *The results will be analyzed to determine any relationships between individual characteristics, perceived mentor characteristics, and perceived mentor program characteristics. Results will be reported as group data, not individual data. Results will be available following the conclusion of the study. If you would like to review the results of this study, please contact, Andrea M. Ellis from Oklahoma State University at andrea.ellis@okstate.edu after August, 1, 2013.*

Q. Is the online survey secure?

A. *The survey is hosted on a secure server. However, there are always concerns when using the internet and intranets. Because of this, it is possible, but unlikely, that unauthorized persons could gain access to the survey responses. Please remember, no personally identifiable information will be collected. Therefore, the risk for completing the online survey is minimal.*

Q. If I have any additional questions, who should I contact?

A. *If you have any questions/concerns regarding this study, please contact Andrea M. Ellis at 580-369-0505 or andrea.ellis@okstate.edu. You may also contact Dr. Belinda Cole at 405-744-9502 or belinda.cole@okstate.edu. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu*

Online Mentoring Survey

Dear Career and Technology Educators:

I am requesting your participation in my dissertation research study. I am a student at Oklahoma State University completing my final requirements to earn my Ph.D. in Occupational Education Studies. My dissertation focuses on mentor characteristics and mentoring programs for Career and Technology Education (CTE) teachers. Specifically, I am examining CTE teacher perceptions of good mentors and good mentoring programs from the mentee's perspective. Over the next few weeks, I hope to collect data for this study.

In order to do this, I need your help!

The online survey will take approximately 20-30 minutes to complete and must be completed in one session. No identifiable information will be recorded. Your participation in this study is completely voluntary, and you are free to withdraw at any time. If you choose not to participate, or choose to withdraw, there will be no form of reprimand or reproach. Additionally, the principle risks associated with this study are those associated with a breach in confidentiality. To minimize these risks, no identifiers are to be associated with your data and no signed record of your consent will be collected.

To participate in this study, you need to be at least 18 years or older. Additionally, to participate you need to have had a mentor (or currently have a mentor) at some point in your career.. For the purpose of this study, a mentoring is defined as:

“Mentoring occurs when a senior person (the mentor in terms of age and experience) provides information, advice and emotional support to a junior person (i.e., the mentee) in a relationship lasting over an extended period of time” (Barerra, et al, 2010, p.62)

Have you had a mentor during the course of your career?

- If you answered “Yes” to the above question and **CONSENT** to participate in this research study, please click on the following link:

**I have had a mentor and
I want to participate**

Selecting this link and completing the online survey will act as informed consent, and will show that you, the participant, have been advised to the procedures to be used in this study and are participating voluntarily. Selecting this link also will act as acknowledgment that you are at least 18 years of age. Alternatively, if you do not wish to participate you may choose the link below, or simply close your internet browser.

**No, thank you. I do not want
to participate in the survey.**

[Frequently Asked Questions \(click here\)](#). This document should address any questions/concerns you have regarding the study. . If you have further questions about the methodology or purpose of the study, please feel free to contact me, my advisor Dr. Belinda Cole, or the OSU Institutional Review Board using the contact information below.

Thank you for your time and participation!

Andrea M. Ellis, M.Ed.
Oklahoma State University
Stillwater, OK 74078
Phone: (580) 369-0505
andrea.ellis@okstate.edu

Dr. Belinda Cole
Oklahoma State University
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belinda.cole@okstate.edu

Dr. Shelia Kennison, IRB Chair
219 Cordell North – OSU
Stillwater, OK 74078
Phone: (405) 744-3377
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Online Mentoring Survey

General Instructions

- In order to determine your perceptions of good mentor characteristics and good mentoring program practices, you are being asked to complete this online survey
- Please be honest as you complete this survey. **There are no right or wrong answers!**
- Your participation in this study is entirely voluntarily. As such, you may withdraw at any time without threat of reprimand or reproach.
- **All responses will remain confidential and no personally identifiable information will be collected. School administrators, the Oklahoma Department of Career and Technology Education, and the State Department of Education will NOT know who participated in this study.**
- Continuing to the next page and completing the online survey will act as informed consent, and will show that you, the participant, have been advised to the procedures to be used in this study and are participating voluntarily.

Before you begin...

The online survey will take approximately 20-30 minutes to complete and should be completed in one session.

This study is examining the mentee's perceptions of the mentor. If you have been both a mentee and a mentor, please use only your experience as a mentee to respond to the survey items.

If you experience any difficulties with the survey, have questions about the study, or would prefer a paper copy of the survey, please contact Andrea M. Ellis at andrea.ellis@okstate.edu.

Thank you for your participation!

Appendix E (Continued)

Section 1

Please rate the following 33 items on a scale from 7 (strongly agree) to 1 (strongly disagree):

My mentor...

Item #		Strongly Agree						Strongly Disagree
1.	helps me attain desirable positions.	7	6	5	4	3	2	1
2.	“runs interference” for me in the organization.	7	6	5	4	3	2	1
3.	brings my accomplishments to the attention of important people in the organization.	7	6	5	4	3	2	1
4.	and I frequently have one-on-one, informal social interactions.	7	6	5	4	3	2	1
5.	provides me with challenging assignments.	7	6	5	4	3	2	1
6.	reminds me of one of my parents.	7	6	5	4	3	2	1
7.	serves as a role model for me.	7	6	5	4	3	2	1
8.	creates opportunities for me to impress important people in the organization.	7	6	5	4	3	2	1
9.	accepts me as a competent professional.	7	6	5	4	3	2	1
10.	and I frequently get together informally after work by ourselves.	7	6	5	4	3	2	1
11.	serves as a sounding board for me to develop and understand myself.	7	6	5	4	3	2	1
12.	provides support and encouragement.	7	6	5	4	3	2	1
13.	is like a father/mother to me.	7	6	5	4	3	2	1
14.	helps me be more visible in the organization.	7	6	5	4	3	2	1
15.	suggests specific strategies for achieving career aspirations.	7	6	5	4	3	2	1
16.	is someone I can trust.	7	6	5	4	3	2	1
17.	guides my personal development.	7	6	5	4	3	2	1
18.	protects me from those who may be out to get me.	7	6	5	4	3	2	1
19.	is someone I can confide in.	7	6	5	4	3	2	1
20.	uses his/her influence to support my advancement in the organization.	7	6	5	4	3	2	1

Appendix E (Continued)

My mentor...

Item #		Strongly Agree						Strongly Disagree
21.	guides my professional development.	7	6	5	4	3	2	1
22.	assigns me tasks that push me into developing new skills.	7	6	5	4	3	2	1
23.	gives me advice on how to attain recognition in the organization.	7	6	5	4	3	2	1
24.	and I frequently socialize one-on-one outside the work setting.	7	6	5	4	3	2	1
25.	shields me from damaging contact with important people in the organization.	7	6	5	4	3	2	1
26.	thinks highly of me.	7	6	5	4	3	2	1
27.	helps me learn about other parts of the organization.	7	6	5	4	3	2	1
28.	is someone I identify with.	7	6	5	4	3	2	1
29.	gives me tasks that require me to learn new skills.	7	6	5	4	3	2	1
30.	represents who I want to be.	7	6	5	4	3	2	1
31.	uses his/her influence in the organization for my benefit.	7	6	5	4	3	2	1
32.	treats me like a son/daughter.	7	6	5	4	3	2	1
33.	sees me as being competent.	7	6	5	4	3	2	1

Appendix E (Continued)

Section 2

Please rate the following 26 items on a scale from Absolutely Essential to Not Essential.

What *teacher involvement/support factors* are perceived as necessary for mentors to achieve success in training first-year teachers?

Item #		Absolutely Essential	Mostly Essential	Somewhat Essential	Not Essential	Uncertain
1.	A teacher-mentoring program that has well defined goals.	4	3	2	1	U
2.	Creating a professional portfolio that demonstrates professional growth as a teacher.	4	3	2	1	U
3.	Discussing with peers skills necessary to be successful in the teaching profession.	4	3	2	1	U
4.	Creation of a climate that encourages teachers to seek assistance when needed.	4	3	2	1	U
5.	Being part of a support group made up of other beginning teachers.	4	3	2	1	U
6.	Having a mentor who provides support in coaching with needed strategies for student success.	4	3	2	1	U

What *staff development training factors* are perceived as necessary for mentors to achieve success in training first-year teachers?

Item #		Absolutely Essential	Mostly Essential	Somewhat Essential	Not Essential	Uncertain
7.	Staff development that included instructional strategies that influenced student outcomes.	4	3	2	1	U
8.	Quality staff development that addressed instructional strategies.	4	3	2	1	U
9.	Social functions to help beginning teachers build relationships with colleagues.	4	3	2	1	U
10.	Staff development that provided strategies and activities to better serve students in special populations.	4	3	2	1	U
11.	Workshops or conferences that provided professional development in teacher's area of education.	4	3	2	1	U
12.	Provided with federal, state and local policy changes in education.	4	3	2	1	U

Appendix E (Continued)

What *administrative support factors* are perceived as necessary for mentors to successfully train first-year teachers?

Item #		Absolutely Essential	Mostly Essential	Somewhat Essential	Not Essential	Uncertain
13.	Allowed time to visit as a team (mentors, mentees, administrators) to reflect and evaluate on the school year.	4	3	2	1	U
14.	Given the opportunity this year to collaboratively analyze what was observed in the classrooms of experienced teachers.	4	3	2	1	U
15.	Planning was provided that focused on teacher expectations for mentor training.	4	3	2	1	U
16.	Mentoring program was explained of my duties and responsibilities in the program.	4	3	2	1	U
17.	Confidentiality laws between teachers and students were explained.	4	3	2	1	U
18.	Time was provided at the end of each grading period to evaluate the teacher-mentoring program.	4	3	2	1	U
19.	Teaching assignments, responsibilities and teacher duties were based on teacher experience.	4	3	2	1	U

Appendix E (Continued)

What *resource materials factors* are perceived as necessary for the success of mentors in training first-year teachers?

Item #		Absolutely Essential	Mostly Essential	Somewhat Essential	Not Essential	Uncertain
20.	Requirements for a teacher certificate as an educator have been fulfilled.	4	3	2	1	U
21.	Information was provided by the school district about the teacher-mentoring program.	4	3	2	1	U
22.	The district provided financial or compensatory time for mentors participating in the teacher-mentoring program.	4	3	2	1	U
23.	Technology (computers, TV/VCR, overhead projectors) was provided to assist in implementing technology into the classroom.	4	3	2	1	U
24.	Regular communications about the district and campus occurred through vehicles such as newsletters, memos or e-mails.	4	3	2	1	U
25.	An Educational Organization informed me of my rights as an educator and offered legal support.	4	3	2	1	U
26.	The district provided a curriculum guide with clear objectives and timelines required to teach.	4	3	2	1	U

Appendix E (Continued)

Open-Ended Questions

28. My school was/has been most supportive of me during the mentoring process in the following areas:
29. What has been the most difficult part of your assignment in the teacher-mentoring program?
30. In what areas would you have appreciated more support from the school for the teacher-mentoring program?
31. In addition to the items you just completed, you are encouraged to contribute additional comments on the teacher-mentoring program through which you went.

Section 3: Background Information

1. Your Age: _____
2. Your Gender (select one):
 - Male
 - Female
3. Your Race (select one):
 - Caucasian/White
 - African-American
 - Native American
 - Hispanic/Latino
 - Asian
 - Multiracial
 - Other

4. Highest level of education completed (select one):
- Did not complete high school
 - Completed High school or GED program
 - Completed vocational program
 - Attended college but no degree
 - Completed 2-year Associate degree
 - Completed Bachelor's degree
 - Completed Master's degree
 - Completed Doctorate degree
5. If applicable, what was your undergraduate degree major? _____
6. In what level of education were you working when you had a designated mentor? (select one)
- Primary Education (PK-5 grades)
 - Middle School
 - High School
 - Technology Center
 - Higher Education
7. What is the length of time between now and the mentee experience on which you have based your responses to this survey?
- _____ Years _____ Months
8. Have you ever served as a mentor in an educational setting?
- Yes
 - No
9. Including this year, how many years have you taught? _____
10. Did your mentoring experience occur within a formal induction/mentoring program with regular, required meetings?
- Yes
 - No
11. What content area (i.e., Business Education) did you teach when you went through your mentor experience? _____

Appendix E (Continued)

12. If applicable, how did you become (are you becoming) certified to teach in Oklahoma?

- Traditional Certification
(You graduated from an accredited Teacher Education program)
- Provisional Certification
(You did not have a bachelors degree in a teaching field, and went through the Provisional I/II system)
- Alternative Certification
(You have a bachelors degree in something other than education and went through the Oklahoma State Department of Education Alternative Placement Certification Process)
- Not applicable

13. Select the statement below that most closely describes your teaching certificate.
(select one)

- I hold a Standard Teaching Certificate in Oklahoma
- I hold a Provisional/Alternative Teaching Certificate in Oklahoma, and am working to complete the requirements for a Standard Teaching Certificate
- I am working to complete the requirements to receive my initial Provisional/Alternative Teaching Certificate
- I do not hold a teaching certificate, and I am not working to earn one.

14. Additional comments:

Appendix F: Letter of Support from the
Oklahoma Department of Career and Technology Education



January 3, 2013

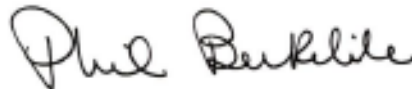
Dr. Belinda Cole
Oklahoma State University
School of Teaching and Leadership Curriculum
255 Willard
Stillwater, OK 74078

Dear Dr. Cole:

Please allow this letter to serve as documentation granting approval for you to access the CareerTech public teacher, superintendent and staff email list system for research purposes from January 1 through December 31, 2013.

Should you require assistance with this information list, please contact Corey Croci, Information Security Officer, at the Oklahoma Department of Career and Technology Education at 405.743.5183.

Sincerely,



Phil Berkenbile, Ed.D.
State Director

cc: Corey Croci

1500 West Seventh Avenue
Stillwater, OK 74074-4364
www.okcareerstech.org
(405) 377-2000 • Fax: (405) 743-5541

Appendix G: Permission to use the Mentor Role Instrument

Re: The Mentor Role Instrument

Page 1 of 2

Re: The Mentor Role Instrument

Belle Ragins [ragins@uwm.edu]

Sent: Wednesday, October 17, 2012 9:49 PM

To: Ellis, Andrea

Attachments: Ragins & Cotton 1999.pdf (2 MB) ; Ragins 2012 Relational Men~1.pdf (815 KB)

Dear Andrea

Thanks so much for your note. Of course you can use the instrument! I think it has been used on-line by other researchers in the past.

I've also attached two additional documents which include a short measure of relationship satisfaction and a new measure of relational functions (which has yet to be validated). These functions are designed to assess high quality relationships - they don't take the place of the MRI - they add to it.

Hope this is helpful and good luck with your research!

Best

Belle

On Oct 16, 2012, at 3:38 PM, Ellis, Andrea wrote:

Good afternoon Dr. Ragins,

I am a doctoral student at Oklahoma State University in Stillwater, OK. I am preparing for my prospectus, and I have found your instrument. In my study, I am examining the perceptions of non-traditionally certified Career and Technology Education instructors in Oklahoma to determine their thoughts on the characteristics of good mentors and the elements of successful mentoring programs. The survey you developed with D.B. McFarlin in 1990, The Mentor Role Instrument, could assist me with my research efforts. My advisor/chair, Dr. Belinda McCharen, requested that I seek your permission to use your instrument. Additionally, I would like to use this instrument via an online survey. Do you know if this survey has been used previously in an online survey format? I would be glad to discuss this further by phone if you would like. My cell phone number is (580) 369-0505.

Thank you for your time.

Respectfully,
Andrea Ellis

Andrea M. Ellis, M.Ed.
Ph.D. Graduate Student
Occupational Education Studies
Oklahoma State University
Stillwater, OK
Email: andrea.ellis@okstate.edu

<https://sa2prd0310.outlook.com/owa/?ae=Item&ct=IPM.Note&id=RgAAAAD%2bdYqgEn...> 1/22/2013

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Dr. Belle Rose Ragins
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Work Fax: (414) 229-5999

<http://www4.uwm.edu/business/faculty/busifaculty/ragins.cfm>

Appendix H: Permission to use the Survey of Mentors of Beginning Teachers

Re: The Survey of Mentors of Beginning Teachers

Page 1 of 2

Re: The Survey of Mentors of Beginning Teachers

John Slate [profslate@netscape.net]

Sent: Wednesday, October 17, 2012 11:02 AM

To: Ellis, Andrea

Cc: jrs051@shsu.edu

Good Morning Andrea,

Great to hear from you re: your doctoral work. Very pleased that you found my co-authored work to be of value. You have my and my co-authors' permission to use our instrument, provided, of course, that you provide appropriate citation. I am not aware of anyone using our survey via an online format. Be interesting to see how it turns out.

Best of luck in your dissertation. By the way, in case you know of any doctoral students there who might need help with their dissertations, I provide editing and statistical assistance services. With respect to editing, I am very familiar with the APA 6th edition style guide. You can also note the names of my published books below. My fees are very reasonable as I am aware of the costs of graduate education.

Best,

Dr. Slate

John R. Slate, Ph.D., Professor
Co-Editor, *Research in the Schools*
Sam Houston State University
Department of Educational Leadership and Counseling
and runner of 100 marathons or longer distance including two Boston marathons and the Leadville, Colorado 100 Mile Trail Run.

Author of Seven Books. Available at:

<http://www.ncpeapublications.org/ncpea-press.html>

- 1 and 2. Making Microsoft Office User-Friendly for Dissertations, Theses, and Manuscripts: Part I and Part II
3. Calculating Basic Statistical Procedures in SPSS: A Self-Help and Practical Guide to Preparing Theses, Dissertations, and Manuscripts
4. Presenting and Communicating Your Statistics: Model Write Ups
- 5 and 6. Calculating Advanced Statistical Procedures in SPSS: Steps and Screenshots Part I and Part II
7. Making APA User-Friendly for Dissertations, Theses, and Manuscripts: Practical Suggestions

---Original Message---

From: Ellis, Andrea <astacy@ostateemail.okstate.edu>

To: profslate <profslate@netscape.net>

Cc: jrs051 <jrs051@shsu.edu>

Sent: Tue, Oct 16, 2012 3:41 pm

Subject: The Survey of Mentors of Beginning Teachers

Good afternoon Dr. Slate,

I am a doctoral student at Oklahoma State University in Stillwater, OK. I am preparing for my prospectus, and I have found your instrument. In my study, I am examining the perceptions of non-traditionally certified Career and Technology Education instructors in Oklahoma to determine their thoughts on the characteristics of good mentors and the elements of successful mentoring programs.

<https://sn2prd0310.outlook.com/owa/?ae=Item&tr=IPM.Note&cid=RgAAAAD%2bdYqgEn...> 1/22/2013

The survey you developed with Drs. Barrera and Braley in 2010, The Survey of Mentors of Beginning Teachers, could assist me with my research efforts. My advisor/chair, Dr. Belinda McCharen, requested that I seek your permission to use your instrument. Additionally, I would like to use this instrument via an online survey. Do you know if this survey has been used previously in an online survey format? I would be glad to discuss this further by phone if you would like. My cell phone number is (580) 369-0505.

Thank you for your time.

Respectfully,
Andrea Ellis

Andrea M. Ellis, M.Ed.
Ph.D. Graduate Student
Occupational Education Studies
Oklahoma State University
Stillwater, OK
Email: andrea.ellis@okstate.edu
Cell: 580-369-0505

Appendix I: Institutional Review Board Approval Letter

Oklahoma State University Institutional Review Board

Date: Thursday, February 07, 2013
IRB Application No ED1317
Proposal Title: Analyzing Mentoring Programs: Voices of Oklahoma Non-Traditionally Certified Career and Technology Education Teachers
Reviewed and Exempt
Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 2/6/2014

Principal Investigator(s):

Andrea Ellis	Belinda Cole
17 Willowcreek Rd	255 Willard
Shawnee, OK 74801	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

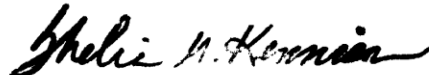
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

VITA

Andrea M. Ellis

Candidate for the Degree of

Doctor of Philosophy

Dissertation: ANALYZING MENTORING PROGRAMS: VOICES OF OKLAHOMA
NON-TRADITIONALLY CERTIFIED CAREER AND TECHNOLOGY
EDUCATION TEACHERS

Major Field: Occupational Education Studies

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Occupational
Education Studies at Oklahoma State University, Stillwater, Oklahoma in
July, 2013.

Completed the requirements for the Master of Education in Adult Education
Management and Administration at Northwestern Oklahoma State
University, Alva, OK in 2007.

Completed the requirements for the Bachelor of Science in Business
Administration at Oklahoma State University, Stillwater, OK in 2005.

Experience:

Special Programs Coord., Gordon Cooper Technology Center, 2012-present
Math & Computer Science Instructor, Shawnee Public Schools, 2011-2012
District Program Specialist, Ponca City Public Schools, 2009-2011
Technology Education Instructor, Alva Public Schools, 2006-2008
Teaching Assistant, Oklahoma State University, 2003
Teaching Assistant, Southwestern Oklahoma State University, 2001-2002

Professional Memberships: P.E.O., Omicron Tau Theta, Oklahoma Association
for Career and Technical Education (OkACTE), Association for Career and
Technical Education (ACTE)