DOES AN ONLINE POST-BACCALAUREATE SECONDARY TEACHER CERTIFICATION PROGRAM

PRODUCE CERTIFIED TEACHERS WHO REMAIN IN THE FIELD?

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Given issues in education concerning teacher shortages, the omnipresence of alternative certification programs and the growth of online programs in higher education, this study investigated teacher retention for 77 secondary education teachers who completed an online teacher preparation program in Texas. Teacher retention was examined from 2003-2013 and investigated the influence of factors such personal characteristics, working conditions and school setting characteristics on teacher retention. Data was collected electronically utilizing a survey instrument designed by two teacher education experts and I. A total of 21 variables and two open-ended questions were investigated using the survey instrument.

Exploratory factor and hierarchical multiple regression analyses were conducted to identify a multi-factor model for teacher retention utilizing the participants' survey responses. These analyses yielded evidence of the program's effectiveness in preparing teachers for long careers. Specifically, the areas of program support, field experience, and classroom management were statistically significant factors that contributed positively to teacher retention. Additionally, variables outside the program, were examined. These factors included personal characteristics, working conditions, and school setting factors. The predictor model accounted for 56% of the variance; $F (17, 54) = 3.015; p = < 0.001$. In particular, working conditions contributed to 41% of the variance associated with the teacher retention model. A qualitative analysis of open-ended survey questions was used to further examine decisions to
remain in teaching. Support of administration, colleagues, staff, and parents was shown to influence teacher retention.
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By

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CHAPTER 1

INTRODUCTION

In the 1980s, the media proclaimed a severe and looming teacher shortage. One of the reports included the National Commission on Excellence in Education (1983). Policymakers and educators alike assumed baby boomer teachers would be retiring soon. This concern would mean a significant gap between forecasted school-age student enrollment figures and the number of teachers available to teach these students (Haberman, 1987).

Initially, resolutions for the impending shortage would focus only on recruitment of more teachers and the improvement of teacher education programs. School districts launched campaigns promising financial incentives to recruit teachers. States launched alternative certification programs to entice career changers into teaching by allowing them to bypass the step of obtaining an education degree (Feistritzer, 2009). However, attention shifted to teacher retention efforts when Ingersoll (2003) analyzed the nationally-administered Schools and Staffing Surveys (SASS) as well as the Teacher Follow-up Survey (TFS) results published between 1987 and 2000. He identified three segments of teachers in the teaching workforce: stayers, those teachers who remained in the field (Grissom, 2011); movers, teachers who stayed in the field but left their current school, district or position assignments (Grissom, 2011; Olmos, 2010); and leavers, those who left the field of teaching altogether (Grissom, 2011; Ingersoll, 2001b; Olmos, 2010). Ingersoll’s findings exposed the need not only to fill the pipeline but to find ways to prevent public school systems from losing their most valuable asset: their teachers.

Over the time period for his study, Ingersoll (2003) found 70% of the teachers were actually stayers. These were teachers who had not been in transition (either teaching or
leaving teaching) before, during or after the 1999-2000 school year. Ingersoll (2003) also found that teachers, particularly new teachers, were leaving the profession at alarming rates. For example, based on his investigation of results from the four SASS’s conducted between school years 1988-1989 and 2000-2001, 40% of new teachers left after their first four years of teaching. By the fifth year, nearly 50% of new teachers would leave the teaching profession. This discovery solidified the need to increase the retention of teachers with a special emphasis on beginning teachers.

Ng and Peter (2010) examined decision processes involved in whether to stay in or leave teaching in a Midwest urban district for five math and science teachers who were alternatively certified. The case study used interviews and teaching demonstrations across time to chronicle their transition to teaching. It sought to identify how various aspects, both personal and professional, of teachers’ lives interacted to shape their identities as teachers and ultimately influenced their decisions to remain in teaching. Participants shared personal successes, struggles and lessons learned with the researchers. Using these details, the researchers presented the internal logic and approaches each participant employed to arrive at a retention or attrition decision. The key take-away was that career decisions are based on a culmination of many factors – past experiences, perceptions, maturity, responses to experiences and challenges, etc. Many times opposing factors – and not just one factor – led to a decision to stay or leave teaching (Ng and Peter, 2010). The research literature points to various reasons that contribute to the retention decisions and behaviors of teachers. The reasons may be categorized into four domains: (a) demographic and personal characteristics of the teachers themselves; (b) how the teachers were prepared to teach; (c) characteristics of the school
setting and student population; or (d) working conditions of the environment in which they are assigned to teach.

Teacher Retention Factors

*Teacher Demographics and Personal Characteristics*

Studies have examined teacher demographic information such as age, gender, and ethnicity in an attempt to identify predictors of stayers and leavers (Ingersoll and Rossi, 1995; Kirby, Berends, and Naftel, 1999). For example, researchers found teachers under the age of 30 tended to leave (Olmos, 2010), whereas those over 41 tended to stay under similar conditions (McKee, 2003). Researchers have also found male teachers have been more likely to leave the profession than females (Blazer and Miami-Dade County, 2012; Carter Andrews and Donaldson, 2009). In terms of ethnicity, minorities (non-White teachers) were found to stay in the field longer than their White counterparts (Blazer and Miami-Dade County, 2010). However, in the 2004-2005 school year, national turnover rates rose significantly among minority teachers, even though these groups had traditionally been found to have lower attrition rates compared to their White counterparts (Ingersoll and Merrill, 2010). Researchers have also investigated the impact of personal characteristics, such as self-efficacy (Tait, 2008), and commitment to teaching (Dugger, 2011; Kim and Liu, 2005; Patterson, Collins and Abbott, 2004), on teacher decisions to stay or leave teaching as a career. The level of personal efficacy a teacher possessed dictated his or her approach to the classroom and the belief that s/he was equipped to handle and overcome obstacles that arise in the classroom. For example, if a teacher with a high level of efficacy encountered a student with discipline problems, the additional effort will be exerted to face and overcome the challenge (Ashton and Webb, 1986).
Commitment is closely aligned with self-efficacy in that it also refers to the tenacity to meet a personal obligation to teach no matter the challenges faced (Olmos, 2010). Intention to stay is also used interchangeably with the term commitment (Kim and Liu, 2005).

**Teacher Preparation**

Teacher preparation can directly impact candidate content knowledge and pedagogical skills (No Child Left Behind (NCLB) Act of 2001, 2002) as well as self-efficacy (Yost, 2006) and commitment (Taylor and Frankenberg, 2009). Stanley and Martin (2009) state the main two characteristics of well-prepared teachers are content knowledge and effective pedagogical skills. One of Ingersoll and other researcher’s (2012) studies found that teacher candidates who spent more time on pedagogy skills in the teacher preparation program were more likely to stay in teaching than those candidates who did not spend as much time on pedagogy skills. Ingersoll and colleagues (2012) define pedagogy skills as instructional methods, learning theory, and learning to select appropriate teaching materials. Pedagogical skills as well as extra time spent practicing or observing other teachers utilizing these skills contributed to retention (Ingersoll et al., 2012).

Self-efficacy and commitment are essential to many teachers’ satisfaction with teaching. A teacher’s confidence in his or her own skills and ability to select and use tools to prepare for instruction is critical (Dial, 1992; Ng and Peter, 2010). However, many varieties of teacher preparation programs, policymaker decisions, and research studies differ in their conclusions regarding what portion of the variation in retention rates can be attributed to teacher preparation programs.
Two major types of teacher preparation programs that came to be recognized in this historical period were traditional or non-traditional (e.g., alternative certification). The traditional approach takes place in a college or university undergraduate setting and is focused on the basics of education. Non-traditional or alternative certification preparation programs cater to adults with degrees who are changing careers (Butler, 2007). Although differences exist among university programs, additional differences exist between the various alternative certification programs depending on which entity, whether a college or university, school district or private agency, manages the program. According to Ball and Forzani (2009), some leaders believe traditional preparation programs spend too much time on theory and do not expose teacher candidates to the realities of teaching in the classroom soon enough to adequately prepare them for the challenges they will face (Hancock and Scherff, 2010). For example, Marshall (2002) and Petty and colleagues (2012) claim novice teachers are simply unprepared to navigate these often overwhelming circumstances - particularly when they are starkly different from their student teaching experiences. Others suggest alternative teacher certification programs do not spend enough time on pedagogy, content, or classroom management to sufficiently prepare teachers for the classroom.

Teachers themselves vary in their reports of how adequately they feel they were prepared for the classroom. For example, Honawar (2007) reports 50% of teachers who were prepared through an alternative certification route versus 80% prepared via the traditional four-year education degree program said they were adequately prepared by their respective programs. Over half the alternatively certified teachers in that report said they needed more time with a veteran teacher.
Suell and Piotrowski’s (2007) review of the literature found contradictory retention and attrition rate results from studies reporting on teacher candidates enrolled in traditional versus alternative teacher certification programs. Stanley and Martin’s (2009) study reported teachers who completed a research-based alternative certification program in Georgia were twice as likely to stay in teaching as traditionally certified teachers in that state. The related research literature is not conclusive about whether the type of teacher preparation program, either alternative or traditional, impacts the length of time teachers remain in teaching longer.

School Setting Attributes and Student Population Characteristics

The research literature discloses that teachers who work in schools that are located in urban areas and are characterized by a high poverty, low performance, or high minority student population are also very likely to leave the profession (Blazer and Miami-Dade County, 2006b; U.S. Department of Education Office of Postsecondary Education, 2013; Suell and Piotrowski, 2007).

Nationally, teachers in rural schools more likely to leave (Newmark, 2008). The higher non-White student percentage, the less likely teachers stay (Boyd, et al., 2005; Elfers, et al., 2006, Scafidi, et al., 2007). High percentages of students eligible for free or reduced lunch, were more likely to transfer or leave teaching (Hancock and Scherff, 2010; Hanushek, et al., 2004; Johnson and Birkeland, 2003; Lankford, et al., 2002). Schools with high percentages of low student test performance were less likely to retain teachers (Davis, 2010; Boyd, et al., 2009; Feng, 2006).
Workplace Conditions

For classroom teachers, sometimes school workplace conditions can prove to be too costly mentally, physically and emotionally to remain in the field. Circumstances such as lack of administrative support (Curtis, 2012; Petty, Fitchett, and O'Connor, 2012; Yost, 2006), lack of mentoring (Beaugez, 2012; Boe, Cook, and Sunderland, 2008; Donaldson, 2009; Farber, 2010; Ingersoll and Smith, 2004; Marshall, 2002; McKee, 2003; Odell and Ferraro, 1992; Billingsley, 1993; Johnson and Birkeland, 2003; Kardos, Johnson, Peske, Kauffman, and Liu, 2001), out-of-field teaching assignments (Jerald, 2002; Olmos, 2010), and inadequate salaries (Beaugez, 2012; Cashwell, 2008; Curtis, 2011; McKee, 2003) can significantly influence a teacher’s decision to leave or stay. Any one of the above factors alone can trigger a teacher to consider leaving a school, district, or even the profession. However, studies have observed that school setting characteristics, such as geographic location or student population ethnic composition, poverty level or academic achievement performance, can contribute to that decision (Blazer and Miami-Dade County, 2006a; Stanley and Martin, 2009; Suell and Piotrowski, 2007; U.S. Department of Education Office of Postsecondary Education, 2013).

According to Ingersoll (2001, 2003), new teachers stay or would stay with administrative support. Teachers also tend to stay when they have participated in formal induction or mentoring program or in a collaborative collegial environment (Marshall, 2002; Johnson and Birkeland, 2003; Harrell et al., 2004). Student Behavior is cited as a top reason for teachers moving schools or leaving teaching (Haberman and Rickards, 1990; Ingersoll, 1999; Johnson and Birkeland, 2003; Costigan, 2005). Out of field teaching assignments are contribute to teacher decisions to leave teaching or move schools as they are a source of stress (Olmos, 2010).
Pursuits of higher salaries draw teachers from schools as well as the teaching profession (Luekens, et al., 2004; Cashwell, 2008; Curtis, 2012).

**Status of Teacher Attrition Today**

The National Center for Education Statistics (NCES) organization administers two national surveys, the Schools and Staff Survey and the Teacher Follow-Up Survey, to inform educators, policymakers and the public of the condition of education in the United States (National Center for Education Statistics, 2011). The first study was administered in the 1987-1988 school year and was conducted annually until the last decade when the frequency decreased to every three to five years. Based on the NCES’ ongoing collection of the percentages of stayers and the condition of education, teacher attrition does not appear to be as dire as it was once considered. For example, according to NCES retention rates collected from the 1988-1989 through the 2008-2009 school years, although there was a steady incline of teacher turnover rates between 1991-1992 and 2004-2005, turnover rates have experienced a slight, but continual decline since then (National Center for Education Statistics, 2011).

The National Center for Education Information’s (2011) U.S. teacher profile report, based on a survey of 2,500 randomly selected K-12 public school teachers between November 2010 and June 2011 also reveals notable trends in the distribution of teachers and their teacher preparation paths by years of experience. Between three intervals, 1990-1999, 2000-2004 and 2005-2010, the percentage of newly hired teachers who were certified to teach via an alternate route experienced explosive growth. The first interval, between school years 1990-1991 and 1998-1999, the number of teachers that were certified in a non-traditional undergraduate or graduate school setting increased by 8%. During the second interval, from school years 2000-
2001 to 2003-2004, the number grew 23%. Then, in the third interval, between school years 2005 and 2010, there was a 40% growth spurt. Furthermore, in the second interval, the period of 2005 to 2010, 40% of teachers with 1-5 years of experience were certified outside of traditional settings (National Center for Education Information, 2011). These two trends suggest that, as of 2011, the less the number of years of teaching experience, the more likely it is that the teacher completed an alternative certification program.

Richard Ingersoll’s (2010) research, between the 1987-1988 and 2007-2008 school years, identified a ‘ballooning’ in the teaching workforce, supporting this trend. The overall student population grew 19% while the teacher workforce population grew 48%. This supports the conclusion that there is no longer an overall teacher shortage (Ingersoll and Merrill, 2010). Still, trends in teacher turnover, including movers and leavers, remained disturbing. Further research by Ingersoll (2011) reported that mathematics and science teachers continue to leave and move after the first year, especially if they have had little or no pedagogical training and opportunities for classroom observation. In addition, he found during the 2004-2005 school year that, compared to first year teachers in other content areas, first year math and science teachers were more likely leave teaching. In 2004-2005, 18% of first year science teachers left, 14.5% mathematics teachers left, while 12.3% of other teachers left (Ingersoll, 2011). This information indicates that although it appears there is no longer a shortage in general, there continues to be shortage areas such as math and science.

No Child Left Behind

While policymakers and education administrators feverishly worked to recruit teachers and raise student achievement levels across the United States, a sweeping component to
educational reform in America was signed into law. In 2001, President George W. Bush reauthorized the Elementary and Secondary Education Act under the No Child Left Behind (NCLB) Act of 2001 (No Child Left Behind (NCLB) Act of 2001, 2002). The act defines a highly qualified teacher as one who has either: (a) earned 24 or more hours in the content area or areas being taught; or (b) passed a content test related to the area or areas being taught. NCLB allowed states five years for implementation across their public school systems. At the end of the 2005-2006 school year, each state agency receiving federal assistance (e.g. Title I funding) was mandated to ensure that each core academic course was taught by a highly qualified teacher moving forward. The United States Department of Education published a report in 2009 that indicated that as of 2006-2007, highly qualified teachers were teaching in 90% of classrooms (Birman et al., 2009). By the 2005-2006 school year, only 1.08% of Texas public school classrooms were instructed without a highly qualified teacher (Texas Education Agency, 2006).

Summary

Teacher shortages concerns originally raised as an attrition issue in the 1980’s became a teacher retention issue due to the extensive analysis of teacher shortages by Richard Ingersoll (2003) in the early 2000’s. New teachers leaving at a rate of 50% by their fifth year warranted additional investigation into factors that contributing to this revolving door. Key factors identified as influencing teacher decisions to stay or leave teaching include personal characteristics including demographics, commitment to teaching and self-efficacy towards teaching; teacher preparation; school setting attributes such as student minority population percentage, student performance on state and national exams, student population poverty...
levels and geographic location of the campuses in which they serve as well as the working conditions of the school teachers teach in such as administrative support, student behavior, salary, out of field teaching assignment and mentoring program availability. While, perhaps no longer an overall teacher shortage, teacher movement between schools and leavers are still of concern in some content areas.

Statement of the Problem

The problem of the present study is to describe the teacher retention patterns of participants of an online post-baccalaureate secondary teacher certification program. It is important to examine the program’s success in producing teachers who remain in the field over its thirteen year existence. There is a need to assess factors that contribute to teacher retention as identified by research literature against specific aspects of this teacher preparation program. These factors include personal demographics and characteristics, school setting characteristics as well as working conditions of the school in which they serve.

For this study, the personal demographic and characteristics include age, gender and ethnicity as well as commitment to teaching and self-efficacy levels at the time the teacher began the program. School setting characteristics include district geographical location (i.e. rural, urban, suburban, etc.), minority percentage of the school’s student population, and percentage of student population eligible for free or reduced lunch and average student performance percentage on state achievement tests. Working conditions include local campus administration support, out of field teaching assignments, salary and whether mentoring is offered (). Assessment of these additional factors provide a more accurate measure to the program’s contribution to teaching in producing teachers who remain in teaching.
Purpose of the Study

In the wake of the growth and stabilization of alternative certification as well as the explosion in online higher education, it is appropriate to diligently investigate this particular population of teachers: Teachers who attend an online teacher certification program and remain in the field for a minimum of five years. The purpose of this study is to investigate retention factors and rates of teacher retention for candidates who completed an online secondary post-baccalaureate teacher certification program and taught in a Texas public school at least five years between the years 2002 and 2014. The study is concerned with determination of which teacher retention factors (i.e., personal characteristics, teacher preparation, school setting attributes and teaching workplace conditions) most influenced these teachers to remain in teaching.

Research Questions

1. At what rate do students complete the online secondary post-baccalaureate teacher certification program?

2. At what rate do students who complete the online secondary post-baccalaureate teacher certification program enter the teaching field?

3. At what rate do students who complete the online secondary post-baccalaureate teacher certification program remain in teaching beyond five years?

Figure 1. Conceptual framework.
4. Do the data support a multi-factor model for teacher retention?

5. What factors contribute to the retention of these teachers?

Definition of Terms

- Administrative support – The degree of assistance school administration offers its teachers (Ingersoll, 2001)

- Alternative certification – A teacher certification path that has the option of placing candidates as teacher of record in classrooms prior to completing their teaching certification requirements (Constantine et al., 2009)

- Attrition – Total attrition includes leavers and movers as each has the same impact on the school the teachers leave (DeAngelis and Presley, 2007)

- Commitment – The obligation an individual feels to teach regardless of challenges faced (Olmos, 2010)

- High poverty – A term that describes schools where 50% or more students qualify for federal free and reduced price lunch program (Jerald, 2002).

- Highly qualified teacher (HQT) - Those who have a bachelor's degree, appropriate subject matter knowledge and are fully certified by the state (Feng, 2006).

- Leavers – Teachers who leave teaching in pursuit of another career (Olmos, 2010). DeAngelis and Presley (2007) define as the departure of teachers from teaching altogether.

- Low poverty – A term that describes schools where 15% or less qualify for federal free and reduced price lunch program (Jerald, 2002).
• Migration - Migration occurs when teachers stay in the field but at a different school also called a school transfer (Boe et al., 2008; Grossman and Loeb, 2008).

• Movers – A subset of those counted in attrition who leave schools for other teaching positions (Olmos, 2010); Teachers who keep teaching but not at the same school (Grissom, 2011).

• Novice teacher – A teacher with zero to four years teaching experience (Elfers, Plecki, and Knapp, 2006).

• Out of field teaching – This occurs when there is a mismatch between the teacher’s teaching assignment and the teacher's academic education and credentials (Olmos, 2010).

• Post-Baccalaureate – These are candidates who have typically completed a bachelor’s degree in a content field and later enroll in teacher certification program to complete pedagogy requirements of their programs (Esprívalo Harrell and Harris, 2006).

• Resilience –This term describes the act of productively leveraging energy and resources to accomplish school goals despite difficult conditions (Patterson et al., 2004)

• Retention – This occurs when teachers who return to a school to teach the next school year (Grizzle, 2010)

• Rural – A small, sparse settlement (Monk, 2007).

• Self-efficacy – An individual’s belief in one’s personal capabilities (Bandura, 1997); Hughes (2012) defines as the level of effectiveness a teacher perceives in him or herself with his students.

• Stayers – Teachers who remain in the field of teaching (Ingersoll and May, 2011).
• Suburban – An urban fringe or large town (Ingersoll and Center for the Study of Teaching and Policy, 1999).

• Traditional certification – Teacher certification obtained as part of a four or five year undergraduate degree program at a college or university that includes training in pedagogy, child development and includes with student teaching and leading to teaching certification (Butler, 2007).

• Turnover - Teacher turnover encompasses both migration or transfer and attrition (Boe et al., 2008).

• Urban – A central city (Ingersoll and Center for the Study of Teaching and Policy, 1999).

• Working or workplace conditions – These are aspects of the school or classroom teachers face (Hirsch and Emerick, 2007).

Significance of the Study

This study is significant in its contribution to the field for three reasons: (a) it considers a particular teacher preparation program; (b) it covers an alternative certification program for a period of greater than ten years; and (c) it considers teacher demographic and personal characteristics, teacher preparation experiences, school setting attributes and workplace conditions. Although, numerous studies have been conducted investigating teacher retention, there is a gap in the research concerning explicit description of the teacher preparation of participants and its influence on the retention decisions of teachers who remain in teaching. In addition, studies often only include teacher retention behaviors from one school year to the following teaching year. However, this study examines retention behaviors of graduates of one teacher preparation program over ten years. Specifically, the study follows the retention rate
of graduates who have taught a minimum of five years in public schools in the state of Texas. Lastly, there is a gap in the research regarding the entire evolution of a teacher. Many studies evaluate, for example, teacher preparation programs and the retention rates of teachers who complete them. They may also report their findings in light of common teacher demographic factors such as age, ethnicity or gender. However, most studies fail to also include descriptive information about the setting and teaching working conditions in the schools to which these teachers are assigned. The research literature is clear that many aspects of the individual teacher and personal characteristics teachers bring to the classroom, along with the work environment in which they teach, collectively contribute to teacher retention or attrition decisions.

I hypothesized that the online secondary post-baccalaureate teacher certification program consistently produces teachers that remain in the field of teaching beyond five years. In addition, I hypothesized that various combinations of characteristics across the stages of the evolution of a teacher interact to influence teacher retention decisions resulting in a multi-factor model for why teachers continue to teach.

This study may contribute to the field by examining retention factors and rate trends to determine which characteristics, attributes, or conditions most impact the retention of graduates of the secondary online post-baccalaureate teacher certification program. The present study also serves as a beginning for further dialogue regarding how alternative certification programs can best serve the types of teacher candidates these programs were designed to attract while meeting the needs of the schools and students they serve.
Finally, the present study contributes to the field significantly due the number of years under investigation. The participants of this study completed the program between 2003 and 2014. The ability to follow several teachers who began teaching at different times allows me to investigate the impact of internal and external factors on the retention patterns over time.

Several limitations of previous studies have been noted in the literature including the following: (a) lack of controlling for individual teacher characteristics (e.g. demographics, personal characteristics, or school work environment characteristics); (b) lack of ample sample size in order to allow further generalizations of conclusions drawn; (c) lack of detailed program descriptions to inform future study as well as enable generalization. The present study can overcome these limitations by: (a) leveraging inclusiveness of three major phases in the evolution of a teacher and controlling for them in the data analysis; (b) leverage the larger numbers of candidates completing the online secondary post-baccalaureate program over the ten year period; and (c) describing in great detail the nature of the program and its admissions and successful completion requirements in addition to structure and nature of each component of the program.

Knowing retention rates among participants of the study facilitates understanding the role of online teacher certification as a viable pathway for preparing teachers who remain in the field despite changes in policy, variation in personal characteristics and various work conditions. Attrition rates from this study informs program evaluators and coordinators of the need to re-examine the components and the selection processes to determine additional ways to enhance teacher fortitude to overcome challenges they encounter in the field.
Assumptions

I conducted this study based on assumptions pertaining to the data collection process. First, self-reported responses to the survey instrument were assumed to be accurate and honest. This was the primary means of data collection to determine the impact of specific characteristics on teacher retention. Second, teacher retention in and of itself was assumed to be a desirable outcome based on the research literature and the evidence that teachers leaving classrooms, schools, and the field at high rates can be disruptive to student learning. This study investigated factors that may influence teacher retention in order to provide the profession with information essential to ensuring teachers remain in the profession in the future.

Third, it was assumed that teacher retention is affected by demographics to an extent that warrants capturing this data from respondents. It was further assumed that teacher retention and attrition are affected by preparation program quality. Workplace conditions were also assumed to affect teacher retention. These third, fourth and fifth assumptions are foundational to the purpose and significance of the study.

Limitations of the Study

The instrument to be used to collect data for this study was a researcher-developed, self-administered, self-report survey distributed electronically via email. A limitation of self-administered surveys is low response rates. Low response rates impact the ability to draw conclusions for the entire population (Coughlan, Cronin, and Ryan, 2009). In addition, self-report surveys rely on the responder’s veracity and completeness in responses. I did not have means to verify responses that were non-statistical or factual in nature (e.g. reports of self-
efficacy or how components of the teacher preparation impacted a person’s preparedness for a long career in teaching.

Failure to describe adequately the demographics of the entire population of teachers from the post-baccalaureate program was a limitation of this study. If this information were available, it could be compared to the sample population demographic data to ensure the sample sufficiently represented the population. Also, inability to reach all possible participants, coupled with the expected low response rates associated with this type of survey, further limit the ability to verify that the sample population fully represented the entire population of those who participated in the program throughout the time interval under investigation.

Teachers who transferred to school districts outside the state or schools outside the public sector would be counted in this and other studies that used similar data sources as teachers who left the field, due to the state teacher data system’s inability to track these teachers outside the state of Texas or outside the public school system. Last, another limitation of the study was that there was no control group for those who left teaching or did not enter teaching. Ideally, responses to the survey for the control group as well as the group that remained in teaching at least five years could be compared to determine if the teachers rated the preparation program the same in spite of possibly different outcomes in terms of retention decisions.

Summary

Teacher shortages have been on the minds of educational leaders and policymakers for the last 30 years. In the last 20 years, the message has become amplified and focused on retention as key to avoiding a teacher shortage. Not only is teacher retention more cost
effective for schools and school districts, it helps foster a stable environment for student learning and teacher collaboration. The longer teachers remain in the field, the more experienced they become and, therefore, have a greater chance of becoming more effective (Peske and Haycock, 2006). The present study can inform the field with data on how teacher demographics and personal characteristics they bring to the classroom interact with the quality of their teacher preparation and working conditions of their school assignments to impact teacher retention decisions and behaviors, particularly in the face of challenges in the profession.
Teacher retention and attrition management is critical to the success of education in American schools. The inability to retain teachers affects our school systems’ capability of providing a student-focused learning environment in which highly effective teachers work collaboratively with one another, the school administration team, and the local campus community. This review of the literature seeks to synthesize the body of research related to teacher retention. Specifically, the following review examines those factors that are influence decisions teachers make concerning whether to stay in or leave teaching. The review is divided into six sections:

(1) Teacher Demographics and Personal Characteristics

(2) Teacher Preparation

(3) School Setting Characteristics

(4) Workplace Conditions

(5) Status of Teacher Attrition Today

(6) No Child Left Behind

The first four sections describes the most prominent retention factors resulting from numerous research questions. These retention factors include the personal characteristics, including demographics of the individual who enters a teacher preparation program; the nature and characteristics of the teacher education program completed; school setting characteristics and the working conditions of the environment of the campus at which they begin their first teaching position. Cumulatively, these factors shape teacher perceptions, teaching experience
and, ultimately, the decision to remain a teacher, change schools, switch educator roles, or leave teaching altogether.

Teacher Demographic Factors and Personal Characteristics

Demographic attributes are the most consistently cited retention factors in research studies. Researchers have observed differences in retention behaviors by age (Blazer and Miami-Dade County, 2012; Butler, 2007), gender (Blazer and Miami-Dade County, 2012; Butler, 2007; Denny, 2008), Donaldson, 2009, Greiner and Smith, 2009, Ingersoll and Merrill, 2010) and ethnicity (Blazer and Miami-Dade County, 2012; Ingersoll and May, 2011).

Table 1

<table>
<thead>
<tr>
<th>Demographic Factor</th>
<th>Impact</th>
<th>Source(s)</th>
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<tbody>
<tr>
<td>Age</td>
<td>Teachers younger than 30 were more likely to move or leave teaching. Reasons for attrition varied by age group.</td>
<td>Marshall (2002); McKee (2003); Leukens (2004); Sass, et al. (2012)</td>
</tr>
<tr>
<td>Gender</td>
<td>Male teachers who left, most likely did so after one year. Female teacher movement tended to be to another teaching role.</td>
<td>Sass, et al. (2012); Greiner and Smith (2009); Margolis (2008)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Black and non-White teachers had higher retention rates than White teachers. Texas showed the opposite although Black teachers tended to gravitate towards schools with lower Adequate Yearly Performance ratings.</td>
<td>Sass, et al. (2012); Hancock and Scherff (2010); Elfers (2006); Kirby (1999); Ingersoll (1999)</td>
</tr>
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</table>

In addition, personal characteristics such as teaching commitment (Grizzle, 2010; Olmos, 2010; Rosenholtz and Simpson, 1990; Tamir and Magidin, 2011) and self-efficacy (Hughes, 2012; Johnson and Birkeland, 2003; Rosenholtz and Simpson, 1990; Yost, 2006) are also cited in the
research literature. A summary of the research studies on the impact of teacher demographic and personal characteristics is found in (Table 1).

**Age**

In her study of 200 Texas public school teachers who had already left teaching, Marshall (2002) found statistically significant variation in the influence of certain attrition factors between three age groups: 20-30, 31-40 and 41 and over. Of three age groups, the middle group reported organizational and personal factors as the top reasons for leaving. The third group of teachers, reported organizational factors as their main reasons for leaving the teaching profession. However, teachers in the profession (Marshall, 2002). McKee (2003) studied teacher retention factors for over 1,000 teachers certified at the University of North Texas and found that having more than ten years of teaching experience was a strong predictor of retention. Similarly, Luekens’ (2004) analysis of the 2000-2001 Teacher Follow-Up Survey results of over 8,300 teachers revealed that in both private and public school settings, teachers under the age of 30 were more likely to move or leave. Another noteworthy observation was that older teachers were more likely to transfer schools than to leave the profession due to the negative influence of an administrator.

In 2012, Sass and colleagues conducted survival analyses using a Texas state dataset of 481,718 teachers who had both entered and left teaching during the period between 1988 and 2010. The study investigated predictors of attrition and found teachers who began teaching at younger than 25 years of age were much more likely to leave. Sass and colleagues (2012) further found that White teachers who were younger were at greatest risk for attrition when
considering gender and ethnicity, the federal standard measure of school academic performance, Adequate Yearly Progress (AYP) status, and teaching assignment.

Gender

Margolis (2008) conducted an exploratory qualitative study of 7 teachers with 4-6 years of teaching experience over the course of the 2004-2005 school year to investigate how teachers formulated their teaching career path. According to his findings, female teachers were most likely to move to another teacher role, whereas male teachers tended to move from a teacher to an administrator path (Margolis, 2008). In an effort to examine potential attrition predictability of four specific demographic variables of a group of 503 teachers, Greiner and Smith (2009) found evidence that those teachers who left teaching after one year tended to be male. Sass and colleagues (2012) confirmed this finding, and further found that older females were a much lower risk for attrition than their male counterparts. However, the gender differences in attrition were minimized beyond ten years of teaching experience.

Ethnicity

Kirby and colleagues (1999) as well as Ingersoll (1999) found minority, Black and Hispanic, non-White, teachers had higher retention rates than White teachers. Ingersoll’s (1999) national data set ($N = 6,733$) from the Schools and Staffing Survey and Teacher Follow-up Survey results, indicated that minority teachers were only slightly less likely to leave than their White counterparts. The difference, however, was not enough to be statistically significant. Kirby (1999) studied the attrition patterns of Texas public school teachers ($N = 98,951$) over the 16 year period between 1979 and 1996. Using survival analyses, Kirby (1999) discovered Black and non-Hispanic Whites had the same attrition rate, an average of about 10%
over the time period, while Hispanics had a lower attrition rate average, about 7%, during the same time period. Elfers’ (2006) study of teacher mobility in Washington State revealed no disproportionate mobility trends with respect to race. The study of 51,996 teachers’ records concluded the retention rates among minority and nonminority teachers were about the same.

Focusing specifically on the attrition risk of 4,500 secondary English teachers who participated in the nationally administered 2003-2004 Schools and Staffing Survey, Hancock and Scherff (2010) examined 32 variables identified in previous research studies. Based on the teachers’ responses to the question, “How long do you plan to remain in teaching?” participants were classified as either low or high attrition risk. Low attrition risk teachers indicated they would remain in teaching either as long as able or until retirement. Those teachers responding to the question with “undecided,” “at the end of the school year,” or “waiting for something better to come along” were classified as high attrition risk. Employing logistic regression, the study revealed minority status was the study’s most statistically significant predictor of a teachers’ leaving. Compared to nonminority teachers, minority teachers in this study were found to be 45% less likely to be high attrition risks.

Sass and colleagues (2012) analyzed a dataset from the Texas Education Agency (TEA) that included only teachers who entered and left teaching between 1988 and 2010. After eliminating administrators, the total sample was 481,718 teachers who had entered teaching during this time. By 2010, 266,236, or 55%, remained in the teaching profession in Texas public schools. The study was conducted in two segments to understand the teacher retention behaviors predictable by personal teacher characteristics as well as school characteristics. Survival analyses performed on Texas public school teacher data drew several conclusions
related to ethnicity: a) Black teachers were found to be much more likely to leave the teaching profession than their White counterparts; b) Hispanics were at a greater risk of attrition compared to Whites; c) adequate yearly progress (AYP) status predicted teacher retention behaviors by ethnicity; d) the percentage of White teachers making up the teaching population decreased among schools with lower AYP performance status and e) the percentage of Black teachers increased among schools with lower AYP performance status. Sass and colleagues (2012) therefore concluded that Black teachers gravitated towards schools with lower AYP status while White teachers tended to be drawn to schools with higher AYP status.

In addition to demographic characteristics, individuals bring personal attributes to their teaching assignments. Studies have pointed to specific personal characteristics that contribute to teacher retention. Specifically, these include self-efficacy (Olmos, 2010; Yost, 2006) and commitment to teaching (Hunter Quartz, 2003; Tamir, 2013). Table 2 summarizes the research literature on the impact of self-efficacy and teacher commitment on teacher retention.

Table 2

<table>
<thead>
<tr>
<th>Personal Characteristics</th>
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<tr>
<td><strong>Factor</strong></td>
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Self-Efficacy

Hughes (2012) defines self-efficacy as the level of effectiveness a teacher perceives in him or herself with his students. Bandura (1997) provides further insight that people who possess high levels of self-efficacy approach obstacles as challenges to be overcome versus threats to avoid. According to Tait (2008), self-efficacy can be developed, and it can dictate actions individuals take when faced with difficult tasks. Cochran-Smith and Power (2010) support this in a conclusion from their cross-genre review of research on teacher education, practice, and retention. The study revealed that what teachers do in the classroom is a result of their sense of efficacy. These teacher behaviors and decisions include how they think about their work, select and utilize resources, and position themselves in relation to others in the school environment.

Of six school organizational conditions tested by Rosenholtz and Simpson (1990), performance efficacy was one of three found to have the most powerful effect on teacher career experience. Participants in Johnson and Birkeland’s (2003) Massachusetts study reported that they weighed certain work environment factors to determine whether they compromised their ability to teach effectively. This assessment, ultimately, influenced their decision to stay or leave. Yost’s (2006) findings from a qualitative study of ten 22-25 year old commitment. Of 1,213 teachers from 78 elementary schools across Tennessee, including novice, mid- and late-career teachers, they found the effect to be consistent across second-year teachers supported Cochran-Smith’s conclusion that teacher actions in the classroom are a result of their senses of efficacy. All participants had graduated from an undergraduate teacher education program with dual certification in elementary and special education. The teacher
preparation program tied field experiences to coursework using a model of critical positive school climate and support from colleagues and principals were not sufficient factors for reflection as an approach to overcome challenges new teachers faced in the classroom. Through analysis of data from several interviews with the teachers and their principals, Yost (2006) discovered overcoming the academic and behavioral challenges they faced. However, self-efficacy was developed and enhanced through critical reflection skills fostered in the teacher education program. Teachers in the program were empowered to overcome obstacles and find success in the classroom across a variety of school settings (urban, suburban, public, private, special education, elementary, and middle). Five years later, the participants were still teaching (Yost, 2006).

Olmos (2010) analyzed data from the 2003-2004 Schools and Staffing Survey and 2004-2005 Teacher Follow-Up Survey (N = 770) to study the retention behaviors of public school teachers in out-of-field assignments. He assessed self-efficacy in the context of five specific domains: (a) teacher efficacy to enlist administrative direction, (b) collective efficacy--teachers' influences on decision making, (c) teacher efficacy for classroom management, (d) classroom content self-efficacy, and (e) classroom instruction self-efficacy. Then, Olmos performed a path analysis to identify where out of field teaching influenced other retention factors. The study revealed that when teachers possessed high levels of self-efficacy, there were positive direct and indirect impacts resulting in decisions to remain in their teaching careers (Olmos, 2010).

Hughes’ (2012) study included 782 teacher respondents to a survey designed to measure the impact of teacher, school, organization characteristics, and efficacy impacts on
retention. Although the study revealed impacts from characteristics on retention, the study did not find a statistically significant impact of self-efficacy on teacher retention.

**Teacher Commitment**

Olmos (2010) defines teacher commitment as the determination to teach no matter what the obstacle. A strong commitment to teaching directly influences how long a teacher stays in the field of teaching. Huberman’s (1989) professional lifecycle model for teachers posits that teachers of 7-18 years of experience have a greater commitment to teaching due to high degrees of comfort in their teaching.

Drawing from the field of social-psychology, Rosenholtz and Simpson (1990) developed a questionnaire to study job design and organizational conditions within the elementary public school context. Over 1,000 teachers participated in the study evaluating differences in impact of conditions at different career stages. The study compared teachers with varying years of teaching experience: novice, 1-3 years; mid-career, 6-10 years; and veteran teachers who had accumulated over 10 years teaching experience. Among the six organizational conditions investigated in the study (Teachers' commitment, Performance efficacy, Psychic rewards, Task autonomy and discretion, Teachers' learning opportunities and Principal buffering), three showed the most significant variation among career stages. First, Teachers’ commitment level among novices was significantly greater than for the other two career stages. Second, Task discretion and autonomy, which refers to the freedom to be more autonomous in their instructional decision-making, appeared to be most significant to mid-career teachers. Lastly, Performance efficacy, demonstrated the least impact on any of the career stages (Rosenholtz and Simpson, 1990). The researchers speculated that the struggle for mid-career teachers to
break free from boundaries and scripted tasks to become more assertive with establishing their own teaching styles could explain their low commitment. This would also explain the slightly higher commitment levels found among veteran teachers for two reasons: 1) mid-career teachers who were unable to overcome their struggles would have already left teaching and would not have been included in the sample of the veteran group and 2) those mid-career teachers who were able to rise above their struggle would have remained in the field of teaching and, thus, they would be counted among the veteran teachers. Rosenholtz and Simpson (1990) further offered that variation in results among other studies could be explained by the differences in the needs among teachers at different stages of their teaching careers.

Hayes’s (2008) non-experimental survey sought to identify levels of commitment of K-12 teachers (N = 436) in Mississippi teacher shortage areas. The study found that the highest degree obtained, type of education preparation, ethnicity, and teaching experience all influenced commitment levels. This finding is parallel to previously documented factors that are predictors of teacher retention, confirming that commitment and retention are closely interrelated.

Grizzle (2010) conducted an embedded case design study of 14 teachers in various urban school settings revealed commitment as the major factor predicting whether urban teachers stay in teaching or leave. Focus groups and interviews revealed these teachers attribute a sense of ‘calling’, desire to serve the community, and concern for the students they teach to this strong sense of commitment (Grizzle, 2010).

Olmos (2010) used path analysis to measure both direct and indirect relationships between a number of teacher retention factors. The analysis found that with job commitment,
job satisfaction, and the self-efficacy to know when to enlist administrator support (or administrative efficacy), there was an increased intention to remain in teaching. He further found that, if there were increased group belief (or “collective efficacy”) in themselves to accomplish their school goals, self-efficacy for classroom instruction and content, there was an increased level of job commitment among teachers.

A study designed to examine teacher perceptions of characteristics of a successful teacher in high need high schools found differences between what is required to attract teachers versus what is required to keep teachers. In this study, high need was defined as a school with 80% of students from low-income families. Mostly rural (46%) and urban (42%) schools responded to the survey, with 33% of teacher responders having 0 to 5 years of experience, 13.8% with 6 to 10 years, 18.5% with 11 to 15, 9.5% with 16 to 20, and 13.3% with over 20 years of experience. Thirty-eight percent of the teachers reported the most important school environment characteristics resulting in a commitment to stay in teaching were caring relationships, social justice, and service, as well as administrative support (Petty et al., 2012).

After following 30 randomly-selected beginning teachers from three mission-driven teacher education programs through their fourth year, Tamir (2013) observed an important insight. The longitudinal study revealed that teacher preparation influence on career commitment diminishes after several years. Over time, school conditions become the greater influence on teacher commitment, and teacher preparation impacted only teacher transfer behaviors. This insight suggests additional or different strategies are required in the teaching assignment to strengthen commitment levels beyond the first few years.
Demographic Summary

Age, gender, ethnicity as well as self-efficacy and commitment have been cited in the literature as factors that have demonstrated differences in retention and attrition rates. Efficacy and teaching commitment appear to be related in some ways. Researchers have observed differences in retention behaviors based on age. Younger teachers tend to be more likely to move or leave. Although some teachers leave in each age group, depending on the age group, they cite different reasons for leaving. Males have repeatedly been found to leave teaching at a faster rate than their female counterparts. In addition, when they stay in teaching, they tend to move to other, more prestigious roles in teaching. While some studies find little or no difference in attrition risk based on ethnicity, many others found minorities to have a greater tendency to remain in teaching than their nonminority counterparts. This is especially the case in urban school settings.

Self-efficacy, as relayed in the research literature, appears to be that extra boost of confidence that empower teachers to overcome environmental factors they face in their schools and govern the actions they take as a teacher. Teaching commitment enables the extra willingness to ‘stick it out’ under less than desirable conditions. It also strengthens loyalty to a school when teachers are committed to students as well as their colleagues.

Together, individuals bring these factors to any teacher preparation program or school environment. Thus, demographic and personal characteristics must be considered in any model looking to explain teacher retention factors.
Teacher Preparation

Teacher Preparation Options

Two general options are available for individuals choosing to become teachers in Texas. First, the traditional routes that are college or university-based teacher preparation at the undergraduate level where teacher candidates obtain a bachelor’s degree in the subject they intend to teach and teacher certification. Second, is the alternate route of which there are a few variations in Texas. Alternative teacher education programs may be offered and managed by universities, community colleges, school districts, regional education service centers of the State Education Agency, as well as by non-profit or for-profit providers. Hybrid programs also exist where more than one of the above agencies partner to offer program. For example, a school district may partner with a university where the university provides the coursework. A bachelor’s degree is a pre-requisite for admission to alternative certification programs. These programs offer a means to become a teacher without having obtained a bachelor’s degree in education with accompanying related teacher certification.

Research study results are mixed in terms of which route – traditional or alternate – are more effective at producing highly qualified teachers who positively impact student performance and teachers that remain in the teaching profession (Keller, 2007; Lewis and Kraus, 1989; Qu and Becker, 2003). Definitions of “alternative” vary from state to state, such that what is considered alternative in one state may be similar to the traditional program in another. Table 3 summarizes the research studies that investigate teacher preparation options’ effectiveness and impact on teacher retention decisions.
Table 3

*Teacher Preparation: Traditional versus Alternative Certification*

<table>
<thead>
<tr>
<th>Topic</th>
<th>Conclusion</th>
<th>Source(s)</th>
</tr>
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<tbody>
<tr>
<td>Effectiveness</td>
<td>Studies show teachers certified via alternative routes perform at least as well as those certified via traditional routes.</td>
<td>What Works Clearinghouse (2009)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keller (2007)</td>
</tr>
<tr>
<td></td>
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<td>Qu and Becker (2003)</td>
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<td></td>
<td></td>
<td>Lewis and Kraus (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>McKibbin (1988)</td>
</tr>
<tr>
<td>Impact on teacher retention behaviors</td>
<td>Alternatively certified teachers less likely to leave than traditionally certified teachers. Factors contributing to why teachers left are the same for both alternatively and traditionally certified teachers, with slightly different priority.</td>
<td>Stanley and Martin (2009)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jacobson (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vinger (2004)</td>
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*Traditional or Alternative Teacher Education: Which is More Effective?*

It must be noted that alternative certification program offerings began to explode in the early 1980’s through the early 2000’s. During this period, there were times when not all states provided alternatives to undergraduate or to fifth year traditional programs. This could be a potential root cause of the variation among programs within and between states. The fact that research studies were conducted on these programs during this great ‘flux’ of evolution and implementation of statewide polices may also explain the inconclusiveness of their findings in terms of effectiveness and impact on teacher retention. State requirements governing alternative certification programs did not begin to stabilize across the country until 2003.

McKibbin (1988) compared second year performance of alternatively prepared teachers to traditionally prepared and emergency permit teachers in California. Results of the study supported the conclusion that the alternatively prepared teachers performed at least as well as
the comparison groups. Lewis and Kraus (1989) studied 50 undergraduates of a small public Texas university to investigate potential differences in competencies between teacher candidates who obtained a traditional four-year education degree and those who had a bachelor’s degree and returned for teacher certification. The study analyzed candidate grades, courses completed, exam scores, and field evaluations to measure competency. Results indicated no statistical differences in competencies between the groups. Qu and Becker (2003) compared traditional versus alternative teacher education programs through meta-analysis of the results of 24 United States studies conducted between 1960 and 2003. The researchers controlled for location, school level, subject taught, teacher experience, and type of rater. In addition, they performed 7 kinds of teacher certification type comparisons: a) traditional provisional versus alternative, b) traditional full versus alternative, c) traditional provisional versus emergency, d) traditional full versus emergency, e) traditional provisional versus out-of-field, f) traditional full versus out-of-field, and g) alternative versus emergency. The study found variation exists between states such that traditionally certified teachers outperformed alternatively certified teachers in some states and vice versa in other states. Overall, the researchers concluded, traditionally and alternatively certified teachers performed the same (Qu and Becker, 2003). After calculating 192 effect sizes on student and teacher non-self-reported performance measures, the researchers concluded that the routes produced teachers of the same quality.

Commissioned by the Fordham Institute, Keller (2007) conducted a phone study of 49 randomly selected teacher education programs in 11 states and concluded that traditional programs were essentially the same as alternative certification programs. In 2009, What Works
Clearinghouse reported on a study of the 2,600 kindergarten through fifth grade students of 174 California teachers with less than or equal to five years of teaching experience. Each alternatively prepared teacher was paired with one traditionally prepared teacher for the investigation. Upon comparing their students’ reading and mathematics results from the California Achievement Test, this study also concluded there was no statistically significant difference between routes. It should be noted that the state of California adheres to strict and rigorous alternative certification requirements. Also known as intern programs, the alternative certification programs are sponsored by colleges, universities, school districts or county offices of education. To be admitted, a candidate must have a bachelor’s degree from a regionally accredited four-year institution and meet subject matter competence as well as basic skills requirements. In addition, individuals must undergo character and identification clearances (Commission on Teacher Credentialing, 2014). However, in California, the traditional route involves completing teacher certification at the graduate level after having completed a baccalaureate degree in the subject area of certification. A major different between traditional and alternative certification in California is that the traditionally prepared teacher completes a year-long internship with experienced teachers, while the alternatively certified candidate is the teacher of record in his or her classroom.

*Traditional or Alternative Teacher Education: Which Most Impacts Teacher Retention?*

Donaldson (2009) studied teacher candidates enrolled in Harvard University’s master's level teacher education program (TEP) from 1985-2006. The urban teacher preparation was based on two methods leveraged from the field of Occupational Psychology: Theory of job commitment (which considers candidates’ dedication to urban schools and communities) and
Realistic job preview (e.g. intern at job site). The study examined the impact of urban preparation on three aspects of the teaching careers of the participants before and after an urban emphasis in the curriculum began: (a) school assignment; (b) period of time they taught; and (c) reasons why they left teaching. Findings related to the program’s impact on teacher retention and mobility included: (a) graduates were 2.54 times more likely to teach in urban schools yet, less likely to stay in these schools; (b) non-urban focused cohorts working in urban schools were no more likely to exit than their counterparts; and (c) Whites and males in urban focused cohorts were 4.9 times more likely to exit; (d) females of color with urban training were less likely to leave than their general-prepared counterparts; and (e) community support for school was a key factor for remaining. Overall, the study found teacher difficulty connecting with and teaching urban school students is strongly influenced by administrator support and workload, with working conditions as the most cited concern for leaving teaching by these teachers (Donaldson, 2009).

Stanley and Martin (2009) studied an alternative certification teacher preparation program in Georgia to assess whether the program’s retention rates were lower or higher than those of other certification programs nationally. To answer this question, the researchers assessed 11,500 undergraduate and graduate programs and followed the alternative certification program cohorts annually from their first five years through the 2008-2009 school year. The overall attrition rate for the program was 6.2% over 5 cohorts. The Georgia program had 15% participants leave after the first year, compared to 14% nationally. Twenty-six percent left after three years, compared to 33% nationally. Nationally, after five years, teachers left at a rate of 46% compared to the Georgia attrition rate of 35% (Stanley and Martin, 2009).
Ziechner and Schulte (2001) evaluated 21 studies on 13 alternative certification programs assessing who participated in these programs, what means were used to evaluate their teaching ability, how long they taught, where they taught, and how candidates of these programs impacted student learning. Compared to alternative programs, a key finding was that traditional programs prepared their teacher candidates for a wider variety of school settings. However, Jacobson (2005) evaluated over 120 alternative teacher preparation programs from 550 sites in 47 states and the District of Columbia. After the first year, while only 40% of traditionally certified teachers stayed, nearly all the alternatively certified teachers remained.

Other studies yield contradictory results when comparing retention and attrition rates of traditionally versus alternatively certified teachers. For example, Vinger (2004) conducted a study of novice teachers in Region One Education Service Center in South Texas who were beginning their first year of teaching in the 1994-1995 school year. The purpose was to compare attrition and retention rates for traditional with those of alternative teacher certification programs. In addition to data from the Public Education Information Management System (PEIMS), two separate telephone surveys were developed: The Teacher Retention Telephone Survey and The Teacher Attrition Telephone Survey. Active and former teachers were surveyed with their respective surveys for factors contributing to their remaining in or leaving the teaching field. The top four reasons active teachers stayed in teaching – whether prepared by an alternative or traditional certification program – were:

1. students,
2. intrinsic rewards,
3. work schedule and
Meanwhile, factors contributing to retention decisions among former teachers who had left teaching varied from those of active teachers still teaching as well as by teacher preparation route. Both traditionally and alternatively prepared teachers cited family issues and lack of administrative support as two of the top four factors that contributed to their leaving the teaching profession. However, traditionally prepared teachers differed from their alternatively certified counterparts citing location and discipline issues versus career considerations and lack of intrinsic rewards as top reasons, respectively, that supported a decision to leave teaching. Table 4 displays the differences in priority of the same factors as related to teacher preparation route.

Table 4

<table>
<thead>
<tr>
<th>Top Factors that Impact a Decision to Leave Teaching</th>
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</thead>
<tbody>
<tr>
<td><strong>Traditionally Prepared Teachers</strong></td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Family Issues</td>
</tr>
<tr>
<td>Discipline issues</td>
</tr>
<tr>
<td>Lack of Administrative Support</td>
</tr>
</tbody>
</table>

*Source: Vinger (2004)*

Donaldson’s (2009) study of how a shift to an urban-oriented emphasis teacher preparation in Harvard University’s master’s level teacher education program influenced retention behaviors in its graduates, found that Whites were more likely to leave urban schools
than their non-White counterparts. The study further found that females of color with urban-focused training were less likely to leave than those graduates who had not had the urban-oriented training (Donaldson, 2009).

Urban schools are characterized as having challenges such as high poverty levels, lack of resources, and student discipline issues (Haberman and ERIC Clearinghouse on Urban Education, 1987). Studies (Marshall, 2002; Petty et al., 2012) claim novice teachers are simply unprepared to navigate these often overwhelming circumstances, particularly when they are starkly different from their student teaching experience. A few researchers (Carter Andrews and Donaldson, 2009; Haberman and Rickards, 1990; Matus, 1999; Shann, 1998; Taylor and Frankenberg, 2009) have sought to address the gap between the student internship experience and the urban classroom teaching experience.

Taylor and Frankenberg (2009) conducted an investigation of a graduate level teacher preparation program in New England to identify predictors and potential influences on teacher commitment to the teaching profession. A distinct aspect of the program was inclusion of reflection on the social context of education, the nature and purpose of teaching and learning, as well as the importance of culturally responsive pedagogy and classroom practice especially in urban environments. The eleven-month program also included assignments for candidates to work two full days per week in urban schools during the fall semester. Researchers administered a survey to 200 individuals in the program three times over four years (2003-2004 through 2006-2007 school years). The objective was to detect changes in commitment levels after different stages of urban teaching exposures: (a) at the end of the eight week summer term; (b) after a semester of coursework and pre-practicum observations; and (c) after twelve
weeks of teaching two classes full time. Researchers also analyzed personal and program characteristics and their potential influence on teacher commitment. The study found that those without prior urban experiences or prior teaching experience, along with White candidates, experienced larger declines in commitment over the program (Taylor and Frankenberg, 2009). However, those who believed the program had an impact on their commitment showed stronger commitments at the completion of the program. In addition, initial levels of commitment predicted commitment level. Race was the only statistically significant candidate demographic characteristic. Prior urban experience was the only personal factor that was a commitment predictor. This, coupled with urban teaching engagement, solidified teacher commitment of participants in this study (Taylor and Frankenberg, 2009).

**Teacher Preparation Summary**

While the research literature is less than clear on which teacher preparation type, traditional or alternative, is more effective than the other or whose graduates remain in teaching longer, teacher preparation remains a key component in teacher retention. Teacher education programs have the opportunity to convey theory behind teaching practices as well as expose its students to the “real world” of teaching via field experience opportunities. These programs can also influence teacher commitment level and provide mentoring support to their newly teachers-especially those of alternative certification programs. It is important to identify the best of traditional as well as alternative programs to set teachers up for success. The bottom line is preparation programs must meet the needs of its students in order to remain viable programs and for students to complete the program.
School Setting Attributes

Continuing with the evolution of a teacher and with consideration for the personal characteristics and background each individual brings first to the teacher preparation process, and ultimately, the teacher finds a teaching assignment. Once a candidate attains teacher of record status, school setting attributes also influence decisions to leave or stay in teaching. Geographical location – urban, suburban or rural (Boyd et al., 2009; Haun and Martin, 2004), minority student population percentage (Blazer and Miami-Dade County, 2006b; Boyd et al., 2005; Elfers et al., 2006; Feng, 2006; Hanushek, Kain, and Rivkin, 2004; Scafidi, Sjoquist, and Stinebrickner, 2007), proportion of students experiencing high poverty levels (Boyd, Grossman, Ing, Lankford, Loeb, O'Brien et al., 2011; Hancock and Scherff, 2010; Hanushek et al., 2004; Johnson and Birkeland, 2003; Lankford, Loeb, and Wyckoff, 2002), and student performance (Blazer and Miami-Dade County, 2006b; Boyd et al., 2009; Feng, 2006; Hahs-Vaughn and Scherff, 2008) all have the potential to impact teacher retention rates. Table 5 displays a summary.

Geographical Location

According to Haberman (1987), America’s education system is comprised of three subsystems: urban, suburban and rural areas. The term ‘urban’ represents a major metropolitan area (Haberman and ERIC Clearinghouse on Urban Education, 1987). Suburban describes the communities in between what is considered rural and urban. These areas are located in the outlying areas of urban communities but are not as sparsely populated as rural communities (Haberman and ERIC Clearinghouse on Urban Education, 1987). Rural areas are characterized as small towns or sparse settlements (Monk, 2007).
**Table 5**

*School Setting Attributes*

<table>
<thead>
<tr>
<th>School Setting Attribute</th>
<th>Impact</th>
<th>Source(s)</th>
</tr>
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<tbody>
<tr>
<td>Minority Student Population Percentage</td>
<td>The higher the percentage of non-White students, the less likely teachers are to stay.</td>
<td>Blazer and Miami-Dade County (2006a) Boyd, et al. (2005) Elfers et al. (2006) Feng (2006)</td>
</tr>
<tr>
<td>High poverty student population percentage</td>
<td>Teachers tend to move to schools with fewer Hispanic and Black students than the schools they left.</td>
<td>Scafidi, Sjoquist and Stinebrickner (2007) Hanushek, Kain and Rivkin (2004)</td>
</tr>
<tr>
<td>Low student performance</td>
<td>The higher the percentage of students receiving free or reduced lunch, the more likely teachers are to transfer or leave teaching. No statistically significant difference.</td>
<td></td>
</tr>
</tbody>
</table>

Haun and Martin (2004) conducted a four-year study of 270 beginning teachers in a Midwestern state and observed the lowest attrition rate for teachers, 4%, in urban schools. The rural and suburban attrition rates were 17% and 15%, respectively. Analyzing data from the Texas Education Agency’s Public Education Information Management System (PEIMS), researchers set out to determine why Texas public schools lose teachers. Of 378,790 teachers studied, the study revealed that although those who move from urban districts do tend to go to suburban districts, only less than 2% of those who moved from all large urban districts actually moved to suburban districts (Hanushek et al., 2004). A research study of first year teachers in
New York City by Boyd and colleagues (2005) concluded that while teacher qualifications and student achievement were important, “urban schools are net importers of teachers from surrounding suburbs” (Boyd, Lankford, Loeb and Wyckoff, 2005). In Texas public schools, however, researchers found weak evidence that teachers left urban districts for suburban districts (Hanushek et al, 2004).

A study of teacher mobility in 20 school districts in Washington State did not support the urban teacher mass exodus to suburban districts either. In this study, Elfers (2006) found minimal movement among districts in the same state. Overall, for the five year period between the 1996-1997 school year through the 2002-2003 school year, rates of mobility between districts in the state were 9% for the 51,996 teachers in the study. The highest district-level mobility rate experienced was 15%. Meanwhile, the three largest school districts experienced

**Minority Population**

Leveraging data from a jointly-developed (University of Texas at Dallas and Texas Education Agency) database in Texas and state student achievement data, researchers Hanushek and colleagues, (2004) at the University of Texas at Dallas sought to understand why public schools lose teachers. In their analysis of Texas teacher mobility data \( N = 378,000 \), this team discovered teachers tended to move to schools with an average of 4% less Hispanic and 2% less Black student population percentages than the schools from which they came.

Boyd and colleagues (2005) studied novice teachers who either transferred or quit in New York City. These teachers started teaching between 1995-1996 and 2001-2002 and had been certified to teach between 1 and 5 years prior to the period under investigation. The study confirmed the significance of the ethnic composition of the student population as
correlated with teacher mobility. When the percentage of students who were Black or Hispanic was greater, the percentage of teachers who left teaching or changed schools was also greater. Scafidi and colleagues (2007) observed similar patterns for new teachers in Georgia who started between the 1991-1992 and 2000-2001 school years. Feng (2006) analyzed data from the 1993 longitudinal data set of Baccalaureate and Beyond postsecondary students (N = 11,192) in the United States. Compared with data from the Teacher Follow-Up Survey and the Common Core of Data, the researcher confirmed the transfer patterns of teachers away from schools with higher percentages of Black and Hispanic students. However, the analysis found no impact on the percentage of these teachers leaving the field of teaching. On the other hand, in schools where student populations were comprised of lower percentages of minority student, retention rates among teachers were higher (Elfers et al., 2006).

Elfers and colleagues’ (2006) two-part study of 20 school districts included 429 schools and over 50,000 teachers in the state of Washington. Part 1 of the study analyzed teacher records in a state database for a period of five years. The second part of the study involved two teacher surveys on attrition and retention and focused only on novice and minority teacher attrition patterns. The study revealed strong negative correlations between stayers and percent minority student population. Blazer’s (2006b) study on schools in Miami-Dade corroborated this finding.

**Poverty Levels**

Poverty levels, as measured by Title I funding or percentage of free or reduced lunch eligible, appear to correlate with the tendency of teachers to leave teaching or transfer from schools or school districts. Lankford and colleagues (2002) found New York City teachers very
likely to leave when their schools had high percentages of students of low income as measured by subsidized lunch volumes.

Johnson and Birkeland’s (2003) longitudinal interview study of 50 new teachers in Massachusetts found that the underlying motives for new teachers leaving higher percentage minority (non-White) and high poverty level schools were not as trite as a simple pursuit for wealthier students. Instead, the researchers concluded this trend speaks to the inequity of resources, leadership, and effectiveness across United States public schools. These movers were in search of more reasonable aspects of the teaching environment such as effective administrative leadership, adequate support resources, and professionalism lacking from their original environments. Their goal was simply to work in an environment that enabled them to be effective with students.

Hahs-Vaughn and Scherff (2008) examined data from the 1999-2000 Schools and Staffing Survey and 2000-2001 Teacher Follow-Up Survey for beginning English teacher \( N = 8,400 \) attrition information. They discovered that if the percentage of students eligible for free and reduced lunch exceeded 20%, teachers were more likely to leave the profession or transfer from schools.

In Texas, Hanushek and colleagues’ (2004) study of teachers in Texas public schools revealed teachers in schools where there was a high percentage of low income students were much more likely to leave than those in schools with low percentages of low income students. In fact, they left in favor of schools with lower percentages of the student population with low incomes. Boyd and Grossman’s (2011) study on New York City teachers, however, found no
statistical significance for the effect of student percentage eligible for free lunch on teacher mobility.

Factor analysis of the California Department of Education’s databases and school district data in addition to survey data and phone interviews were used to identify organizational predictors of high attrition in California. The analysis revealed the strongest predictor for teacher turnover was proportion of low-income students (Loeb, Darling-Hammond, and Luczak, 2005).

Student Performance

Where there is low overall student performance, teachers have been shown to be more likely to leave a school. Student performance is typically measured by state and nationally administered test scores. Analyzing data from the State of Texas Education Research Center’s database – a collaboration between the University of Texas at Dallas and the Texas Education Agency – Hanushek and colleagues (2004) discovered that 20% of teachers teaching in Texas’ schools in the bottom quartile of student performance left.

For teachers in Florida who had left teaching, Feng (2006) found that the students they had formerly taught performed an average of 9 points lower than the average score of students of teachers who remained in teaching. The study utilized two Florida Comprehensive Assessment Tests: Norm-Referenced test and the Sunshine State Standards test.

Only 15% of teachers in New York City schools in the top performance quartile schools left. Boyd and colleagues (2009) explored attrition trends for 6,456 elementary and middle school teachers. Upon analyzing both New York City and New York State data, the researchers found transfer and leaving occurred when teachers were assigned to schools with lower
performing students. While this happened frequently, they also observed that some teachers intentionally avoided low performing schools while others did not take measures to avoid these schools. Two major themes emerged from the study: (1) If teachers were in a school where students were low performing, the teachers left within their first two years of teaching and (2) if teachers experienced no success in increasing student achievement, they left (Boyd et al., 2009).

Davis (2010) conducted a longitudinal study of two schools in Prince George’s County over the period of 2003-2008. Both elementary schools showed continuous improvement on both the Maryland School Assessment (MSA) for math and reading and the Adequate Yearly Progress status. The schools also continuously increased teacher retention rates as student performance achievement increased.

School Setting Summary

The research is fairly consistent with findings that teachers who serve in schools with low poverty levels, low percentage of minorities, low percentage of students and high student performance tend to stay in these schools. Research studies have vacillated between whether urban schools consistently lose teachers to suburban school districts or not. Characteristics of school settings do seem to be related to teacher retention behaviors.

Working Conditions

Working conditions greatly influence teacher retention decisions. In fact, teachers who leave the profession in pursuit of careers outside of education count working conditions as the factor of highest priority (Cha and Cohen-Vogel, 2011). Within the area of working conditions, investigators identify lack of support from administration, insufficient mentoring or induction
programs, student behavior, out of field teaching, and salary as major influences on teachers’ leaving or remaining in teaching (Curtis, 2012; Hancock and Scherff, 2010; Hunter Quartz, 2003; Ingersoll and Center for the Study of Teaching and Policy, 2003; Ng and Peter, 2010; Olmos, 2010). In some cases, studies aggregate several of the school environment characteristics and conditions into job satisfaction factors. For the purposes of this study, working conditions include those listed in Table 6.

Table 6

Working Conditions

<table>
<thead>
<tr>
<th>Working Condition</th>
<th>Impact</th>
<th>Source(s)</th>
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<tbody>
<tr>
<td>Administration Support</td>
<td>New teachers stay or would stay because of administration support.</td>
<td>Ingersoll (2001)</td>
</tr>
<tr>
<td></td>
<td>Teachers leave due to lack of administration support.</td>
<td>Ingersoll (2003)</td>
</tr>
<tr>
<td></td>
<td>Effective leadership communicates a shared vision, fosters a community of collegiality, and provides resources and professional development.</td>
<td>Luekens et al. (2004)</td>
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<td></td>
<td></td>
<td>Connors-Krikorian (2005)</td>
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<td></td>
<td></td>
<td>Center for the Future of Teaching and Learning (2007)</td>
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<td></td>
<td></td>
<td>Boe, Cook and Sunderland (2008)</td>
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<td></td>
<td></td>
<td>Hirsch and Emerick (2007)</td>
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<td></td>
<td></td>
<td>Lamonte (2011)</td>
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<td></td>
<td></td>
<td>Boyd et al. (2011)</td>
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<tr>
<td></td>
<td></td>
<td>Curtis (2012)</td>
</tr>
<tr>
<td>Mentoring and Collegial Environment</td>
<td>Teachers most likely to stay when they have participated in formal induction or mentoring program and/or work in a collaborative, collegial environment</td>
<td>Marshall (2002)</td>
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<tr>
<td></td>
<td></td>
<td>Johnson and Birkeland (2003)</td>
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<tr>
<td></td>
<td></td>
<td>Harrell et al. (2004)</td>
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<td></td>
<td></td>
<td>Haun and Martin (2004)</td>
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<td></td>
<td></td>
<td>Costigan (2005)</td>
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<tr>
<td></td>
<td></td>
<td>Dallas (2006)</td>
</tr>
<tr>
<td>Student Behavior</td>
<td>Top reason contributing to teacher decisions to leave the profession or move schools. Lack of student discipline is a major source of stress.</td>
<td>Hahs-Vaughn and Scherff (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Petty et al. (2012)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Haberman and Rickards (1990)</td>
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<tr>
<td></td>
<td></td>
<td>Ingersoll (1999)</td>
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<td></td>
<td></td>
<td>Johnson and Birkeland (2003)</td>
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<td></td>
<td></td>
<td>Vinger (2004)</td>
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<td></td>
<td></td>
<td>Kim (2005)</td>
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<td></td>
<td></td>
<td>Gonzalez (2005)</td>
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<td>Robertson (2006)</td>
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</table>

*(table continues)*
When the state of Massachusetts offered a signing bonus to enroll in its alternative certification program, teachers who participated in the Massachusetts Signing Bonus program did so not so much for the bonus, but because they were already committed to pursuing a career in teaching. Although the bonus of $10,000 over three years was substantial and included a payback clause, researchers found the additional compensation did not deter teachers from leaving the profession. The majority left due to poor working conditions and lack of support at their schools despite the generous bonuses designed to attract and retain these teachers. The teachers were found to be more attracted to the quick training route to certification provided by the program than the bonus (Johnson and Birkeland, 2003a).

Hagenmayer (2009) surveyed over 1,000 “early” (e.g. younger than age 61) and “late” (e.g. over 61) retirees from the Los Angeles Unified School District for reasons that would have made them stay. The investigator summarized the answer to this research question concisely stating, “Better administrators, professional environment and...more money” (Hagenmayer, 2009).
This list of working conditions is commonly cited in research studies as factors contributing to teacher mobility (R. Ingersoll and May, 2011; McKee, 2003; Vinger, 2004).

**Administration Support**

Ingersoll defines administrative support as the degree of assistance provided by local school administrators (Ingersoll, 2001). The research literature includes investigations of both the indirect and direct impact of principal leadership or lack of leadership on teacher decisions to transfer from schools or leave the teaching profession. Indirectly, there has been evidence demonstrating administration support as a significant influence on teacher commitment to teaching (Anderman, 1991; Rosenholtz, 1989), job satisfaction (Beaugez, 2012; Singh, 2012), and overall teacher perception of working conditions (Haberman and Rickards, 1990; Hagenmayer, 2009; Locklear, 2010).

Studies have also shown that administrative support has direct influence on teacher retention behaviors when administrators successfully facilitate a collegial and collaborative work environment (Hunter Quartz, 2003; Ingersoll and Center for the Study of Teaching and Policy, 2003; Tamir and de Kramer, 2011), provide student discipline support (Gonzalez, 2005; Petty et al., 2012), and make appropriate teaching assignments (Johnson and Birkeland, 2003; Vinger, 2004). This remainder of this section of the literature review focuses on studies that demonstrate direct influences on teacher retention behaviors.

Stockhard and Lehman (2004) utilized both national ($n = 379$) and state ($n = 117$) data sets to test the effect of measures of satisfaction on teacher retention. Findings included ‘effective principal’ as a measure in the top three positive effects on teacher retention.

Teachers ($N = 51,996$) from schools with low percentages of the student population
experiencing high poverty levels indicated they stayed because of leadership support (Elfers et al., 2006). According to Hirsch and Emerick’s (2007) third iteration of the North Carolina Working Conditions Survey \( (N = 50,000) \), 38% of the teachers indicated leadership was the most influential factor for retention decisions. Their study defined working conditions as encompassing the following: (a) facilitating an environment of mutual respect and trust; (b) establishing a shared vision among faculty and staff; (c) establishing a problem-solving process; (d) engaging community members in the school’s success; (e) creating an effective school improvement team; and (f) providing meaningful professional development. However, perceptions of the working conditions local administrators should be responsible for vary among stayers, movers and leavers. The researchers reported that 62% of stayers believed that leadership is addressing empowerment and leadership concerns. Only 23% of movers believed this, and leavers tended to be more positive than movers. In fact, for both middle and high school settings, Hirsch and Emerick’s (2007) statistical model found that for every 10% increase in teacher agreement that leadership was addressing new teacher support specifically, turnover rates declined 0.6%.

Administrators and teachers do not look at working conditions through the same lens. While teachers ranked the most important factors in their retention decisions to be leadership, empowerment, and time- in that order-principals ranked the factors in the following sequence: Time, leadership, empowerment (Hirsch et al., 2007). This disparity is a potential root cause for teacher perceptions of local administrator lack of leadership. Hirsch and colleagues (2007) used a survey to understand teacher working conditions in North Carolina. Of the 75,000 respondents, 38% indicated the most important factor influencing retention decisions was
leadership. According to the Center of the Future of Teaching and Learning (2007), 22% of new teachers in California public schools left within the first four years of teaching. Job dissatisfaction stemming from the school environment’s working conditions was the top concern. An online survey of almost 2,000 current and former teachers was administered by California State University’s Center for Teacher Quality. The Center found 52% of dissatisfied teachers cited lack of administrative support from their school districts as a reason for leaving teaching. This result provided evidence that dissatisfaction was directly linked to retention behaviors (Center for the Future of Teaching and Learning, 2007).

Through the use of semi-structured interviews and constant comparative analysis, Brown and Wynn (2009) sought to identify the leadership styles of principals with high retention and low mobility rates. The researchers discovered that successful principals were aware of the issues novice teachers faced, proactive in supporting them, and committed to professional growth and excellence for everyone in the school including themselves, teachers and students. Furthermore, these principals were diligent in their hiring practices in order to find teachers who were a good fit for their schools. The principals saw themselves as advocates for new teachers, serving as protectors and mentors. In addition, these principals maintained flexibility and were available to provide any additional support their teachers required.

Greenlee and Brown (2009) administered a survey of teachers ($N = 97$) enrolled in an educational leadership program at the University of South Florida to identify effective principal behaviors and incentives where teachers stay in the teaching profession. The study revealed teachers stay when they experience leadership with the ability to create a positive work environment. For challenging schools, that is schools with high percentages of the student
population eligible for free or reduced lunch, low achieving and minority students (Grissom, 2011), leaders dispel the myth that individual teachers have the ability to ‘fix’ these high need schools. Instead, administrative support and leadership is key to an effective group effort. Heckman (2011) administered a survey among Georgia public school teachers (N = 111) and also found positive correlation between attrition and administrative support. Lamonte (2011) investigated internal and external factors of greatest importance to beginning teachers remaining in the profession. A total of 103 teachers responded to a survey that revealed that the highest rated factors were related to the influence of administrators. Significant factors included school climate, effective leadership, and sense of accomplishments.

Not all studies are conducted with teachers who are still actively teaching. Some studies solicit former teachers to identify factors that would have led them to a decision to stay. Many of these study participants cite ‘better administrators’ at the top of their lists of reasons they would have continued to teach (Boyd et al., 2011; Hagenmayer, 2009; Hirsch et al., 2007; Lamonte, 2011).

Researcher Luekens’ (2004) analysis of the 2000-2001 Teacher Follow-up Survey data revealed 38% of the 2,200 movers in the study left due to dissatisfaction with administration at their previous schools. Boyd and colleagues (2011) conducted a follow-up survey of teachers who left teaching after their first year (N = 386) in New York Public Schools. Respondents indicated lack of support from administrators was by far the greatest factor influencing their decision to leave.

Lack of effective (Boyd et al., 2011; Donaldson, 2009) or visible (Petty et al., 2012) administrators is often declared among teachers as a main source for poor school climate and
difficult working conditions. Some teachers’ perception is that these leaders fail to empower, schedule (Vinger, 2004), support (Connors-Krikorian, 2005; Hunter Quartz, 2003; McKee, 2003), or create collaborative environments for teachers (Center for the Future of Teaching and Learning, 2007; Donaldson, 2009; Hunter Quartz, 2003; Ingersoll and Center for the Study of Teaching and Policy, 2003; Tamir and Magidin, 2011). The research suggests that when these failures occur, teacher retention decisions lean more towards moving or leaving teaching altogether.

Boyd and colleagues (2011) studied teacher data \((N = 3,052)\) from the New York City Department of Education and State Education Department agencies to model the relationship between the effects of teacher and school characteristics. In addition, the study examined the relationship between these characteristics and school contextual factors. Through follow-up interviews of first year teachers, the analysis confirmed the full sample finding that teacher perception of administration is the greatest influence on teacher retention decisions. Grissom (2011) analyzed the 2003-2004 Schools and Staffing Survey and 2004-2005 Teacher Follow-Up Survey results to understand why schools with large numbers of disadvantaged students (i.e. students of color and low income) experienced higher teacher turnover rates. Performing regression analysis to minimize bias and control for variables, the researcher found evidence that principal effectiveness is the key to closing this gap for teachers in these environments. Differences in attrition rates between schools with principals rated as simply average in effectiveness versus those rated as average in effectiveness were significant where the school was hard-to-staff (Grissom, 2011).
Mentoring and Collegial Support

Odell and Ferraro (1992) surveyed two cohorts of beginning teachers (N = 160) four years after their first year of teaching to identify the impact of mentoring on attrition rates. The mentoring program provided beginning teachers with formal mentoring support on a weekly basis both inside and outside the classroom for one year. Mentors were experienced, co-selected by university faculty and school districts for teaching excellence, trained by university faculty, and had their teaching time fully re-allocated to full-time mentoring for two years. The overall attrition rate for teachers who responded was 4% compared to the statewide attrition rate of 9%. A limitation of the study was there was no control group of teachers who did not receive mentoring. The study concluded that mentoring reduces early attrition (Odell and Ferraro, 1992).

Marshall (2002) set out to study factors contributing to the attrition rate of Texas public school teachers (N = 200). An in-depth qualitative study that included interviews, observations, and questionnaires, revealed 73% of the teachers who left teaching had not participated in induction programs. This finding suggests an opportunity exists to retain teachers by providing an effective induction program.

Results from an attrition study conducted at the University of North Texas did not support collegiality as a significant influencing factor for teachers who had already left teaching to re-enter teaching. The study surveyed over 1,000 teachers. Only 3% of the sample population cited collegiality as a factor compared to other factors such as higher income (39%), administrative support (22%) and good workplace conditions (21%) (Harrell, Leavell, Van Tassel, and McKee, 2004).
Haun and Martin (2004) designed a collaboration survey to measure the level of collaboration as part of an investigation of beginning teacher attrition. After conducting semi-structured and follow-up interviews with 5% of the sample population, the researchers concluded that working in a collaborative environment influenced new teachers to continue teaching.

Costigan (2005) reported results from the exit surveys of 75 new teachers from the New York City Teaching Fellow Alternative Certification program who had left teaching before meeting their two year commitment. The teachers reported satisfaction with the program as well as an abundance of collegiality and support. However, this was not enough to overcome other issues encountered in their teaching assignments. For example, 50% cited student discipline, 29% cited lack of student motivation, and 20-30% reported for each of the following factors: 1) lack of teacher influence on school policy, 2) unsafe environments, and 3) low quality of school leadership. The presence of these working conditions in their teaching assignments ultimately influenced their retention decision-making. Of the 19.4% who reported they were looking for another job, 80% were looking for one outside of teaching (Costigan, 2005).

Dallas (2006) followed 6 sixth grade language arts teachers in a Title I, urban middle school. Armed with a social cognitive theory as a framework, the researcher investigated how behavior, environmental events, and cognitive and personal factors weighed in retention decisions of teachers participating in a Professional Learning Community (PLC). The study found the PLC (an environment that establishes a culture where everyone in the school is a learner) provided enough encouragement and empowerment to prevent two teachers from leaving mid-year. Instead of leaving, together the group was able to collaborate on lessons and
find creative and effective ways to handle student discipline as well as issues with administration. The PLC enabled the group to reverse a steady 6 year decline of student performance on state tests. Furthermore, 100% of the participants remained in teaching (Dallas, 2006).

Hahs-Vaughn and Scherff (2008) conducted a replication of Smith and Ingersoll’s (2004) attrition study, applying the methodology specifically to beginning English teachers. The study applied logistic regression analysis via eight models that correlate various teacher characteristics with teacher participation in various mentoring and induction activities with the retention, migration and attrition behaviors of these teachers. Researchers found 80% of the beginning English teachers remained at the same school, while 8% left teaching. However, no statistically significant difference was found in the relationship between participation in mentoring and the likelihood teachers would stay or leave (Hahs-Vaughn and Scherff, 2008).

Ingersoll’s (2003) classic analysis investigating teacher turnover trends based on results from four nationally administered Schools and Staffing Surveys identified top reasons why 40% of teachers left teaching after four years and 46% left after five years. The top three reasons for the highest percentages of turnover were: (a) family or personal; (b) dissatisfaction; and (c) to pursue other job. Ingersoll also presented a deep dive into the broad category of dissatisfaction where the top five of the nine reasons for dissatisfaction cited were: (a) poor salary; (b) poor administrative support; (c) student discipline problems; (d) lack of faculty influence and autonomy; and (e) poor student motivation.
Out of Field Teaching

Olmos (2010) performed multi-stage multinomial logistic regression and path analysis on data from the 2003-2004 Schools and Staffing Survey as well as the 2004-2005 Teacher Follow-Up Survey to understand how teachers end up with teaching assignments that do not match their credentials and whether these teachers are likely to leave their teaching positions as a result of the mismatch. The researcher found teachers who are new, Hispanic, or possessed general bachelor’s degrees in art or music were most likely to be in out of field teaching assignments. Meanwhile, teachers with specific majors or master’s degrees in health, physical education or math or natural science were the least likely to be found in out of field teaching assignments. In addition, the investigator’s results supported previous studies that found out of field teachers are more likely to leave teaching than those who are not in mismatch assignments. Olmos’ path analysis identified job commitment, job satisfaction, and efficacy in the school affected also contributed to the ultimate retention decisions of out of field teacher.

Additional research studies exist that outline the issue of out of field (Ingersoll, 2001b; Jerald, 2002) or miss-assignment (Robinson, 1985) of teachers. However, there appears to be a gap in the research literature that consistently ties the issue of out of field teaching to teacher retention and attrition behaviors.

Student Behavior

Ingersoll’s (1999) investigation of reasons for teacher shortage identified teachers who experienced more student discipline issues as having a greater likelihood of leaving teaching. As a corollary to lack of strong administrative leadership, Birkeland and Johnson (2003)
observed lack of structure enabled lack of student discipline. According to the study, structure would include strong student behavior policies that were enforced, producing an environment focused on student learning.

Kim and colleagues (2005) studied 42,086 teachers of varying levels of teaching experience to understand whether specific factors impacting first year teachers had long-term effects. The researchers observed that first year teachers with student discipline problems were more likely to plan to leave teaching. Furthermore, the researchers discovered that the more years of teaching experience, the greater the likelihood teachers had plans to leave due to student discipline problems. The probability of teachers definitely planning to leave was 2.4% for first year teachers (defined as those with one or less years teaching experience). For novice teachers (defined as those with two to three years teaching experience), the probability increased to 3.99%. The likelihood of veteran teachers (defined as teachers with four or more years of teaching experience) definitely planning to leave due to student discipline problems increased to 4.53%.

Findings from Gonzalez’ (2005) qualitative study of Texas teachers (N = 61) who left after one year included student discipline as a factor contributing to attrition. Robertson and colleagues (2006) conducted personal and small group interviews of teachers, principals, and central office administrators from a district where 1,300 of its 7,000 teacher workforce were new. Results revealed student behavior and time – including personal time – consumption as recurring factors impacting teacher retention decisions (Robertson et al., 2006).
**Salary**

Haberman and Rickards (1990) conducted a survey among teachers ($N = 124$) who experienced a separation from service (either by retirement, voluntary resignation or terminated contracts) in the year 1988 based on data from the Milwaukee Public schools. The study first asked teachers to prioritize factors they thought would make them leave teaching when they began their careers (“before”). Then, the teachers were asked to prioritize the factors contributing to their final decision to leave (“after”). The top reason for leaving was low salaries. This represented a shift in priority of potential retention factors from the top three “before” reasons of underachieving students, discipline, and students of various cultural backgrounds to “after” reasons of discipline, insufficient administrator support, and workload (at the time of resignation) (Haberman and Rickards, 1990).

Marshall (2002) administered a survey and used follow-up interviews to validate findings for a study of 200 public school teachers who had already left teaching. In this study, inadequate salary was cited as a top reason for leaving the teaching profession (Marshall, 2002). Meanwhile, Tye and O’Brien (2002) surveyed former Master’s students ($N = 114$) at California’s Chapman University who had been credentialed five to ten years prior, leveraging a human capital theoretical approach. Both teachers who had already left teaching and those still teaching ranked reasons they had either already left or would consider leaving. Of the top 7 reasons, salary considerations was number one for those who would consider leaving, and number 7 for those who had already left (Tye and O’Brien, 2002).

Survey’s preliminary estimates of 2000-2001, identified poor salary as a top five reason for dissatisfaction leading to teacher turnover. In a quest to identify retention factors of teachers prepared by the University of North Texas, McKee (2003) concluded from survey results that those making less than $25,000 per year were more likely to leave or move. Hanushek and colleagues (2004) supported this as a result of their inquiry into Texas teacher mobility and attrition. They found that the higher the salary, the less likely teachers were to move.

Analyzing School and Staffing Survey results from only the 1990-1991 and 1991-1992 school years, Kelly’s (2004) event history analysis of teacher attrition tracking concluded that the newer the teacher, the greater the impact of salary on whether teachers stayed in the field. Luekens and colleagues (2004) drew the same conclusion for those making less than $30,000 while investigating data from the 2000-2001 Teacher Follow-up Survey results (N = 5,000).

Gonzalez (2005) obtained data from the Texas State Board for Educator Certification (SBEC) to survey teachers (N = 61) who had left teaching one year after becoming certified. The mixed methods study examined specific personal, monetary, preparation, organizational and emotional/social factors known to contribute to attrition. The qualitative component to the study found salary to be the highest factor for these teachers leaving the profession (Gonzalez, 2005).

Washington State’s salary schedule leaves little incentive for teachers to move from one school district in the state due to another to pursue higher wages. This could explain why a study of teacher mobility in the state uncovered minimal movement between districts. Particularly, the three largest districts experienced the lowest mobility rates between districts at 3-5% (Elfers et al., 2006).
In Cashwell’s (2008) investigation to determine factors contributing to and predicting whether elementary school teachers in two large urban school districts in Hampton Roads, Virginia, remained in teaching. Monetary was the highest rated factor among survey responses. The Greenlee and Brown (2009) study looked at the Hillsborough county school district where 5-10% additional base pay was offered to attract teachers to schools where a minimum of 90% of the students were eligible for free and reduced lunch. These schools experienced high attrition rates (ranging from 17.6% to 61.1%) despite the financial incentive.

Cha (2011) developed a structural equation model to evaluate the 1999-2000 Schools and Staffing Survey and Teacher Follow-up Survey 2000-2001 results to explore the impact of salary, as well as working conditions and professional development, on teacher decisions to leave teaching for non-education positions. Based on Cha’s (2011) analysis, salary was found to be a top priority for those who left the teaching profession to pursue non-education careers. These teachers \( N = 4,156 \) weighted salary along with working conditions as the higher priority in their decision to leave teaching. In addition, analysis of the 1999-2000 Schools and Staffing Survey and the 2000-2001 Teacher Follow-up Survey focused on career-switchers.

Curtis (2012) conducted a national study of 5,000 secondary school math and science teachers to explore the relationship between reasons why teachers enter the field versus reasons why they would leave. Via surveys and interviews, candidates indicated ‘why’ they chose to work in teaching: (a) desire to work with young people; (b) love of math; and (c) wanting to make a difference. The top reason why they left the field of teaching was low salary (Curtis, 2012).
Beaugez (2012) confirmed salary and benefits as a top regression factors for teacher satisfaction related to attrition. On the other hand, some studies found that salary was not sufficient for some teachers to remain in teaching. Johnson and Birkeland (2003) surveyed 50 teachers in Massachusetts who received a $20,000 signing bonus over the course of four years to encourage teachers to stay in teaching. They found the bonus to be a secondary factor and left, sometimes for reduced pay. In addition, the teachers’ contracts had a clause that required repayment of a portion of their bonus if tenure was not met. Greenlee and Brown (2009) realized similar findings with respect to teachers \(N = 97\) in high need schools. Florida teacher responses to their survey demonstrated evidence that financial incentives were insufficient to recruit talented teachers to high need schools and that incentives are not one size fits all. In addition, Heckman’s (2011) study of the relationship between commonly reported factors and attrition did not support salary as a statistically significant influence.

A study conducted at the University of North Texas surveyed undergraduate and graduate level teacher candidates entering the field between 1995 and 2000 to identify attrition factors. The results indicated that 79% of candidates remaining in teaching, while 21% left (Harrell, Leavell, Van Tassel, and McKee, 2004). Meanwhile, according to the National Center for Education Statistics (2004), of all respondents to the 2000-2001 Teacher Follow-Up Survey with four to nine years of experience \(n = 8,300\), the movers and leavers \(n = 5,000\) left at a rate of 16.7%, while 83.3% stayed.

Harrell and colleagues’ (2004) study further gleaned four main reasons for teacher attrition: (a) income; (b) discipline problems, (c) leaving to raise a family, and (d) problems with parents. Ironically, a similar list of factors, in slightly different order and excluding those leaving
to raise a family, were cited as reasons these teachers would consider returning to teaching. The study further identified predictor variables for teacher attrition. Three factors accounted for 98.7% of the reasons teachers stay in teaching: little classroom experience, income of less than $25K, and having a graduate degree (Harrell et al., 2004).

Summary

Studies have revealed teacher retention behaviors based on the influence of demographic factors, personal characteristics, teacher preparation, school attributes as well as working conditions. While many studies include investigating the influence of factors from one or more of these categories, there is a gap in the literature where the lifecycle experience of a teacher is not wholly considered. Each category possesses a degree of contribution to explaining why teachers stay in teaching and why they leave.

According to Humphrey and Wechsler (2007), teacher development is a function of the individual teacher’s background, previous teaching experience, teacher education program, and the school context of the teaching assignment. However, in Florida, Chingos and Peterson (2011) examined elementary and middle school teachers over time to find that the first few years of teaching experience impacted teacher effectiveness more than other variables, including highest degree, major, and student or school characteristics. Therefore, policymakers and administrators must ensure teachers stay in the field long enough to have the chance to develop into highly qualified, effective teachers. The present study is focused on teacher retention decisions and how these categories of factors both individually and in combination impact the decision to stay in teaching at least five years.
CHAPTER 3
METHODOLOGY

The purpose of this study is to investigate retention rates of students who enrolled in and completed an online Secondary Post-Baccalaureate Teacher Certification Program between the years 2002 and 2013. The study seeks to answer the following research questions:

1. At what rate do students complete the online secondary post-baccalaureate teacher certification program?
2. At what rate do students who complete the online secondary post-baccalaureate teacher certification program enter the teaching field?
3. At what rate do students who complete the online secondary post-baccalaureate teacher certification program remain in teaching beyond five years?
4. Do the data support a multi-factor model for teacher retention?
5. What factors contribute to the retention of these teachers?

Research Design

The research study was a cross-sectional survey design with mixed methods of analysis. Quantitative analysis was performed on the empirical data collected via an electronic survey instrument. Items on the survey asked participants to rate themselves, the teacher certification program and working conditions. Information was investigated concerning specific characteristics of their schools’ settings. Qualitative analysis was conducted on teacher responses to open-ended questions on the survey, which allowed participants to provide specific feedback they deemed as having contributed to preparing for and enabling them to have a long career in teaching. The comments also provided context and support for the quantitative analysis findings.
All Likert scale items on the survey utilized a four-point scale. The following survey items were measured via Likert scale: commitment to remain in teaching, self-efficacy, teacher preparation, student behavior, administrative support, mentoring program frequency and effectiveness and salary adequacy. Additionally, contextual information was captured on the survey including: 1) age; 2) ethnicity; 3) years of prior teaching experience; 4) whether they remained in their initial school assignment; 5) type of field experience; 6) whether mentoring was offered at their local campus; 7) whether they were certified to teach in the content area they teach; 8) had they left teaching temporarily; or 9) had they ever planned to leave teaching at any point in their careers and if they had, why they had.

Responses to the survey were analyzed to determine the contribution of an online post-baccalaureate secondary teacher certification program to teachers deciding to remain in teaching. To further investigate this contribution, factor analysis and hierarchical multiple regression analyses were conducted with preparation program ratings of how important components of the teacher certification program were in preparing teachers for a long career in teaching as the primary dependent variables. The independent variables were personal characteristics such as age, gender, self-efficacy, and commitment to teaching, school setting characteristics such as non-White student population percentage, student academic performance as measured by state exams, district type (e.g., major suburban, major urban, independent town, etc.), student population poverty levels as measured by free or reduced lunch eligible percentage, and working conditions such as administrative support, salary satisfaction, out of field teaching and mentoring program offering at the local campus level.
Descriptive data, hierarchical multiple regression and factor analysis statistical analyses were used to draw conclusions concerning retention factors for program completers who had remained in teaching a minimum of five years. Statistical analysis specifically included investigating whether teachers with certain personal characteristics or, teaching in particular school settings and under specific working conditions influenced how much credit teachers gave to the online post-baccalaureate secondary teaching certification program for preparing them for a long career in teaching. The survey quantitative data codebook can be found in Appendix E.

Population

The population for the study included all individuals who were admitted to and, completed the University of North Texas’ Post-Baccalaureate Secondary Teacher Certification program between 2002 and 2013, were certified in Grades 4-8 or 8-12, began teaching in Texas public schools and taught for a minimum of five years in Texas public schools. Based on the literature, approximately 46% of new teachers leave the field by Year 5; this informed the requirement of a minimum of a five-year teaching tenure (Ingersoll and Center for the Study of Teaching and Policy, 2003). In order to be able to fully examine common school setting characteristics, and verify teaching tenure with the Texas Education Agency, I required that potential participants had taught in Texas public schools. Since many studies focus only on attrition factors of teachers and often compare factors impacting reasons for why teachers leave teaching versus factors impacting reasons teachers remain in teaching, this study to focused only on teachers who remained in teaching at least five years.
University of North Texas Online Post-Baccalaureate Teacher Certification Program

Texas was one of the first states to allow alternative certification of teachers (Zeichner and Schulte, 2001). The University of North Texas responded to this new ‘trend’ with its own flavor of an alternative certification program in 2001. In addition to offering traditional teacher certification programs, the University of North Texas added a 100% online secondary post-baccalaureate teacher certification program. The post-baccalaureate program was designed to meet the needs of career-changers as well as recent bachelor’s degree graduates. Even without regular field experiences in classrooms embedded in courses, program participants experienced a sense of community as students shared reflections, feedback, and other postings online.

The online secondary post-baccalaureate teacher certification program was designed under the guidelines of the Texas Beginning Educator Support System (TxBESS), and teachers were expected to demonstrate proficiency in all four clusters of the TxBESS framework. The clusters were: (a) planning for learner-centered instruction; (b) creating a classroom environment that promotes equity, excellence and learning; (c) professionalism; and (c) instruction and communication (Danielson and Texas State Board of Education, 2005). The Office of the Texas Secretary of State administers the Texas Administrative Code of the Texas State Board of Education’s requirements for Texas teacher preparation program as required by law (Texas Registry, 2014).

The program began in the summer with a six-week introductory course created to prepare students for the classroom. Coursework included theory, curriculum development, pedagogy, and classroom management as well as a field experience. See Appendix A for a full
description of courses required). While coursework was completed online, students were required to visit the campus to take exams for each course. In addition, at the beginning of each semester and up to a total of four occasions per school year, students were required to attend face-to-face meetings on campus (e.g., orientation).

Once coursework was completed, the students were required to complete a field experience. For students obtaining a probationary teaching certificate, a school-year long practicum, where they were designated the teacher of record in a school, component was required to satisfy this requirement. For other students, a semester long internship completion as a student teacher during the school year was required.

Each candidate had a four-member mentoring team that included his or her university supervisor, district mentor, principal and UNT Coordinator. Support during this phase of the program was provided via face-to-face meetings, bi-weekly on-site observations and feedback from the university supervisors as well as via email and weekly online discussions. This structure promoted a professional learning community among peers as well as presenting a vehicle for candidates to receive timely feedback. Reflection before, during, and after practice was encouraged throughout the program. During the practicum, candidates’ growth as teachers was documented in activities via two face-to-face group meeting. In addition, smaller group meetings were held with the university supervisors.

*Instrumentation*

A survey was utilized as a data collection tool. The survey was an appropriate tool since potential candidates for the study could live anywhere in the state of Texas and be teaching in Texas public schools. In addition, with the nature of teacher workload and outside of the
classroom duties, the research team’s goal was to limit the survey to 20 questions with a target completion time of under 10-15 minutes.

The final survey consisted of a total of 28 items. This included the informed consent and confirmation of program completion items as well as three demographic items of age, gender and ethnicity. Additional contextual items included number of years of prior teaching experience and first school campus and district information as well as any subsequent campus and districts the candidate had taught in. The survey items specifically related to the research questions began at question number 10. Type of field experience completed, the willingness of the participant to recommend the program, participation in and characteristics of local campus or district mentoring or induction programs, if applicable, as well as whether or not participants had ever left teaching temporarily or made plans to leave and reasons for doing so were also included.

The variable personal characteristics included the following items: age, gender, ethnicity, commitment and self-efficacy. Preparation program, as a variable, included measures for the following program courses: literacy for all, applying theory to practice, curriculum development for diverse learners, maintaining classroom discipline, as well as field experience. School setting variable characteristics included Texas Education Agency-reported student campus academic performance, non-minority population percentage, student population percentage not eligible for free or reduced lunch, and school district type based on geographic location as designated by the Texas Education Agency.

Working conditions as a variable included student behavior, administrative support, salary adequacy, mentoring offered at the campus, and whether the teacher was certified in
the content area in which he or she taught. It should be noted that administrative support was measured by several items related to aspects that collectively represent administrative support. These aspects included the extent to which local campus administration provided resources, collaborative planning time, teacher support, meaningful feedback, professional development, timely responses, autonomy, and allowing sufficient input on policies. Figure 2 displays a representation of the logic and flow of the survey instrument used in the study.

The survey was submitted to the University of North Texas Institutional Review Board (IRB) process for approval. The study was approved for administration. In order to provide realistic responses to the survey, a pilot study was conducted with 16 individuals who were not in the study population but were familiar with the program and teaching. Nine of the 16 teachers solicited completed the pilot survey. Minimal adjustments were made to the survey. The entire survey was developed and administered utilizing Qualtrics® software available through the University of North Texas.
Validity and Reliability

Validity of a survey refers to whether or not the tool actually measures what it was designed to measure. According to Fink (1995), there are four types of validity aspects for a survey: 1) content; 2) face; 3) criterion; and 4) construct. The surveyor must first define the objective to be measured and include questions to measure every aspect of that definition in order to demonstrate content validity. A good source for the definition is the literature. The knowledgeable reviewer’s goal is to develop a rigorous assessment instrument or measure (Fink, 1995; Hinkle, 2003). Unlike content validity, face validity does not rely on the literature but rather the ‘feel’ of the measure. Face validity confirms the feasibility of reasonably measuring a question based on language. Criterion validity, also known as concurrent or predictive validity, is essential if the study is to benefit the field it is informing with its results. This aspect of validity addresses the predictive authority of the assessment.

This helps guide researchers looking to use existing surveys by providing enough information for them to decide. Finally, construct validity enables the measure to differentiate one group from another based on a significant variable. This measure is also key when assisting researchers with determining the potential of the instrument for other studies. Construct validity advises other researchers whether the instrument has the capability to measure hypothetical constructs or concepts (Creswell, 2009).

In addition to these fundamental aspects of validity, there are two categories that threaten a measure’s validity: internal and external validity. Internal validity threats are those that arise from the process steps and treatments of an experiment. It can also include the experience of the experiment’s participants. A researcher needs to plan to mitigate these
threats to protect the integrity of the conclusions drawn from the results of the study. For example, potential threats to the present study include history – during the time that has lapsed between conducting the study and the items the participant is asked about, events might have occurred that influenced responses beyond the researcher’s control (e.g. teacher could have experienced multiple school assignments or leaders while the study is only asking about the first assignment’s influence on his or her retention intentions).

Maturation is a threat to the validity of the present study as it refers to the personal growth of a participant over the course of the period for which the survey is requesting information. Many teachers become more confident in their teaching the longer they remain in the field. If a survey is about a teacher’s self-efficacy early in the maturation process, the respondent may unconsciously respond based upon his or her present perception of placement on the continuum with respect to the survey prompt. This can skew results. Other internal validity obstacles include participation selection, regression, experimental mortality (i.e. participants do not complete the study), regression, or compensatory rivalry (Creswell, 2009; Gall, Gall, and Borg, 2003).

The risk of external validity is concerned with the ability to extend the findings of a study to populations outside of the present study. They are found in either the population or the ecology of the experiment. If the characteristics of the sample population do not mirror those of the targeted population a researcher intends to generalize the findings to, there is an external validity concern. For the present study, it could be that certain aspects of the program are not present in other teacher preparation programs to which the findings might otherwise be generalized.
Ecological issues arise when there are factors outside of the study or experiment influencing participant responses or the outcome of the study. Those that may impact the present study include interaction between multiple treatments, where participants do not respond normally just because the study is being conducted (Hawthorne Effect), interaction of history and treatment effects (result or response cannot solely be attributable to the treatment), and experimenter effect or interaction of timing of measurement and treatment (timing could influence results) (Gall et al., 2003). For example, for the current study, some participants might have previously participated in the McKee (2003) study on teachers prepared through the University of North Texas’ College of Education. Another example could be that timing of the administration of the survey could influence results if a respondent were presently having an issue with administrative support or collegiality.

To lessen the impact of these concerns upon the effectiveness of the measurement, practical steps are to be followed. First, the potential threats must be identified and addressed in the research design proposal. Once the identified threats are precisely defined along with their potential impact on the study, detailed plans to mitigate the threat are to be included in the experiment’s design. (Creswell, 2009).

For construct validity, the self-report survey (Appendix B) was developed based on grounded theory from the research literature. A panel of active teacher education experts validated survey questions prior to administration. While responses to most questions were based upon a 4-point Likert scale, respondents were given the opportunity to provide additional qualitative responses to open-ended questions. The open-ended questions solicited input on any aspect of the online post-baccalaureate secondary teacher certification program.
that had helped prepare them for a long career in teaching as well as any factor, in general, that may have contributed. Information submitted for the open-ended survey questions also helped validate the data collected from the survey. For reliability the Cronbach’s Alpha was computed for the four factors: 1) Personal characteristics; 2) Teacher preparation program; 3) Working conditions; and 4) School setting attributes.

Survey Limitations

While surveys or questionnaires are a cost effective means for collecting data from a particular population, the overall effectiveness of these research tools is dependent upon the demonstrated validity, reliability and overall utility of the survey and its design. Also, there are pros and cons around the method of conducting the survey – via email, the internet, mail or by interview – and whether or not to use an existing survey or design a new one.

The G*Power calculator was used to compute the minimum sample size for this study. Based on the number of tested predictors (21), an α of 0.05 and effect size of 0.40, the present study required a minimum sample size of 71. The present study obtained 77 responses; for a response rate of 21%.

Data Collection Procedures

Three data sources were utilized for the present study. First, a request was made of the Texas Education Agency (TEA) to provide teacher assignment information for the period of 2002-2014 in order to track teacher retention from year to year for completers of the University of North Texas Secondary Online Post-Baccalaureate Teacher Certification Program. The second data source was maintained by the University of North Texas (UNT) program. This data set included candidate contact, demographic, and program completion information to be
compared with the Texas Education Agency data. Finally, the third data set was comprised of
the responses from an online survey administered in order to obtain firsthand data from the
candidates about their teaching experience and why they remain in the field. Additionally, data
was collected from two Texas Education Agency websites. The first site provided information on
district type based on the campus and district names. The second site provided and campus-
level data on student Texas Assessment of Knowledge and Skills (TAKS) standardized test
performance, student ethnic population percentage and student population percentage who
were free or reduced lunch eligible.

Personal information for these individuals such as name, contact information, and
student or Texas Education Agency (TEA) identification number were obtained from the
University of North Texas. Once Texas Education Agency identification numbers are obtained, a
request was submitted to Texas Education Agency for information concerning teaching status
for each for the school years from 2003-2004 through 2012-2013. The Texas Education Agency
provided data including subjects taught, grade level, and campus and certification information
by school year for this time period.

The above data points obtained from the University of North Texas and the Texas
Education Agency were compared to identify teacher certification program students who both
completed the program and entered teaching in Texas public schools. In order to answer
Research Questions 1, 2, and 3, the Texas Education Agency data also provided insight on
whether they taught and how many years they taught in Texas public schools.

To answer Research Questions 4 and 5, additional personal contact information was
obtained from the University of North Texas registrar in order to have email addresses to which
to send the online survey links to qualifying potential respondents. Individual participants were invited to participate in the study via email.

Upon obtaining University of North Texas IRB approval for the use of the survey instrument and to conduct the study, I sent emails containing a link from which respondents could access the online survey to all participants whose current contact information was available. As an incentive, participants were offered one entry into a drawing for $250 cash or a gift card of their choice. In addition, to encourage timely response to the survey, respondents who submitted their completed surveys within two weeks of the initial invitation were entered into a separate drawing for a $100 cash or gift card of their choice.

The survey was initially sent out in December, 2014. Follow-up reminders as well as follow-up phone calls were leveraged until response volumes reached the minimum sample size. The initial distribution of the survey went out to program graduates. Ten days after the first distribution, non-responders received a reminder email. A third distribution was disseminated to remaining non-responders. Subsequent distributions were initiated to meet sample size minimums. Responses to the survey were automatically loaded into a database component of Qualtrics® upon completion. Each survey response was returned with a unique response ID for each record. Completed survey data were downloaded from Qualtrics® via .csv format and subsequently loaded into SPSS® for data analysis. Upon completion of the sixth week after the initial survey was sent, all responses were exported into statistical software for analysis.
Identifying and Contacting Survey Respondents

Potential participants were identified by comparing University of North Texas (UNT) records of individuals who completed the online post-baccalaureate secondary teacher certification program to those of the Texas Education Agency (TEA) utilizing their TEA Identification numbers for the time period between 2003 through 2014. The first program completers would have finished the program in 2003. In order to have completed five years in teaching by the school year 2013-2014, participants would have to have completed the program by 2009. TEA records included teaching assignment information for each teacher by school year. The comparison of UNT and TEA records yielded a list of individuals who were eligible to participate in the study. Finally, the list was submitted to the University of North Texas in order to obtain email addresses on file for the teachers to send the email requesting their participation in the study.

Administration of the survey included the following process steps:

1. In Qualtrics®, I sent emails that included an outline of the purpose of the study, the benefits and incentive participation along with the link to the survey (Appendix C).
2. The survey included an informed consent form at the start of the survey. Participants were required to click ‘AGREE’ in order to proceed with the survey.
3. For those respondents who had not completed the survey within two weeks of initial send, the reminder email feature in Qualtrics® was utilized to remind respondents to complete the survey.
4. Step 3 was repeated until a sufficient number of completed surveys were submitted.

After the first 45 days, there was a significant reduction in steady survey completions submitted as well as a significant gap between the number of surveys completed and the target number of completed surveys required. I solicited assistance through follow-up phone calls in an attempt to boost completed survey volumes. Two advisors from the College of Education were enlisted to assist with follow-up phone calls utilizing a script and with a special follow-up email reminder with a link to the survey (Appendix D).

Data Analysis Plan

For Research Question 1, University of North Texas program participant completion data was divided by the number of entrants to the program to compute the rate of completion. Program completion data, teacher certification data from the State Board of Education Certification agency, as well as Texas Education Agency (TEA) provided campus assignment data were utilized to calculate the rate of entry into teaching in Texas for Research Question 2. A subset of the data used to calculate Research Question 2 was used to calculate results for Research Question 3 concerning the number of participants who continued to teach in Texas beyond five years. Data from Texas Education Agency and the National Center for Education Statistics were used to obtain state and national retention rates for comparison to University of North Texas program retention rates for Research Questions 4 and 5.

Survey data was leveraged to calculate descriptive statistics and, factor analysis and to perform hierarchical multiple regression analysis on survey items that comprised the factors of interest for the study, for Research Question 4. In addition, correlation coefficients were
calculated and reported in addition to effect sizes for each factor. For this analysis, survey items were grouped into independent and dependent variables (Table 7 and Table 8).

Table 7

*Dependent Variables Used in the Present Study*

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<td>Maintaining</td>
<td></td>
<td>program</td>
</tr>
<tr>
<td></td>
<td>Classroom Discipline</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internship or Student</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Last, for Research Question 5, responses to the open-ended question were organized by demographic attributes coded manually by an expert panel. Evaluation included looking for recurring themes as stated by participants and tying themes back to the research literature as
Table 8

*Independent Variables Used in the Present Study*

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Variables</th>
<th>Measure</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td><strong>Personal Characteristics</strong></td>
<td>Five</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>demographic</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>and</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td>Ethnicity</td>
<td>personal</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td>Self-Efficacy</td>
<td>characteristics</td>
<td>4-point Likert</td>
</tr>
<tr>
<td></td>
<td>Commitment to Teaching</td>
<td>survey items</td>
<td>4-point Likert</td>
</tr>
<tr>
<td>Independent</td>
<td><strong>Working Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrative Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student Discipline</td>
<td>Five Working</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Content Certification</td>
<td>Condition Survey</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Salary Adequacy</td>
<td>Ratings</td>
<td>4-point Likert</td>
</tr>
<tr>
<td></td>
<td>Mentoring Offered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td><strong>School Setting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>District Geographical Type</td>
<td>TEA District Type</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td>Student Campus Performance</td>
<td>2010 AEIS TAKS All</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>grades tested Score</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(table continues)*
Table 7

Independent Variables Used in the Present Study

<table>
<thead>
<tr>
<th>Variable Types</th>
<th>Variables</th>
<th>Measure</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Minority Student</td>
<td>TEA Campus White</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td>Population %</td>
<td>Student Population %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Population Low</td>
<td>Student Population %</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td>Poverty %</td>
<td>eligible for free or reduced lunch</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Analysis Procedures

Data Analysis Procedures for Research Question 1

The list of students who entered the online secondary post-baccalaureate teacher certification program was compared to the list of students who completed the program. Student identification numbers from the respective lists were used to perform a ‘VLOOKUP’ function in Microsoft® Excel between the two lists in order to determine how many students completed the program. The total number of completers was divided by the total number of students who entered the program in order to calculate the rate.

Data analysis procedures for Research Question 2

The list of students who completed the online secondary post-baccalaureate teacher certification program was compared to the Texas Education Agency (TEA) report that included

well as the quantitative analysis results from the present study. Findings were reported by visual representation when possible.
teaching assignment information of teachers who attended the University of North Texas (UNT) and the school years recorded as having served for each teacher. A ‘VLOOKUP’ function was performed in Microsoft® Excel between the two lists utilizing the TEA identification number of each candidate. If the TEA identification number of the student on the UNT list was found on the TEA list for at least one school year, this was counted as qualification for having entered the field of teaching. The total number of teachers who entered the field of teaching divided by the number of program completers yielded a rate for the percentage of teachers who entered the field of teaching.

Data analysis procedures for Research Question 3

The list of students who completed the online secondary post-baccalaureate teacher certification program was compared to the TEA report that included teaching assignment information of teachers who attended the University of North Texas and the school years recorded as having served for each teacher. A ‘VLOOKUP’ in Microsoft® Excel was performed between the two lists utilizing the TEA identification number of each candidate. If the TEA identification number of the student on the UNT list was found on the TEA list for at least five school years – whether consecutive school years or not, this was counted as qualification for having taught in Texas public schools a minimum of five years. The total number of teachers who taught in Texas public schools divided by the number of program completers yielded a rate for the percentage of teachers who remained in teaching a minimum of five years.

Data analysis for Research Question 4

The statistical analysis package SPSS® version 22 was utilized for this research question in order to draw conclusions about how much of the participants’ retention in teaching could
be attributed to the teacher preparation program versus other factors (e.g. personal characteristics, school setting characteristics and working conditions). In preparation for the regression analysis of the data, I conducted a factor analysis of the variables on the survey in order to determine which variables were loading on the same factors indicating a relationship between factors that resulted in a new variable.

Qualitative Analysis

Data Collection procedures for Research Question 5

In order to support the quantitative results as well as identify potentially new retention factors, a qualitative analysis was conducted on the comments participants provided on the open-ended questions on the survey. Respondents answered the following two questions: Is there anything in particular about the online post-baccalaureate secondary teacher certification program that has contributed to you remaining in the teaching field? What factors motivate(d) you to continue in teaching?

A codebook was developed. Responses were reviewed at the ‘utterance’ level by a panel of practicing teacher education experts to identify distinct ideas that lay in the comments recorded and tallying topics as they arose. The panelists noted the topics that appeared to be similar compared to other records in the data set indicating a level of importance. After a refinement process of repeating the above twice more, a code was developed with a definition of the codes and exclusion/inclusion criteria for them. The final codebook contained codes that had been condensed into larger groups of related codes. The panel provided both the code book and the survey responses to another panelist to validate the code against the comments provided on the survey. From start to finish, the list of codes was reduced from 36 topics to 11.
Summary of Methodology

This mixed methods study was designed to determine whether an online post-baccalaureate secondary teacher certification program produces teachers who remain in the field. In order to investigate the question fully, the design considered guidance from the review of the literature. Thus, retention factors other than teacher preparation program were quantitatively examined data collected by the survey instrument including personal characteristics, working conditions and school setting characteristics to put the program’s influence on teacher retention in context.

The study also qualitatively analyzed researcher-solicited responses to understand and identify potential aspects of the program as well as other factors not explicitly considered by the survey instrument that may have also contributed to teacher retention. Results from the data collection and analysis are reported in chapter 4.
CHAPTER 4
RESULTS

The purpose of this study was to investigate whether the online post-baccalaureate secondary teacher certification program produced teachers who remain in the field. Answering this question involved administering a cross-sectional survey that investigated program contribution to long careers in teaching, personal characteristics, working conditions and school setting characteristics to identify how these factors influenced these teachers’ decisions to remain in teaching. The investigation was focused around the following five research questions:

1. At what rate do students complete the online secondary post-baccalaureate teacher certification program?

2. At what rate do students who complete the online secondary post-baccalaureate teacher certification program enter the teaching field?

3. At what rate do students who complete the online secondary post-baccalaureate teacher certification program remain in teaching beyond five years?

4. Do the data support a multi-factor model for teacher retention?

5. What factors contribute to the retention of these teachers?

Before results of the study concerning the research questions are reported, reliability and validity of the survey instrument as well as the demographic profile of the study sample is described to provide the reader depth into the context of the study. The demographic profile consists of not only age, gender and ethnicity but information about prior teaching experience, teacher mobility and high-level school district information for the participants. These are important factors as the research literature raises calls attention to these factors as influences on teacher attrition and retention decisions (Boyd, Lankford, Loeb, and Wyckoff, 2005; Boyd et
al., 2009; Cha and Cohen-Vogel, 2011; Hancock and Scherff, 2010; Hanushek and Kain, 2004; Newmark, 2008; Petty, Fitchett, and O'Connor, 2012). Since the study focuses on teachers who have taught at least five years, it is important to know how closely the factors characterize teachers who stay in teaching.

Reliability Results

Since the goal of the survey was to measure the four groups of retention factors identified in the research literature, several Cronbach’s Alphas were computed to determine how reliable the instrument was in measuring these factors. I performed a reliability assessment on the items related to personal characteristics, preparation program, school setting and working conditions, which resulted in Cronbach’s Alphas of 0.39, 0.80, 0.78 and 0.84, respectively (indicated by 0.7 or above. Therefore, items for preparation program rating, school settings and working conditions were considered to have reliable measures for these factors or variables. ). According to Nunnally (1978), greater than 0.6 is considered sufficient in order to validate internal consistency of a new scale. However, strong reliability is indicated by 0.7 or above. Therefore, items for preparation program rating, school settings and working conditions were considered to have reliable measures for these factors or variables.

Table 9

<table>
<thead>
<tr>
<th>Factors</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Characteristics</td>
<td>.38</td>
</tr>
<tr>
<td>Preparation Program Aspects</td>
<td>.80</td>
</tr>
<tr>
<td>School Setting Characteristics</td>
<td>.78</td>
</tr>
<tr>
<td>Working Conditions</td>
<td>.84</td>
</tr>
</tbody>
</table>

*Reliability measure for each factor as measured by Cronbach’s α.
Personal characteristics as a variable was expected to have a low reliability rating due to the nature of the data for characteristics such as age and ethnicity.

Study Sample Description

The survey was sent to a total of 372 potential participants. These participants had completed the online post-baccalaureate secondary teacher certification program, obtained teacher certification and taught in Texas Public Schools a minimum of five years. Of the 372 sent out, 63 emails bounced back resulting in a net of 309 total emails sent. Only 93 surveys were submitted for a response rate of 30%. Seven surveys were duplicates as these respondents took the survey twice. Of the participants with duplicates, none of them fully completed both surveys submitted; I excluded the incomplete duplicate surveys from the data set bringing the sample size to 87. Two of the participants did not complete the entire survey and one participant did not enter teaching. Four respondents had not actually completed five years of teaching in Texas but rather taught out of state or at a private school. These responses were excluded from the quantitative analysis since school setting characteristic information could not be validated using Texas Education Agency data. However, these responses were retained for the qualitative analysis of the program preparation rating and feedback since they were validated as having completed the program and one of the goals of the study was to provide feedback to the program for improvement. Lastly, three respondents did not sufficiently complete the survey (i.e., failed to select a response for all of the working conditions or preparation program items) which prohibited these surveys from being included in the necessary analysis.
After invalid responses were removed, a net of 77 valid responses were collected for a response rate of 20%. Survey responses were received over a ninety day period from December 2014 through March 2015. The mean completion time for the completed surveys was 7 minutes 14 seconds.

I utilized a post-hoc hierarchical multiple regression analysis to determine the power level of the analysis. Based on a .41 effect size, a probability level of 0.05, a total sample size of 71 and 21 tested predictors, the power computed was 0.80 (Allegemeine Psychologie und Arbeitspsychologie, 2015). It should be noted that a sample of 71 was used for this portion of the analysis since school setting characteristic information could not be found for 6 of the teacher’s schools.

Demographic Profile of Participants in the Study

Age

The mean age for the respondents was 37.26 with a standard deviation of 9.4. The youngest age was 24 and the oldest age was 66. For purposes of reporting here, the ages were grouped as follows: 20-30, 31-40 and 41 and over (Table 10).

Table 10

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Counts</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30 Year Olds</td>
<td>19</td>
<td>25%</td>
</tr>
<tr>
<td>31-40 Year Olds</td>
<td>39</td>
<td>51%</td>
</tr>
<tr>
<td>41 and Over</td>
<td>19</td>
<td>25%</td>
</tr>
<tr>
<td>Totals:</td>
<td>77</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Percentages do not add up precisely to 100% due to rounding
Gender and Ethnicity

The sample for this study was comprised 77 individuals from 77 different schools and 63 different Texas school districts. Females made up 81% of respondents while males accounted for 19%. In addition, 84% were White while the remaining respondents were non-White teachers (Table 11).

Table 11

Participants by Gender and Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Asian</td>
<td></td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>African-American</td>
<td></td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Two or More Ethnicities</td>
<td></td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>White</td>
<td></td>
<td>13</td>
<td>53</td>
<td>66</td>
<td>86%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>15</td>
<td>62</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td>20%</td>
<td>81%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

*Total percentages do not total 100% precisely due to rounding.

School District Information

Participants in the study represented eight different types of school districts. The Texas Education Agency has a total of nine different types of districts. The largest type of school district is major urban. Other districts in decreasing size order include major suburban, other central city, other central city suburban, independent town, non-metropolitan: fast-growing (not represented in the present study), non-metropolitan: stable, rural or charter school districts. Table 12 presents the breakdown of school district types represented in the present study.
Table 12

*Texas Education Agency (TEA) School District Categories and Descriptions*

<table>
<thead>
<tr>
<th>School District Types</th>
<th>TEA Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Urban</td>
<td>County population ≥ 735K and 75% of county’s largest district; 35% of students are economically disadvantaged.</td>
</tr>
<tr>
<td>Major Suburban</td>
<td>Contiguous to a major urban district; enrollment is ≥ 3% of contiguous major urban district or not contiguous to major urban district but in the same county and enrollment at least 15% of nearest major urban district</td>
</tr>
<tr>
<td>Other Central City</td>
<td>Not contiguous to a major urban district, county population &gt; 100K, &lt; 735K</td>
</tr>
<tr>
<td>Other central city Suburban</td>
<td>County population &gt; 100K, &lt; 735K and enrollment ≥ 15% of county’s largest district enrollment or contiguous to another central city district, enrollment &gt; 3% of the contiguous other central city district and enrollment &gt; state’s median district enrollment of 735.</td>
</tr>
<tr>
<td>Independent town</td>
<td>County population &lt;25K, &lt;100K and &gt;75% of county’s largest district enrollment.</td>
</tr>
<tr>
<td>Non-metro stable</td>
<td>Enrollment &gt; state’s median district enrollment.</td>
</tr>
<tr>
<td>Rural</td>
<td>Either enrollment &gt;300, &lt;state’s media district enrollment and &lt;20% enrollment growth rate over past 5 years or enrollment &lt;300.</td>
</tr>
<tr>
<td>Charter school</td>
<td>Open-enrollment districts chartered by the State Board of Education.</td>
</tr>
</tbody>
</table>

*Source: [http://tea.texas.gov/acctres/analyze/0708/gloss0708.html](http://tea.texas.gov/acctres/analyze/0708/gloss0708.html)*

A few additional observations were made about the environment in which participants in this study have been teaching: Although a majority of the respondents teach in Major Suburban school districts, 1) the distribution of student TAKS scores across the schools in which these teachers taught was negatively skewed with a mean of 75%), 2) the distribution of student poverty level percentages was negatively skewed with a mean of 54% (Figure 4) and 3) the distribution of student ethnic population mix was positively skewed with a mean of 43% non-White students in the schools in which teachers participating in the study served(Figure 5).
Figure 2. Distribution of campus student performance.

Student poverty level percentages of the schools in which the teachers in the study taught was measured by percent of students who were eligible for free or reduced lunch. Student population mix was measured by percentage of non-White ethnic groups on each campus represented in the study.
Figure 3. Distribution of campus student poverty.

Teacher Movement: Changed Schools, Temporary Left or Planned to Leave Teaching

Of the respondents, about half of the males and about one third of the females reported they continue to teach in the same school to which they were assigned upon completion of the teacher certification program. Several respondents experienced times in their teaching careers when they made retention decisions. Some decided stay in their current school, change schools, leave teaching temporarily or leave teaching altogether.
Twenty-five (33%) teachers reported they had left teaching temporarily at one point in their careers. Fifty (67%) of the respondents had not left temporarily. The Texas Education Agency data indicate that out of the 372 who taught in Texas public schools more than five years, 46 (12%) had missed at least one academic year after starting to teach. Survey respondents who indicated they had not left temporarily were asked whether they had ever made plans to leave teaching. Of those who had not left temporarily, 35 reported they had

Figure 4. Distribution of student non-White population percentage.

Temporarily Left Teaching or Made Plans to Leave
considered leaving by reporting they had made plans to do so (Table 13). Of those who had not left teaching temporarily (50), 16 reported they had not made plans to leave their careers either. Those that had left teaching cited job stress as the top reason, followed by salary or moving to a different job outside of teaching, and personal reasons. Respondents who had made plans to leave teaching cited personal reasons as the top reason followed by job stress, moving to a different job, and salary. Participants who indicated they had temporarily left teaching and participants who had made plans to leave teaching, included comments indicating lack of administrative support, inability to find a job close to home or a permanent job as additional reasons impacting retention decisions. In fact, six participants indicated that they either had already left (after completing at least five years in teaching) or planned to leave teaching soon.

Table 13

*Teacher Movement Behaviors*

<table>
<thead>
<tr>
<th>Teacher movement behavior</th>
<th>Scale:</th>
<th>Yes (2)</th>
<th>No (1)</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still teaching in the same school?</td>
<td></td>
<td>27</td>
<td>50</td>
<td>77</td>
</tr>
<tr>
<td>Ever left teaching temporarily?</td>
<td></td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Ever made plans to leave teaching?</td>
<td></td>
<td>35</td>
<td>15</td>
<td>50</td>
</tr>
</tbody>
</table>

Hard-to-staff schools are characterized by low student performance, high minority student population, high student poverty levels and urban, suburban or rural school district types. Teachers in the present study reported they whether they were still teaching in the same school or not. This information was compared to the Texas Education Agency data from their initial teaching assignment school to examine the teacher mobility behaviors based on hard-to-staff school characteristics (Table 14).
Table 14

*Teacher Movement by Hard-to-Staff School Characteristics*

<table>
<thead>
<tr>
<th>Measure/Scale:</th>
<th>Yes</th>
<th>No</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher remained in initial school?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1Student performance - All Grades 2010</td>
<td>27</td>
<td>49</td>
<td>76*</td>
</tr>
<tr>
<td>≥ 70% TAKS score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;70% TAKS score</td>
<td>5</td>
<td>30</td>
<td>61%</td>
</tr>
<tr>
<td>2Student non-minority population %</td>
<td>27</td>
<td>49</td>
<td>76*</td>
</tr>
<tr>
<td>&gt;50% White students</td>
<td></td>
<td>17</td>
<td>35%</td>
</tr>
<tr>
<td>&lt;50% White students</td>
<td>10</td>
<td></td>
<td>37%</td>
</tr>
<tr>
<td>3Student poverty % – free/reduced lunch</td>
<td>27</td>
<td>49</td>
<td>76*</td>
</tr>
<tr>
<td>&gt;50% Not eligible</td>
<td></td>
<td>28</td>
<td>57%</td>
</tr>
<tr>
<td>&lt;50% Not eligible</td>
<td>8</td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>District type</td>
<td>27</td>
<td>49</td>
<td>76*</td>
</tr>
<tr>
<td>Major urban/Major suburban/Other central city suburban</td>
<td>26</td>
<td>96%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>16%</td>
<td></td>
</tr>
</tbody>
</table>

*76 teachers are included in this analysis due to lack of data for the 77th school

1Figure 3 illustrates the distribution of campus student performance

2Figure 4 illustrates the distribution of campus student poverty

3Figure 5 illustrates the distribution of campus student ethnic population

The measures used for these descriptive statistics for student minority population and student poverty levels are the inverse of the definition of ‘hard-to-staff’ schools. For example, student minority population was measured by percentage of White (non-Minority) students for the campus in 2010. For teachers who reported they remained at the same school, the table displays how many teachers stayed at a school with less than 50% White student population as well as how many left campuses with greater than 50% White student population. Similarly, student poverty level percentages were measured for students not eligible for free or reduced lunch. Therefore, the table displays how many of the teachers who taught at their same initial school remained at schools with less than 50% of their student population not eligible for free or reduced lunch. I reported these factors this way (% White versus % minority and % not
eligible or ineligible versus % eligible) in order to be consistent with the coding of the survey instrument responses. Response options that have been reported as a more favorable condition for teacher retention in the research literature were coded higher than those reported as more favorable conditions for teacher attrition. Surprisingly, as shown in Table 14, school setting factors including schools with high rates of student success on the state exam, high percentages of White students, and low percentages of students eligible for free and reduced lunch did not favor retention of teachers in this study.

Prior Teaching Experience

About one out of five study participants reported having teaching experience prior to starting the post-baccalaureate program. The number of prior years of teaching experience varied between six months and seven years. Eighty percent of the males and 90% of the females reported having a strong commitment to teaching prior to beginning the program. This is consistent with the literature. Hughes (2012) reported similarly that 83% of the participants in his study indicated they had a strong commitment to teach through retirement. Concerning self-efficacy, 98% of the females and 93% of the males reported high confidence levels about their ability to overcome any challenges they might face in the classroom at the start of the program.

Research Question 1: At What Rate Do Students Complete the Online Secondary Post-Baccalaureate Teacher Certification Program?

To calculate completion rates, data from the online secondary post-baccalaureate teacher certification program file was compared to the program’s candidate completion file. The comparison identified 3,103 candidates who had begun the program between 2003 and
2013. Of the 3,103 candidates, 1,340 completed the program. That is, from the program’s inception in 2001, of those who began the program, 43% have completed the program.

Research Question 2: At What Rate Do Students Who Complete the Online Secondary Post-Baccalaureate Teacher Certification Program Enter the Teaching Field?

To calculate entrant, or placement rates, the file containing the list of University of North Texas candidates identified as having completed the online secondary post-baccalaureate teacher certification program (Research Question 1) was compared to the Texas Education Agency’s teacher employment data file. The comparison identified 874, or 65% of these candidates who were employed in public K-12 classrooms or other education positions in the state of Texas. Between the academic years of 2003-2004 and 2013-2014, the number of program participants entering teaching grew each year.

Table 15 displays the increase of new teachers and includes teachers who may have been in education positions other than teaching such as school counselors, diagnosticians, principals, etc. The program is not cohort-based. Therefore, it was not possible to calculate a year over year completion rate for program participants. Furthermore, it was not possible to create a view of any trends in completion rates that may have occurred over this time period.

Table 15

<table>
<thead>
<tr>
<th>Texas Education Agency Program Participant Teacher Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>87</td>
</tr>
</tbody>
</table>
Research Question 3: At What Rate Do Students Who Complete the Online Secondary Post-Baccalaureate Teacher Certification Program Remain in Teaching at Least Five Years?

To calculate teacher retention rates, the research utilized the Texas Education Agency employment data file to count how many academic years of employment were reported for each teacher. If this number was at least five, even if not in sequential order, they were counted as having remained in teaching at least five years. For example, if teachers were employed in academic years 2005-2006, 2007-2008, 2009-2010, 2010-2011 and 2012-2013, they were counted as having remained in teaching. Likewise, if teachers were employed in all the academic years of 2003-2004 through 2012-2013, they were also counted as having remained in teaching at least five years.

A total of 372, or 43%, of the 1,304 teachers who completed the online secondary post-baccalaureate teacher certification program remained in teaching a minimum of five years. This is the population for Research Question 4.

Research Question 4: Does the Data Support a Multi-Factor Model for Teacher Retention?

The sample for this analysis was 77. This question was investigated by examining the nature of the survey responses for the following variables: personal characteristics, preparation program aspects, working conditions and school setting characteristics. A discussion for each variable follows.

Personal Characteristics

Teacher commitment was measured by the selection of one of the following responses to the question: “When you entered the online post-baccalaureate secondary teacher certification program, at the University of North Texas, what was your level of commitment to remain in teaching at that time?” The possible responses were: 1) I planned only to teach until I
found a better job/career (1-2 years); 2) I planned to teach less than 3-5 years; 3) I planned to teach for at least five years; or 4) I planned to stay in teaching until retirement. The responses were coded in order with ‘1’ representing the first response and ‘4’ the fourth response since that is the most desirable outcome for teacher retention. Sixty-eight participants in the study (88%) reported planning to teach at least five years when they initially began the program (Table 16).

Table 16

**Personal Characteristics - Commitment**

<table>
<thead>
<tr>
<th>Commitment to Teaching</th>
<th>Until Retirement (4)</th>
<th>At least 5 years (3)</th>
<th>3-5 years (2)</th>
<th>1-2 Years (1)</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment Scale:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>57</td>
<td>11</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Similarly, self-efficacy was measured with a Likert 4 point scale rating response to the question: “When you entered the online post-baccalaureate secondary teacher certification program at the University of North Texas, what was your confidence level in your ability to overcome challenges you may face in the classroom?” Possible response selections were: 1) “I was not confident at all;” 2) “I was somewhat not confident;” 3) “I was somewhat confident;” or 4) “I was extremely confident.” Responses were coded in their order as listed. Forty-three percent of teachers indicated they were somewhat confident that they would be able to overcome any challenges they expected to face in the classroom. Another 55% indicated they were extremely confident. In total, 97% percent of study participants reported they were at
least somewhat confident in their ability to overcome challenges they may face in the classroom (Table 17).

Table 17

**Personal Characteristic – Self-Efficacy**

<table>
<thead>
<tr>
<th>Self-efficacy Scale:</th>
<th>Level of teaching confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extremely confident (4)</td>
</tr>
<tr>
<td></td>
<td>Somewhat confident (3)</td>
</tr>
<tr>
<td></td>
<td>Not confident at all (1)</td>
</tr>
<tr>
<td>Total responses</td>
<td>77</td>
</tr>
</tbody>
</table>

**Teacher Preparation Program Rating**

Overall, participants rated the online secondary post-baccalaureate teacher preparation program as important in preparing them for a long career in teaching. Respondents rated each aspect of the program based on the following prompt: “Please rate how important each aspect of the program was to prepare you for a long career in teaching.” Possible response selections included, *not at all important, somewhat unimportant, somewhat important,* or *extremely important.* Responses were coded in one unit intervals with anchor phrases of *not at all important* coded as 1 and *extremely important* coded as 4. The program aspects rated were the four required courses - Literacy for All, Everyone Can Learn – Applying Theory to Teaching Practice, Curriculum Development for Diverse Secondary School Learners, Maintaining Classroom Discipline – and Student Teaching or Internship.

The aspects that were most highly rated included the Maintaining Classroom Discipline course and the field experience. Fifty-four respondents (70%) rated each of these as extremely important. Another 19% of respondents rated the course on classroom discipline as somewhat important.
important and 19% of respondents rated the field experience as somewhat important in preparing them for a long career in teaching (Table 18).

Table 18

Preparation Program

<table>
<thead>
<tr>
<th>Scale: Preparation program aspect</th>
<th>Extremely important (4)</th>
<th>Somewhat important (3)</th>
<th>Somewhat unimportant (2)</th>
<th>Not at all important (1)</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy for All</td>
<td>32</td>
<td>31</td>
<td>11</td>
<td>3</td>
<td>77</td>
</tr>
<tr>
<td>Everyone Can Learn – Applying Theory to Teaching Practice</td>
<td>33</td>
<td>32</td>
<td>1</td>
<td>11</td>
<td>77</td>
</tr>
<tr>
<td>Curriculum Development for Diverse Secondary School Learners</td>
<td>38</td>
<td>22</td>
<td>14</td>
<td>3</td>
<td>77</td>
</tr>
<tr>
<td>Maintaining Classroom Discipline</td>
<td>54</td>
<td>15</td>
<td>6</td>
<td>2</td>
<td>77</td>
</tr>
<tr>
<td>Student Teaching or Internship</td>
<td>54</td>
<td>12</td>
<td>8</td>
<td>3</td>
<td>77</td>
</tr>
</tbody>
</table>

Working Conditions

Working Conditions - Administrative Support

Teachers in the present study reported that the local administration in the schools where they taught provided sufficient support to them (Table 19). Study participants responded to the prompt: “Please rate the extent to which your local campus administration provides the following.” Administrator support measures included how sufficiently each teacher’s campus administrators provided the following: “Resources,” “Collaborative planning time,” “Providing support to teachers,” “Meaningful feedback on your teaching to further your growth as a teacher,” “Providing meaningful professional development to further your growth as a teacher,” “Timely answers for questions or concerns,” “Autonomy in your classroom,” as well as “Sufficient input from you on school policies and issues.” Response ratings were coded
in one unit intervals as follows: *not sufficient at all, somewhat insufficient, sufficient,* or very 
sufficient. Responses were coded in order with Likert scale anchor points *not sufficient at all*
coded as 1 and *very sufficient* coded as 4.

About 60% of the time, teachers in the present study rated their local administrators at
least sufficient, often very sufficient at providing resources, collaborative planning time, teacher
support, meaningful feedback and professional development, timely answers, and autonomy
and opportunities for input in their respective campus communities.

Where administrators were reported as lacking the most was in the two areas of
providing collaborative planning time and meaningful feedback on their teaching enabling them
to grow as a teacher. About 7% of the time, respondents reported their administration as not
sufficient at all in the areas included in the study (Table 19).

Table 19

**Working Condition – Administrative Support**

<table>
<thead>
<tr>
<th>Program aspect</th>
<th>Very sufficient (4)</th>
<th>Sufficient (3)</th>
<th>Somewhat insufficient (2)</th>
<th>Not sufficient at all (1)</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>28</td>
<td>37</td>
<td>8</td>
<td>3</td>
<td>76</td>
</tr>
<tr>
<td>Collaborative planning time</td>
<td>27</td>
<td>26</td>
<td>16</td>
<td>7</td>
<td>76</td>
</tr>
<tr>
<td>Providing support to teachers</td>
<td>23</td>
<td>36</td>
<td>8</td>
<td>6</td>
<td>73</td>
</tr>
<tr>
<td>Meaningful feedback on your teaching for further growth as a teacher</td>
<td>17</td>
<td>37</td>
<td>17</td>
<td>5</td>
<td>76</td>
</tr>
<tr>
<td>Meaningful professional development for further Growth as a teacher</td>
<td>22</td>
<td>37</td>
<td>8</td>
<td>9</td>
<td>76</td>
</tr>
<tr>
<td>Timely answers for questions or concerns</td>
<td>26</td>
<td>36</td>
<td>10</td>
<td>4</td>
<td>76</td>
</tr>
<tr>
<td>Autonomy in your classroom</td>
<td>35</td>
<td>27</td>
<td>10</td>
<td>4</td>
<td>76</td>
</tr>
<tr>
<td>Sufficient Input from you on school policies and issues</td>
<td>20</td>
<td>39</td>
<td>7</td>
<td>10</td>
<td>76</td>
</tr>
</tbody>
</table>

*There were only 76 responses to this question due to one respondent’s incomplete survey.*
Working Conditions – Mentoring Offered, Certified on Content Area

Mentoring was evaluated using four measures. First, participants were asked to indicate whether their local campus offered mentoring by responding “Yes” or “No.” Respondents, who indicated mentoring was offered, were asked follow-up questions such as whether they participated in the mentoring, and if so, what was the frequency and level of formality as well as the overall effectiveness of the program. Since 78% of participants indicated there was no mentoring offered on their local campus, only the first question is reported here as a representation of emphasis on mentoring among the campuses in which study participants served. In addition, out-of-field teaching was measured with one survey item asking whether the teachers were certified to teach in the content area they were teaching. Seventy-six responses (97%) reported they were certified to teach in the content area they taught (Table 20). This suggests there were minimal if any out-of-field teaching assignments in this sample.

Table 20

<table>
<thead>
<tr>
<th>Mentoring offered/Certified in content Area?</th>
<th>Scale:</th>
<th>Yes</th>
<th>No</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentoring offered on local campus?</td>
<td></td>
<td>17</td>
<td>59</td>
<td>76</td>
</tr>
<tr>
<td>Certified to teach in your content area?</td>
<td></td>
<td>72</td>
<td>2</td>
<td>74</td>
</tr>
</tbody>
</table>

*There is a mismatch in total responses due to a few respondents omitting responses to this question*

Working Conditions – Salary

Salary satisfaction was measured with one survey item prompt: “Please rate your salary adequacy.” Responses were based on a four-point Likert Scale made up of the following: I am
not satisfied with my salary at all, I am somewhat dissatisfied with my salary, I am satisfied with my salary, and I am extremely satisfied with my salary. These were coded in one unit intervals from 1 to 4. Analysis indicated 75% of the teachers reported being at least satisfied with their salary. Twenty-five percent, however, reported being at least somewhat dissatisfied with their salary (Table 21). Only 5% reported not being satisfied at all with their salary.

Table 21

Working Conditions - Salary

<table>
<thead>
<tr>
<th>Scale: Salary Rating</th>
<th>Extremely satisfied (4)</th>
<th>Satisfied (3)</th>
<th>Somewhat dissatisfied (2)</th>
<th>Not satisfied at all (1)</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Satisfied are you with your salary?</td>
<td>4</td>
<td>52</td>
<td>15</td>
<td>4</td>
<td>75</td>
</tr>
</tbody>
</table>

*There are only 75 responses to this question due to respondents omitting their response.

Working Conditions – Student Behavior

Student behavior was measured with one survey item on the survey where participants responded to the prompt: “Which best describes the level of student behavior and discipline at your current school?” Participants responded by selecting one of the following responses based on their perspective: “Extreme violence among students and towards teachers and staff,” “Some disciplinary incidents, not usually violent, managed by local administration and staff,” “Some disciplinary incidents among students, not directed towards teachers or staff,” or “Generally, well-disciplined, no violence, respectful of teacher authority.” Codes in this section were based on a scale from 1 to 4 corresponding in order as listed above.
Student violence on the campuses of the teachers in this study appears to be minimal to non-existent according to 78% of the teachers. However, one teacher did report working in a school with extreme violence (Table 22).

Table 22

*Working Conditions – Student Behavior*

<table>
<thead>
<tr>
<th>Scale: Student discipline on campus</th>
<th>No violence</th>
<th>Not usually violent incidents</th>
<th>Some incidents among students</th>
<th>Extreme violence</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student discipline rating</td>
<td>31</td>
<td>29</td>
<td>16</td>
<td>1</td>
<td>77</td>
</tr>
</tbody>
</table>

*School Setting Characteristics*

School setting characteristics included school district type, campus student performance, student population percentage who were free or reduced lunch eligible, as well as percentage non-minority. School district types were designated by the Texas Education Agency (TEA) as one of eight district types. Student performance was captured from TEA as well from the campus Academic Excellence Indicator System (AEIS) report. In order to capture a snapshot view into campus performance, the “All grades tested” TAKS score for 2010 for the school of their initial teaching assignment was used to measure student performance. This year was used for a variety of reasons. The first reason was in order to facilitate a more accurate comparison between schools. Second, I attempted to avoid the complication of year to year changes within a particular campus. Third, a year was selected in which the majority of the schools had reports in AEIS. Last, I wanted to capture a year when a substantial number of the
teachers were actively teaching and had ample time, within the framework of this study, to make a decision to stay in teaching or to leave.

School District Types

Almost 60% of study participants served in either a Major Urban or Major Suburban school district. Nine teachers, or 12% of the teachers, served in either charter school districts or smaller towns (Independent Town or smaller). Eight school district types, as defined by the Texas Education Agency, were represented in the sample (Table 23).

Table 23

Working Condition – School District Type

<table>
<thead>
<tr>
<th>School district types</th>
<th>Number of teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major urban</td>
<td>10</td>
<td>13%</td>
</tr>
<tr>
<td>Major suburban</td>
<td>35</td>
<td>45.5%</td>
</tr>
<tr>
<td>Other central city</td>
<td>9</td>
<td>11.7%</td>
</tr>
<tr>
<td>Other central city suburban</td>
<td>14</td>
<td>18.2%</td>
</tr>
<tr>
<td>Independent town</td>
<td>2</td>
<td>2.6%</td>
</tr>
<tr>
<td>Non-metro stable</td>
<td>3</td>
<td>3.9%</td>
</tr>
<tr>
<td>Rural</td>
<td>1</td>
<td>1.3%</td>
</tr>
<tr>
<td>Charter school</td>
<td>3</td>
<td>3.9%</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note. Percentages do not total 100% due to rounding

The average of the student achievement performance scores of the campuses in which study participants served was 73%. On average, the minority student population percentage was over 50% of the student population (57%). The student poverty level, was measured using the percent of the student population that was not eligible to receive free or reduced lunch. This measure was a calculation of the inverse of the percentage of students eligible to receive free or reduced lunch which is reported by the Texas Education Agency (Table 24). On average, 53% of students were not eligible.
Table 24

School Conditions

School Conditions – Student achievement, Student ethnic and Student poverty populations

<table>
<thead>
<tr>
<th>School setting characteristic</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student achievement performance</td>
<td>72.93</td>
<td>21.4</td>
<td>77</td>
</tr>
<tr>
<td>Student non-minority population %</td>
<td>42.7</td>
<td>27.2</td>
<td>77</td>
</tr>
<tr>
<td>Student low poverty population %</td>
<td>53.6</td>
<td>27.4</td>
<td>77</td>
</tr>
</tbody>
</table>

Factor Analysis

In order to investigate the model factors contributing to teacher retention, I sought to determine whether unobserved variables were present in the factor structure. The investigation included examining how other variables might influence how teachers rated the extent to which the online post-baccalaureate secondary teacher certification program contributed to preparing them for long careers in teaching. I conducted a Factor Analysis to model the relationships among the variables measured in the study as well as latent factors and error.

Upon conducting a maximum likelihood assessment, I found that both Kaiser-Meyer-Olking (KMO) statistic and Bartlett’s test assumptions of correlation were met. The KMO statistic was greater than 0.600 (0.712), indicating the sample included some variables that were highly correlated and some that were weakly correlated. Bartlett’s test was significant at \( p < .001 \) confirming the correlation matrix did not yield an identity matrix where each variable was perfectly correlated with each of the other variables as needed for the analysis. The communalities table, which displays how well the model explains the variation in the variables,
showed that of the personal characteristics, only the variance in self-efficacy ratings could be substantially explained by the factor loadings of the seven variables the model extracted from the original 21 variables input into the model. Of the remaining variables, salary, district type and content area certification could not be explained substantially by the factor loadings of the seven extracted variables. The seven extracted variables accounted for over 72% of the variance in how teachers rated the online post-baccalaureate secondary teacher certification program as having prepared them for a long career in teaching. The goodness of fit test indicated that the new factor matrix of the seven extracted variables was not statistically different from the observed matrix (0.886), which was desired. A correlation analysis of the regression factor scores from the maximum likelihood analysis revealed none of the factors were related. This is an indication that an orthogonal rotation, varimax in SPSS®, should be conducted in the exploratory factor analysis.

Since only three of the new factors had more than three factor loadings, the next step was to conduct the factor analysis with the number of factors to extract set to three. Also, I removed the following variables as they loaded on other factors by themselves: 1) self-efficacy; 2) field experience rating; 3) mentoring offered; 4) age; and 5) district type. Communalities of the remaining variables were greater than 0.300 on all but six variables. The analysis resulted in three extracted and rotated factors explaining about 47% of the variance in the survey items’ variance-covariance matrix. The reproduced matrix was not statistically different from the observed matrix, indicating a good fit model. This could be because the following items did not load strongly on any factor: 1) gender; 2) ethnicity; 3) commitment; 4) salary; 5) content certification; and 6) student behavior. It is easily observed that working conditions
(Administration support resources, collaborative time, teacher support, feedback, meaningful professional development, timely answers, autonomy and input as well as student behavior) all loaded on the first factor. School setting characteristics (student performance, minority population percentage and school poverty level) loaded on the second factor. Preparation courses (literacy, theory, diversity and classroom discipline) loaded on the third factor. These observations are an indication that the factor structure displayed points to a model that includes working conditions, school setting characteristics, and the teacher preparation program. Personal characteristics did not load as expected.

Hierarchical Multiple Regression Analysis Results

Since the objective of this research question was to evaluate whether multiple factors in the study worked together to contribute to teacher retention, a hierarchical multiple regression analysis was selected as the analysis tool to answer this research question (Tabachnick and Fidel, 2007). In preparation for this analysis, a correlation analysis was conducted first to see which, if any, variables interacted with other variables.

Correlation Analysis

In preparation for the hierarchical multiple regression analysis, I ran a Correlation Matrix to identify any correlations between variables. This analysis yielded some statistically significant (Pearson’s $r > 0.250$, $p < 0.05$) correlations between the dependent variable of the aggregated preparation program rating, most of the working conditions items, and one item, although negatively correlated, from school setting characteristics (Table 25). The remaining variables had a Pearson Coefficient of $r < 0.20$ and $p < 0.05$ for the statistical significance test result.
In order to test for main effects and interactions between the groups of variables, a hierarchical multiple regression analysis was performed on the data using the preparation program aggregated rating score as the dependent variable with the following three blocks of independent variables: 1) personal characteristics: age, gender, ethnicity, self-efficacy, commitment; 2) working conditions: student behavior/discipline, administrative support, mentoring offered, salary satisfaction, and content certification; and 3) school setting characteristics: student academic performance, student non-minority population percentage, student population poverty level percentage, school district type. The three sets of variables, personal characteristics, working conditions and school setting characteristics, were entered separately in a sequence of groups of variables to see if there were a change in effect size ($R^2$).

Table 25

Hierarchical Multiple Regression - Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>Preparation Program Aggregate Rating</th>
<th>Pearson’s r</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative support:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide collaboration time</td>
<td></td>
<td>0.307</td>
<td>0.007</td>
<td>76*</td>
</tr>
<tr>
<td>Administrative support:</td>
<td></td>
<td>0.256</td>
<td>0.029</td>
<td>73*</td>
</tr>
<tr>
<td>Provide support to teachers</td>
<td></td>
<td>0.251</td>
<td>0.029</td>
<td>76*</td>
</tr>
<tr>
<td>Administrative support:</td>
<td></td>
<td>0.333</td>
<td>0.003</td>
<td>76*</td>
</tr>
<tr>
<td>Meaningful feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative support:</td>
<td></td>
<td>0.489</td>
<td>0.007</td>
<td>76*</td>
</tr>
<tr>
<td>Meaningful professional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>development</td>
<td></td>
<td>-0.250</td>
<td>0.000</td>
<td>76*</td>
</tr>
<tr>
<td>Administrative support:</td>
<td></td>
<td>-0.237</td>
<td>0.038</td>
<td>77*</td>
</tr>
<tr>
<td>Sufficient Input from teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentoring offered?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Where N does not equal 77, survey data was incomplete for all respondents*
The model results indicate personal characteristics explained a little, 12.5%, of the variation in how teachers attributed longevity of their teaching careers to the preparation program. However, adding working conditions and school setting characteristics explained over 50% of the variation. The second and third predictor models, working conditions and school setting characteristics, respectively, predicted the dependent variable with statistical significance at \( p < 0.001 \). \( R^2 \) changed by .41 between predictor Model 1 and predictor Model 2.

The model accounts for 56% of the variance in how teachers rated the preparation program as having contributed to preparing them for a long career in teaching (Table 26). Predictor models 2 and 3 were statistically significant at \( p < 0.001 \). Between predictor models 2 and 3, \( R^2 \) changed by only 4.5%. The F-Statistic \((5,66) = 3.668\) for Model 2 and \( F(17,54) = 3.015\) for model 3 (Table 27). Since two of the predictor models have statistical significance, we can consult the coefficients table to identify the Beta weights that are statistically significant in the model (Table 28).

The variables have different scales (i.e. age is continuous with a scale from 24 to 66, student performance and student poverty percentage are continuous with a scale of 6 to 90, ethnicity and gender are categorical and administrative support and preparation program ratings are on the same categorical scale) so, we use the standardized coefficients to care for these differences (Table 28). For the second predictor model (personal characteristics + working conditions) the beta weights for Commitment (\( \beta = .297 \)) and Administrator allow input on school policies and issues (\( \beta = .639 \)) are statistically significant at \( p < 0.01 \) and \( p < 0.001 \) and confidence intervals of (0.30 to 1.831) and (1.126 to 2.984), respectively. The third model (personal characteristics + working conditions + school setting characteristics), these two
variables had a beta weight and confidence interval of $\beta = 0.277$, (0.189 to 1.798) at $p < 0.02$ and $\beta = 0.611$, (0.975 to 2.956) and $p < 0.001$, respectively. The results indicate some aspects of the individual’s personal characteristics (namely, level of commitment to teaching) and working conditions, in conjunction with the teacher education program, contributed to teaching career longevity for these participants.

Table 26

*Model Summary*

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.354</td>
<td>0.125</td>
<td>0.059</td>
<td>2.855</td>
</tr>
<tr>
<td>2</td>
<td>0.732</td>
<td>0.536</td>
<td>0.390</td>
<td>2.299</td>
</tr>
<tr>
<td>3</td>
<td>0.747</td>
<td>0.559</td>
<td>0.373</td>
<td>2.330</td>
</tr>
</tbody>
</table>

Table 27

*Hierarchical Multiple Regression Model Statistical Significance Summary (ANOVA)*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
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<td>15.424</td>
<td>1.893</td>
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<td>8.149</td>
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<td>71</td>
<td></td>
<td></td>
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<tr>
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<tr>
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<td></td>
<td>Total</td>
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<td>71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Aggregate Preparation Program Rating  
b. Predictors: (Constant) Efficacy, Age, Ethnicity, Gender, Commitment  
c. Predictors: (Constant) Efficacy, Age, Ethnicity, Gender, Commitment, Student Behavior, Mentoring Offered, Salary, Content Certification, and Admin Support – Collaboration, Autonomy, Professional Development, Resources, Input, Timely Answers, Feedback, and Support  
d. Predictors: (Constant) Efficacy, Age, Ethnicity, Gender, Commitment, Student Behavior, Mentoring Offered, Salary, Content Certification, and Admin Support – Collaboration, Autonomy, Professional Development, Resources, Input, Timely Answers, Feedback, and Support, School Low Poverty %, District Type, School White %, School TAKS score Average
Table 28

Hierarchical Multiple Regression Standardized Coefficients\(^a\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>95% Confidence interval for (\beta)</th>
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<tr>
<td></td>
<td>(\beta)</td>
<td>Std. Error</td>
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<td>Constant</td>
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<td>Commitment</td>
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<td>Administrative support – input</td>
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</table>

\(^a\)Dependent variable: Aggregate Preparation Program

Research Question 5: What Factors Contribute to the Retention of These Teachers?

Qualitative Analysis Results

Of the 77 survey respondents, 71 responded to the open-ended question, “What factors motivate(d) you to continue in teaching? Please type your response.” A panel of two practicing teacher education experts examined the qualitative responses to identify themes. The first pass resulted in thirty-six categories including a non-responsive category with a total of 116 words or groups of words added to the category. A second review by this panel resulted in refining how an idea was treated in terms of categorization and verifying counts and collapsing categories that were related. For example, “only prepared to teach” was considered similar to another respondent’s comment “I can’t do anything else” and, thus, treated as one category instead of two as initially coded.

Upon reviewing the results of the second review, I collapsed several categories resulting in a final list of eleven codes. The panel reviewed responses a third time using the eleven codes, confirming category collapses and validating the codes given the responses with a third
expert panelist. Finally, a panel of three teacher education experts reviewed responses, in order to confirm coding and finalize the code.

Of the 71 study participants’ comments this question, the largest category of statements, 44, were made related to teachers drawn to teaching because of the opportunity to challenge and inspire students as well as to see the grow. The next largest category of retention factor statements, at a count of 30, was related to the enjoyment and satisfaction teachers experienced from teaching. The next two categories were similar in count with statements related to support from local administration (10) and moving schools or changing educator positions (11), respectively (Figure 6).

*Teacher Retention Factors: Code Examples by Code*

**Code 1: Student Impact**

Teachers reported several reasons for remaining in teaching related to the opportunity to help students. For example, they expressed enjoying challenging students, making a difference, helping provide a better future for students, meaningful for students, watching them grow, and inspiring students. They also reported liking, even loving, their students and working with them.

**Code 1 Examples:**

- Love working with kids and making a difference
- Teaching allows me to have an influence on people who will shape the future of our nation.
- I enjoy being in the classroom and inspiring students.
- I like having an impact on the future.

Responses from 38 participants included 44 similar statements. The volume of responses in this category was the largest among the codes.
Code 2: Teacher Fulfillment

Teachers also expressed a love of teaching. Satisfaction from teaching and feeling their job was important also reflected the intrinsic rewards of teaching. Some teachers stated they were good at teaching, they were called to do it, it was their passion in life, or it was both rewarding and challenging.

Code 2 Examples:

- It is a job that is rewarding and meaningful.
- I love the challenge of finding creative, engaging ways to help my students learn the material.
- ...still feel that is my calling in life.
- Knowing how important my job is helps me work through the difficult times.
- I tremendously enjoy teaching.
- I enjoy what I do.

Thirty response statements were assigned to this category. The comments assigned this code made up the second largest category and were submitted by 28 respondents.

Code 3: Supportive Environment

Campus community was also cited as a factor influencing teacher retention.

Participants valued support from campus administration, their colleagues, other staff and parents and saw them as reasons to continue in teaching.

Code 3 Examples:

- I work...with supportive administration, staff, and parents.
- I enjoy the interaction with...my peers.
- I really enjoy getting to work with the math and science team at my campus.
- I feel really supported by my administration as well.
Of the 71 responses to this question 9 responses included statements given this code.

Six times Code 3 statements were accompanied by Code 1 statements about enjoying working with students. Three occurrences included comments about the content they enjoyed teaching.

Code 4: Love their content

Although not mentioned as many times as other codes, their content area itself kept some teachers in the field. Specifically, literacy and math were mentioned.

Code 4 Examples:

- ...enjoy teaching my content area.
- I love my...subject.
- I love literacy.
- I love teaching math

Eight statements by seven respondents were coded in this category. Each occurrence was accompanied by another statement assigned to code 1. Half the time, the statement was:

Code 5: Schedule

Schedule was important to teachers as they expressed satisfaction in their course load. This was of particular importance in influencing retention decisions when teachers maintained a stressful course load and found relief in a lighter course load sufficient enticement to stay in teaching. A shorter work day than found in other careers also served as incentive to stay.

Code 5 Examples:

- I was able to teach AP biology.
- I enjoy my course load.
This code was only assigned to 3 statements from 3 respondents. Two of the comments coded as 5’s, were accompanied with statements coded as 3 where teachers loved their campus leadership.

**Code 6: Advantages/Benefits**

Teachers reported aspects of teaching specifically unique to teaching such as extra time off and a shorter work day as added benefits that keep them teaching. Salary was mentioned as a benefit that kept some teachers from leaving teaching.

**Code 6 Examples:**

- Love time off with my family.
- Needed supplemental income for family.
- Income necessity, a career that also allows me to be a somewhat involved mother.
- TRS retirement.

The comments that included statements coded with 6 totaled 7 from 7 respondents.

Respondents emphasized the benefit of having time off with family and the salary.

**Code 7: Investment**

A few teachers reported reasons to stay that related to limited skills or ability to pursue a different career. Others reported it would be a waste of the time already invested in becoming a teacher, obtaining teacher certification, and/or improving as a teacher to leave in pursuit of another profession.

**Code 7 Examples:**

- Lack of experience in other fields.
- I didn’t have the money to leave and start a new career.
- It is difficult to leave a...career that I have invested so much of myself into.
- Too much time and effort to get the education to not teach.
Figure 5. Motivating factors to continue in teaching.
Five respondents mentioned this code once each. Only 2 occurrences were accompanied by statements coded otherwise. One indicating that it was too early to give up (optimism, Code 9) and the other stating she enjoyed the classroom and inspiring students (Codes 1 and 2) and would find it difficult to leave.

Code 8: Suitable Position Search

Finding a better campus fit contributed to some of the teachers’ decisions to remain in teaching. Moving to a different job within education (i.e. administrator, diagnostician, school counselor or librarian) or changing campuses alleviated difficulties in their original positions for these teachers.

Code 8 Examples:

- Got a different position with less stress as a Teaching Assistant...
- Leadership opportunities...
- Position opened at a school I preferred...
- ...moved to counseling...

Statements in this category were only cited 4 times, once each from 4 different respondents. Only one specifically reported an actual change in schools. The remaining 3 indicated a change in positions.

Code 9: Optimism

A positive attitude toward their work environments impelled some teachers to continue in teaching. Optimism helped teachers overcome challenges and inadequacies in their teaching assignments.

Code 9 Examples:

- Hopefully it will be better next year!
• The belief that the political mess would get better, that pay would get better...

Three respondents each showed an optimistic approach to how they perceived their teaching positions. All three responses also mentioned a love of teaching (Code 2). One response also signified enjoying making a difference in students’ lives (Code 1).

Code 10: Campus

Teachers specifically mentioned their school as a retention factor. When campus was mentioned, no other context clues were included to provide additional insight into this code.

Code 10 Examples:

• I am blessed to be on a campus that is striving to be on the leading edge of the changes.
• I work at a great school...
• I love the school I work for

The panel treated the reference to ‘school’ in the contexts provided in the respondents’ comments as the overall culture of the school. This could be inclusive of administrative support, parental involvement, collegial support, overall school organization, etc. Three respondents mentioned statements assigned to this code. Two of the three responses were accompanied by statements coded both as 1 and 2, enjoying helping students and enjoying teaching, respectively.

Code 11: Non-Responsive

Some responses failed to directly address the prompt for the question. Other responses served as opportunities to complain about particular issues or concerns. These types of responses were coded as ‘non-responsive’.

Code 11 Examples:
• I am quitting teaching at the end of the school year after 11 years of teaching....
• Scheduling.
• ...despite the challenges administration, both locally and federally, places on teachers.
• I taught biology... for two years and then they needed a certified teacher in biology and chemistry.

Summary of Teacher Retention Factors

Based on the responses of 77 participants, teachers continued in teaching for two main reasons. First, the teachers loved to see the growth in their students and to know they made a difference in their lives. Second, teachers love the job of teaching. It brings them personal satisfaction, it is rewarding to them as individuals and many have found their life’s passion or calling in teaching. Relatedly, teachers experience enjoyment in the support they received from administration, colleagues, staff and parents as well as from teaching their content.

In summary, the responses to the question “What factors contribute to you remaining in teaching?” teachers value the intrinsic rewards of feeling like they are making a difference in students’ lives, they enjoy teaching and working with their colleagues. What matters to teachers in terms of extrinsic rewards is the support of their administration, the time off schedule as well as other compensation that comes with teaching such as retirement pay. Some teachers found that the campus environment or teaching may not have been a perfect fit but decided to change schools or educator roles (i.e., administrator, counselor or librarian) to find their niche. Still others appear to remain in teaching due to perceived limitations of not being skilled to perform a different job and not being able to afford to change. Having invested much of themselves in teaching in terms of time, effort and education many choose to remain in teaching despite challenges they face. There are also optimists in teaching who maintain a
positive attitude in the face of obstacles and expectations not being met by administration, students and teaching as a career.

One of the top codes that were reported, support of administration, also aligns with the results of the quantitative statistical analysis. Teachers that remained in teaching a minimum of five years rated their administrative support the highest suggesting this is a critical part of supporting a long career in teaching. Although indirectly, moving schools or changing to another educator role appear to influence teacher retention decisions. Sixty-five percent of the participants reported they no longer taught at the same school at which they started their teaching careers upon completing the online post-baccalaureate secondary teaching certification program. Yet, these teachers remain in teaching.

Additional Qualitative Results on the survey question: “Is there anything in particular about the online post-baccalaureate secondary teacher certification program that has contributed to you remaining in teaching?”

Of the 78 survey respondents (this portion of the analysis includes the one survey that only rated the program but was incomplete for the rest of the survey), 60 responded to the open-ended question “Is there anything else in particular about the online post-baccalaureate secondary teacher certification program that contributed to you remaining in the teaching field? Please explain below.” A panel of two experts examined the qualitative responses to identify themes. The first pass resulted in twenty-five categories including a non-responsive category with a total of 49 words or groups of words added to the category. A second review by this panel resulted in refining how an idea was treated in terms of categorization, verifying counts and collapsing categories that were related. For example, “Student Teaching” and
“Internship” were considered similar comments and thus, collapsed into a category entitled “Field Experience.” Similarly, comments related to their program supervisor, faculty, mentor or advisors were all collapsed into a category named “Support.” Last, all comments related to how specific courses were particularly useful and effective for helping them become teachers who remained in the field of teaching were collapsed into the category “Program Preparation.”

Upon reviewing the results of the second review, I collapsed several categories resulting in a final list of 5 codes. The panel reviewed responses a third time using the 5 codes, confirming category collapses and validating the codes given the responses with a third expert panelist.

**Program Factors Preparing Teachers to Remain in Teaching**

Responses by Code

<table>
<thead>
<tr>
<th>Program Preparation Retention Factors Code</th>
<th>No. of Responses</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Experience - Student Teaching, Internship</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Support - Supervisor, Faculty, Mentor, Advisor</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Program Preparation - Prepared for challenges, student diversity, classroom management, lesson planning, curriculum development and motivating students</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Blackboard</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-responsive</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

*Figure 6. Teacher preparation program factors.*
Of the 60 study participants’ comments this question, the largest category of statements, 18, were made related to the Support received from university personnel while in the program. The next largest category of retention factor statements, at a count of 12, was related to the Field Experience as an instrumental component contributing to their longevity in teaching careers. The next category was related to Program Preparation with a count of 10 (Figure 7).

Teacher Preparation Program Retention Factors: Coding Examples by Code

Code 1: Field Experience

The field experience was cited several times as a key component of the teacher preparation program. Whether student teaching or paid internship, this was a valuable experience to apply coursework learning to a real classroom.

Code 1 Examples:

- Student teaching prepared me better than a class
- The student teaching opportunity was invaluable.
- A secondary reason is my good experience in the student-teaching portion of the UNT certification program.
- The student teaching experience was amazing.

Although mostly reported as standalone comments, 5 field experience statements were accompanied by a statement related to support from mentors (Code 2). There were 2 that were included with statements about program preparation as well (Code 3).
Code 2: Support

Support was the top reason cited by participants as instrumental in their preparation for the classroom. Teachers named their university supervisor, faculty, mentor and advisor as contributing to their remaining in the teaching profession.

Code 2 Examples:

- The compassion and understanding shown by my UNT supervisor...
- Having great and efficient support from the faculty and my mentor.
- I can remember the passion that I saw in several of my Post-Bac instructors and mentors that was contagious.
- I remember my mentor experience... was far superior to my peers who went through [another] teacher program.

Two mentions of statements coded 2 were accompanied by phrases concerning the preparation received in the certification program. Another 2 statements referenced the student teaching or field experience. The majority of statements, however, were standalone praised for the mentorship, availability, advice and inspiration received from the university team.

Code 3: Program Preparation

Teachers credited the overall preparation program as sufficiently preparing them for their teaching career. They indicated they were prepared for challenges, student diversity, classroom management, lesson planning, curriculum development and motivating students through their coursework.

Code 3 Examples:

- I feel that I was prepared for challenges in the classroom and learned how to deal with the difference of students.
- I am particularly glad to have had the curriculum on motivation. I use these ideas every day to help my students find the motivation to learn the material.
- ...the diversity class helped me tremendously.
• Hands-on strategies.

Only 4 of the Code 3 statements were accompanied by statements related to other codes. However, the Code 3 statements covered different aspects of the program such as lesson planning, classroom management and preparing for student diversity in the classroom.

Code 4: Blackboard

Students found benefit in the online course and collaboration tool called Blackboard. Since the program was online, Blackboard served as a place for teachers to interact, share and get advice while completing the program. They found a sense of community in participating with their classmates using the tool.

Code 4 Examples:

• ...the sense of community with the message boards.
• I particularly liked using Blackboard to what others were thinking.

Statements coded 4 were related to the collegiality experienced among student peers throughout the program. Students enjoyed the sense of community to tool created.

Code 5: Non-responsive

Some responses were not related to the prompt and were coded as non-responsive.

The teacher certification program was one optional part of the Master’s in Education program. Some teachers commented on other aspects of the Master’s program that were outside of the teacher preparation program.

Code 4 Examples:

• I felt that it was geared more towards elementary and middle school. I don’t necessarily believe it prepared me for high school teaching.
• The gifted and talented training.
• It was a long time ago and it’s hard to remember if there was anything specific that contributed, but overall the experience was good.

The non-responsive category consisted of two types of non-responders. One type responded with a ‘no’, ‘none’ or “not that I can think of.” These non-responders totaled 13. However, the remaining non-responders provided more input but the response did not answer the question.

Summary of Program Preparation Contribution to Retention

The two most important aspects of the online post-baccalaureate secondary teacher certification program, as reported by teachers who completed the program, were the field experience and the support from the mentor team each student received when they were fulfilling their field experiences. In addition, the teacher certification program provided extensive support that students valued and learned from as they drew on the experience of these supervisors, advisers, mentors and faculty. A third aspect of the program observed as important to study participants was the preparedness perceived by students completing the program when they become classroom teachers. Teachers tended to stay in teaching when they were felt fully prepared for the classroom.

Summary

The quantitative data collected in this study were obtained via a survey instrument I developed and analyzed using Statistical Package for the Social Sciences (SSPS Version 22). Data analysis techniques included descriptive statistics, correlation, exploratory factor analysis and hierarchical multiple regression. This chapter presented reliability statistics for the instrument, mean, distribution, percentages and coefficient of determination to present and interpret the data.
In addition, for the qualitative component of the present study, data was collected utilizing survey instrument I developed. Responses to two open-ended questions on the survey were coded and analyzed to provide additional context for the quantitative data collected and to glean additional potential teacher retention factors. Another objective of the qualitative study was to identify potential factors from the online post-baccalaureate secondary teacher certification program that helped facilitate long careers in teaching for its completers.

Although, not specifically included in the prompts on the survey instrument, the codes are related to two of the major sets of factors: Personal Characteristics and Working Conditions. For example, it could be considered a personal characteristic whether an individual enjoys a particular activity, place or role such as helping students, loving a school, or loving teaching. In addition, it takes commitment to change jobs or change roles – especially if additional education is required. It is also a commitment to seek to be positive about challenging situations and continue teaching in spite of challenging circumstances or to make the most of the time invested in an endeavor. Commitment to teaching was a personal characteristic that was included in the regression model.

Administrative support and salary were variables included in the model as well as working conditions. Thus, the response from the solicitation of retention factors from study participants were related to the variables measured in the study. It is a critical take-away from the study’s findings that working conditions and the intrinsic rewards of teaching both play significant roles in the longevity of teaching careers. Teachers repeatedly commented about how much they loved the people they worked with and, their supportive administration as well as the work of teaching in general. The findings from the qualitative analysis of the response to
the prompt, “What factors motivate(d) you to continue in teaching?” align with the research literature respectively, however, within the framework of this study, the codes could be regrouped into the blocks used in the design and variables identified for the quantitative analysis as shown in (Table 29). The next chapter conveys conclusions and recommendations based on the data represented in this chapter.

Table 29

*Retention Factors Model Fit*

<table>
<thead>
<tr>
<th>Personal Characteristics</th>
<th>Working Conditions</th>
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<tbody>
<tr>
<td>Love teaching</td>
<td>Workload</td>
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<tr>
<td>Enjoy making a difference, impacting students</td>
<td>Administrative and collegial support</td>
</tr>
<tr>
<td>Love the content area</td>
<td>Determined to find a better fit – changing roles/schools</td>
</tr>
<tr>
<td>Love the school</td>
<td>Compensation- Time off, Salary</td>
</tr>
</tbody>
</table>
CHAPTER 5

CONCLUSION

This study investigated whether the online post-baccalaureate secondary teacher certification program at the University of North Texas produced teachers that remained in the field for at least five years. The study assumed other factors also contributed to teacher career longevity in addition to the teacher preparation program. These factors included personal characteristics, working conditions, and school setting characteristics. This chapter presents reviews of the results of the study by research question and in relation to previous literature discusses the contribution of this study to the body of research on teacher retention factors and alternative certification programs.

A valid researcher-developed survey was utilized to investigate the contribution of the online post-baccalaureate’s secondary teacher certification program at the University of North Texas to preparing students for a long career in teaching. The study analyzed data from 77 program participants who completed the online post-baccalaureate secondary teacher certification program, taught in Texas public schools a minimum of 5 years between the academic years of 2003-2004 through 2012-2013, and responded to an electronic survey on teacher retention. Teachers who have taught for at last five years consistently rated the coursework and field experience as extremely important in preparing them for a long career in teaching. Specifically, as indicated by the comments and Likert scale ratings, the field experience and the mentoring support received were key to teacher reported perceptions of their preparedness for their own classroom upon program completion.
Conclusion and Discussion for Research Question 1: Program Completers

At what rate do students complete the online secondary post-baccalaureate teacher certification program?

While the online post-baccalaureate secondary teacher certification program seems to continuously attract teacher candidates, less than half, 43%, completed the program in the period between the 2003-2004 and 2012-2013 academic school years. By comparison, in Florida, 45% of state university teacher preparation program participants completed their respective programs, were placed in teaching positions and remained in teaching. Only 32% of other college teacher preparation program participants in Florida did the same in 2005-06 (Office of Program Policy Analysis and Government Accountability (OPPAGA), 2009). Further analysis could be conducted to identify where there may have been ‘leaks’ in the pipelines. For example, are students leaving at about the same point in the program? Or, do program leavers complete the field experience? If they do not complete their field experience, what are the reasons this is the case? Information that can help determine why students are leaving the program, may help inform program recruiters in identifying the type of candidate likely to persist and how to appeal to candidates who would be successful in the program. This information would also educate program coordinators and faculty about how best to support students through program completion.

The Office of Program Policy Analysis and Government Accountability (2009) (OPPAGA) reports that there are obstacles some candidates face that prohibit them from successfully completing teacher preparation programs. These obstacles include time conflicts, funding school attendance, and passing the certification exam. OPPAGA (2009) further reports that
some programs overcome these obstacles by providing financial aid, flexible scheduling for coursework, and test program assistance.

It is also possible there is a point in the program where candidates come to the realization that teaching is no longer a career they would like to pursue. Reasons candidates do not complete the program and how to resolve are not solely the responsibility of the teacher preparation program.

Conclusion and Discussion for Research Question 2: Program Teaching Entrants

At what rate do students who complete the online secondary post-baccalaureate teacher certification program enter the teaching field?

Since about 65% (874 out of 1,304) of the students who completed the program actually entered teaching, it appears the program is successful in getting most of the candidates to the finish line of the program. In order to enter teaching, candidates must pass the state licensure exam and land a teaching assignment. However, 35% is still a substantial number of individuals who completed the program but did not actually enter teaching – at least in Texas public schools. This number could be inflated as there was no way to determine how many of the program completers were employed in education but perhaps moved to a different state to teach. Some could have remained in Texas but opted to teach in private schools. These options would not be traceable in the Texas Education Agency employment data file. It would be helpful to determine what portion of these teachers who did not appear in Texas public school data, actually began teaching either in private schools in Texas or in another state. Also, following up with these candidates would allow program coordinators to understand whether teachers are struggling with passing the teacher certification exam or if there are other root causes at work.
Conclusion and Discussion for Research Question 3: Program Stayers

At what rate do students who complete the online secondary post-baccalaureate teacher certification program remain in teaching beyond five years?

Forty-three percent of teachers who completed the online post-baccalaureate secondary teacher certification program aligned with the prominent research that shows about half of teachers leave teaching by their fifth year. This means about 57% of teachers left Texas public schools before completing five years of teaching. However, this number could be inflated in terms of a true indication of whether these teachers left teaching altogether. This percentage could be a result of teachers moving to private schools or out of state where they continued their teaching careers.

A majority of teachers in the study was White, females, and working in suburban schools with solid student achievement scores, less than half of students eligible for free or reduced lunch and low rates of student behavior concerns. Teachers in this study gave their local administration fairly high marks ("Sufficient and Very Sufficient" ratings) for their support and indicated they are fairly satisfied with their salary. These qualities are consistent with the research literature in describing the individuals and circumstances where teachers tend to remain in teaching. In this case, examining trends for the program may provide some insights into how most of the candidates were placed in these particular school environments.

If conducting similar studies with different teacher preparation programs, seeking to understand the recruitment practices and teacher placement trends for the particular program under study may be worthwhile. Specific school districts may recruit heavily from particular teacher certification programs which could skew the working conditions and school settings teachers ultimately get assigned to. While this study included collecting data describing the
district type, student ethnic population mix percentage, student poverty levels and student performance levels, I did not gather data on vacancy levels to confirm whether the schools represented in the study qualified as ‘hard-to-staff’ as defined in the research literature (Grissom, 2011; Opfer, 2011; National Partnership for Teaching in At-Risk Schools, 2005). The teachers in this study who left their initial school assignment did not appear to follow the patterns of mobility behaviors for hard-to-staff schools. In fact, teachers who stayed, tended to stay in schools with hard-to-staff school characteristics and those who left their initial campus seemed to leave schools that did not have hard-to-staff school characteristics. The only measure where this was not the case was district types. In that case both those who remained and those who left taught in urban or suburban schools. This could be due to the types of schools for which the teachers from this program are initially recruited to teach.

Conclusion and Discussion for Research Question 4: Retention Factor Model

Does the data support a multi-factor model for teacher retention?

To summarize the context the descriptive data of the variables in the study presents, the survey results were consistent with the research literature on factors that influence teacher retention decisions. Commitment levels upon entering the program were high at 88% reporting they planned to teach at least five years. Self-efficacy was 97%, indicating teachers were at least somewhat confident they would be able to overcome any obstacles they would face in the classroom. Student teaching and the classroom course on classroom discipline were rated most highly among aspects of the online post-baccalaureate secondary teacher certification program to teachers in the study. In terms of working conditions, the research literature lifts up local administration support as a critical factor that heavily influences teacher retention decisions.
Several teachers in the study commented that they had remained in teaching because of the support of their administration.

Alarmingly, 78% of the study participants reported that mentoring was not offered at their local campus. This could be due to the lack of a survey definition for mentoring. For example, if teachers were thinking of a formal mentoring program but were provided a less formal mentoring situation, they might have responded to the prompt by selecting ‘no’ to the question on whether it was offered. In Texas, a mentor is required for all first-year teachers. About 97% of teachers responding to the survey indicated ‘yes’ they were certified to teach in their content area they were teaching. This is consistent with the literature that cites out-of-field teaching as a tremendous source of stress and a significant driver of teacher attrition for teachers in that situation. Essentially, save the mentoring offering question, the way teachers rated these variables indicate the expected conditions are considered conducive for teachers to enjoy long careers in teaching.

Seventy-five percent (56 out of 75 respondents) indicated they were at least satisfied with their salary, while only 5% (4) indicated they were not satisfied at all. Texas ranked number 30 on a state list of salary rankings of American states with an average salary of $48,800. The lowest salary on the list was $39,800 while the highest was $72,700 (National Education Association, 2012).

Student behavior results was also consistent with the literature, as teachers generally rated student discipline issues as non-violent or minor incidents among students generally not directed at faculty or staff. Also, teachers did not offer additional comments on the survey concerning student behavior.
Last, school setting characteristics results were consistent with the literature. With the majority of teachers teaching in non-urban, non-rural districts where student performance was not low, and minority population percentage and student poverty levels were not significantly high, study participants appeared to be assigned to campuses where school setting characteristics were consistent with where teachers in the research literature tended to remain in the field (Opfer, 2011).

Maximum Likelihood Estimation narrowed down the 21 variables included in the study to seven new factors. Self-efficacy, salary, district type and content certification were excluded in this initial model with respect to the teachers who responded to the survey. A correlation analysis and Exploratory Factor Analysis resulted in further narrowing of variables into three new factors. Working conditions, school settings and preparation program remained as components of a model that reflected factors contributing teacher retention. It is possible that different measures for personal characteristics could be better suited to be used in place of the measures used on the instrument for this study. In addition, the model only accounted for 47% of the variance suggesting that significant latent variables, error or a combination thereof are present in the model.

The data from the present study support a multi-factor model where, while teachers attribute long careers in teaching to the preparation received from the online post-baccalaureate secondary teaching certification program, other factors are involved. Specifically, the factor analysis results indicated that working conditions, school settings and preparation program made up a three-factor model with goodness of fit for teachers who remained in
teaching. This suggests that the preparation program was not contributing to teaching career longevity alone.

Further, the hierarchical multiple regression analysis yielded evidence of relationships between preparation program rating of contribution to teaching career longevity, working conditions and school setting. The predictor model for how teachers who taught more than five years rated the program accounted for only a little over half (54%) of the variation in the weight teachers gave for the program preparation’s contribution to their long teaching careers. This means that just under half of the variation was not accounted for by the factors tested in the model. The research literature calls out additional factors such as marital status, job satisfaction, and highest level of degree, as well as the content area taught. These may be sources for additional investigation in future research. These additional factors were not measured by the instrument in the present study but may also contribute to how much weight teachers place on the preparation program in contributing to preparing them for a long career in teaching.

Future research should consider measuring the same variables for teachers who entered teaching but did not stay. Of particular interest would be those who left the first year or at three to four years. For those leaving in their first or second year of teaching, additional questions concerning whether the teacher preparation could have included something in the admissions process or in the program that would have helped them continue in teaching despite the obstacles they faced that caused them to leave teaching. Or, there might be something additional the program could have provided during the transition from teacher candidate to teacher of record to assist teachers in making the transition a success. This is an
important phenomenon, as the research indicates teacher preparation influence on retention begins to fade away after a few years (Tamir, 2013).

Follow-up interviews could be conducted with teachers who indicated they had made plans to leave teaching at some point in their careers, yet remained. Insights from this qualitative data from the interviews might reveal information on what empowered them to overcome the stressful situations that caused them to make plans to leave.

Conclusion and Discussion for Research Question 5: Retention Factors

What factors contribute to the retention of these teachers?

The codes identified in the qualitative analysis of study participants’ responses to the prompt align with the research:

*Retention Factors: Teacher Reflections*

**Code 1: Student Impact**

Participants reported the opportunity to challenge students, make a difference, help, and better the future for students, make learning meaningful for students, watch them grow, inspire students, and liking/loving students/working with students kept them in the field of teaching. The research is clear that teachers need to feel as if they are making a difference in students’ lives and are engaged in meaningful work (Butler, 2007; Cochran-Smith et al., 2012; Ng and Peter, 2010). The privilege of working with students (Ashton and Webb, 1986; Curtis, 2012) and impacting their success in both school and life fuels teacher motivation to remain in teaching (Duck, 2007; Grizzle, 2010; Rosenholtz and Simpson, 1990). These are often the reason teachers enter teaching, and it follows that they would be the same reasons they stay as they come to realize the purpose being fulfilled.
Code 2: Teacher Fulfillment

Teachers who participated in the study expressed enjoyment and love of teaching, teaching satisfaction, job importance, being good at teaching, called to teach, and having teaching as passion in life as sources of personal fulfillment. Many teachers express that teaching is a calling and they are fulfilling a greater sense of purpose (Fenstermacher, 1990; Freedman and Appleman, 2009; Patterson, Collins, and Abbott, 2004). In addition, enjoyment of the work of teaching is often cited in the research literature as a major influence on teacher retention decisions (Johnson and Birkeland, 2003a; Newmark, 2008). Passion for teaching also impacts whether teachers stay in teaching (Locklear, 2010; Petty et al., 2012; Tamir and Magidin, 2011). These factors naturally fit together in terms of the intrinsic rewards teachers experience as a result of teaching.

Code 3: Supportive Environment

Having the support of administration, colleagues, staff, and parents were mentioned as retention factors for study participants. Many research studies cite the lack of administration support as a top reason for leaving teaching; conversely, it follows that a supportive local campus administration would be a motivator for teachers to stay (Beaugez, 2012; Boe, Cook, and Sunderland, 2008; Boyd et al., 2011; Hagenmayer, 2009; Singh and Billingsley, 1996). Collegial support among peers –including faculty and staff - is important to teachers to remain in teaching as well (Ng and Peter, 2010; Petty et al., 2012). This support is a major source of emotional support and minimizes the alienation teachers often experience. In addition, collaboration helps establish a professional culture that engages teachers at all levels and increases job satisfaction (Billingsley, 1993; Davis, 2010; Johnson and Birkeland, 2003b). A third
source of local campus support is parental support (Davis, 2010; Kirby, Grissmer, and Rand Corp., Santa Monica, CA., 1993). When parents are engaged either at the campus level or only the classroom, teachers do not feel the burden carrying the full load of student success on their own resulting in teachers leaving the profession (Johnson and Birkeland, 2003b; Liu, 2007; Loeb, Darling-Hammond, and Luczak, 2005).

Code 4: Love their content

Although not mentioned as many times as other codes, the teacher’s content area itself kept some teachers in the field. Specifically, literacy and math were mentioned. The research literature that considers content area usually refers to possessing sufficient content knowledge to teach a particular subject or teaching a subject the teacher is not certified to teach (Olmos, 2010). Curtis (2012) found that one of the top reasons teachers cited for entering the field in his study was because of their love for their content area. This may be an area for additional investigation.

Code 5: Schedule

Teachers in the study reported schedule, course load, having time off and having a short work day as having an impact on whether they remained in teaching or not. In the research, course load and demanding schedules are often blamed for teachers leaving the field (Elfers, Plecki, and Knapp, 2006; Farber, 2010; Vinger, 2004).

Code 6: Benefits and Compensation

Five study participants indicated that salary was an important retention factor for them. Or, they indicated they could not afford to leave teaching. One major attraction to the teaching
is the benefit of time-off, specifically the summer, winter and spring breaks (McKee, 2003). Participants in this study referred to this as reason to remain. Salary is also frequent factor impacting teacher attrition decisions (Anderson, 2001; Beaugez, 2012; Hanushek and Kain, 2004; Kelly, 2004; Tye and O'Brien, 2002). One interesting note is two of the respondents mentioned money as a reason for not leaving.

Code 7: Investment

Study participants indicated they had invested too much time into teaching to leave. Also, only knowing how to teach was mentioned as a reason to remain in teaching. I has not found this phenomenon in the research literature. It is curious, however, both in the case of having invested too much to leave and not being able to afford to leave, that if teachers are not effective and desire to leave, there may be opportunity to develop programs or businesses that enable teachers to leverage their training and skills to find meaningful, fulfilling work outside of teaching.

Code 8: Suitable Position Search

Teachers in the study indicated they moved either to a different school or a different job within teaching. The research literature lifts up examples of teachers moving to different schools in pursuit of better teaching assignments, dissatisfaction with administrative support or workplace conditions (Leukens, 2004). Elfers and colleagues (2006) found that this was more common in larger districts where teachers would switch schools in pursuit of better salary but not likely to move between districts.
In the research, optimism is synonymous with the terms ‘positive affect’ and positive attitude (Costigan, 2005; Jones and Youngs, 2012; Tait, 2008). Studies have found that these concepts contribute to teacher resilience and it is fitting that they would be brought up by teachers from this program.

Where the phrase “Love the school” was mentioned in responses, the panel treated the reference to ‘school’ in the contexts provided in the respondents’ comments as the overall culture of the school. This could be inclusive of administrative support, parental involvement, collegial support, overall school organization, etc. In this sense, there are research studies that investigate the importance of a school’s culture, climate or organization in influencing a teacher’s decision to leave or remain in teaching (Greenlee and Brown, 2009; Johnson and Birkeland, 2003a; Sclan, 1993).

In summary, the responses to the question “What factors contribute to you remaining in teaching?” aligns with previous research findings. Teachers value the intrinsic rewards of feeling like they are making a difference in students’ lives, they enjoy teaching and working with their colleagues. What matters to teachers in terms of extrinsic rewards is the support of their administration, the time off schedule as well as other compensation that comes with teaching such as retirement pay. Some teachers found that the campus environment or teaching may not have been a perfect fit but decided to change schools or educator roles (e.g., administrator, counselor or librarian) to find their niche. Still others appear to remain due to perceived limitations of not being skilled to perform a different job and not being able to afford
to change. Having invested much of themselves in teaching in terms of time, effort and education, many choose to remain in teaching despite challenges they face. There are also optimists in teaching who maintain a positive attitude in the face of obstacles and expectations not being met by administration, students and teaching as a career.

One of the top codes that were reported, support of administration, also aligns with the results of the quantitative statistical analysis. Teachers that remained in teaching a minimum of five years rated their administrative support the highest suggesting this is a critical part of supporting a long career in teaching. Although indirectly, moving schools, or changing to another educator role does appear to influence teacher retention decisions: Sixty-five percent of the participants reported they no longer taught at the same school at which they started their teaching careers upon completing the online post-baccalaureate secondary teaching certification program. Yet, these teachers remain in teaching. This suggests teachers are looking for a good ‘fit’ but also seek to remain in teaching.

“Is there anything in particular about the online post-baccalaureate secondary teacher certification program that has contributed to you remaining in teaching?”

The codes identified in the qualitative analysis of study participants’ responses to the prompt align with the research:

Retention Factors: Teacher Preparation program

Code 1: Preparation Program - Student Teaching, Internship

Research studies that examine teacher preparation program’s role in developing teachers who remain in teaching emphasize how critical field experience is in order for teachers to have an impact on student achievement (Lowery, 2011). In fact The Higher Education
Coordinating Board (THECB) in Texas recommends ongoing field experiences for teachers who complete their programs (THECB, 2002).

Code 2: Preparation Program - Support

Support from university program supervisor, faculty, mentor, and advisor were deemed critical to the preparation process for teaching. Teachers mentioned support at least ten times.

Jorissen’s (2002) study of alternate route programs identified successful programs as requiring one full year of internships that include instruction, support, pedagogical training and supervised field experience. While mentoring is often cited as a teacher retention factor, there are discrepancies in the evidence of the effectiveness and significance of impact on teacher retention behaviors. This can be attributed to the different variations of mentoring and which entity is offering mentoring. For example, in the present study, the teacher preparation program provides mentor support to students in their field experience. However, other programs are overseen by the local campus or at the district level. Data in this study indicate this support is a significant and impactful component of the program.

Code 3: Preparation Program - Teacher Preparation

Program prepared teacher for challenges, student diversity, classroom management, lesson planning (curriculum) and motivating students. This follows as students finally get hands-on experience to practice all they have learned in their courses. Their confidence is in approaching the classroom with competence in developing curriculum, the ability to address diverse student learning styles and levels, as well as the ability to manage classrooms, motivate students, and know-how to teach content (Jorissen, 2002).
Code 4: Preparation Program - Blackboard

Blackboard is a tool that can be used to deliver an online learning experience. Students from the program praised the collaborative online experience the tool offered.

The research literature shows collegiality is a strong influence on job satisfaction as well as teacher retention decisions (Billingsley, 1993; Boyd, Grossman, 2010; Birkeland and Johnson, 2003; Petty, 2012). Particularly in an online learning experience, it follows that providing a means to collaborate or share challenges and successes with individuals in the same stage would foster accountability, encouragement, emotional support and success for teacher development.

Limitations

As previously discussed, limitations of the study include participant bias, ability to collect data for all students who remained in teaching at least five years and lack of a control group. Since the survey instrument was a self-report survey, participant bias was present as responses were submitted only by candidates who elected to complete the survey. There was no data source to identify students that taught in non-Texas public schools (i.e. private or out-of-state) which reduces the ability to adequately identify all students who taught at least five years. This, along with low response rates typically expected for survey research, prohibit data to be collected that most represents the target population. In addition, since there was no control group in this study, there is a limitation concerning validation of specific retention behaviors.
Implications

The study reveals implications for all of those involved in teacher education and teaching. Specific implications for teacher preparation programs, teachers, administrators, policymakers are discussed next.

Teacher Preparation Programs

Teacher preparation programs should investigate where there may be leaks in the teacher preparation program pipeline. For example, are students completing coursework and then leaving the program? Or, do they leave once they begin the field experience component of the program? This information has the potential to improve the admissions process as well as the overall teacher preparation program.

Emphasis on classroom management coursework and assisting students with transferring skills from their coursework to their field experience could help new teachers be successful in their classrooms in the early years and, thus, help elongate their teaching careers. In addition, providing collaborative opportunities among students in the program may prove to provide the needed collegiality and support network for students to persist both in the preparation program and in their teaching assignments upon completion. Program support from faculty, mentors and others could be essential in assisting teacher candidates in the transition to the classroom as the teacher of record. Preparation program factors conveyed by teachers in this study as having contributed to long careers in teaching seem to mirror teacher retention factors in the school environment. For example, support from university faculty, mentors, supervisor and advisor translate in the work environment where teachers expect support from their local administration.
Preparation program directors may consider ensuring early program opportunities for and teach candidates to assess teaching as a ‘good fit’. Educating candidates on who to talk to, what questions to ask and what to look for in order to know if a campus is right for them could also increase the likelihood of teachers remaining in teaching. Programs that have placement services can evaluate teaching assignment placement practices to ensure they consider teacher personality and work conditions of the campuses where they actively place teachers.

*Teachers*

The present study effectively warns teachers to be strategic in campus selection. Teachers should inquire about aspects of local campus administration support. In addition, they should probe about support among faculty and staff. The ultimate goal is to find a school work environment that benefits both the campus community and the teacher.

*Administrators*

Findings in the present study also point to the potential need for administrators to self-evaluate their leadership practices specifically concerning providing appropriate support for teachers. Similarly, in their hiring practices, they should ensure teacher selection is a good ‘fit’ for both the campus and the teacher based on your experience. Inquiring of a candidate’s passion for their content area, self-efficacy, commitment to teaching and students may prove to be very informative in answering the ‘good fit’ question.

As administrators endeavor to recruit teachers who plan to stay in teaching a long time, it is essential that they consider hiring individuals with passion for their content area, desire to engage with the faculty and staff of their school’s community, and a demonstrated high level of self-efficacy in their ability and their commitment towards teaching. In addition, administrators
should select candidates who had strong support in their teacher preparation program. As revealed in the qualitative analysis, teachers draw great satisfaction in helping students grow and learn as well as from the relationships and sense of community they enjoyed among their peers and working with administrators and staff. Those teachers who have a passion to teach and love their content area are candidates who tend to retain in teaching as a career. Just as these teachers who described the passion their program supervisors, faculty and mentors demonstrated as contagious, this passion may be spread to more teachers through mentors.

Administrators must, in turn, be prepared to support their teachers with the resources they require to be successful with students. They must ensure their campuses have sound policies that support teachers with student behavior issues, provide collaborative opportunities for teachers to build relationships with each other and mentors to assist with selection of the best curriculum and strategies that ensure student success.

Policymakers

While administrators may have some control, policymakers at the district, state and national level can facilitate safeguarding the opportunity for teachers to teach in a meaningful way and see student growth as a means of fulfilling their purpose. They can also enforce the provision of time for teachers have time to support one another and collaborate.

Handling Teachers Who Desire to Leave Teaching

Two interesting considerations are a) how to handle the personal issues teachers experience at various points in their careers and b) how to handle teachers who would leave teaching if they could afford to leave or had other skills to pursue other careers. Personal issues that take their toll on teachers include workload, job stress, and various personal seasons
such as child bearing, illness or personal overload must be recognized and sorted out for the well-being of teachers and their students. However, teachers that are teaching simply because they cannot do anything should be investigated. If this is detrimental to student success, there may be a need to assist these teachers with their transition away from teaching. Responsibility or ownership for this task is an open question.

**Recommendations for Future Research**

While this study examined a number of factors that influenced a teacher’s decision to remain in teaching, further research on this important topic is warranted. I recommend follow-up in a few specific areas described below in order to acquire additional insights into what teachers face and how they specifically overcome the challenges they encounter.

Conduct follow-up interviews with a sample of the respondents to further examine the challenges they faced in the preparation program and in the classroom. This qualitative analysis would be insightful to glean specific examples pertaining to how the preparation program or what other influence helped them to successfully overcome those challenges and remain in teaching.

Conduct a modified but similar study for teachers who did not complete the program, did not enter teaching, or did not remain in teaching at least five years. This study could help identify gaps, if any, in the preparation program or other aspects of working conditions or retention factors that would not be exposed by only analyzing those that did complete the program, did enter teaching and did remain in teaching at least five years. Of particular interest are non-entrants or leaver perceptions of support from the online post-baccalaureate secondary teacher certification program’s mentoring team as well as their perceptions of their
field experience. It is reasonable to hypothesize perhaps they had a less than desirable field experience or perceived that they did not receive the support they needed to successfully transition to the classroom as a teacher of record.

As teachers who remained in teaching emphasized the importance of field experience, an additional investigation into those candidates who left their teacher preparation program during/after the field experience or did not remain in teaching would be useful to understand variables that could have prevented them from leaving teaching. Additionally, establishing measures of success and ways to identify at what other critical junctures teachers are falling out on the path to long teaching careers.

Summary

Results of the study demonstrated evidence that the online post-baccalaureate secondary teaching certification program is successful in grooming teachers sufficiently for long careers in teaching. The candidates entered the profession prepared and with adequate field experience and support to be empowered to make a difference in students’ lives. The study further confirms the literature concerning job satisfaction, collegial working environment, mentoring, and administrative support and field experience as important factors contributing to teachers deciding to stay in teaching. Given further investigation, it is possible these additional factors could help explain the remaining variance identified in the preparation program rating that must be explained by error or additional variables.

The regression model included all independent variables and their impact on how participants rated the importance of the preparation program in preparing them for a long career in teaching. The following two factors: 1) working conditions; 2) commitment were
found to be statistically significant. While there is evidence that the program was successfully preparing teachers for the classroom, additional factors enhanced this preparation in order to ensure teachers are successful in remaining in teaching. These factors – working conditions, teacher preparation program and personal characteristics – should help guide the two-way street of recruiting and retention in an effort to find the best fit for both the teacher and the school.

The research literature points to the toll losing teachers takes on the resources of time, energy and money to recruit, train and acclimate replacement teachers into the school community. Teacher turnover also results in a disruption of the school community.
APPENDIX A

COURSE DESCRIPTIONS FOR THE ONLINE POST-BACCALAUREATE TEACHER CERTIFICATION PROGRAM
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>EDSE 5002</td>
<td>Everyone Can Learn--Applying Theory to Teaching Practice</td>
<td>This course provides information about the processes of learning and development are related to teaching in diverse secondary school settings. Cognitive, social, physical and moral development research is presented, and practical examples applied to teaching practice are demonstrated. Student differences with regard to intelligence, learning style, culture, economic status and gender are explored. Additional topics include operant conditioning, social learning theory, information processing, constructivism, various approaches to instruction and motivation theory.</td>
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<tr>
<td>EDSE 5004</td>
<td>Literacy for All</td>
<td>This course is provides a brief overview of relevant theory with emphasis on practical applications. Designed to help prospective and practicing middle and secondary school teachers in all content areas increase and enhance students’ learning, especially from printed materials. Also helps secondary teachers recognize and compensate for the variety of students’ ability levels. Includes cognition related to reading, Metacognition, schemata, constructivism, vocabulary learning, writing to learn, literacy strategy instruction, assessment of literacy, text analysis, academic diversity and using more than textbooks to enhance learning.</td>
</tr>
<tr>
<td>EDSE 5005</td>
<td>Curriculum Development for Diverse Secondary School Learners</td>
<td>This course provides knowledge and skills required for the development and organization of curriculum and instructional strategies in the diverse secondary classroom. Topics include philosophy and principles of multicultural education; racial and cultural influences on education; Texas Essential Knowledge and Skills; alignment of district, state and national curriculum standards; standardized testing; the impact of teaching and learning on instruction and assessment; alternative assessment theories; and the relationship of instruction to classroom management.</td>
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<tr>
<td>EDSE 5470</td>
<td>Maintaining Classroom Discipline</td>
<td>Models and procedures for classroom management and discipline, as well as techniques for motivating and instructing diverse student populations. Human relations strategies are discussed in great detail and methods for increasing parental involvement are also addressed. Topics include: what to do before students arrive, creating the learning environment, behavioral analysis, legal considerations, conferencing, learning contracts, incentives, planning, staying organized and time management.</td>
</tr>
<tr>
<td>EDSE 5105/5115/5108-5118 Internship (OR) Student Teaching</td>
<td>Mentored professional in the secondary school. May include teaching under supervision.</td>
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Source: Post-Baccalaureate Secondary Certification Program User Guide Updated 2/10/2012
APPENDIX B

TEACHER RETENTION SURVEY
Teacher Retention: Factors Impacting a Teacher's Decision to Remain in Teaching

Q1 Directions and Informed Consent  Thank you for your interest in this research study and your willingness to participate! By completing this survey you are contributing toward understanding the experiences that shape teacher decisions to remain in teaching despite the many challenges they face. Insights gained from your response will assist UNT’s ongoing effort to improve teacher retention and influence the preparation and careers of future teachers. If you wish to participate in the drawing for a $100 gift card, you will have an opportunity to provide your contact information so that it can be included in the drawing after you complete the survey within one week from of this invitation. In addition, those who complete the survey will have an opportunity to participate in a separate drawing for a $250 gift card. The survey should take 3-5 minutes to complete. A maximum of 28 questions inquire of your current personal profile, your teaching environment, and the role the secondary post-baccalaureate online teacher certification program played in you remaining in teaching. All responses are confidential and will be accessed only by this researcher for the purposes of tabulating results. Your confidentiality will be kept to the degree permitted by the technology used. While precautions have been taken to encrypt your responses, the security of the data transmitted over the Internet cannot be guaranteed. The collection of such data is not expected to present any greater risk than you would encounter in everyday life when sending and/or receiving information over the Internet. The results of this research will be published in group summary format in dissertation and possibly in subsequent journal articles or other publications. Your participation in the study is voluntary and your decision to participate or to withdraw will involve no penalty or loss of rights or benefits. You may discontinue the study at any time. My name is Kanini Brooks and I am a doctoral candidate at the University of North Texas. My dissertation chair and Supervising Investigator is Pamela E. Harrell, Ed.D. I am conducting this research in partial fulfillment of the requirements to complete a doctorate in Curriculum and Instruction. If you have any questions about this research, or would like a synopsis of the results, please contact me at kaninibrooks@my.unt.edu or my dissertation chair, Dr. Pamela E. Harrell at 940-565-4051. The results of this research will be published in group summary format in dissertation and possibly in subsequent journal articles or other publications.

☐ I Agree and Consent to participate in the survey. (1)
Q2 To ensure our records are accurate, please confirm you have completed the online post-baccalaureate teacher certification program at the University of North Texas in Denton, Texas.
○ I confirm my completion of the program. (1)
○ I did not complete the program. (2)
If I did not complete the program. Is Selected, Then Skip To End of Survey

Q3 What is your age?
   (19)

Q4 What is your gender?
○ Male (1)
○ Female (2)

Q5 What is your ethnicity?
○ American Indian/Alaska Native (1)
○ Asian (2)
○ Black/African-American (3)
○ Hispanic/Latino (4)
○ Pacific Islander (5)
○ Two or More Ethnicities (6)
○ White (7)

Q6 How many years of teaching experience did you have prior to beginning the online post-baccalaureate secondary teacher certification program at the University of North Texas?
   Number of years of prior teaching experience (2)

Q7 What school and school district did you teach at after completing the online post-baccalaureate secondary teacher certification program at the University of North Texas?
   Full School Name (1)
   Full School District Name (2)

Q8 Are you still teaching in the same school?
○ Yes (2)
○ No (1)

Answer If Are you still teaching in the same school? No Is Selected

Q9 Please list any additional schools and school districts that you have taught in since completing the online post-baccalaureate secondary teaching certification program at the University of North Texas.
Q10 When you entered the online post-baccalaureate secondary teacher certification program at the University of North Texas, what was your level of commitment to remain in teaching at that time?
- I planned only to teach until I found a better job/career (1-2 years) (1)
- I planned to teach less 3-5 years (2)
- I planned to teach for at least five years (3)
- I planned to stay in teaching until retirement (4)

Q11 When you entered the online post-baccalaureate secondary teacher certification program at the University of North Texas, what was your confidence level in your ability to overcome challenges you may face in the classroom?
- I was extremely confident (4)
- I was somewhat confident (3)
- I was somewhat not confident (2)
- I was not confident at all (1)

Q12 Teacher Preparation: Please rate how important each aspect of the program was to prepare you for a long career in teaching

<table>
<thead>
<tr>
<th></th>
<th>Extremely Important (4)</th>
<th>Somewhat Important (3)</th>
<th>Somewhat Unimportant (2)</th>
<th>Not at all Important (1)</th>
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<tr>
<td>Literacy for All</td>
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<td>Everyone Can Learn-Applying Theory to</td>
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<td>Teaching Practice</td>
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<td>Secondary School Learners</td>
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<td>Maintaining Classroom Discipline</td>
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<td>(4)</td>
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<td>Student Teaching (Field Experience) or</td>
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<td>Internship</td>
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</table>
Q13 Is there anything in particular about the online post-baccalaureate secondary teacher certification program that has contributed to you remaining in the teaching field? Please explain below.

Q14 Which full-time field experience did you complete as part of your program?
- Paid student internship (1)
- Student Teaching/Field Experience (2)

Q15 How likely are you to recommend the University of North Texas Secondary Online Post-Baccalaureate Teacher Certification program to a friend or colleague?
- Extremely Likely (4)
- Very Likely (3)
- Somewhat Unlikely (2)
- Not likely at all (1)

Q16 Which best describes the level of student behavior and discipline at your current school?
- Generally, well-disciplined, no violence, respectful of teacher authority (4)
- Some disciplinary incidents, not usually violent, managed by local administration and staff (3)
- Some disciplinary incidents among students, not directed towards teachers or staff (2)
- Extreme violence among students and towards teachers and staff (1)
Q17 Please rate the extent to which your local campus administration provides the following:

<table>
<thead>
<tr>
<th></th>
<th>Very Sufficient (4)</th>
<th>Sufficient (3)</th>
<th>Somewhat Insufficient (2)</th>
<th>Not Sufficient at All (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Collaborative planning time (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Providing support to teachers (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Meaningful feedback on your teaching to further your growth as a teacher (4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Providing meaningful professional development to further your growth as a teacher (5)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Timely answers for questions or concerns (6)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Autonomy in your classroom (7)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sufficient input from you on school policies and issues (8)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q18 During your first year of teaching, did your local campus or district provide a mentoring or induction program beyond what you received through the online post-baccalaureate secondary teacher preparation program?
☐ Yes (1)
☐ No (2)
If No Is Selected, Then Skip To Please rate your salary adequacy
Q19 Did you participate in the mentoring or induction program at your local campus or district beyond your first year of teaching?
- Yes (1)
- No (2)

Q20 Please select the phrase that best describes your mentoring or induction program.
- Formal and regular mentoring or induction program meetings were available (4)
- Formal but intermittent mentoring program meetings were available upon request (3)
- Informal, upon request mentoring or induction program meetings were available (2)
- No mentoring or induction program meetings were available (1)

Q21 Please select the phrase that best describes your mentoring or induction program.
- Very effective (4)
- Somewhat ineffective (3)
- Effective (2)
- Not effective at all (1)

Q22
- I am extremely satisfied with my salary (4)
- I am satisfied with my salary (3)
- I am somewhat dissatisfied with my salary (2)
- I am not satisfied with my salary at all (1)

Q23 Are you certified to teach in the content area(s) you currently teach?
- Yes (2)
- No (1)

Q24 Have you left teaching temporarily since completion of the Post-Baccalaureate Secondary teacher Certification Program?
- Yes (1)
- No (2)

Q25 Have you ever made plans to leave teaching?
- Yes (1)
- No (2)
Q26 What factors most contributed to you making plans to leave teaching?
- Personal reasons (1)
- Job Stress (2)
- Pursue a different career (3)
- Salary (4)
- Other (5) ____________________

Q27 What factors most contributed to you leaving teaching? Select all that apply.
- Personal reasons (1)
- Job Stress (2)
- Pursue a different career (3)
- Salary (4)
- Other (5) ____________________

Q28 What factors motivate(d) you to continue in teaching? Please type your response.
APPENDIX C

EMAIL COVERS FOR SURVEY
Dear <First Name> <Last Name>:

Please join in this opportunity to improve the University of North Texas’ online post-baccalaureate teacher certification program. We are gathering information to ensure graduates of the program receive the tools needed to enjoy a long career in teaching. The survey should take 3-5 minutes of your time.

If you complete the survey within one week of receiving this invitation, you will have a chance to win a $100 gift card of your choice. And, just for participating, you will be entered into a separate drawing to win a $250 gift card of your choice.

Please help us help future teacher candidates!

Thank you in advance for your participation!

Follow this link to the Survey:

Take the Survey

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

https://untaz1.Qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=9N82yDciRABUnaZ_e5MN91

14GMiUSr3and_=1

Follow the link to opt out of future emails

Click here to unsubscribe

Figure D.1. Initial contact email
Don’t miss the opportunity to assist with UNT’s ongoing effort to improve teacher retention. We would like to invite you to participate in a short, on-line survey which is designed to help us better understand experiences that shape a teacher’s decision to remain in teaching or to leave a teaching career.

Please click on the link below to access the informed consent notice which is required before you can begin the survey. Thank You.

**Follow this link to the Survey:**

[Take the Survey](https://untaz1.Qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=9N82yDciRABUnaZ_e5MN914GMiUSr3and_=1)

Follow the link to opt out of future emails

[Click here to unsubscribe](https://untaz1.Qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=9N82yDciRABUnaZ_e5MN914GMiUSr3and_=1)

*Figure D.2. Follow-up reminder email*
APPENDIX D

FOLLOW-UP SCRIPT AND EMAIL COVER FOR SURVEY
I am calling from the University of North Texas College of Education. We are conducting a survey of students who completed the post-baccalaureate online teacher certification program.

With so many teachers leaving the field within the first 3-5 years, the survey is to understand the retention factors contributing to the teachers who graduate from the program. Would you be willing to complete the survey?

[If answer is ‘Yes’, proceed with:]

Did you receive your teaching certification after graduating from the Post-Bacc program?

[If answer is “Yes”, proceed with:]

The survey will only take 3-5 minutes of your time, it’s all online, and it is very important to us. May I ask at what email address you would like to receive the survey link?

Thank you so much for agreeing to participate.”

Follow this link to the Survey:

Take the Survey

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

https://untaz1.Qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=9N82yDciRABUnaZ_e5MN914GMiUSr3and_=1

Follow the link to opt out of future emails

Click here to unsubscribe

Figure E. 1. Telephone follow-up script
It was a pleasure speaking with you on the phone a few moments ago. Thank you for agreeing to take the survey.

Follow this link to the Survey:

Take the Survey

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

https://untaz1.Qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=9N82yDciRABUnaZ_e5MN14GMiUSr3and_=1

Follow the link to opt out of future emails

Click here to unsubscribe

Figure E. 2. Telephone follow-up resend survey link email
APPENDIX E

RETENTION SURVEY QUANTITATIVE ANALYSIS CODEBOOK
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Categories</th>
</tr>
</thead>
</table>
| Commit   | Level of commitment teacher had when they began the Online Secondary Post-Baccalaureate Teacher Certification Program | 1=I planned only to teach until I found a better job/career (1-2 years)  
2=I planned to teach 3-5 years  
3=I planned to teach for at least five years  
4=I planned to stay in teaching until retirement |
| SelfEff  | Level of confidence teacher had when they began the Online Secondary Post-Baccalaureate Teacher Certification Program | 1=I was not confident at all  
2=I was somewhat not confident  
3=I was somewhat confident  
4=I was extremely confident |
| ProgPrep | Teacher preparation program rating for how important program was in preparing teachers for a long career in teaching | |
| LitforAll| Course: Literacy for All                                                    | 1=Not at all important  
2=Somewhat Unimportant  
3=Somewhat Important  
4=Extremely Important |
| EveryCanLearn | Course: Everyone Can Learn                  | |
| CurricDev | Course: Curriculum Development for Diverse Secondary School Learners        | |
| ClassrmDisc | Course: Maintain Classroom Discipline                                      | |
| StudTeach | Student Teaching (Field Experience or Internship)                          | |


| GeoLoc    | District Type as defined by Texas Education Agency (Retrieved from [http://tea.texas.gov/acctres/analyze/0708/gloss0708.html](http://tea.texas.gov/acctres/analyze/0708/gloss0708.html)) | 1- Charter School District  
2- Rural  
3- Non-Metropolitan Stable  
4- Independent Town  
5- Other Central City Suburban  
6- Other Central City  
7- Major Suburban  
8- Major Urban |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Urban</td>
<td>&gt;735K population, ≥ 35% economically disadvantaged</td>
<td></td>
</tr>
<tr>
<td>Major Suburban</td>
<td>Not Major Urban, enrollment is ≥ 3% of contiguous Major Urban district</td>
<td></td>
</tr>
<tr>
<td>Other Central City</td>
<td>Not Major Urban or Suburban, not contiguous with a Major Urban, in a county with ≤100K/≤735K</td>
<td></td>
</tr>
<tr>
<td>Other Central City Suburban</td>
<td>Not other 3, enrollment ≥15% of the largest district in the county</td>
<td></td>
</tr>
<tr>
<td>Independent Town</td>
<td>County population &gt;25K, &lt;100K, 75% of largest district’s enrollment</td>
<td></td>
</tr>
<tr>
<td>Non-Metropolitan Stable</td>
<td>Enrollment &gt; median state district enrollment</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Enrollment &gt; 300, &lt; median state enrollment, growth rate &lt;20% in past 5 years</td>
<td></td>
</tr>
<tr>
<td>Charter School District</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sch_Stud_Perf
All grades tested on all tests for 2010 for 2010

### Sch_MinPop
% Non-White population in school in teacher’s first assignment post program completion for 2010

### Sch_Pov
% Students eligible for free or reduced lunch for 2010

### Sch_Stud_Disc
% Discipline referrals for 2010

### Working Conditions – Local campus administration provides the following to what extent:

<table>
<thead>
<tr>
<th>Resources</th>
<th>Likert Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>CollabTime</td>
<td>1- Very Sufficient</td>
</tr>
<tr>
<td>TeacherSupp</td>
<td>2- Sufficient</td>
</tr>
<tr>
<td>Feedback</td>
<td>3- Somewhat inefficient</td>
</tr>
<tr>
<td>ProfDev</td>
<td>4- Not Sufficient at all</td>
</tr>
<tr>
<td>TimelyResp</td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td></td>
</tr>
<tr>
<td>PolicyInput</td>
<td></td>
</tr>
<tr>
<td>MentorProg</td>
<td></td>
</tr>
</tbody>
</table>

### Working Conditions

<table>
<thead>
<tr>
<th>Salary</th>
<th>Teacher Satisfied with Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1- I am extremely satisfied with my salary</td>
</tr>
<tr>
<td></td>
<td>2- I am satisfied with my salary</td>
</tr>
<tr>
<td></td>
<td>3- I am somewhat dissatisfied with my salary</td>
</tr>
<tr>
<td></td>
<td>4- I am not satisfied with my salary at all</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ContCert</th>
<th>Certified in Content Area teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1- Yes</td>
</tr>
<tr>
<td></td>
<td>2- No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TempLeft</th>
<th>Had Teacher ever temporarily left teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1- Yes</td>
</tr>
<tr>
<td></td>
<td>2- No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LeavePlan</th>
<th>Had teacher ever made plans to leave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1- Yes</td>
</tr>
<tr>
<td></td>
<td>2- No</td>
</tr>
</tbody>
</table>
APPENDIX F

RETENTION SURVEY CODEBOOKS FOR QUALITATIVE ANALYSIS
<table>
<thead>
<tr>
<th>Retention Factors Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Challenging students, making a difference, helping, better future for students, meaningful for students, watching them grow, inspiring students, liking/loving students/working with students</td>
</tr>
<tr>
<td>2</td>
<td>Enjoy/love teaching, teaching satisfaction, job importance, good at it, called to teach, passion in life</td>
</tr>
<tr>
<td>3</td>
<td>Support of administration, colleagues, staff, parents</td>
</tr>
<tr>
<td>4</td>
<td>Love their content</td>
</tr>
<tr>
<td>5</td>
<td>Schedule - course load, short day</td>
</tr>
<tr>
<td>6</td>
<td>Pay/Compensation - Couldn't afford to leave, Time Off, Fringe Benefits</td>
</tr>
<tr>
<td>7</td>
<td>Investment of time/Only know how to teach/investment of time in teaching</td>
</tr>
<tr>
<td>8</td>
<td>Moved to other school/job</td>
</tr>
<tr>
<td>9</td>
<td>Optimism</td>
</tr>
<tr>
<td>10</td>
<td>Love the school</td>
</tr>
<tr>
<td>11</td>
<td>Non-Responsive</td>
</tr>
<tr>
<td><strong>Teacher Certification Program Retention Impact factors</strong></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1 Student teaching, internship</td>
<td></td>
</tr>
<tr>
<td>2 Support from university program supervisor, faculty, mentor, advisor</td>
<td></td>
</tr>
<tr>
<td>3 Program prepared teacher for challenges, student diversity, classroom management, lesson planning (curriculum) and motivating students</td>
<td></td>
</tr>
<tr>
<td>4 Blackboard - Collaborative Online Experience</td>
<td></td>
</tr>
<tr>
<td>5 Non-Responsive</td>
<td></td>
</tr>
</tbody>
</table>
REFERENCES


http://www.region10.org/r10website/assets/File/txbessframework.pdf


*Teachers College Record*, 113(11), 2552-2585.


777
Texas Registry (2014). *Texas State Board of Educator Certification Requirements for Educator Preparation programs*. Retrieved from


http://www2.ed.gov/about/offices/list/ope/pol/tsa.pdf

