EXPERIENCED SUCCESS: DOES MENTORING BEGINNING TEACHERS IMPACT THE MENTOR?

by

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ABSTRACT

TORRIEANN MARTYN DOOLEY-KENNEDY. ExperiencED Success: Does Mentoring Beginning Teachers Impact the Mentor? (Under the direction of DR. DREW POLLY)

While available research supports the impact mentoring has on beginning teachers, little has been written about the impact the role of mentoring has on the experienced teacher serving as a mentor. Mentor teachers are experienced teachers in schools who provide a wealth of knowledge and support to students as well as other teachers, including beginning teachers. As college students continue to choose other careers, and teachers continue to turnover and choose other professions, the amount of teachers, including experienced teachers, has been gravely dwindling across our nation. The state of North Carolina is struggling to compete with other states, specifically with regard to teacher compensation (National Education Association, 2019; Public Schools First NC, 2018). This is the time to consider ways to keep experienced teachers engaged in their profession. Research shows the act of being mentored greatly increased the success and longevity of a beginning teacher (Achinstein & Athanases, 2006; Darling-Hammond et al., 1990; Huling-Austin, 1989, 1990; National Commission on Teaching and America's Future, 1996; Odell & Ferraro, 1992; Pearson & Honig, 1992; Smith & Ingersoll, 2004; Strong & St. John, 2001; Wilson et al., 2001), but can it also contribute to the success and longevity of the mentor?

The purpose of this dissertation was to examine the act of mentoring and determine if there was a relationship between mentoring and teacher performance, teacher effectiveness, and teacher retention of the person serving as the mentor.

ExperiencED Success is named for the success of experienced educators. The theoretical frameworks of Situated Cognition, Communities of Practice, Expectancy Value Theory of Achievement, and Drive Motivation Theory serve as the foundation for ExperiencED Success. These frameworks are blended to examine the connection between prior research to the current study, identifying if there is a difference in teacher performance, teacher effectiveness, and teacher retention results for mentor teachers in the state of North Carolina when compared to experienced teachers who did not serve as mentors. The sample population included mentors and non-mentors within a large urban school district in the state of North Carolina. Quantitative analysis was used to investigate and compare the difference in teacher performance between mentors and non-mentors, the difference in teacher effectiveness between mentors and non-mentors, and the difference in retention of mentors and non-mentors.

Findings suggest mentor teachers had greater performance, greater effectiveness, and greater retention when compared to non-mentor teachers. These results can be used to inform policy, practice, and further research.

Key words: experienced teachers, mentor, North Carolina, teacher performance, teacher effectiveness, retention

DEDICATION

This dissertation is dedicated to some incredible people whose contributions to my life and to my doctoral journey are beyond what I can put into words. First is my Aunt Tana who always inspired me as a student and whose own journey toward achieving her doctorate in education is probably one of the things that sparked mine. Her passion for teaching and students learning is what inspired me to become a teacher and continuously reflect on how I can improve as an educator. She also inspired me to be a life-long learner which is why I continuously find myself in classrooms as a student just as often as I do as a teacher. I hope to one day live up to the legacy she has left.

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CHAPTER ONE: INTRODUCTION TO STUDY

Introduction

Teacher quality has been described as one of the greatest predictors of student achievement (Ferguson, 1991; Haynes et al., 2014; Murnane, 1974; Webb & Ashton, 1986). Teachers need time to hone their craft of teaching and opportunities to continuously make a difference in student learning. According to the U.S. Department of Education (2010), each year an average of 13 percent of American public school teachers either move or leave the profession, and 40 to 50 percent of teachers leave in their first five years of teaching. This costs states anywhere from 1 to 2.2 billion dollars a year (Haynes et al., 2014). In 2008-2009, North Carolina lost almost seven percent of its teachers which cost the state $28,955,506 to $63,025,491 depending on the demographic and wealth of the district from which the teacher was employed (Haynes et al., 2014). This loss led to more time and educational dollars being spent recruiting and training teachers. Some were beginning teachers who may be labeled as highly qualified. The highly qualified terminology was a result of No Child Left Behind Legislation and the distinction was given to teachers who had a bachelor's degree, were fully certified, and were competent (defined by the state) in the taught subject areas (U.S. Department of Education, 2009). Having a highly-qualified label on a license does not necessarily translate to being an effective teacher based on evaluation ratings and student achievement results. While beginning teachers may be labeled as highly-qualified, they may lack the student knowledge and pedagogical understanding that comes with experience.

A majority of the available research is focused on the recruitment and development of beginning teachers, very little attention is given to the support and retention of experienced teachers. Experienced teachers might earn a higher salary and utilize more benefits. They have already been recruited, trained, and can potentially be labeled as highly qualified, not just because of the certifications they obtained, but also because of their proven impact on student achievement. Additionally, these experienced teachers are acknowledged as being contributing factors to both student success as well as beginning teacher success through the act of mentorship. While we know that mentoring a beginning teacher promotes the retention and effectiveness of the beginning teacher, we do not know the impact mentoring has on the mentor.

Research Problem

With fewer undergraduate students becoming education majors, more teachers from the baby boomer generation retiring, and teachers in their first to fifth year abandoning the profession by a rate of 40 to 50 percent, there is a great need to support and sustain the capacity of the experienced teachers because of the value they bring to the career of education (Achinstein & Athanases, 2006; Hanushek, 1971; Murnane & Phillips, 1981; Nye et al., 2004). Teachers wear many hats and play many roles in the lives of their students and the parents/guardians of their students, but they are also instrumental in serving their peers and coworkers. One of the roles some teachers play is that of mentor to a beginning teacher. Much research has been done to support the impact a mentor can have on a beginning teacher and their mentee (Achinstein & Athanases, 2006; Darling-Hammond et al.,1990; Huling-Austin, 1989,1990; National Commission on Teaching and America's Future, 1996; Odell & Ferraro, 1992; Pearson & Honig,

1992; Smith & Ingersoll, 2004; Strong & St. John, 2001; Wilson et al., 2001), but little has been written about how the role of mentoring impacts the mentor. While some states, districts, and/or schools compensate their mentors either financially or with other incentives, many do not. Therefore mentors, like those in North Carolina, have been asked to provide onboarding support to beginning teachers out of the goodness of their hearts without any financial reward (North Carolina Public School Personnel, 2017). With increasing demands on teachers over the last few decades, serving as a mentor is just one more thing administrators are asking experienced teachers to do. What is in it for the mentors? Why would an experienced teacher want to add to their already expansive workload? What impact does the act of mentoring have on the mentor?

Theoretical Framework

This study drew on the frameworks of Lave and Wenger's Communities of Practice (Smith, 2003), Brown et al.'s Situated Cognition theory (1989), Eccles et al.'s Expectancy-Value Theory of Achievement (2000), and Pink's Drive Motivation Theory (2009). Communities of Practice and Situated Cognition are social learning theories relating to the idea that learning occurs in a social setting, and that learning benefits those participating in the learning. These learning theories connect to Expectancy-Value Theory of Achievement and Drive Motivation Theory, which describe how people are motivated to engage in and sustain the work they do.

Purpose Statement

Experienced teachers, like experienced professionals in other careers, are incredibly important. According to Achinstein and Athanases (2006), they are "subject-matter experts" (p. 6), have pedagogical knowledge, have knowledge of the school and

community contexts, know about the learners in their classrooms, have knowledge of self as it related to various practices, values, and beliefs, and those who mentor are "distinguished in their classrooms" (p. 10). Students who participated in classes of experienced teachers made substantial gains in academic achievement, including statistically significant gains in some grade levels and subject areas (Nye et al., 2004). According to Murnane and Phillips (1981), teachers were more effective when they had more than fourteen years of experience. Research conducted by Hanushek (1971) reported teachers who had experience teaching particular socioeconomic groups did better the more years they taught that population.

As more experienced teachers are retiring, and fewer educators are remaining in the profession, schools and districts spend more money and time to train novice employees, which in the educational setting reduces the capital of both instructional content and pedagogy. Because of the value experienced teachers bring to the profession of education (Achinstein & Athanases, 2006; Hanushek, 1971; Murnane & Phillips, 1981; Nye et al., 2004) continuous attention needs to be paid to retain them. They may be motivated through autonomy (Pink, 2009) and opportunities for recognition (Hobson et al., 2009). Additionally a pathway to administration may be one way to motivate and provide leadership opportunities for experienced teachers; however it leads teachers outside the classroom. A pathway to motivate and provide leadership for experienced teachers to remain in the classroom is the opportunity to mentor. A tremendous amount of research has been conducted highlighting the benefits mentoring has on mentees who participate in a mentoring relationship (Achinstein & Athanases, 2006; Darling-Hammond et al.,1990; Huling-Austin, 1989, 1990; National Commission on Teaching

and America's Future, 1996; Odell & Ferraro, 1992; Pearson & Honig, 1992; Smith & Ingersoll, 2004; Strong & St. John, 2001; Wilson et al., 2001). Very little is known about how the act of mentoring affects the performance, effectiveness, and retention of the experienced teachers providing the mentoring support. There is a clear need for research on how mentoring impacts the mentor in the educational profession. The purpose of this comparative research study is to examine the influence the act of teacher mentoring has on the teacher serving as a mentor.

Research Questions and Hypotheses

This research sought to fill the gap of what we do not know about the mentors who support our beginning teachers. The purpose of this comparative design was to determine whether there was a difference in teacher performance, teacher effectiveness, and teacher retention of experienced teachers who served as mentors compared to experienced teachers who were non-mentors. Specifically, this research sought to answer if there was a statistically significant difference in performance, effectiveness, and retention of mentors compared to non-mentors. The research questions are as follows:

Research Question 1: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standard I for mentors statistically different when compared to the average performance rating on Standard I for non-mentors from the same school year?

Research Question 2: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standard IV for mentors statistically different when compared to the average performance rating on Standard IV for non-mentors from the same school year?

Research Question 3: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standards I and IV combined for mentors statistically different when compared to the average performance rating on Standards I and IV combined for non-mentors from the same school year?

Research Question 4: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average teacher effectiveness rating for mentors statistically different compared to the average teacher effectiveness rating of non-mentors for the same school year?

Research Question 5: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average teacher retention for mentors statistically different compared to the average teacher retention of non-mentors for the same school year?

It was hypothesized that mentors were retained at a greater rate than non-mentors; mentors achieved higher ratings on their performance evaluation rubric when compared to non-mentors; and mentors had greater effectiveness teaching students when compared to the effectiveness of non-mentors. While this might seem obvious that high performing, high achieving teachers are asked to serve as mentors to beginning teachers, not all are willing to take on the additional responsibility. Additionally, in some school situations, there are not enough teachers in this category to serve the amount of beginning teachers hired at that same school, and therefore teachers with just proficient ratings and effectiveness results could be asked to serve as mentors.

Significance of Study

While there is available research and attention given to studying the impact that mentor teachers have on beginning teachers (Achinstein & Athanases, 2006; Darling-Hammond et al.,1990; Huling-Austin, 1989,1990; National Commission on Teaching and

America's Future, 1996; Odell & Ferraro, 1992; Pearson & Honig, 1992; Smith & Ingersoll, 2004; Strong & St. John, 2001; Wilson et al.,2001), little is written about the impact mentoring has on the teachers who mentor the beginning teachers. In current literature there exists a gap about the success of mentor teachers in school settings. By attending to this gap through learning about the performance, effectiveness, and retention of mentors, the results can contribute to the overall achievement of schools and the educational community. The overarching purpose of this study was to determine whether the most successful teachers were serving as mentors for beginning teachers, or if mentors and non-mentors were achieving success at the same rate when comparing their performance, effectiveness, and retention.

Results from this study have potential to inform policy around who should serve as mentors. They could also inform policy around compensation for mentors. Frequently, teachers accept the role and challenge of mentoring a beginning teacher without reward or recognition. Since results of this study showed mentors perform higher than non-mentors on their performance evaluations, effectiveness results, and retention, then compensation for their service and increased recognition should be considered. We can assume that more successful teachers were being selected to mentor beginning teachers; a variety of factors (not included in this study) could influence how teacher mentors were chosen. Factors could have included availability, ratio of beginning teachers and experienced teachers in the same school setting, interest and choice of an experienced teacher to work with a beginning teacher compared to being volunteered by a school leader, etc. Results from performance evaluation data examined during this study can be used to inform components of professional development that might be needed for

mentors to be successful, or enhance their success, in their primary role of teaching. This study could be significant to teachers who serve as mentors because the results show greater retention, higher performance ratings, and greater effectiveness of mentors. This could potentially motivate people who serve in a mentoring role, or it can motivate non-mentors to want to take on the role of serving as mentors.

In the state where this research was conducted, compliance requirements for serving as a mentor included participating in a generic mentor training course, usually offered online, having three or more years of teaching experience, and receiving proficient ratings or better on the state's teacher evaluation standards (NC State Board of Education, 2019). Experienced teachers who meet the state qualification are selected by an administrator or school leader to serve as mentor to beginning teachers. Mentor responsibilities, outlined by the state's Mentor Timeline/Checklist, include regularly meeting with the beginning teacher, assisting the beginning teacher with various things including information about the school, district, parents, and students, reviewing the beginning teacher's professional development plan and helping them understand the teaching standards, reviewing lesson plans and classroom management strategies, observing informally, offering academic and emotional support, celebrating accomplishments, etc. (Holmes, n.d.). Another benefit of mentoring is that it creates a middle level between teaching and administration that can keep teachers in the classroom while escalating their status at the school level. This is similar to the model being used and researched by Opportunity Culture (Public Impact, 2019) which promotes career advancements by keeping great teachers in front of students. This specific research study

focused on the education profession, but findings can be transferred to other professions that include mentors in supporting mentees or protégés in the beginning of their career.

Delimitations

There are several delimitations to this study. The researcher conducted research on mentors who supported beginning teachers in the 2015-2016, 2016-2017, and 2017-2018 school years. The criteria for selection included experienced teachers in one large urban school district in the southeast of the United States. Retention for experienced teachers only looked from one school year, for example 2015-2016, to the immediate next school year, 2016-2017, and did not look at retention over longer periods of time.

Assumptions

Assumptions in this study were that supervisors of mentors understood the evaluation instrument they used to conduct summative evaluations, and were calibrated across the district and fairly implemented for both mentors and non-mentors. While the district documented the name and demographic information about mentors, it was assumed by the researcher that the mentor was a willing volunteer in the role and it was not an unwanted or forced responsibility on them. Another assumption was that administrators or school leaders provided support and training to the mentors to empower them to do their role to the best of their abilities.

Definition of Terms

- Education Value-Added Assessment System (EVAAS): system used by North Carolina educators to measure the effectiveness of teachers, or the impact they made on student learning

- Experienced teachers: teachers who taught more than three years who may or may not be high achieving when considering teacher performance or teacher effectiveness, strictly defined by time spent teaching students
- Mentor teachers: teachers who had greater than three years of experience who were formally assigned to support beginning teacher(s)
- Non-mentors: teachers who had greater than three years of experience, but were not formally assigned to support beginning teacher(s)
- North Carolina Educator Effectiveness System (NCEES): standards used to observe and evaluate teachers in North Carolina, used to determine teacher performance evaluation ratings
- Public school teachers: teachers who work for a school that was funded and operated by the state
- Teacher retention: teachers who finish a year in the district and have both teacher performance and teacher achievement results, and returned to the district and were employed on September 1 of the same calendar year

Organization of Remaining Chapters

This dissertation began with an introduction to the study and is followed by a review of the available literature around the role of mentorship, teacher performance, teacher effectiveness, and teacher retention. Next, it will present a study that addresses the impact mentoring has on teacher success and teacher retention of experienced teachers (the mentor). Few studies have examined the effect of mentoring on the mentor, and even fewer studies have explored the relationship between mentoring and teacher success and teacher retention of the mentor. The dissertation concludes with findings

from the research about how mentoring contributed to the profession of education for experienced teachers, and provides suggestions for policy and practice. Ultimately this research gives more voice to experienced teachers and the contributions they made to education through the act of mentoring.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The mentoring of beginning professionals has been a practice employed within various organizations for years and studies show the impact it had on the performance, satisfaction, and retention of the mentee (Achinstein & Athanases, 2006; Darling-Hammond et al.,1990; Huling-Austin, 1989, 1990; National Commission on Teaching and America's Future, 1996; Odell & Ferraro, 1992; Pearson & Honig, 1992; Smith & Ingersoll, 2004; Strong & St. John, 2001; Wilson et al., 2001). For educators, beginning teachers were paired with an experienced teacher because of the belief in the benefit to the beginning teacher (NC State Board of Education, 2019). While this literature review will not focus on the impact mentoring had on beginning teachers, it will emphasize the impact and implications mentoring had on the mentor. The purpose of this research was to examine the influence the act of teacher mentoring had on the teacher serving as the mentor. The purpose of this literature review is to define mentoring, retention, and how mentoring impacts teacher success. In this study, teacher success was defined by two measures: one being the performance standards used to evaluate teachers (NC State Board of Education, 2015), and the other being a teacher's effectiveness or value-added growth measure which showed their impact on student learning.

Mentoring

History of Mentoring

Mentorship is not a recent discovery, nor is the mentoring practice specific only to education. The idea, importance, and relevance of mentoring are rooted in history and literature. Where did mentoring originate? What was the history of mentoring? The word

"mentor" was recognized in early literature in Homer's *Odyssey*. Odysseus, the Greek King, had a wise friend Mentor who he trusted to educate and guide his son Telemachus. This led to the current adoption of the term mentor as a wise person who guides and educates.

The mentoring relationship continued to be evident in other sources of history and literature. Socrates was known as the mentor to his protégé Plato, and Plato in turn mentored Aristotle. While they were mentored and advised by their predecessor, they did not necessarily replicate their work. They built on what was known and added to the ongoing conversation. From the relationships illustrated by these philosophers we learn that mentors helped mentees to develop their own values and beliefs (Podsen & Denmark, 2000).

In 18th century Babylon, the laws of Hammurabi required experienced artisans to teach their skills to young apprentices. In the United States in the mid-1800s mentors were formally introduced into the education profession (Odell & Huling, 2000). The initial mentoring model was designed to pair a novice teacher with an experienced teacher.

Around the 1920s with changes being made to teacher education programs, the model evolved to also pairing student teachers with experienced teachers. In the 1980s, professional development began to gain momentum as a model for supporting inexperienced teachers in the classroom, and mentoring became a professional development practice.

From early evidence to current day practice, mentoring has been used as a strategy to support the development of a mentee or protégé. Little attention has been given to how it impacted the person serving as the mentor.

Mentor Defined

The definition of mentor helps shape what a mentor is and the role a mentor plays in impacting a mentee. A variety of words can be used to describe a mentor including: guide, supporter, counselor, facilitator, confidant, etc. Kathy Kram, a key contributor to the work and research around employee development through mentoring relationships, created mentor handbooks and contributed to the current practice of mentoring in businesses and organizations. Kram (1983) described the mentor as someone who "provides a variety of functions that support, guide, and counsel the young adult as this important work is accomplished" (p. 608). This sentiment was echoed in the research around teacher mentoring conducted by Hobson et al. (2009) who described the mentor as someone responsible for providing support, induction, and professional development to early educators. The outcome of mentoring and the work of mentors were illustrated by Ghosh (2012) who believed the mentor "contributes to career and organizational development" (p. 146). These authors supported the idea and identity of who a mentor was and the support they provided to their mentee or protégé.

Mentor Roles and Responsibilities

Mentors play an important role in the development of a novice employee. The role of the mentor is better defined by the career or field in which the mentor is situated, but is flexibly generalized across occupations. According to Kram (1983) a mentor's role was twofold: career and psychosocial. A mentor's career functions were "sponsorship,

exposure-and-visibility, coaching, protection, and challenging assignments" (p. 614) and the mentor's psychosocial functions were "role modeling, acceptance and confirmation, counseling, and friendship" (p. 614). Connecting to the definition that mentors provide support and guidance, Hobson et al. (2009) described the mentoring role as "one-to-one support of a novice or less experienced practitioner (mentee) by a more experienced practitioner (mentor), designed primarily to assist the development of the mentee's expertise and to facilitate their induction into the culture of the profession and into the specific local context" (p. 207). Mentors employ adult learning styles to differentiate strategies and professional learning for their mentees; they also engage in observations of their mentee, and allow their mentee to observe them (Hobson et al., 2009). Mentors provide both support and challenge (Ghosh, 2012) in order to ensure a protégé feels cared for as well as stimulated. Along with mentees feeling challenged, they also receive support in problem-solving (Evans & Abbott, 1997).

Mentors take on a variety of responsibilities within their work serving as a mentor. According to Ghosh (2012) they are responsible for: "(a) encouraging reflection, (b) coaching, (c) counseling, (d) assessing, (e) role modeling, (f) being a colleague/fellow learner, (g) parenting, (h) mediating, (i) making friend, and (j) teaching" (p. 156). This list is not inclusive of the work mentors do to excel their own careers and work responsibilities. The goal or outcome of mentorship, according to Lopez-Real and Kwan (2005), is to support the mentee in "becoming a competent professional" (p. 16). Achinstein and Athanases (2006) described what mentors do as: "model lessons, jointly plan curriculum, coach on subject matter content or pedagogy, collaboratively inquire, discuss individual learners and examine student work, read research, talk about

navigating school issues, identify inequalities in the classroom, and guide novices using a variety of approaches" (p. 6).

Mentoring is organized differently within and across professions. There is the idea of professional mentoring which comes from a supervisor who looks out for the long-term career interest of the mentee and there is subject mentoring which develops from an expert in the department who instructs and guides the current career objectives and purpose of the mentee (Cristescu, 2017; Evans & Abbott, 1997). Mentor relationships can be formal, or form naturally (Cristescu, 2017). The relationship can be initiated by the supervisor, or by the trainee or person needing mentoring (Cristescu, 2017). It can stem from a peer relationship or be situational to a purpose or career (Cristescu, 2017; Mautz, 2018). No matter where someone works, or whatever type of work they engage in, the mentors who support the novice employees take on a flexible role that goes above and beyond the scope of their work assignment in order to provide for the needs of their mentee.

In education, particularly in North Carolina where this study was conducted, teacher mentors are responsible for the growth and development of beginning teachers. Specific responsibilities include regularly meeting with the beginning teacher (BT), familiarizing the BT with the school and school culture, teaching policies, procedures, expectations, and standards, assisting with set up of materials, resources, and lessons, developing and supporting professional development plans, observing the BT and providing feedback and support, allowing the BT to observe them, reviewing lesson plans and providing feedback, completing a mentor log, helping the BT to understand observation feedback, discuss student progress, encouraging community outreach and

parental involvement, socialize with and celebrate BT's accomplishments, etc. (Holmes, n.d.).

Mentees and Mentors

Mentees are novice or protégé employees whereas mentors are employees who have more career experience. While the goal of the relationship is for the mentee to learn from and be guided by the mentor, some research indicates the relationship is reciprocal in benefiting not just the mentee, but also a mentor. In a review of literature conducted by Ghosh (2012), the theme of growth for both protégé and mentor emerged from various studies. This was supported by the research of Kram (1983), who described the mentee-mentor relationship as having "the potential to enhance career development and psychosocial development of both individuals" (p. 613). Career development comes from mentors assisting novices in learning about life within the organization as well as necessary preparations needed for growth opportunities (Kram, 1983). Psychosocial development comes from the support the mentor provided a novice through acceptance, counsel, friendship, and being a role model (Kram, 1983). Mentor development comes from respect and recognition from peers and the mentee as well as "internal satisfaction" (Kram, 1983, p. 614). The primary focus of most literature around the mentoring relationship describes the impact a mentor has on a mentee, but there is evidence in the research that supports the impact the relationship has on the mentor. Janssen et al. (2014) interviewed twenty people who had served as informal mentors and held supervisory roles in a variety of occupations, including education. They learned from the themes of their interviews that mentors were externally motivated by their job description or compensation for mentoring, and they were also intrinsically motivated by the feeling of

self-worth they achieved from their service as a mentor. This connects to Expectancy-Value Theory of Achievement, which describes the idea that individuals who value what they were doing are more motivated (Wigfield & Eccles, 2000). It also connects to Drive Motivation Theory, which describes that people who have a purpose have greater achievement (Pink, 2009). Mentors identified that the mentoring role made the work easier for them because they were able to teach someone who supported their workload how to correctly do the assigned job (Janssen et al., 2014), and mentors wanted to make a contribution to their professions (Olin, 2016).

Benefits of Mentoring for the Mentor

Mentors have many reasons for engaging in the mentor work they do, and schools and districts utilize mentors for a variety of purposes. While mentors support the retention of new teachers to a career, Hobson et al. (2009) discovered the act of mentoring supported the retention of the mentors because the act of mentoring increased their confidence and dedication to the profession. Mentors benefited from mentoring through their own reflection on their practice as well as learning from a beginning teacher (Hobson et al., 2009). The act of mentoring also increased collaboration and improved relationships, both with peers as well as with students (Hobson et al., 2009). The identity of the mentoring teacher improved because of their satisfaction in mentoring as well as enhanced recognition (Hobson et al., 2009). Mentors embraced the role of mentoring (He et al., 2015). Mentors benefited from their protégés because they were considered "equal partners...and learned from them by engaging in co-inquiry and collaborative reflection" (Ghosh, 2012, p. 167). In a study conducted by Lopez-Real and Kwan (2005), 70% of mentors reported they benefited from their role. Their learning was described as "learning

through self-reflection, learning from student teachers, learning through mutual collaboration, and learning from university tutors" (Lopez-Real & Kwan, 2005, p. 15). In a literature review conducted by Ghosh and Reio (2013) eighteen studies were coded and themes from analyzing the career benefits associated with mentoring included greater job satisfaction and organizational commitment when compared to non-mentors. In a review of the literature on mentoring, Ghosh and Reio (2013) compared business and education mentors. One of the themes that emerged was mentors had greater career success as demonstrated by role modeling best practices and reflection (Ghosh & Reio, 2013). While some mentors were motivated by finances and the opportunity to engage in a new activity, a survey conducted by Olin (2016) resulted in the discovery that money and boredom with current practice was a low theme that emerged as motivation to mentor. More popular themes that emerged were the mentors' contribution to the field of education as well as an opportunity to engage in learning new skills (Olin, 2016). Numerous studies reflected an innate desire mentors have and benefit they felt when mentoring a beginning teacher.

Cautions Related to Mentoring

Research continued to show the importance and impact a mentor could make on a mentee's experience, however these impacts were not always positive. There were some concerns, cautions, and suggestions around assigning and utilizing mentors. It was suggested there should be a set of criteria used to identify who is qualified to mentor, and included on that list should be a commitment to both mentoring as well as teaching (Hobson et al., 2009). Mentors should also be properly trained and supported in their role so they have sufficient expertise and knowledge not just in their profession, but also in

mentoring (Hobson et al., 2009). Very often in education we assume if someone is good at their jobs, i.e., teaching, then they would be good at helping others be good at their jobs. There could be a disconnect between teaching students and teaching other adults. Evans and Abbott (1997) found five things to influence mentors' professional development: "mentoring skills, support for the mentoring role, the availability of appropriate facilities and resources, knowledge and understanding of the program, and role identity" (p. 138). The research also acknowledged there are potentially negative outcomes within the context of a mentor-mentee relationship related to not identifying the correct person to serve as a mentor, not pairing mentors and mentees to maximize their relationships, and not providing mentors and mentees enough time to collaborate (Barrera et al.2010; Evans & Abbott, 1997; Ghosh, 2012). Mentor success was attributed to how mentors identified or did not identify with their role (Evans & Abbott, 1997). While the existence of negative results in research is important to note, they do not benefit this particular study which looks to link positive outcomes associated with mentoring.

Summary

The term mentor has origin in history and literature. It is currently applied to someone who supports, guides, and counsels a mentee or protégé. Mentors offer professional learning to someone new to their career. Mentors use a variety of strategies to flexibly serve their mentees by identifying their needs and helping them progress in their careers. The mentoring relationship is reciprocal in that mentors are able to learn from their mentee, partner with their mentee in their expertise around the work, and have increased collaboration as well as job satisfaction. In identifying people to serve as mentors, it is best to select people who are experts in their field, provide training around

mentoring, and properly pair mentors with their mentees. How do we know if people are experts? In the field of education, two things can be considered in order to identify who are successful teachers. Teacher performance as measured by a teacher evaluation rubric and teacher effectiveness demonstrated by a value-added measure can be used to identify teacher success.

Teacher Success: Teacher Performance and Teacher Effectiveness

Introduction

How do we know if teachers are successful at their job? How do teachers know exactly what is expected of them? How do teachers know what needs improving in their practice? Teachers spend their days increasing the achievement of students, but what is in place to evaluate the success of teachers? While teachers can demonstrate student success through anecdotal stories and more classroom data-based means, there is a need to define and describe teacher success using more reliable data. The current teacher evaluation process used in North Carolina, the state where this research was conducted, was used to identify a teacher's current level of performance. Teacher effectiveness, based on value-added measures (from teachers who were tied to student growth data), were also used to determine teacher success. Value-added measures were based on data points used to determine student growth measures. While existing research did not necessarily couple the word teacher success with performance evaluations or effectiveness through value-added measures, these were two ways to calculate teacher data and therefore measure the success of experienced educators. Teachers are a significant contributing factor to student learning and student achievement (Darling-Hammond, 2010; Minnici, 2014; Morgado & Sousa, 2010; Santiago & Benavides, 2009). Looking at performance evaluation results

and effectiveness scores led teachers, school and district leaders, and researchers to a better understanding of the impact a teacher had on student learning, especially the impact an experienced teacher had. This research sought to investigate the impact experienced teachers made by looking at the differences of mentor teachers and non-mentor teachers.

Teacher Performance Evaluations

Over the past few decades, an expectation regarding teacher performance in the United States has increased due to "demands for public accountability" (Larsen, 2005, p. 292). Race to the Top, a 2008 educational initiative in the United States, motivated individual states to create a more rigorous evaluation process for educators in exchange for an increase in grant money from the federal government (U.S. Department of Education, 2009). Forty-nine states and the District of Columbia responded to the challenge and paved the way for evaluating teachers in innovative ways (U.S. Department of Education, 2009). Some of the reforms in the new evaluation system included linking teaching practices with student outcomes, and included teachers as partners in the process, and supported change in teacher practice (Minnici, 2014). An intended outcome of the new evaluation process was for teachers to spend more time collaborating with their colleagues, and for principals to spend more time in teachers' classrooms (U.S. Department of Education, 2009).

Evaluation of teacher performance has undergone a shift in raising expectations. Just like professionals in other fields, teachers also receive performance evaluations (Malakoluthu & Vasudevan, 2012). The underlying purpose of the teacher evaluation process transitioned from measuring teachers to developing teachers (Marzano, 2012).

Evaluations that measured or scored teacher performance utilized fewer categories than evaluations used to develop teacher performance. Evaluations used to develop teacher performance included a rubric or development scale (Marzano, 2012). They also included professional growth in the process because they provided information about teachers that can be applied to teaching and learning as well as personnel decisions (Darling-Hammond et al., 2012). Performance evaluations "provided stakeholders with information about how well, and in what ways, teachers were able to perform their jobs" (Larsen, 2005, p. 293). Santiago and Benavides (2009) described the purposes of evaluations as serving two functions: improvement and accountability. The evaluation process identified areas where teachers excelled and areas where they needed to grow. They could also be used to inform professional development, and ensure students were learning. Teachers in North Carolina were evaluated to measure their performance; improve their effectiveness; inform professional learning, coaching, and mentoring; enhance curriculum; and provide data to colleges and universities (NC State Board of Education, 2015).

Teacher performance evaluations are a critical component in improving teacher performance. The performance evaluation process, which is formally conducted by administrators, is intended to provide teachers with a fair assessment of how they are currently performing and include suggestions for improvement (Morgado & Sousa, 2010). Effective teacher performance evaluations include components that describe teacher effectiveness, strengths and growth areas, feedback, support, and professional learning opportunities (Santiago & Benavides, 2009). Teacher evaluations impact numerous stakeholders such as students, principals, colleagues, districts, and parents

(Santiago & Benavides, 2009). Student learning and mastery of standards are the outcome of a teacher's performance and therefore early intervention as a result of having an evaluation cycle provides increased opportunities in teacher effectiveness. Colleagues and school administrators benefit from working alongside teachers who know their craft and are able to increase their performance level (Santiago & Benavides, 2009). Parents (or family members) are also included in the evaluation process because most evaluations incorporate community members into their standards (Santiago & Benavides, 2009). For example, Element IIe in the North Carolina Teacher Evaluation Rubric is: "teachers work collaboratively with the families and significant adults in the lives of their students" (NC State Board of Education, 2015, p. 26). Teachers are evaluated on whether or not they collaborated between home and school and promoted trust and built community, as well as sought solutions to overcome obstacles (NC State Board of Education, 2015).

Teacher performance evaluations can lead to improved instruction which can positively contribute to student learning (Santiago & Benavides, 2009). The performance evaluation should be used alongside other data points such as assessment of students, evaluation of schools, and evaluation of school systems (Santiago & Benavides, 2009). The evaluation should primarily focus on teaching, including the preparation of lesson plans, the classroom community, and instructional practices (Santiago & Benavides, 2009, p. 4), but it should also incorporate other teaching responsibilities such as professionalism, contributions to the school and neighborhood community, and professional learning (Santiago & Benavides, 2009).

Peterson (2004) highlighted the importance of the principal in the teacher evaluation process; however, researchers argued principal observations were inaccurate

because of issues with reliability and validity. Evaluators should have a set of competencies that enable them to evaluate (Santiago & Benavides, 2009). A practice that could have improved the teacher evaluation process is by principals conducting walk-throughs: short, informal classroom visits (Peterson, 2004). Walk-throughs allow the observer to not intrude on a lesson, but quickly capture evidence showing instruction and student learning. Walk-throughs also increase a principal's visibility in a school, and this contributes to school success (Peterson, 2004). In addition to walk-throughs, principals should also collect multiple data sources, such as conferences, teacher rating forms, and student and parent surveys. Teachers should be able to choose what data they were evaluated on and contribute their own data to justify their evaluation (Peterson, 2004).

While a set of national standards used for every teacher evaluation within the United States does not exist, there are identified standards used to evaluate National Board Certified Teachers which are common in every state. These standards include:

- Teachers are committed to students and their learning
- Teachers know the subjects they teach and how to teach those subjects to students
- Teachers are responsible for managing and monitoring student learning
- Teachers think systematically about their practice and learn from experience
- Teachers are members of learning communities (National Board for Professional Teaching Standards, 2014).

These National Board Professional Teaching Standards are evident in the North Carolina Teacher Evaluation Standards (NC State Board of Education, 2015). The national

standard about teachers being committed to students and learning connects to North Carolina Standard II teachers set up their classroom environment that is inclusive of all students. Teachers knowing the subject they teach is evident in the national standard and North Carolina Standard III. Teachers monitoring and managing student learning is analogous to the North Carolina Standard IV about teachers facilitating learning for their students. The national standard about reflection aligns to North Carolina Standard V which is also about reflection. The national standard about teachers being members of learning communities connects to North Carolina Standard I, teachers as leaders. While this researcher was not given information identifying whether or not experienced teachers were National Board certified or not, that information could be included in future research.

Teacher Effectiveness Measured by Value-Added

Value-added models (VAMs) are considered part of some evaluations. VAMs are used to assess student growth, and when included in a teacher's evaluation, the assumption is that student learning, as evident on a test, is measured solely by a teacher's influence and no other factors (Darling-Hammond et al., 2012). The research of Darling-Hammond et al. (2012), argued that VAMs should not be the sole tool used in a teacher's evaluation because the results are inconsistent, are dependent on the assigned students, and do not include other factors that influenced student growth.

VAMs are statistical calculations used to determine the impact education has on student learning (Meyer & Dokumaci, 2009; Rothstein, 2016). The basic VAM includes two levels: characteristics of students and family on student achievement growth, and school characteristics on student achievement growth (Meyer, 1997). Factors such as

previous assessment scores, grades and student demographic information contribute to individual student score predictions which are then compared to the performance of students' of the average teacher (Meyer & Dokumaci, 2009; Rothstein, 2016). Value-added measures should be used to evaluate instruction, inform decisions, align practices to policies and procedures, and inform professional development (Meyer & Dokumaci, 2009). VAMs should be coupled with other informational sources, like observations, in order to support teachers in their professional growth (Meyer & Dokumaci, 2009). Chetty et al. (2014) conducted extensive research gathered from 2.5 million third through eighth grade students from 1989-2009. They used student test score data and teacher assignment data for students from a large urban school district in the United States and coupled it with parent characteristics gathered from tax records during the years 1996-2011 (Chetty et al., 2014). They wanted to know if the impact a teacher made on student test outcomes were effective measures of teacher quality. In their research, they asked two questions: "Do differences in test score gains across teachers measured by value-added capture causal impacts of teachers or were they biased by student sorting? Do teachers who raise test scores improve their students' outcomes in adulthood or are they simply better at teaching to the test?" (Chetty et al., 2014, p. 2594). While they determined more research was needed to answer the second question, they were able to assess that the value-added model was an "unbiased forecast of teachers' causal impacts on student achievement" (Chetty et al., 2014, p. 2630). Rothstein (2016) argued that bias exists when students are not randomly assigned to teachers.

Summary

From the research around teacher performance evaluations and teacher effectiveness VAMs, we can conclude that while both contributed to the definition of teacher success, neither one should be used as the sole method for determining teacher success. Teacher performance should be coupled with teacher effectiveness and vice versa. Darling-Hammond et al. (2012) and Meyer and Dokumaci (2009) suggested other things could be included in the measurement of teacher success. These measurements could be used in comparing similar groups like experienced teachers who serve as mentors and those who do not, but each component (teacher performance and teacher effectiveness) should be described separately and defined by its data source instead of collectively as teacher success. While the terms performance evaluation and effectiveness can be used and applied to teachers in the state of North Carolina, it is unknown if the same measures would fit teachers in other states. Additionally, not all teachers had value-added measures and this led to a group of teachers who cannot be included in research studies using value-added data. Teachers without VAMs could consist of those who did not teach tested subjects like art, physical education, music, etc., or teachers who teach too few students to calculate true measure results. Further research is needed to create a true and all-inclusive definition of teacher success.

Teacher Retention

Introduction

As the teaching profession increased in the number of teachers serving students, so did the diversity in the experience of the teachers. Teacher retention is an issue researched in an effort to identify how to keep qualified teachers in the profession.

Impact Retention Has on the Field of Education

Classrooms need teachers to facilitate learning for students. Whether those classrooms are virtual or in-person settings, students need a teacher to facilitate instruction. This research is not focused on the various methods of instructional delivery or classroom types, but rather the idea of teachers serving students who are enrolled in their classes. Richard Ingersoll is one of the prominent researchers in the field of teacher retention and in 2014 in partnership with Lisa Merrill and Daniel Stuckey, he used the extensive Schools and Staffing Survey as well as the Teacher Follow-Up Survey to identify trends in the teaching force. Examining surveys conducted from a sample of 50,000 teachers, 11,000 administrators, and 5,000 central office staff during the time period of 1987 to 2012, the researchers learned both the number of students enrolled in schools grew by 19.4 percent, and the demand for teachers to facilitate instruction for those students grew by 46.4 percent (Ingersoll et al., 2014).

In addition to the increase in the number of teachers in education, there was also a decrease in the average age of teachers. While in the late 1980s, the average age of a teacher was forty-one, in late 2000, the average age of a teacher was fifty-five (Ingersoll et al., 2014). This trend shifted in 2011-2012 when the average age of a teacher was thirty (Ingersoll et al., 2014). With the increase in the number of teachers who are retiring, the current teaching force is shifting to a younger generation. This change potentially provides a financial benefit to school districts because teachers who serve longer typically have greater salaries and benefits, whereas newcomers and younger teachers have lower salaries and pay more into the state retirement plans (Ingersoll et al., 2014). Age does not necessarily equate to years of experience in the teaching profession though.

Older beginning teachers are becoming more and more the trend in education. In the late 1980s, about 37 percent of all teachers had taught fewer than ten years, whereas in the late 2000s, about 50 percent of all teachers had taught fewer than ten years (Ingersoll et al., 2014). While newer teachers bring new ideas and energy into schools and the classroom, they do not necessarily bring the experience needed to increase student test scores, which may take a few years, as well as other skills required of teachers, which develop through interactions and experiences (Ingersoll et al., 2014). This is a particular hardship for schools where there is a significant imbalance in the ratio of beginning teachers to experienced teachers.

Teacher turnover, or attrition, may be less than some fields, but it is also far greater than other respected occupations "such as law, engineering, architecture and academia" (Ingersoll et al., 2014, p. 22). There were also observable trends in teacher movement, defined as teachers who move from one school to another, and teacher turnover, defined as teachers who leave the career of education. Teachers tend to leave and turnover from more high-poverty; high-minority schools (Ingersoll et al., 2014). While turnover can allow space for new employees and innovation, it could also negatively impact the image of schools, districts, and the profession. Turnover also leaves teacher shortages, especially of minority representation in the field, as well as hard to staff schools like high-poverty, high-minority, and hard to staff positions, such as teachers for students with disabilities, math teachers, or science teachers. The turnover of a beginning teacher impacts the individual teacher who is not given the opportunity to fully develop their skills and success. Delimitation to this specific research study was the researcher used teacher turnover from the district, but did not look at movement from one

school type to another. Further research could be conducted to see if experienced teachers, specifically mentors, changed schools.

Why Teachers Stay

Teaching is similar to other professions where some employees stay for their entire career while others transition to new occupations. Teachers have the opportunity to move around within the profession, both geographically by transitioning from one school or district to another, as well as in position, or transitioning from the role of teacher to academic facilitator, administrator, or central office support staff, etc. Teachers remain in teaching for a variety of reasons. Certo and Fox (2002) learned when interviewing forty-two teachers in school districts in Virginia that the top three reasons teachers gave for staying in teaching were: "1) commitment to the profession, 2) quality administration, or 3) an appreciation for relationships with their colleagues" (p. 61). While the first reason teachers suggested relates to innate motivational characteristics, the other two were externally motivated. Teachers who were surrounded by strong and supportive administrators as well as genuine colleagues were more connected to the profession of teaching and less likely to leave. This connects to the idea of Communities of Practice, a theoretical framework that described people collaborate over time to share ideas and create new solutions when they have a common interest, relationship, and shared experiences and resources (Smith, 2003). The study conducted by Certo and Fox (2002) helped us learn that money was not the only important motivator for keeping teachers engaged in the classroom, and it connected to mentoring because mentoring should provide a collegial relationship between the mentee and the mentor which supported one of the reasons for staying. Ingersoll et al. (2014) learned that autonomy, teacher

discretion, and influence on school policies led to greater retention of teachers. Autonomy and purpose were two of the pillars from Drive Motivation Theory (Pink, 2009). Outside of the impact teachers had in the classroom, teachers were also more likely to remain in teaching if they had found balance in family, work, and self-development, if they had a positive growth mindset, and if they had a mentor (Evans, 1989).

Another reason why teachers stayed was because of their success with students. Papay et al. (2017) researched 200,000 different teachers who served in sixteen urban public school districts across seven states over fifteen years and they learned success impacted retention, and the more effective teachers were with students, the more likely they were to remain in the profession. Aligning their research question around how experience and effectiveness contributed to turnover was the question of the current study which explored the relationship between mentoring and retention.

Why Teachers Leave

Teachers cited a variety of reasons for leaving the profession. To clarify terms in the literature, leaving represented people who were engaged in education as teachers and completely left the profession of education. It did not include people who transitioned from one school, district, or state to another as well as people who accepted a role other than teaching within the field of education, for example became an administrator, professor of education, or continued to work for the school or district in some other capacity. Certo and Fox (2002) interviewed forty-two elementary, middle school, and high school teachers from seven different school districts in Virginia and asked them why they thought teachers left the profession. Teachers who were currently teaching thought

their colleagues left the profession because of "insufficient salary, lack of administrative support, and lack of planning" (p. 69). Certo and Fox (2002) also followed up with teachers who actually left. They conducted phone interviews with twenty-three randomly selected teachers and used an exit interview protocol to find out why those teachers actually left the field of teaching. The commonly coded responses were "lack of administrative support, hectic/stressful schedules, insufficient salary, and no opportunities for job sharing/child rearing" (Certo & Fox, 2002, p. 68). This sentiment was echoed in the research conducted by Ingersoll et al. (2014), who stated undesirable working conditions contributed to teacher turnover, especially the turnover of minority teachers and beginning teachers. When Feng et al. (2018) examined data provided by Florida's Department of Education's K-20 Data Warehouse from 2003-2004, they identified a trend in teachers who left the profession or who moved to another school. The authors found that teachers were more likely to turnover, either leave the school or leave the profession, if they were teaching in schools that were rated F, and teachers who were of greater quality were more likely to transfer to a different school, while teachers with less success left the profession altogether (Feng et al., 2018). This connected to the research by Papay et al. (2017), who learned teachers who were more successful with their students were more likely to remain in the profession. In addition to teachers leaving schools with poorer ratings, teachers were more likely to leave schools that served a greater number of students on free or reduced lunch, greater number of African American students, or taught students with weaker math achievement (Godhaber et al., 2010).

Not all teachers leave voluntarily. Some were laid off, some did not meet performance expectations and therefore did not get their contracts renewed, and some

schools lost positions and had to displace or terminate their last hired teacher. Additionally, some teachers left the profession because of personal reasons unrelated to teaching like health, movement, or caring for someone else. In 2008-2009, 45.3 percent of first year teachers reported leaving the profession because of job dissatisfaction citing "school and working conditions, including salaries, classroom resources, student misbehavior, accountability, opportunities for development, input into decision making and school leadership" (Ingersoll et al., 2014, p. 25).

A limitation to this research, as well as many others, was what happens to teachers once they leave. Data collected from state reporting departments was limited to tracking teachers who move to another school system within the same state. A teacher may be retained in teaching in another state or private school which was not tracked as part of the same state database. Another trend observed in teacher training and teacher retention was evident in the study conducted by Zhang and Zeller (2016) who looked at the difference between traditionally prepared teachers, teachers who went through a lateral entry training, and teachers who went through a state specific training program called NC Teach. Zhang and Zeller (2016) tracked 60 first and second year teachers who were teaching in urban, rural, and suburban schools in eastern North Carolina and they found that background information like age, ethnicity, gender, school level, marital status, etc., did not contribute to retention, but rather the type of preparation did. Traditionally prepared teachers were more likely to be retained when compared to lateral entry teachers and NC Teach teachers who reported not feeling prepared (Zhang & Zeller, 2016). Teacher preparation was delimitation to this study, but research questions

around the educational preparation of mentors compared to non-mentors could be asked for future research.

Suggestions for Retaining Teachers

Teacher persistence or retention is driven by a variety of reasons, and for every reason for a teacher to remain in teaching; there is a reason for teachers to abandon their career in education. Some teachers need to be internally motivated to continue the work they are doing, while others need external forces to motivate their persistence in education. It is common for employees in the middle of their career to not be motivated to perform their best and to feel a greater sense of stress (Evans, 1989). There are numerous ways to internally and externally motivate mid-career teachers. Evans (1989) suggested providing them with a career path where they can improve upon a specific skill, or change their role into a leadership position. Teachers also benefit from knowing ways in which they could contribute to the organization and from being given autonomy and responsibility (Evans, 1989).

Summary

Teacher retention is dependent on a variety of factors. As the number of teachers increased, the average age of teachers decreased. Teaching is a profession with a high turnover when compared to some other occupations. Teachers leaving the profession lead to shortages, hard to staff classrooms, and a decrease in minority representation in the teaching professions. Teachers stay for a variety of reasons including administrative support, autonomy, and collegiality, but they also leave for a variety of reasons including salary, lack of support, lack of planning, and lack of success. Does mentoring provide the autonomy and collegiality that experienced teachers desire to promote their retention in

the career of education? While we do not know specifically why mentors stay, this research study examined the difference between teacher success and retention of mentor teachers compared to non-mentor teachers.

Connections Between Teacher Success, Mentorship, and Retention

Harris (2008) wrote "quality mentoring is said to have not only a positive effect on classroom effectiveness but also on teacher retention" (p. 4). Someone does not necessarily have to be a successful teacher to serve as a quality mentor, it would be interesting to learn if more successful teachers, as determined by teacher performance and teacher effectiveness, were in fact mentoring beginning teachers and being retained at a greater rate than teachers who were not as successful. Teacher success did promote retention. Papay et al. (2017) looked at 200,000 different teachers who taught in sixteen urban public school districts across seven states. From their fifteen year study they learned more effective teachers were more likely to remain in the profession. Previous research examined the ideas of performance, effectiveness, and retention independent from each other, or connecting two of the themes, this research study put all three together to see if there were interconnected results when researching the efficacy of experienced teachers who mentor compared to experienced teachers who did not mentor.

This research study included teacher performance evaluation ratings and teacher effectiveness VAMs, but did not include student surveys, which could have helped triangulate the data between evaluation results based on summative evaluations conducted by school administrators and value-added results based on student growth achievement. There was also a peer factor missing in the definition of teacher success, and while other teachers may or may not have been qualified to evaluate or determine the

success of another teacher, feedback from a peer could have potentially contributed to the growth or success of an experienced teacher. Qualitative data corresponding with value-added models could have contributed to filling a gap in the research. For example, a researcher could have used surveys or interviews to understand teacher perception of student growth measures, or how teachers responded to their own growth measures in order to improve student outcomes. There was a lack of peer-reviewed studies related to value-added measures and mentorship or performance evaluation results and mentorship. Most of the teacher retention articles that mention mentoring related to the retention of the beginning teacher being mentored, and were not specific to the mentor providing the mentoring.

A suggestion for retaining teachers included motivation and acknowledgement of the benefit mentors provided to the professions. These and other ideas will be explored next in the theories of Communities of Practice, Situated Cognition, Expectancy-Value Theory of Achievement and Drive Motivation Theory.

Theoretical Framework

Four theoretical frameworks were used as the foundation upon which ExperiencED Success was built. Situated Cognition and Communities of Practice describe the importance of relationships while Expectancy-Value Theory of Achievement and Drive Motivation Theory describe the importance of motivation. What connects experienced teachers, specifically mentor teachers, to the work they do not only with their students, but also with the beginning teachers whom they mentor? What contributes to their efficacy and retention within the field of education? The descriptions of the four theoretical frameworks are used to explain these ideas.

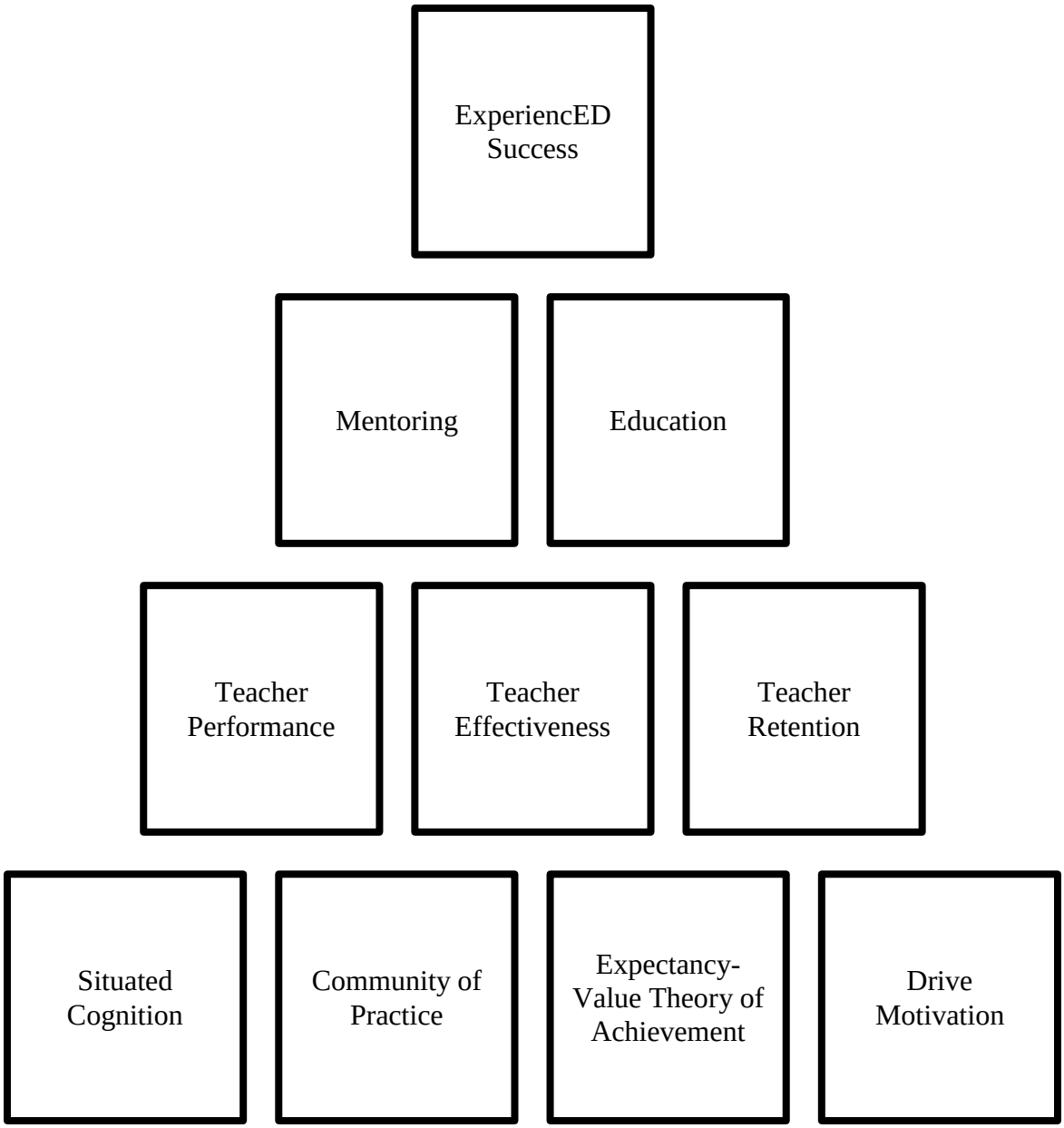

Figure 1. **The building blocks for ExperiencED Success.**

Community of Practice

A Community of Practice (CoP), coined by Jean Lave and Etienne Wenger in 1991, is visible when people who share a common interest collaborate over an extended period of time by sharing ideas, brainstorming solutions, and creating new advances. Three criteria for a CoP are shared domain or common interest, community or

relationship, and practice that include shared experiences and resources (Smith, 2003). Within the CoP, individuals are bound by the activities and projects in which they participate. Individuals are active participants in the community and learning becomes social participation. With time, practice, and experience, mentees learn and master the knowledge they need to be master teachers in order to fully participate in the CoP. CoP claims to affect both performance and membership (Smith, 2003) which aligns to a hypothesis of this research. The mentoring relationship develops a Community of Practice (CoP) because the mentor is practicing in the community with the mentee. Mentors want to contribute to the profession (Olin, 2016) and they do that through their mentoring relationship of a beginning teacher. Mentors focus on the needs of their mentee, which is motivated by focusing on others and their well-being (Janssen et al., 2014) and mentors have greater commitment to their organization or community (Ghosh & Reio, 2013).

Situated Cognition

The idea of Situated Cognition (Brown et al., 1989) describes that learning happens best when it is situated within a context. Situated Cognition theory reflects that learning is a social activity and occurs when people interact with each other through shared language and enrichment which include communication, shared knowledge, and problem-solving. The example of learning vocabulary words abstractly from a dictionary does not have the same effect as learning vocabulary words within the conceptual context the words are typically used.

Situated Cognition can be used to describe the relationship between an apprentice and an expert. Connecting to education, undergraduate students (as well as teachers in an

alternative licensing program) are learning how to teach from a college or professional development environment, however, educational theories and practices are abstract without the presence of students. Once teachers begin their careers in their own classrooms, their learning becomes situated to the experience of teaching. The relationship between a mentor and a mentee is situated in that learning for the mentee is coming not just from the experience they gain as a teacher, but from the reflection they undergo with their mentor who guides them to understand the context in which they are situated. Reflectively, the mentor learns how to guide the mentee to understand their learning and experiences, and the mentor's guidance and reflections are situated in their relationship with their mentee as well as the context of the school and classroom environments. While the role of a mentor is multidimensional with a relationship that evolves over time between the mentor and the mentee (Ghosh, 2012), it is constantly situated in the context of teaching and learning (for mentors and mentees in education) and the learning and growth a mentor experiences is a result of their reflection on their personal practice as both a teacher as well as a mentor who learns to collaborate and lead with greater confidence situated in their role as a mentor (Hobson et al., 2009).

Expectancy-Value Theory of Achievement

Jacquelynne Eccles, Allan Wigfield, and their colleagues in the 1980s expanded the original expectancy-value theory work of John Atkinson from the 1950s. Atkinson proposed that expectancies were defined by an individual's belief that what they did would be a success or a failure, and value was defined as whether or not the individual was attracted to succeeding or failing the task (Wigfield, 1994). Expectancy-Value Theory of Achievement (EVTA) coined by Eccles, Wigfield, and colleagues is a model

that describes how beliefs in ability, expectations for success, and value of tasks lead to influence and motivation (Wigfield & Eccles, 2000). Value incorporates the ideas of attainment, or how important the task is, intrinsic value, or how much someone enjoys doing the task, utility value, or how useful the task is to the individual and their future plans, and cost which is described as financially or emotionally (Wigfield & Eccles, 2000). Most research conducted by Eccles, Wigfield and colleagues involves studies on children and adolescents and their studies separate out the values as different domains; however they found similarities in beliefs of abilities and expectations for success (Wigfield, 1994; Wigfield & Eccles, 2000). While beliefs of performance ability and success expectancy are predictive of initiating tasks, task values are predictive of continuous involvement (Wigfield & Eccles, 2000). Integrating the word achievement into the Expectancy-Value Theory of Achievement includes the idea that people have a purpose for what they are doing or learning and the focus of goals are broader and related to life, and career goals (Wigfield, 1994). Connecting EVTA to the current research study and mentoring, teachers who expected success are the ones influencing and motivating others through the act of mentoring. Supporting a beginning teacher is a valuable task, and according to EVTA value of tasks leads to influence and motivation, mentors may be more motivated which can lead to an increase in their success in teacher performance, effectiveness, and retention.

Drive Motivation

Daniel Pink's (2009) Drive Motivation Theory (DMT) describes motivation as needing three key elements: autonomy, purpose, and mastery. Conditions for people to work their best are created through autonomy (Pink, 2009). Depending on the school a

teacher might work in, the teacher may or may not have autonomy over what and how they taught, however, within the context of a mentoring relationship, they have autonomy over how to serve their mentee and best meet the needs of their mentee. Autonomy "promotes greater conceptual understanding, better grades, enhanced persistence at school and in sporting activities, higher productivity, less burnout, and greater levels of psychological well-being" (Pink, 2009, p. 89). Getting "better and better at something that matters" (p. 109) is how Pink (2009) defines mastery. Teachers have to exhibit mastery in their craft in order to be recognized as a mentor teacher and be asked to support a beginning teacher. The recognition of mastery as well as the opportunity to master a new skill of leading not just children (students), but another adult (mentee), contributes to motivation. Lastly, purpose is described by Pink (2009) as "service of some greater objective" (p. 131). Teaching is an act of service with a great purpose of increasing the academic achievement of students; however mentors also have the purpose of increasing the success of another teacher. Their purpose extends beyond what they do for their students to include what they do for other teachers.

Experienced teachers who work in environments where they are supported by administration and given autonomy over their practice are more likely retained (Certo & Fox, 2002). Additionally, teachers who have mastered their craft are motivated to continue pursuing mastery in the work they do (Feng et al., 2018; Godhaber et al., 2010; Papay et al., 2017). Mentoring gives teachers another sense of purpose. They are not just impacting the students they teach, but impacting other students through the work they do with other teachers, particularly beginning teachers (Hobson et al., 2009; Jaspers et al.,

2014; Lopez-Real & Kwan, 2005). Autonomy, mastery, and purpose contribute to the drive mentors have to expand their value to the profession of education.

Summary

The building blocks for ExperiencED Success was the evidence that educational mentors experienced success in teacher performance, teacher effectiveness, and teacher retention which was supported by the theoretical frameworks of Situated Cognition, Communities of Practice, Expectancy Value Theory of Achievement and Drive Motivation Theory. Situated Cognition and Communities of Practice specifically described the benefit of the relationship between an apprentice and an expert. They both positively described aspects of the mentor-mentee relationship and championed the benefits to the mentor as well as the mentee. It was theorized individual teachers who engaged in a mentor-mentee relationship benefited from the socialization that occurred as a result of the relationship, and the benefit was mutual for both the mentor and the mentee. If experienced teachers had the ability to serve as mentors, they expected to be successful with their mentee and valued the partnership and intended outcomes from the mentoring relationship, and then they felt achievement in their involvement of mentoring another teacher. Mentoring promoted autonomy, mastery, and purpose, and that drive was hypothesized to promote and heighten the teachers who served as mentors and contributed to greater retention and greater success when compared to teachers who did not mentor. If mentors expected success in their instruction and work with students as well as the beginning teachers they supported, and found value in their work with beginning teachers, then they are more likely to be retained, and have greater success on their performance and effectiveness results when compared to non-mentors.

Conclusion

Some research exists describing what mentoring is and the impact mentoring has on the mentee. Other research exists around teacher retention and why teachers stay or leave within the career of education. However, further research is needed to understand how these two ideas intersect. The primary unanswered question guiding this dissertation is: How does mentoring impact the retention and success of the mentor teacher? Research is needed to examine if there is a relationship between mentoring and teacher retention, teacher performance, and teacher effectiveness. Within the context of Situated Cognition, Communities of Practice Expectancy-Value Theory of Achievement, and Drive Motivation Theory, it is hypothesized that mentoring positively impacts teacher retention because it provides contextual practice situated in work that is motivating to the mentor. This research study explores answers to these questions: are teachers who served as mentors more likely to be retained when compared to non-mentors and do teachers who served as mentors have greater success based on performance evaluation ratings and effectiveness value-added measures when compared to non-mentors? Chapter Three will summarize the methodology for this study, including information about the data set and its source, and how the data was calculated and analyzed.

CHAPTER THREE: METHODOLOGY

Introduction

This research study used a non-experimental quantitative research design by collecting and analyzing numerical data (Mertens, 2015). The study was designed to better understand the relationship between teacher performance, teacher effectiveness, and teacher retention for mentor teachers in the state of North Carolina when compared to non-mentor teachers. A comparative design was used since the comparison was based on already existing data and the researcher had no influence or manipulation on the research variables (Gay, 1981). Data for this study was obtained from pre-existing data housed by the Office of Human Resources in a large urban school district in North Carolina. Permission to conduct this study was obtained from the Institutional Review Board (IRB) prior to the start of the study, and IRB approval is included in the Appendix. A research application was also submitted to the school district requesting information, and permission was obtained from the school district. The permission letter from the school district was not included in order to provide anonymity.

Teacher performance ratings from each year corresponded to teacher mentorship and teacher effectiveness results of that same school year. Teacher effectiveness results were typically not published until the fall of the following school year. For this study, experienced teachers from 2015-2016 received effectiveness results in fall 2016; experienced teachers from 2016-2017 received effectiveness results in fall 2017; and experienced teachers from 2017-2018 received effectiveness results in fall 2018. Teacher retention results were dependent on the district's September 1 employee file of the following school year. The researcher investigated if experienced teachers from the 2015-

2016 school year returned to the district as of September 1, 2016; if experienced teachers from the 2016-2017 school year returned to the district as of September 1, 2017; and, if experienced teachers from the 2017-2018 school year returned to the district as of September 1, 2018.

The collected data was used to inform statistical analysis of the relationship of teacher mentorship, alongside teacher retention and teacher success: performance and effectiveness. The research study was used to examine if there was a difference in retention, performance, and effectiveness of mentor teachers compared to non-mentor teachers.

Performance evaluations were included with the intent to examine each teacher's performance level for the school year. In North Carolina where this study was conducted, teachers are evaluated on five standards. For purposes of this research, only Standards I and IV were looked at by the researcher. Standard I had five elements for administrators to observe and record how teachers demonstrated leadership (NC State Board of Education, 2015) and Standard IV had eight elements for administrators to observe and record how teachers facilitate learning for their students (NC State Board of Education, 2015). These two standards were chosen because most experienced teachers were evaluated on an abbreviated cycle which means they have fewer observations and were rated on fewer standards, and therefore administrators usually only evaluated experienced teachers on Standards I and IV unless it was a teacher's license renewal year in which case they were rated on all five standards. While some teachers included in the sample for this study had summative evaluations with all five standards, the researcher expected all teachers to have summative results with at least Standards I and IV. The teacher

evaluation rubric in the state of North Carolina uses Not Demonstrated, Developing, Proficient, Accomplished, and Distinguished as the rating levels. There is also a Not Looked For category that applies to observations, but should not be used for evaluations. For purposes of this research, the rubric levels were converted to numeric values where Not Demonstrated equaled one, Developing equaled two, Proficient equaled three, Accomplished equaled four, and Distinguished equaled five. For Research Questions 1 and 2 the range of the evaluation results was between one through five. Research Question 3 combines the scores of Standard I and IV, therefore the range of the evaluation results was between two through ten; there is no option to get a one for Question 3.

At the time of the study North Carolina utilized an Education Value-Added Assessment System (EVAAS) which was developed by SAS (SAS Institute Inc., 2019). EVAAS was used to calculate student growth and determine teacher and school effectiveness. Teachers were assigned an index score which identified the effectiveness level of the teacher (SAS Institute Inc., 2019). EVAAS levels were also recorded. Levels were based on index scores (SAS Institute Inc., 2019) and in the state of North Carolina, levels were labeled as: does not meet expected growth (index score is less than negative two), meets expected growth (index score is between negative two and positive two), or exceeds expected growth (index score is greater than positive two). EVAAS was designed to be used as a tool to improve both student learning as well as teacher effectiveness (Public Schools of North Carolina, 2019). Teachers' EVAAS ratings were collected to determine the effectiveness and impact that teachers had on student achievement. Teacher effectiveness results were calculated based on EVAAS ratings

from each year described in the file. Data was collected and analyzed from three school years (2015-2016, 2016-2017, and 2017-2018) in order to support and strengthen any claims and findings.

Retention was calculated based on whether the teacher was employed by the same school district the following year, based on Human Resource records on September 1 of the following year. This means if a teacher was recorded as an experienced teacher in 2015-2016 school year and had performance and effectiveness results, were they employed by the same school district on September 1, 2016? If they were captured as an experienced teacher in the 2016-2017 school years and had performance and effectiveness results, were they employed by the same school district on September 1, 2017? Lastly, if a teacher was captured as an experienced teacher in 2017-2018 and had performance and effectiveness results, were they employed by the same school district on September 1, 2018? A *yes* value on the spreadsheet indicated they were retained or employed by the same school district, and a *no* value indicated they were not retained. Teacher performance ratings were calculated based on evaluation results from each described school year.

Research Questions and Null Hypotheses

The foundation for this study was built upon each of the following specific research questions, and each null hypothesis was tested.

Research Question 1: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standard I for mentors statistically different when compared to the average performance rating on Standard I for non-mentors from the same school year?

Alternative Hypothesis H_1: The mentors average performance rating on Standard I were statistically different than the non-mentors average performance rating on Standard I for the same year.

Null Hypothesis H_0^1: The mentors average performance rating on Standard I were statistically the same as the non-mentors average performance rating on Standard I for the same year.

Research Question 2: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standard IV for mentors statistically different when compared to the average performance rating on Standard IV for non-mentors from the same school year?

Alternative Hypothesis H_2: The mentors average performance rating on Standard IV for the year they served as a mentor were statistically different than the non-mentors average performance rating on the same standard for the same year.

Null Hypothesis H_0^2: The mentors average performance rating on Standard IV for the year they served as a mentor were statistically the same as the non-mentors average performance rating on the same standard for the same year.

Research Question 3: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standards I and IV combined for mentors statistically different when compared to the average performance rating on Standards I and IV combined for non-mentors from the same school year?

Alternative Hypothesis H_3: The mentors average performance rating on Standard I and IV for the year they served as a mentor were statistically different

than the non-mentors average performance rating on the same standards for the same year.

Null Hypothesis H_0^3: The mentors average performance rating on Standard I and IV for the year they served as a mentor were statistically the same as the non-mentors average performance rating on the same standard for the same year.

Research Question 4: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average teacher effectiveness rating for mentors statistically different compared to the average teacher effectiveness rating of non-mentors for the same school year?

Alternative Hypothesis H_4: The mentors average effectiveness rating for the year they served as a mentor were statistically different than the non-mentors average effectiveness rating for the same year.

Null Hypothesis H_0^4: The mentors average effectiveness rating for the year they served as a mentor were statistically the same as the non-mentors average effectiveness rating for the same year.

Research Question 5: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average teacher retention for mentors statistically different compared to the average teacher retention of non-mentors for the same school year?

Alternative Hypothesis H_5: The mentors average retention rate for the year they served as a mentor were statistically different than the non-mentors average retention rate for the same year.

Null Hypothesis: H_0^5: The mentors average retention rate for the year they served as a mentor were statistically the same as the non-mentors average retention rate for the same year.

Participants and Setting

Participants for this study were experienced teachers from grades Pre-Kindergarten through Grade 12 from a large urban school district in North Carolina. The school district serves over 148,000 students and employs around 19,000 people, with almost half of the employees being teachers. Teachers in the district represent a variety of races and ethnicities. Experienced teachers were defined as having more than three years of teaching experience, as determined from records obtained from the district's Human Resources office. The sample included all Pre-Kindergarten through Grade 12 experienced teachers from three school years, 2015-2016, 2016-2017, and 2017-2018, who had both performance evaluation ratings as well as a teacher effectiveness ratings since these two criteria were needed to answer the specific research questions. This large sample size was chosen in order to represent the different groups for each question and lead to increased statistical significance (Merten, 2015). Table 1 represents the total number of teachers included in this study. Columns in Table 1 represent the total number of experienced teachers as well as mentor and non-mentor status for each school year.

Table 1

Number of Teachers Included in This Study

School Year	Mentor Teachers	Non-Mentor Teachers	Total Experienced Teachers
2015-2016	968	4578	5546
2016-2017	835	4729	5564
2017-2018	935	5077	6012

Materials

This research was completed through document collection. Information collected to create the data set included experienced teachers who had teacher performance data (ratings on Standard I and Standard IV) and teacher effectiveness data (EVAAS) from school years 2015-2016, 2016-2017, and 2017-2018. For experienced teachers included in each year of the study, retention in the district for the next school year was also collected. Teachers were identified as either being mentors or non-mentors for each year in the study. All data for this study was provided by the school district's Human Resource Department.

Procedures and Data Collection

In order to conduct the research study, the primary researcher obtained IRB approval from the University IRB review board. Following IRB approval, a research application was submitted to the school district to ask for access to teacher level variables. Once permission was granted the school district provided a data set. Teacher unique identification information was removed by the school district prior to the data being shared with the researcher. Teachers were reassigned a new identification number that did not match their district or state identification number, and those who were represented on the file over multiple years had the same number for each year.

Data items obtained from the school district were organized on an Excel spreadsheet. Each school year was recorded on its own tab. The columns of data are described here:

A. Research Identification Number (changed from employee ID number)

B. Year

C. EVAAS Composite Index Number (range was -13.25 to 18.26)

D. EVAAS Composite Level: Does Not Meet Expected Growth, Meets Expected Growth, Exceeds Expected Growth

E. Standard I Rating Level: Not Demonstrated, Developing, Proficient, Accomplished, Distinguished

F. Standard I Numerical Score: 1 - 5 (Not Demonstrated = 1, Developing = 2, Proficient = 3, Accomplished = 4, Distinguished= 5)

G. Standard IV Rating Level: Not Demonstrated, Developing, Proficient, Accomplished, Distinguished

H. Standard IV Numerical Score: 1 - 5 (Not Demonstrated = 1, Developing = 2, Proficient = 3, Accomplished = 4, Distinguished= 5)

I. Mentor: Yes, No

J. Retained the Next Year: Yes, No

These same columns were represented for experienced teachers from school years 2015-2016, 2016-2017, and 2017-2018.

After the data was gathered, additional columns were added to each tab in the file. The first added column represented the sum of the numerical score of Standard I plus Standard IV. The second added column was a copy of the Mentor column where *No* values were changed to NonMentor and *Yes* values were changed to Mentor. The third added column was a copy of the Retained the Next Year column where the *No* values were changed to Not Retained and the *Yes* values were chained to Retained. This data was collected and analyzed in February 2020 since that was when all permissions were received and since all the data required for the study was available.

Data Analysis

The researcher used inferential statistics to calculate the data for the two groups being compared. Mertens (2015) defined inferential statistics as "statistics that are used to determine whether sample scores differ significantly from each other or from population values. Inferential statistics were used to compare differences between groups" (p. 420). Statistical analysis was employed to understand the results as they related to each research question. The researcher used the Statistical Program for the Social Sciences (SPSS) version 26 to analyze responses to each of the research questions for each year of the study. Inferential statistical methods were employed to calculate data for the two groups being compared, mentors and non-mentors. A *t*-test was used because the two participant samples were independent of each other (Merten, 2015) and it was used to compare the means of two groups (Gay, 1981; Mertens, 2015). A two-tailed *t*-test was calculated to describe the non-directional fashion of the alternative hypothesis asserting that performance ratings and effectiveness ratings of mentors and non-mentors are different (Hucks, 2012). The Homogeneity of Variance was checked using both Levene's *F*-test statistics as well as the Brown-Forsythe *F*-test. Since the sample size of this study was so large, a distribution of normality test was not run because in large sample sizes a normality test is likely to be significant and can lead to data corrections that should not be made (Field, 2013). For the *t*-tests, Cohen's d effect size was calculated using an online social science statistical calculator (Stangroom, 2020). The results were compared using the table: "Effect size criteria for comparing two means" (Hucks, 2012, p. 223). Chi-square tests were used to determine the percentage of frequency of effectiveness levels and retention for both groups: mentor and non-mentor (Gay, 1981; Hucks, 2012).

Cramer's *V* was used to measure the relationship between the effect sizes of the two variables and was analyzed using the table: "Effect size criteria for use with tests on frequencies" (Hucks, 2012, p. 431).

For each research question, the results were analyzed and displayed in different tables, one for each school year, illustrating the differences between mentor teachers and non-mentor teachers. Each table was followed by a description of the data. It was hypothesized that teachers who served as mentors would have greater performance, greater effectiveness, and greater retention than their peers who did not serve as mentors.

The two-tailed *t*-test was used to answer Research Question 1 and determined the overall mean of Standard I of mentors compared to the overall mean of Standard I of non-mentors. A two-tailed *t*-test was repeated to answer Research Question 2 and determined the overall mean of Standard IV, as well as answered Research Question 3 and determined the overall mean of Standards I and IV combined. For Research Question 4, both a two-tailed *t*-test as well as a Chi-square test was used. The two-tailed *t*-test was used to determine the overall mean of the value-added index number. A Chi-square test was used to calculate the frequency difference in mentors and non-mentors with regards to value-added levels. Research Question 5 was analyzed using a Chi-square test to determine the frequency of retention between mentors and non-mentors. Each of these research questions was examined with data obtained for each school year: 2015-2016, 2016-2017 and 2017-2018.

Research was judged by the standards of objectivity, reliability, and validity (Merten, 2015). Trustworthiness was in several aspects of this research study. There were confounding school variables that could have affected the results of this study, like school

setting (Title-I and non-Title I), school type (elementary, middle, and high), and school report card grade. There were also confounding teacher variables that can affect the results as well, like years of experience of teachers, degree obtained, National Board Certification, race, and ethnicity. While the researcher was not given access to any of these data points in the data set, she is confident in her knowledge of the school district where the research was being conducted that internal validity existed because the sample included teachers representing all school and teacher variables and was representative of the population of experienced teachers in the school district. Additionally, while data was collected from three different school years, it was all gathered at the same time. The experienced teachers did not know their performance, effectiveness, or retention data was being used for this purpose, so it did not affect the maturation of the individuals in the sample. Consistent instruments and analysis were used for each data point. Teachers were evaluated on the same performance evaluation rubric for all three years. Effectiveness results were consistently calculated by the same reporting company. Retention measures used the same retention date. The selection of subjects represented experienced teachers from the same school district and included both mentors and non-mentors from schools in the district, however the subjects were unaware their data was being used for research purposes, so while there was a great likelihood of subjects interacting, and interactions would not have been about this particular research study.

This research study meets standards of external validity. More than half of the total number of teachers were included in the research sample, and there were over 5,500 experienced teachers included for each school year. From the knowledge the researcher has of the district, the teachers included in the sample represent teachers from across the

entire school district including from Title-I and non-Title I schools, elementary, middle, and high schools, and schools with varying report card grade ratings as well as Teacher Working Condition survey results.

A quality attributing to the reliability of the data was that the research questions led to an analysis of data from multiple school years, which confirmed consistency in trends and patterns observed in the results. While the effectiveness data was normed, and retention data could not be disputed, performance data could pose questionable reliability results. In support of the reliability of the performance data, evaluators had to participate in training to learn how to evaluate using the performance rubric and were expected to calibrate with other evaluators both at their school as well as within the district. This study was also reliable because it could be replicated by other school districts in the same state that have access to the same data sets for experienced teachers within their district.

During the time of research collection, the researcher worked in the district from where the data was obtained, and worked with mentors and beginning teachers in the district. However, this quantitative research study included standards of objectivity because the study was conducted using pre-existing data where the researcher did not have any impact on the results of the data sets for any of the years, only on the discussion of how they were analyzed. While the researcher had access to multiple data sets for teachers in the district as part of her job, objectivity was maintained by going through the same process other internal and external researchers had to go through to access district level data for research purposes. Because of this the researcher was not granted access to all of the data originally proposed for this study, and revised the study based on the data that was available for external research purposes, this dissertation. The researcher had

someone in Human Resources provide the data set that was analyzed for each research question and therefore did not have access to any unique employee identification information like name, school, experience, etc. While the researcher had previously looked at performance, effectiveness, and retention results for beginning teachers, this was the first time the researcher had posed and analyzed the results of these Research Questions for experienced teachers.

Conclusion

This chapter summarized the quantitative methodology for this study. It included information about the data set and its source. The research questions and their null and alternative hypotheses were presented. Participants and setting of the research study were introduced as well as the data material that was gathered to be analyzed. The data analysis process was described including the types of tests that would be used for each question and the researcher addressed the standards of objectivity, reliability, and validity. Chapter Four will be organized by each research question. Results of the analysis of the collected data will be displayed in tables and each table will be described.

CHAPTER FOUR: ANALYSIS AND RESULTS

Introduction

The purpose of this dissertation was to determine if there was a difference between mentoring and teacher retention, teacher performance, and teacher effectiveness of the person serving as the mentor when compared to experienced teachers not serving as mentors. Results of this study add to the existing body of literature by acknowledging how success can be defined for experienced teachers, particularly mentor teachers. This study can be used to benefit individual experienced teachers, school and district leaders, as well as state educational leaders who contribute to decision making processes.

Chapter Four outlines the results of this dissertation aligned to the posed research questions. A quantitative methodology was used to analyze the data in this study, and five specific research questions were posed to understand how mentoring affected the success of a teacher serving as the mentor. The results of the data collected and analyzed showed differences in the phenomena between mentors and non-mentors.

Research Questions 1-3 were analyzed for the three school years of data using inferential statistics to identify the relationship between the summative evaluation results of experienced teachers and mentorship. A two-tailed *t*-test was conducted to test whether or not the mean for mentors and the mean for non-mentors were significantly different at the probability level of $p \leq .05$. The results of the *t*-tests for each year of the study are shown in the tables followed by an explanation.

Research Question 4 was analyzed for the three school years of data for the study using inferential statistics to identify the relationship between the value-added results of experienced teachers and mentorship. A two-tailed *t*-test was conducted to test whether or

not the mean index score for mentors and the mean index score for non-mentors were significantly different at the probability level of $p \leq .05$. A Chi-square test was also used to see if the rating levels of Does Not Meet Expected Growth, Meets Expected Growth, and Exceeds Expected Growth occurred more frequently for mentors compared to non-mentors. The results of the *t*-tests and Chi-square test for each year of the study are shown in the tables followed by an explanation.

Research Question 5 was analyzed for the three school years of data for the study using inferential statistics to identify the relationship between the retention of experienced teachers and mentorship. A Chi-square test was used to see if retention occurred more frequently for mentors compared to non-mentors. The results of the Chi-square test for each year of the study are shown in the tables below followed by an explanation.

Research Question 1

Research Question 1: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standard I for mentors statistically different when compared to the average performance rating on Standard I for non-mentors from the same school year?

Table 2

Standard I Score by Mentor Status School Year 2015-2016

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	968	2	5	3.87	.589	.009
Non-Mentors	4578	1	5	3.45	.634	.019

Table 3

Independent Samples Test for Standard I for School Year 2015-2016

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	195.233	.000	-19.029	5544

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standard I when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistic and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standard I, with mentors (*M*=3.87, *SD*=.589) scoring significantly higher than non-mentors *(M=3.45, SD=.634), t(5544)=19.029, p<.001.* The effect size, *d=0.69,* is considered large according to Hucks (2012).

Table 4

Standard I Score by Mentor Status School Year 2016-2017

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	835	2	5	4.03	.549	.019
Non-Mentors	4729	1	5	3.51	.626	.009

Table 5

Independent Samples Test for Standard I for School Year 2016-2017

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	510.385	.000	-22.699	5562

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standard I when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standard I, with mentors (*M*=4.03, *SD*=.549) scoring significantly higher than non-mentors *(M=3.51, SD=.626), t(5562)=22.699, p<.001.* The effect size, *d=0.88,* is considered large according to Hucks (2012).

Table 6

Standard I Score by Mentor Status School Year 2017-2018

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	935	2	5	3.98	.552	.018
Non-Mentors	5077	1	5	3.53	.631	.009

Table 7

Independent Samples Test for Standard I for School Year 2017-2018

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	579.949	.000	-20.512	6010

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standard I when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standard I, with mentors (*M*=3.98, *SD*=.552) scoring significantly higher than non-mentors *(M=3.53, SD=.631), t(6010)=20.512, p<.001.* The effect size, *d=0.76,* is considered large according to Hucks (2012).

Standard I from the North Carolina Teacher Evaluation Rubric was intended to measure how a teacher demonstrated leadership across multiple settings, including their classroom, their school, and the profession, as well as advocating for education and upholding high ethical standards (NC State Board of Education, 2015). The average performance rating on Standard I between mentors and non-mentors was statistically significant. We can reject the null hypothesis because it was not statistically the same. For each year of the study, the minimum score for mentors was a two, which represented a developing rating. The minimum score for non-mentors was a one, which represented a

not-demonstrated rating. This shows that no mentors achieved at the lowest rating level for Standard I. The maximum score for both mentors and non-mentors was a five, indicating both mentors and non-mentors achieved distinguished ratings on Standard I of the teacher evaluation rubric. For each year of the study, the mean for mentor teachers was greater compared to the mean of non-mentors, and mentors had a lower standard deviation compared to non-mentors.

Research Question 2

Research Question 2: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standard IV for mentors statistically different when compared to the average performance rating on Standard I for non-mentors from the same school year?

Table 8

Standard IV Score by Mentor Status School Year 2015-2016

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	968	2	5	3.74	.568	.018
Non-Mentors	4578	1	5	3.40	.628	.009

Table 9

Independent Samples Test for Standard IV for School Year 2015-2016

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	73.574	.000	-15.864	5544

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standard IV when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standard IV, with mentors (*M*=3.74, *SD*=.568) scoring significantly higher than non-mentors *(M=3.40, SD=.628), t(5544)=15.864, p<.001.* The effect size, *d=0.57*, is considered medium according to Hucks (2012).

Table 10

Standard IV Score by Mentor Status School Year 2016-2017

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	835	3	5	3.95	.492	.017
Non-Mentors	4729	1	5	3.48	.611	.009

Table 11

Independent Samples Test for Standard IV for School Year 2016-2017

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	759.331	.000	-21.891	5562

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standard IV when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standard IV, with mentors (*M*=3.95, *SD*=.492) scoring significantly higher than non-mentors *(M=3.47, SD=.611), t(5562)=21.89, p<.001.* The effect size, *d=0.85*, is considered large according to Hucks (2012).

Table 12

Standard IV Score by Mentor Status School Year 2017-2018

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	935	2	5	3.88	.518	.017
Non-Mentors	5077	1	5	3.46	.628	.009

Table 13

Independent Samples Test for Standard IV for School Year 2017-2018

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	478.471	.000	-19.204	6010

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standard IV when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standard IV, with mentors (*M*=3.88, *SD*=.518) scoring significantly higher than non-mentors *(M=3.46, SD=.628), t(6010)=19.2, p<.001*. The effect size, *d=0.73*, is considered large according to Hucks (2012).

Standard IV from the North Carolina Teacher Evaluation Rubric was intended to measure how a teacher facilitated learning for students (NC State Board of Education, 2015). It was described by eight elements: including knowing the developmental level of students, appropriately planning, utilizing a variety of teaching methods and technology, developing problem-solving and critical-thinking skills in students, fostering teamwork and leadership in students, effectively communicating, and assessing using a variety of methods (NC State Board of Education, 2015). The average performance rating on Standard IV between mentors and non-mentors was statistically significant. We can reject the null hypothesis because it was not statistically the same. For 2015-2016 and 2017-2018, the Standard IV minimum score for mentors was a two, which represented a developing rating, and in 2016-2017 the minimum score was a three representing a proficient rating. The minimum score for non-mentors for all three years was a one, which represented a not-demonstrated rating. This showed that no mentors achieved at the lowest rating level for Standard I. The maximum score for both mentors and non-

mentors was a five indicating both mentors and non-mentors achieved distinguished ratings on Standard IV of the teacher evaluation rubric. For each year of the study the mean for mentor teachers was greater compared to the mean of non-mentors, and mentors had a lower standard deviation compared to non-mentors.

Research Question 3

Research Question Three: For each school year (2015-2016, 2016-2017, and 2017-2018) was the average performance rating on Standards I and IV combined for mentors statistically different when compared to the average performance rating on Standards I and IV combined for non-mentors from the same school year?

Table 14

Combined Standards I and IV Score by Mentor Status School Year 2015-2016

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	968	4	10	7.62	1.065	.034
Non-Mentors	4578	2	10	6.85	1.169	.017

Table 15

Independent Samples Test for Combined Standards I and IV for School Year 2015-2016

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	44.213	.000	-18.860	5544

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standards I and IV when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standards I and IV, with mentors (*M*=7.62, *SD*=1.065) scoring significantly higher than non-mentors *(M=6.85, SD= 1.169), t(5544)=18.86, p<.001.* The effect size, *d=0.69,* is considered large according to Hucks (2012).

Table 16

Combined Standards I and IV Score by Mentor Status School Year 2016-2017

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	835	5	10	7.99	.948	.033
Non-Mentors	4729	2	10	6.98	1.143	.017

Table 17

Independent Samples Test for Combined Standards I and IV for School Year 2016-2017

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	309.698	.000	-24.171	5562

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standards I and IV when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standards I and IV, with mentors (*M*=7.99, *SD*=.948) scoring significantly higher than non-mentors *(M=6.98, SD= 1.143), t(5562)=24.17, p<.001.* The effect size, *d=0.96,* is considered large according to Hucks (2012).

Table 18

Combined Standards I and IV Score by Mentor Status School Year 2017-2018

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	935	4	10	7.85	.963	.031
Non-Mentors	5077	3	10	6.98	1.17	.016

Table 19

Independent Samples Test for Combined Standards I and IV for School Year 2017-2018

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	238.668	.000	-21.460	6010

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on Standards I and IV when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics and Brown-Forsythe F-test. Since the *p*-value was <.05 a violation was assumed. The independent sample *t*-test showed a significant difference in scores on Standards I and IV, with mentors (*M*=7.85, *SD*=.963) scoring significantly higher than non-mentors *(M=6.98, SD= 1.17), t(6010)=21.46, p<.001.* The effect size, *d=0.812,* is considered large according to Hucks (2012).

Standards I and IV from the North Carolina Teacher Evaluation Rubric were combined to see if there was a statistical difference from the combination of the two rating scores, whereas Research Questions 1 and 2 examined the ratings independent of each other. The average performance rating on Standards I and IV between mentors and non-mentors were statistically significant. We rejected the null hypothesis because they were not statistically the same. The scores of Standard I and Standard IV were added to obtain the combined Standards I and IV score. This led to a ten point scale in the distribution, instead of the five point scale which was used for Standard I or Standard IV when calculated independently. For 2015-2016 and 2017-2018, the Standard I and IV combined minimum score for mentors was four. The combined minimum score for mentors in 2016-2017 was a five. The minimum score for non-mentors for 2015-2016 and 2017-2018 was a two and for 2016-2017 was a three. This shows that no mentors achieved at the lowest rating level for Standards I and IV, compared to non-mentors who could have had not-demonstrated ratings on both Standards I and IV. The maximum

score for both mentors and non-mentors was a ten indicating both mentors and non-mentors achieved at the highest rating levels on Standards I and IV of the teacher evaluation rubric. For each year of the study the mean for mentor teachers was greater compared to the mean of non-mentors, and mentors had a lower standard deviation compared to non-mentors.

Research Question 4

Research Question 4: For each school year (2015-2016, 2016-2017, and 2017-2018), was the average teacher effectiveness for mentors statistically different compared to the average teacher effectiveness of non-mentors for the same school year?

Table 20

Value-Added Index Score by Mentor Status School Year 2015-2016

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	968	-11.94	18.36	.622	3.015	.0969
Non-Mentors	4578	-13.25	18.12	.276	2.926	.0433

Table 21

Independent Samples Test for Value-Added Index Score for School Year 2015-2016

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	1.090	.297	-3.326	5544

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on their value-added index when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistics (*p=.297*) and Brown-Forsythe F-test (*p=.311*). Since both *p*-values were greater than .05 the assumption of homogeneity of variance was retained. The independent sample *t*-test did not show a significant difference in scores on value-added index scores, with mentors (*M*=.622, *SD*=3.015) not statistically higher than non-mentors *(M=.276, SD= 2.926), t(5544)=3.326, p=.297.* The effect size, *d=0.12*, is considered small according to Hucks (2012).

Table 22

Value-Added Index Level by Mentor Status School Year 2015-2016

	Does Not Meet Expected Growth		Meets Expected Growth		Exceeds Expected Growth	
	N	%	N	%	N	%
Mentors	132	13.6%	584	60.3%	252	26.0%
Non-Mentors	770	16.8%	2820	61.6%	988	21.6%
Total	902	16.3%	3404	61.4%	1240	22.4%

The researcher conducted a Chi-square test to determine whether mentor teachers had different achievement results on the value-added level when compared to non-mentor teachers of the same year. The data for 2015-2016 showed 13.6% of mentors did not meet expected growth compared to 16.3% of non-mentors who did not meet expected growth. 60.3% of mentors met expected growth compared to 61.4% of non-mentors who met expected growth. 26.0% of mentors exceeded expected growth compared to 22.4%

of non-mentors who exceeded expected growth. For the 2015-2016 school year the Chi-square value was significant χ^2 (2, N = 5546) = 12.27, p = .002. The value of Cramer's V was 0.047. We can reject the null hypothesis and generalize in a larger population there is a difference between mentors and non-mentors with relation to the value-added index level.

Table 23

Value-Added Index Score by Mentor Status School Year 2016-2017

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	835	-14.33	14.72	.4498	2.75	.0952
Non-Mentors	4729	-13.1	12.57	-.311	2.69	.0391

Table 24

Independent Samples Test for Value-Added Index Score for School Year 2016-2017

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	.123	.726	-7.509	5562

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on their value-added index when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistic (*p=.726*) and Brown-Forsythe F-test (*p=.837*). Since both *p*-values were

greater than .05 the assumption of homogeneity of variance was retained. The independent sample *t*-test did not show a significant difference in scores on value-added index scores, with mentors (*M*=.4498, *SD*=2.75) not statistically higher than non-mentors *(M=-.311, SD= 2.69), t(5562)=7.509, p=.726.* The effect size, *d=0.28,* is considered small according to Hucks (2012).

Table 25

Value-Added Index Level by Mentor Status School Year 2016-2017

	Does Not Meet Expected Growth		Meets Expected Growth		Exceeds Expected Growth	
	N	%	N	%	N	%
Mentors	116	13.9%	529	63.4%	190	22.8%
Non-Mentors	1013	21.4%	2983	63.1%	733	15.5%
Total	1129	20.3%	3512	63.1%	923	16.6%

The researcher conducted a Chi-square test to determine whether mentor teachers had different achievement results on the value-added level when compared to non-mentor teachers of the same year. The data for 2016-2017 showed 13.9% of mentors did not meet expected growth compared to 21.4% of non-mentors who did not meet expected growth. 63.4% of mentors met expected growth compared to 63.1% of non-mentors who met expected growth. 22.8% of mentors exceeded expected growth compared to 15.5% of non-mentors who exceeded expected growth. For the 2016-2017 school year the Chi-square value was significant χ^2 (2, n = 5564) = 42.348, $p < .001$. The value of Cramer's V was 0.087. We can reject the null hypothesis and generalize in a larger population there is a difference between mentors and non-mentors with relation to the value-added index level.

Table 26

Value-Added Index Score by Mentor Status School Year 2017-2018

Scores	N	Minimum	Maximum	Mean	SD	Std. Error Mean
Mentors	935	-12.81	11.55	.597	2.84	.0929
Non-Mentors	5077	-14.67	17.08	.011	2.82	.0395

Table 27

Independent Samples Test for Value-Added Index Score for School Year 2017-2018

	Levene's Test for Equality of Variance		*T*-test for Equality of Means	
	F	Significance	*t*	df
Equal Variances Assumed	1.052	.305	-5.835	6010

The researcher conducted an independent sample two-tailed *t*-test to determine whether mentor teachers achieved a different mean score on their value-added index when compared to non-mentor teachers of the same year. The assumption of homogeneity of variance for the independent sample *t*-test was examined using Levene's F-test statistic (*p=.305*) and Brown-Forsythe F-test (*p=.403*). Since both *p*-values were greater than .05 the assumption of homogeneity of variance was retained. The independent sample *t*-test did not show a significant difference in scores on value-added index scores, with mentors (*M*=.597, *SD*=2.84) not statistically higher than non-mentors *(M=-.011, SD= 2.82), t(6010)=5.84, p=.31.* The effect size, *d=0.21*, is considered small according to Hucks (2012).

Table 28

Value-Added Index Level by Mentor Status School Year 2017-2018

	Does Not Meet Expected Growth		Meets Expected Growth		Exceeds Expected Growth	
	N	%	N	%	N	%
Mentors	122	13.0%	570	61.0%	243	26.0%
Non-Mentors	963	19.0%	3147	62.0%	967	19.0%
Total	1085	18.0%	3717	61.8%	1210	20.1%

The researcher conducted a Chi-square test to determine whether mentor teachers had different achievement results on the value-added level when compared to non-mentor teachers of the same year. The data for 2017-2018 showed 13.0% of mentors did not meet expected growth compared to 19.0% of non-mentors who did not meet expected growth. 61.0% of mentors met expected growth compared to 62.0% of non-mentors who met expected growth. 26.0% of mentors exceeded expected growth compared to 19.0% of non-mentors who exceeded expected growth. For the 2017-2018 school year the Chi-square value was significant χ^2 (2, n = 6012) = 34.375, $p < .001$. The value of Cramer's V was 0.076. We can reject the null hypothesis and generalize in a larger population there is a difference between mentors and non-mentors with relation to the value-added index level.

Value-added was used to determine the effectiveness of the teachers in the study. Teachers were assigned both a value-added index score as well as a corresponding level. Teachers use this information to identify the impact they made on the achievement of the students they serve. Value-added index scores and levels were incorporated into this research study to support teacher success using more than one variable, and to identify

differences in teacher effectiveness between mentors and non-mentors for each year of the study (2015-2016, 2016-2017, and 2017-2018).

The significance level used for the *p*-value set for Research Question 4 was .05 for both the *t*-test and Chi-square test. For each school year (2015-2016, 2016-2017, and 2017-2018), the mean index scores for mentors were greater than the mean index scores for non-mentors and the *p*-values were all greater than .05. The *t*-test used in Research Question 4 failed to reject the null hypothesis. While the results of the mean index score were different, they were not significantly different. The results of the Chi-square test of the value-added levels showed a significant difference between mentors and non-mentors. The *p*-value for the Chi-square tests for each year of the study was less than .05, so we cannot accept the null hypothesis, and can conclude there was a relationship between mentoring and value-added levels.

For 2015-2016 and 2017-2018, the minimum index score for mentors was less than the minimum index score for non-mentors. Non-mentors had a smaller minimum score for 2016-2017; however, the maximum score for mentors was greater than the maximum score for non-mentors for all three school years (2015-2016, 2016-2017, and 2017-2018). The mean for the value-added index score was greater for mentors compared to non-mentors for all three school years, and the standard deviation for non-mentors was smaller than the standard deviation for mentors for each year. For each school year in the study (2015-2016, 2016-2017, and 2017-2018), the percentage of mentors achieving at the *Does Not Meet Expected Growth* index level was less than the percentage of non-mentors achieving at that level. Additionally, the percentage of mentors achieving at the *Exceeds Expected Growth* index level was greater than the percentage of non-mentors

achieving at that level for all three school years. The percentage of mentors and non-mentors achieving *Meets Expected Growth* levels was similar for each year: 60.3% mentors compared to 61.6% non-mentors in 2015-2016; 63.4% mentors compared to 63.1% non-mentors in 2016-2017; and 61.0% mentors compared to 62.0% non-mentors in 2017-2018.

Research Question 5

Research Question 5: For each school year (2015-2016, 2016-2017, and 2017-2018), was the average teacher retention for mentors statistically different compared to the average teacher retention of non-mentors for the same school year?

Table 29

Retention by Mentor Status School Year 2015-2016

	Retained		Not Retained	
	N	%	N	%
Mentors	917	94.7%	51	5.3%
Non-Mentors	4139	90.4%	439	9.6%
Total	5056	91.2%	490	8.8%

The researcher conducted a Chi-square test to determine whether mentor teachers had greater retention when compared to the retention of non-mentor teachers from the same year. The data for 2015-2016 showed 94.7 % of mentors were retained compared to the retention of 90.4% of non-mentors. 5.3% of mentors were not retained compared to 9.6% of non-mentors who were not retained. For the 2015-2016 school year the Chi-square value was significant χ^2 (1, n = 5546) = 18.52, $p < .001$. The value of Cramer's V

was 0.058. We can reject the null hypothesis and generalize in a larger population there is a difference between mentors and non-mentors with relation to retention.

Table 30

Retention by Mentor Status School Year 2016-2017

	Retained		Not Retained	
	N	%	N	%
Mentors	781	93.5%	54	6.5%
Non-Mentors	4274	90.4%	455	9.6%
Total	5055	90.9%	509	9.1%

The researcher conducted a Chi-square test to determine whether mentor teachers had greater retention when compared to the retention of non-mentor teachers from the same year. The data for 2016-2017 showed 93.5% of mentors were retained compared to the retention of 90.4% of non-mentors. Mentors who were not retained were 6.5% compared to 9.6% of non-mentors who were not retained. For the 2016-2017 school year, the Chi-square value was significant χ^2 (2, n = 5564) = 42.348, p < .001. The value of Cramer's V was 0.087. We can reject the null hypothesis and generalize in a larger population there is a difference between mentors and non-mentors with relation to retention.

Table 31

Retention by Mentor Status School Year 2017-2018

	Retained		Not Retained	
	N	%	N	%
Mentors	876	93.7%	59	6.3%

Non-Mentors	4451	87.7%	626	12.3%
Total	5327	88.6%	685	11.4%

The researcher conducted a Chi-square test to determine whether mentor teachers had greater retention when compared to the retention of non-mentor teachers from the same year. The data for 2017-2018 showed 93.7 % of mentors were retained compared to the retention of 87.7% of non-mentors. Mentors who were not retained were 6.3% of mentors compared to 12.3% of non-mentors who were not retained. For the 2017-2018 school year, the Chi-square value was significant χ^2 (1, n = 6012) = 28.343, $p < .001$. The value of Cramer's V was 0.069. We can reject the null hypothesis and generalize in a larger population there is a difference between mentors and non-mentors with relation to retention.

Retention was calculated using a Human Resource file from September 1st of the school year, following each year of the study. The significance level used for the *p*-value set for Research Question 5 was .05 for the Chi-square test. The results of the Chi-square test of retention showed a significant difference between mentors and non-mentors. The *p*-value for the Chi-square tests for each year of the study was less than .05, so we cannot accept the null hypothesis, and can conclude there was a relationship between mentoring and retention. For each school year in the study (2015-2016, 2016-2017, and 2017-2018), the percentage of mentors retained the following school year (94.7%, 93.5% and 93.7%) was greater than the percentage of non-mentors retained (90.4%, 90.4%, and 87.7%) .

Conclusion

This chapter provided a summary of the results of the data analyzed for this study. Data around teacher performance, teacher effectiveness, and teacher retention were used

to determine if there was a difference between the results of mentors compared to the results of non-mentors. The researcher organized Chapter Four by each research question. For each year of the study, the test used to answer each question was identified, and the results of each test from SPSS were displayed in tables followed by an explanation. Each question, table, and description was followed with a summary of the results from all three years of the study. While each *t*-test and Chi-square test showed a difference between the results of mentors compared to the results of non-mentors, not all of the results were significant. The response to each research question was consistently supported and confirmed by the three years of data. In Chapter Five, the researcher will include a summary of the results of the analysis in comparison to the literature review and theoretical framework. The limitations and delimitations of this study will be shared, as well as recommendations for future research.

CHAPTER FIVE: DISCUSSION

Overview

Experienced teachers have served as mentors for beginning teachers for years and impacted the performance, effectiveness, and retention of the beginning teachers (Achinstein & Athanases, 2006; Darling-Hammond et al., 1990; Huling-Austin, 1989, 1990; National Commission on Teaching and America's Future, 1996; Odell & Ferraro, 1992; Pearson & Honig, 1992; Smith & Ingersoll, 2004; Strong & St. John, 2001; Wilson et al.2001). This study looked beyond what impact mentor teachers had on beginning teachers, to what impact mentoring had on the experienced teacher serving as a mentor in relation to experienced teachers who did not serve as mentors.

This quantitative study specifically compared teacher performance, teacher effectiveness, and teacher retention of mentors and non-mentors in one school district in North Carolina. The researcher analyzed the results for school years 2015-2016, 2016-2017, and 2017-2018 in order to support any claims with multiple years of data.

Previous findings the researcher studied included articles on mentoring, teacher performance, teacher effectiveness, as well as teacher retention. The hypothesis that mentoring did impact the person serving as a mentor was built on the theoretical frameworks of Situated Cognition, Community of Practice, Expectancy-Value Theory of Achievement, and Drive Motivation Theory. The purpose of this study was to examine the relationship between mentoring and teacher performance, teacher effectiveness, and teacher retention compared to non-mentoring and teacher performance, teacher effectiveness, and teacher retention. This study contributed to the field of education by adding to the body of literature around experienced teachers, specifically experienced

teacher success in the areas of performance, effectiveness, and retention. The study used archival evaluation, effectiveness and retention data provided by a school district's Human Resources department for the school years of 2015-2016, 2016-2017, and 2017-2018. The remainder of this chapter includes a summary of the research findings within the context of each research question. Chapter Five also discusses limitations and delimitations as well as recommendations for future research.

Summary of Findings

This study extended the work of the impact mentors had on beginning teachers to examine the impact mentoring had on the experienced teacher serving as a mentor. Using teacher performance, teacher effectiveness, and teacher retention data to define success for experienced teachers, the researcher analyzed and answered the research questions to determine how mentoring impacted the retention and success of the mentor teacher when compared to non-mentors. Differences, including significant differences, were identified between the two groups in relation to teacher performance, teacher effectiveness, and teacher retention.

The literature review contributed to the idea that mentors were important and contributed to their occupations (Ghosh, 2012). Mentors served many roles and performed numerous functions (Achinstein & Athanases, 2006; Cristescu, 2017; Evans & Abbott, 1997; Ghosh, 2012; Hobson et al., 2009; Kram, 1983; Lopez-Real & Kwan, 2005). The idea that mentoring supported the retention of mentors was acknowledged by Hobson et al. (2009) and was also supported by this research study. Other authors described ways mentors benefitted from their roles, including through recognition (Hobson et al., 2009), engagement in the collaborative work (Ghosh, 2012), self-

reflection (Lopez-Real & Kwan, 2005), job satisfaction and commitment (Ghosh & Reio, 2013), and the opportunity to learn new skills (Olin, 2006). In addition to these intrinsic values, this research study extended these themes by confirming that on average mentors had greater performance evaluations, greater effectiveness ratings, and greater retention when compared to experienced teachers who did not mentor.

Having a collegial relationship (Certo & Fox, 2002), autonomy and influence (Ingersoll et al., 2014) yields greater retention. Experienced teachers who served as mentors were engaged in collegial work with their mentee and had influence over their relationship and the impact they made on another's experience and practice, which supported the conclusion of why mentors had greater retention compared to non-mentors. Mentorship also provided experienced teachers with a career path and leadership position which could describe why mentors had more successful results on their performance evaluations and effectiveness ratings when compared to non-mentors who did not have the same career path or leadership opportunity, or motivation to do better or more than their mentoring peers.

Mentoring was grounded in relationships and motivation. Relationships are described in the frameworks of Situated Cognition and Community of Practice. Within a Community of Practice and Situated Cognition, learning is social and shared; it is grounded in the relationship between or among the participants (Brown et al., 1989; Smith, 2003). Motivation is described in the frameworks of Expectancy-Value Theory of Achievement and Drive Motivation Theory. Individuals' beliefs or values of success and purpose for achieving expertise or mastery are motivating (Pink, 2009; Wigfield & Eccles, 2000). The researcher speculated that teachers who mentored had greater success

because of the relationships and motivation they had not only with the beginning teacher they mentored, but also with their students. This success was captured by mentors being rated higher on their performance evaluations, having greater effectiveness levels, and being retained more when compared to non-mentors.

Three years of data for Standard I, Standard IV, and combined Standards I and IV (Research Questions 1, 2, and 3) rejected the null hypothesis and accepted the alternative hypothesis since mentor teachers had significantly greater success on their performance evaluations when compared to non-mentors. While Standard I describes teachers as leaders, teachers who mentor could receive a higher performance rating because of their impact on a beginning teacher; however, mentoring is not the only way a teacher can receive an accomplished or distinguished rating on this standard. Teachers who do not serve as mentors are still eligible to be rated accomplished or distinguished. The idea that teachers with higher performance or effectiveness ratings might be selected to serve as a mentor could be considered a bias of these results; however, not every school has enough experienced teachers who are rated highly on their performance evaluations and have favorable effectiveness results. Additionally, mentors have to be assigned at the beginning of the school year, or as soon as a beginning teacher starts, and effectiveness results are typically not published until after the first quarter.

Success of mentors compared to non-mentors was captured on three years of teacher effectiveness data (Research Question 4). While the value-added index score for mentors and non-mentors was not significantly different, the value-added index levels were. For value-added index scores the distribution ranges from negative 20 to positive 20. For value-added index levels the distribution ranges from: Does Not Meet Expected

Growth, Meets Expected Growth, and Exceeds Expected Growth. More mentors fell into the Meets Expected Growth and Exceeds Expected Growth category when compared to non-mentors which is why the value-added index levels were significant whereas the value-added index scores were not.

Lastly, the null hypothesis was rejected when examining the retention (Research Question 5) of mentors compared to non-mentors because there was a significant difference between the two groups, concluding there was a relationship between mentoring and retention.

As college students choose other professions and teachers continue to turnover and choose other careers, educational leaders need to be creative about how to sustain our teaching force and keep experienced teachers engaged in the profession of education. This current research study shows the phenomenon of engagement is happening with mentor teachers in the school district where the research was conducted. Mentor teachers have greater performance, greater effectiveness, and greater retention than experienced teachers who do not serve as mentors during the same school year.

Teacher abandonment has a billion dollar cost to school districts (Haynes et al., 2014), but since mentors are more likely to be retained, then schools need to consider ways to escalate their experienced teachers into mentoring positions. Since mentors provide a variety of functions (Kram, 1983) including support, induction, and professional development (Hobson et al., 2009) experienced teachers can be encouraged to take on different roles and master different skills for the benefit of the beginning teachers they serve in order to increase the number of mentors supporting the beginning teachers at our schools; or peer mentoring can also be encouraged. While this current

research study only looked at experienced teachers who formally served as mentors to beginning teachers, since we know that these mentors have greater performance, effectiveness, and retention compared to non-mentors, schools need to consider creative ways to involve more people in a mentoring relationship. This is especially important for schools who only have a few beginning teachers that are required to be served by a mentor, and is also important for schools who have an abundance of beginning teachers where almost all of the experienced teachers are serving as mentors. Mentors make an instrumental contribution to the organization and career (Ghosh, 2012).

Since teacher quality is one of the greatest predictors of student achievement (Ferguson, 1991; Haynes et al., 2014; Murnane, 1974; Webb & Ashton, 1986), this current research study confirms mentors have greater success (based on performance and effectiveness) with their own students as well. Experienced teacher success leads to substantial gains in academic achievement (Nye et al., 2004), experience (Murnane & Phillips, 1981), and greater results with particular socioeconomic groups (Hanushek, 1971), and since mentors are doing this better than non-mentors, then on average students in mentor classrooms are experiencing greater benefits than students in the classrooms of non-mentors.

In considering rewards for experienced teachers, mentors benefit from growth (Ghosh, 2012) as well as “career development and psychosocial development” (Kram, 1983). They are also intrinsically motivated by the feeling of self-worth they achieved through their service as a mentor (Janssen et al., 2014). All of these values have the potential to contribute to the engagement and career of the experienced teacher who is serving as a mentor and motivate them to remain in the profession as well as be more

successful compared to experienced teachers who do not serve as mentors. While external rewards of finance or prestige (Janssen et al., 2014) also influence the motivation of mentors, they are not the only contributions. As evidenced by the current research study, mentors are more successful and retained at a greater rate, even though they are not financially compensated for their service to beginning teachers. Mentors are more engaged and connected because of the collegial relationship they have with their mentee (Certo & Fox, 2002).

Limitations and Delimitations

Information not included in this study was the comparison of the mentor relationship and the peer relationship. The author only had access to information about formal mentor relationships, but knows informal mentoring occurs within the school setting. Additionally, the author only focused on mentors who support beginning teachers, and did not include mentors who support other teachers, particularly teachers who may not be performing adequately. Some research in the literature review points to the negative impact mentoring could have on both the mentee and the mentor; however this aspect of the mentoring relationship was not studied by the author. With relation to retention, the researcher was only limited to knowing who was employed in the same school district the following year. Some of the experienced teachers included in this study could still be retained or employed as educators in another school district. The researcher also did not know what position a person was retained in, so while they were captured as an experienced teacher on the file, they could have been retained by the district in a different position such as facilitator, administrator, central office personnel, etc. Additional information not included in this study, but could be considered for further

research, includes teacher demographic information like age, race, degree, and National Board Certification.

Delimitation to the study was the use of only Standards I and IV on the evaluation instrument. In the state where the data was collected, the evaluation instrument included five standards for teachers to be observed and evaluated on, however there was an abbreviated process for experienced teachers who were not in their licensure renewal year. Since the participants of this study included experienced teachers, there was greater data available for all teachers on Standards I and IV, whereas the results for Standards II, III, and V were limited to only teachers who were in their license renewal year. A further limitation to this study was not having data for all teachers because a teacher did not receive a summative evaluation. There were several reasons this could have happened: the principal did not get around to doing it; the teacher was on leave during the time of the summative; or the summative was done, but not finalized therefore not captured when plans were archived by the state.

Another group of experienced teachers not included in this study were teachers who did not have teacher effectiveness results. Teachers who do not teach enough students or who do not teach in a tested subject did not have teacher effectiveness results and therefore were not included in the data set, even though they might have served as mentors or they might have had evaluation results.

Delimitation to this study was the data source was restricted to one school district in one state. This was intentional because the district was large in size and included a representation of numerous school settings (elementary, middle, and high) as well as Title I and non-title schools. Additionally, there was consistent data available for all the

participants in this study. If teachers from another state were included then the performance evaluation ratings and teacher effectiveness ratings could have had a different set of criteria or scale. In the future, this research study could be extended to include other districts within the same state, or replicated in other states using the performance and effectiveness measures employed by that state.

Other limitations to the research study were the years of experience teaching both mentors and non-mentors had as well as how many years of mentoring they had. The researcher did not have access to this data information, however it could have impacted the success of the experienced teachers in both mentor and non-mentor groups. Another limitation was the amount and type of professional development of both content and pedagogy as well as mentoring and leadership the experienced teachers had. This could have contributed to the success of the experienced teachers, however this data information was not readily known for the teachers included in the data set.

Recommendations for Future Research

The researcher intended to use additional teacher and school variables to rule out any differences between mentors and non-mentors being studied in order to make this a more rigorous study. Unfortunately, the school district providing the data set limited the data they provided. A suggestion for future research would be to include teacher variables like degree and National Board Certification, as well as school variables like setting (elementary, middle, and high), type (Title-I and non-title I), as well as school performance grade and Teacher Working Conditions Survey results for the school. These values could be used to identify if there was a difference between mentors of different backgrounds or educational settings. The teachers within the provided data set were

assigned a coded identification number, and the same number was provided to the same teacher for each year of the study so a longitudinal analysis and discussion could be done for teachers who appeared in the data set over multiple years. Additionally, a comparison can be researched based on the years an individual teacher served as a mentor compared to years the experienced teacher did not serve as a mentor.

Conclusion

Because this study used a comparative method to research the differences between teachers who served as mentors and teachers who did not, we can only establish that a relationship exists, but it was not necessarily a causal one (Gay, 1981). While the researcher did not have access to teacher demographic and school identifier information that could lead to control procedures for this study, any participant in the study could have been randomly selected from the various groups. The population for both mentors and non-mentors included teachers with advanced degrees, National Board Certification, as well as teachers who taught at different school levels (elementary, middle, high), school types (Title-I and non-title-I), schools achieving at different levels (A-F) and varying in score on their Teacher Working Conditions survey, all variables the researcher would have liked to investigate, but was not given access to the data.

This study was significant because it defined success for experienced teachers by standards of teacher performance, teacher effectiveness, and teacher retention. It contributed to the literature by providing research around experienced teachers, specifically experienced teachers who served as mentors. While further research can always be done to describe the success of experienced teachers, this study provided a starting point and can be replicated in other school districts as well as careers outside of

education. It can be coupled with research as well as policies around mentor standards, requirements for mentors, and training for mentors. In North Carolina, being asked to serve as a mentor was done on a voluntary or “voluntold” basis, however this study showed teachers who served as mentors had greater performance ratings, effectiveness results, and retention when compared to non-mentors. The results should elevate the status of mentorship and inform future policies around mentoring.

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APPENDIX: IRB APPROVAL

UNC CHARLOTTE

OFFICE OF RESEARCH COMPLIANCE
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Federalwide Assurance (FWA) #00000649

To: Torriesan Dooley Kennedy
Reading and Elementary Education

From: IRB

Approval Date: 10/31/2019
Expiration Date of Approval: No Date of Expiration - No End Date
RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)
Submission Type: Initial
Expedited Category: 5.Existing or non-research data
Study #: 19-0415

Study Title: ExperiencED Success: Does Mentoring Beginning Teachers Impact the Mentor?

This submission has been approved by the IRB. This approval has no end date. It has been determined that the risk involved in this research is no more than minimal.

Carefully review the Investigator Responsibilities listed below.

Study Description:

While available research supports the impact mentoring has on beginning teachers, little is written about the impact the role of mentoring has on the mentor. Mentors are experienced teachers in schools who provide a wealth of knowledge and service to students as well as other teachers, including beginning teacher mentees. As college students continue to choose other careers, and teachers continue to turnover and choose other professions, the amount of teachers, including experienced teachers, is gravely dwindling across our nation. The state of North Carolina is struggling to compete with other states with regard to teacher compensation. Now is the time to consider ways to keep experienced teachers engaged in their profession. Research has shown the act of being mentored greatly increases the success and longevity of a beginning teacher, but can it also contribute to the success and longevity of the mentor? The purpose of this dissertation is to examine the act of mentoring and learn if there is a correlation between mentoring and teacher retention, teacher performance, and teacher impact.

Investigator's Responsibilities:

It is the responsibility of the Principal Investigator to comply with the following:

1. Modifications **must** be submitted for review and approval before implementing the modification. This includes changes to study procedures, study materials, personnel, etc.
2. Data security procedures must follow procedures as approved in the protocol and in accordance with ITS Guidelines for Data Handling.
3. Promptly notify the IRB (uncc-irb@uncc.edu) of any adverse events or unanticipated risks to participants or others.
4. Complete the Closure eform via IRBIS once the study is complete.
5. Be aware that this study is now included in the Office of Research Compliance (ORC) Post-Approval Monitoring program and may be selected for post-review monitoring at some point in the future.
6. Reply to the Office of Research Compliance (ORC) post-review monitoring and administrative check-ins that will be conducted periodically to update ORC as to the status of the study.
7. Three years (3) following this approval, ORC will request a study status update (active/not active).

Your approved consent forms and other documents are available online at http://uncc.myresearchonline.org/irb/index.cfm?event=home.dashboard.irbStudyManagement&irb_id=19-0415

Please be aware that additional approvals may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records).

This study was reviewed in accordance with federal regulations governing human subjects research, including those found at 45 CFR 46 (Common Rule) and 21 CFR 50 & 56 (FDA), where applicable.