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EXAMINING ATTRITION THROUGH THE HIERARCHAL SYSTEM OF EDUCATION FOR ZERO – FIFTH YEAR TEACHERS: A MIXED METHODS STUDY

by

Joshua Douglas Nation, B.S., M.Ed.

Presented to the Faculty of the Graduate School of

Stephen F. Austin State University

In Partial Fulfillment

of the Requirements

For the Degree of

Doctor of Education

STEPHEN F. AUSTIN STATE UNIVERSITY
(May 2017)

EXAMINING ATTRITION THROUGH THE HIERARCHAL SYSTEM OF EDUCATION FOR ZERO - FIFTH YEAR TEACHERS: A MIXED METHODS STUDY

by

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ABSTRACT

Teacher attrition was the focal issue of this mixed-methods study. Teachers, for a wide variety of reasons, have left the profession of education due to issues surrounding school leadership, compensation, and student behavior, just to name a few. This study intended to expand the understanding of zero through fifth year teachers, and if this population of teachers is satisfied, and staying in the field, or if they are dissatisfied. By using Bronfenbrenner's Ecological Systems Theory, the factors within in the hierarchal educational system were explored to identify which part of the educational system is connected to teacher attrition: the microsystem, mesosystem, exosystem, or the macrosystem. Conducted by using convergent parallel design, the quantitative set consisted of Likert-scale responses, while the qualitative set consisted of open-ended response statements. Both data sets were merged to create stronger inferences on significant factors affecting teacher attrition within the hierarchal educational system.

ACKNOWLEDGEMENTS

I would like to express my appreciation to all members of my Doctoral Committee, Dr. Janet Tareilo, Dr. Scott Bailey, and Dr. Tracey Covington Hasbun. Dr. Bailey and Dr. Covington Hasbun, thank you for all of the support provided during this process. Your time and input was valuable to the completion of this study. I want to specifically thank my Committee Chair, Dr. Janet Tareilo. This process was a mountain to climb and you followed me every step of the way providing humor to make the task less daunting. Our paths crossed before the doctoral program, and I am grateful to finish this race with you.

I would also like to thank all of the doctoral professors at Stephen F. Austin State University. Each of you has a passion for education that is contagious and made this process more enjoyable.

To Angie, Paul, Penny, Will, and Youshawna. Our nights at the Quality Inn will never be forgotten, and the same goes for the unexpected friendship created because of this program. You have provided me strength throughout this process and I could not have done it without you. The wisdom and lessons learned from each of you will stay with me forever.

Finally, I am thankful for my amazing family, Mom, Dad, Brittany, and Aaron. This journey would have never been possible without the support and love each of you gave me while completing this program.

DEDICATIONS

I would like to dedicate this study to the most influential "educators" in my life, my Mom and Dad. You have raised me to be an outstanding person; one that wants to find the best in all and make others seek the best within them. It is because of you, I have had the opportunity to accomplish this milestone.

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CHAPTER I

Introduction

Background

Estimates range from 20% to 50% of teachers who leave the field of education within the first five years of their teaching career (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione, Rosser, & Petersen, 2008). With education losing professionals early in their careers, there is a void of high-quality teachers with the knowledge and capacity to address the issues students are dealing with in today's educational setting and society (O'Rourke, Catrett, & Houchins, 2008).

According to Battle and Looney (2014), there were multiple reasons why teachers are choosing to leave the educational field, for example: salary, stress, levels of administrative support, lack of undergraduate teacher preparation or low collegiality, disempowerment of teachers, or personal life concerns. With all of the existing issues in education, the teacher turnover rate is greater when compared to other professions (Hughes, 2012). The issues surrounding attrition of the country's teacher population are not only derivative of teacher retirement issues or increasing student populations in the classroom setting; however, Hughes (2012) contends that there are greater systemic concerns in place for zero-year and fifth-year teachers.

Teacher attrition does not proportionally affect all; rather elementary teachers are

more likely to stay in their fields more so than secondary teachers (Hughes, 2012). According to Hughes (2012), secondary teachers are more apt to leave the field of education due to problems centered on adolescents. Also, math and science teachers are leaving the field more regularly than other types of educators in the field of education due to higher demands from other professions outside of education (2012).

Teacher attrition affected all areas of the United States, but the schools most negatively impacted by teacher attrition were schools with high needs located in rural and urban settings with low socio-economic students (Hunt & Carrol, 2003). With these schools already being in areas of poverty and low social income, districts spend large amounts of money on teacher training which takes away from the student's education (Hunt & Carrol, 2003). The quality of teachers is the number one indicator and most important school-level factor affecting student achievement (Looney, 2011). Therefore, according to Looney (2011), it is vital to provide appropriate training and professional development opportunities for both novice and veteran staff members, which could be a costly expense to a district.

Theoretical Foundation

In 1979, Urie Bronfenbrenner wrote *The Ecology of Human Development: Experiments by Nature and Design.* In this book, Bronfenbrenner established his Ecological Systems Theory. Bronfenbrenner's Ecological Systems Theory presented the theory of how children develop over time, and a child's development is due to the surrounding environmental systems. Bronfenbenner (1979) states:

> It is with the aim of contributing to theoretical and empirical discovery that I have written this book. It will have achieved its object not if the ideas presented prove to be precisely correct, which is impossible, but if their investigation offers new, revealing vistas for the scientific understanding of the forces shaping the development of human beings in the environment in which they live. (p. 15)

The purpose of the Ecological Systems Theory is to understand how one's environment and systems surrounding the individual, affect the individuals overall development; the effects can be both positive and negative.

Bronfenbrenner has specific definitions for each realm or system for the developing child. The inner, and most important realm is referred to as the microsystem. Surrounding the microsystem is the mesosystem. Surrounding the mesosystem is the exosystem. And surrounding the exosystem is the macrosystem. According to Bronfenbrenner (1979), each system, over time, has a direct impact on the metacognitive development of a child. Each realm contains new connections and other relationships that directly and indirectly affect the child developments (Bronfenbrenner, 1979).

As stated prior, the theoretical foundation of this study is based on the Ecological Systems Theory, established by Bronfenbrenner (1979). This study will use Bronfenbrenner's theory to establish the foundation for the research being conducted in the study. Teachers are part of a system, and the system affects them just as the child is affected by its own surrounding systems (Brownell & Smith, 1993). By using the

Ecological Systems Theory, the study seeks to understand attrition through the educational systems that surround zero-year through fifth-year teachers.

Literature shows a plethora of issues that affect teacher attrition (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). However, by using the Ecological Systems Theory, the study seeks to understand which system within the hierarchal educational system, the microsystem, mesosystem, exosystem, and/or macosystem, is contributing to teacher attrition. Bronfenbrenner (1979) said the family is the microsystem to the child, being that the family has the most vital impact on the development of the child. For this study, the classroom is the microsystem for the teacher, as the classroom is where all teachers interface most with the educational system. The classroom has the largest impact on the teacher, therefore, that is why it has been designated the microsystem. The surrounding environmental systems for the teacher are as follows: the teacher's campus is the mesosystem, the teacher's district is the exosystem, and finally, the teacher's state level, education agencies are the macrosystem (Brownell & Smith, 1993).

The Ecological Systems Theory provides the study a lens in which to understand attrition in new light; by understanding which part(s) of the hierarchal educational system is contributing to the attrition of third-year through fifth-year teachers. By using the Ecological Systems Theory as the theoretical foundation, the study seeks to understand which environmental system(s) is promoting higher rates of attrition within the educational field.

Statement of Problem

The problem addressed in this study was teacher attrition and its negative impact on the educational system. Specifically, attrition of teachers with zero – five years of experience because they have the highest attrition rate compared to other teachers with more years of service. There is supportive literature that shows teachers leave during year zero through year five of service (Battle & Looney, 2014). However, there is no clear understanding as to which part of the hierarchal educational system is causing teachers to stay, stay yet be dissatisfied, move campus or districts due to being dissatisfied, or leaving the educational field all together to seek other career possibilities. By not fully understanding which part of the educational system is connected to teacher attrition, districts cannot improve practices to help solve high rates of teacher attrition (Brownell & Smith, 1993).

Purpose Statement

The purpose of this study was to understand how the hierarchical educational system contributed to the attrition of zero-year through fifth-year teachers by understanding which part of the hierarchical educational system was connected to attrition through the lens of Bronfenbrenner's Ecological Systems Theory. The study intended to discover the factors significant to teacher attrition within each system of the hierarchal educational system. Then, discovered which system within the hierarchal educational system was the causal for high teacher attrition for teacher with zero – five years of service.

Research Questions

This research is based on understanding the factors that promote attrition within the educational system by using the Ecological Systems Theory of Bronfenbrenner (1979).

The following research questions will serve to guide the research of the study:

1. For teachers with 0-5 years of classroom experience, what classroom factors exist that would influence their decision to leave the educational profession?
2. For teachers with 0-5 years of classroom experience, what campus factors exist that would influence their decision to leave the educational profession?
3. For teachers with 0-5 years of classroom experience, what district factors exist that would influence their decision to leave the educational profession?
4. For teachers with 0-5 years of classroom experience, what state factors exist for teachers that would influence their decision to leave the field of education?
5. As defined by the ecological systems theory of Bronfenbrenner (1979), for teachers with 0-5 years of classroom experience, which hierarchal educational system would influence their decision to leave the field of education?

Significance of the Study

The significance of the study focuses on the voice of zero-year and fifth-year teachers and their beliefs about attrition and how to establish much needed practices within school districts that create and develop a work force of knowledgeable, master teachers (Shaw & Newton, 2014). Furthermore, the study will connect the factors,

existing in literature that cause attrition, to the hierarchal education system to distinguish where the factors are located within the educational system perpetuating teacher attrition. With the findings of the study, school districts and human resource departments will be able to address the issues of attrition of zero-year through fifth-year teachers, as related to the hierarchal educational system, in their school districts. Also, educator preparation programs will be able to gain insight into particular reasons as to why teachers are staying or leaving education and address the issues through courses in their pre-service teacher programs.

Assumptions

According to Neuman (2011), assumptions are those parts of study that are accepted as true, or an untested starting point or belief in a theory that is necessary in order to build a theoretical explanation. For this study particularly, background assumptions will be used which must exist for continued inquiry (Neuman, 2011).

The assumptions related to this study are:

(1) the researcher assumes the respondents will be honest in their survey responses;

(2) and, the researcher assumes that there will be other factors that impact teacher attrition not associated with this study;

(3) and, the researcher assumes the district is aware of their attrition rates;

(4) and, the researcher assumes the participants will select their descriptor based on their best knowledge of how they feel about their current job placement;

(6) and, the researcher assumes the participants understand the hierarchal educational system as it pertains to their district and state.

Limitations

Limitations are those parts of the study that are beyond the control of the researcher (Neuman, 2011). By presenting these issues, the researcher intends to present a clearer picture to the reader into the surrounding factors of teacher attrition.

The limitations related to this study are:

(1) Only teachers currently teaching were used for this study;

(2) and the study is geographically located in a small portion of Texas;

(3) and, participant honesty;

(4) and, participants completing the survey;

(5) and, return rate;

(6) and, time frame for the return of survey.

Definitions

In the field of education there exist a unique language of terms filled with acronyms and other condensed phrasing. In order to help the reader understand the terminology of this study, the researcher has defined words that are pertinent and relevant to the topic of teacher attrition. The following definitions will be operational to the impact of the study and the understanding for the reader. Creswell (2012) states the significance of an operational definition is to describe how a variable is to be measured, or how a term is to be recognized.

The following definitions are operational to the study and will help the reader understand the underlying connotations:

Attrition. Is the rate at which teachers do not return to the educational field (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008).

Exosystem. The part of the hierarchal educational system that encompasses the mesosystem, and microsystem as adapted from (Bronfenbrenner, 1979). For the purpose of the study, this will be representative of the district setting (Brownell & Smith, 1993).

High-quality teacher. A teacher that is well versed in all aspects of instruction and classroom management (Looney, 2011).

Leavers. Third through fifth year teachers that will exit the field of education and will seek employment in a different profession (Heineke et al., 2014; National Center for Educational Statistics, 2014).

Lingerers. Third through fifth year teachers that will stay at the same school yet are unsatisfied with their current placement (Heineke et al., 2014; National Center for Educational Statistics, 2014).

Low socioeconomic school. Schools that have a free or reduced lunch rate of more than 50% of student population (Texas Education Agency, 2007).

Macrosystem. The part of the hierarchal educational system, which encompasses the exosystem, mesosystem, and microsystem as adapted from (Bronfenbrenner,

1979). For the purpose of the study, this will be representative of the state setting (Brownell & Smith, 1993).

Mesosystem. The part of the hierarchal educational system that encompasses the microsystem as adapted (Bronfenbrenner, 1979). For the purpose of the study, this will be representative of the campus setting (Brownell & Smith, 1993).

Microsystem. The smallest part of the hierarchal educational system as adapted from (Bronfenbrenner, 1979). For the purpose of the study, this will be representative of the classroom setting (Brownell & Smith, 1993).

Movers. Third through fifth year teachers that will be moving to a new campus or school district at the conclusion of the school year, due to being unsatisfied with their current placement, but not leaving the educational profession (Heineke et al., 2014; National Center for Educational Statistics, 2014).

Public Education Information Management System. More commonly referred to as PEIMS, it is the system that controls all requests on public education in Texas and is controlled by the Texas Education Agency (Texas Education Agency, 2007).

Secondary school. For the purpose of this study, only secondary schools will be used which are grades 6-12. Secondary schools will be any school with the following designation: middle school, junior high, high school, freshman campus, 9^{th} grade campus, or senior high.

Stayers. Third through fifth year teachers that will be staying at the same school for the next school year, and are satisfied with their current placement (Heineke, Mazza, & Tichnor-Wagner, 2014; National Center for Educational Statistics, 2014).

Urban school. Urban poverty and education research has come to define a cluster of acceptable research domains, theories, and methods in which to study ethnically and racially diverse students, schools and classrooms that are located within metropolitan centers (Buendía, 2011).

Organization of the Study

With national averages as high as two-thirds of teachers leaving before their fifth year of teaching (O'Rourke et al., 2008), this study will serve to add to the existing literature on attrition rates of zero-year through fifth-year teachers, and pinpoint which part or parts of the hierarchal education system are helping achieve high attrition rates. A problem cannot be identified unless there are data to support the existence of a problem. A national problem does exist on the issue of attrition of early year educators (Ingersoll & Merrill, 2012); however, there is little to conclude if a problem existence within the state of Texas, specifically in the Houston, Texas, area.

Chapter I will present the background information on attrition of zero-year through fifth-year teachers. Chapter II of the study will present an extensive review of literature to ground the study of teacher attrition and to fully understand all of the components of the hierarchal educational system. Chapter III will explain the

methodological approach of the study, which is mixed-methods, convergent parallel design. In Chapter IV, the data collected will be presented, both quantitative and qualitative, as well as the results and findings. Finally, Chapter V will present the discussion, summary of results, and implications of the study.

CHAPTER II

Review of Literature

Introduction

Without a clear understanding as to which system or systems within the hierarchal educational system is promoting teacher attrition, teacher attrition rates will continue to remain high for the foreseeable future (Skilbeck & Connell, 2003). By using Bronfenbrenner's (1979) Ecological System Theory, factors within each educational system can be pinpointed as to the root cause of high attrition rates for teachers.

A decade and a half into the twenty-first century, education is facing a problem that could have long-term ramifications for the foreseeable future. The problem of teacher attrition is felt by all states across the United States and school districts are dealing with the negative impacts of teacher attrition on a yearly basis. Far more schools are losing teachers than retaining them (Shaw & Newton, 2014). As stated earlier in chapter one, the problem statement of this research was to fully understand what factors within the hierarchal educational system promote teacher attrition. The review of literature presented, in detail, the issue of teacher attrition, specifically teacher attrition issues in the state of Texas. As well as present literature on the hierarchal educational system, based on the works of the Ecological Systems Theory (Bronfenbrenner, 1979).

With estimates as high as two thirds of teachers leaving within the first five years of their teaching career, schools will not have knowledgeable teachers in the future to develop quality lessons for students in our educational system (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). With the baby boomer generation at retirement age, our countries education system will experience a mass exodus of retiring teachers, and with their retirement goes their plethora of knowledge on instruction and development of curriculum (Shaw & Newton, 2014). This mass exodus puts the burden on a new generation of teachers, a generation that is seemingly leaving the profession of education at an alarmingly early rate (Hughes, 2012).

In a 2002 study conducted by the Texas Public Policy Foundation, it concluded attrition to be the most critical employment problem facing education today (Claybon, 2008). It is a critical problem due to the number of graduates that are not staying in the educational field. The National Education Agency (NEA) found 25% to 50% of new teachers resign during the first three years of their career (Inman & Marlow, 2004).

The review of literature served this research by setting the context that surrounds teacher attrition. The review of literature will delve in the expansive list of issues that affect teacher attrition such as: induction orientation programs, campus and district leadership, pay, work load, school environment, state and federal guidelines, standardized testing, public's perception of teachers, student behavior, student demographics, and student socio-economic status. Specific information on the current state of education will also be presented to help the reader familiarize themselves with current issues in the state

of Texas. And finally the educational hierarchal system will be presented, based on the work of Urie Bronfenbrenner (1979).

And finally, the review of literature will serve to frame this study of zero-year through fifth-year teacher attrition. By understanding the broad topics covered in the review of literature, it will help ground the study and validate the perceptions of the zero-year through fifth-year teachers this study seeks to examine, and further understand.

State of Education in Texas

To be more specific about attrition rates in the state of Texas, a study conducted by the Texas Public Policy Foundation in 2000, researchers found Texas teachers were most troubled by the following: (1) student behavior; (2) poor treatment by administrators; and (3) compensation (Claybon, 2008). Then similarly, in 2002, the Texas Teachers Association conducted research presenting the following concerns of Texas teachers: (1) student issues; and (2) working conditions, specifically administrative problems (Claybon, 2008). Most notably absent from this study was the issue of salary, yet the common theme between the two studies are student related issues and administrative issues pertaining to education which increases the amount of stress on teachers and quite notably, one of the main contributing factors to teacher attrition (Inman, 2004).

The Texas Education Agency (TEA), in a 2002 report, reported 420,000 individuals had a valid teaching certificate in Texas; however, only 290,000 of those were actually employed in a Texas public school (Herbert & Ramsey, 2004). This

discrepancy in numbers presented an interesting point, which is why are roughly half of the certified teachers in Texas currently employed? Is this discrepancy due to losing those teachers to attrition, or are that many teachers having difficulty finding employment? In a 2008-2009 NCES follow-up study on the cost of teacher attrition, it was estimated teacher attrition cost the state of Texas $214 million dollars; further more, when all states were combined, the total cost of teacher attrition was estimated to be $2.2 billion dollars, mainly due to the high cost of new teacher training (Craig, 2013).

Studies conducted in the mid-1900s in Texas, found several interesting trends on teacher attrition. In a study conducted in 1992, by TEA, found 8.8% of men left the field of education, as compared to only 7.8% of female teachers (Texas Education Agency, 1995). Both of these are below the national average of 8.9% for teacher attrition in 1992. The same study also found teachers of the age of 25, have the highest attrition rates compared to older age groups. The 25 and under age group had an attrition rate of 11.3% (Texas Education Agency, 1995).

The same study also found a connection to attrition and the teacher's content area. The content area seeing the highest teacher attrition rate is special education (Texas Education Agency, 1995). The special education teachers saw an attrition rate of 10% in the 1992-1993 school year (Texas Education Agency, 1995). Followed by science teachers with an 8.6% attrition rate, followed then by math and English teachers with an 8.4% attrition rate (1995).

Students. According to the National Center of Educational Statistics (2014), the state of Texas had 5,153,702 students enrolled in the public education system. The average student enrollment for states in the country is 981,265. Due to Texas being such a highly populated state, means it serves one of the largest student populations in the country (National Center of Educational Statistics, 2014).

The demographics of the students in the Texas school system breakdown as follows: male 51.3%; female 48.7%; African American 12.7%; Hispanic 51.8%; White 29.5%; two or more races 1.9%; and Asian/Pacific Islander 3.8% (National Center of Educational Statistics, 2014). The majority of the students in Texas were Hispanic, which can be explained by the increase immigration Texas as received from Mexico and Central Latin America.

Teachers. Following national trends, Texas has far more female teachers than male teachers. According to the latest demographic PEIMS data from TEA (2014), females make up 76.77% of the teaching population while men only make up 23.23%. This trend dates back to the early conception of the American education system, which was viewed primarily as a female occupation (Sirin, McCreary, & Mahalik, 2004). And nearly as contrasting, Texas has far more White teachers.

The demographic breakdown of teachers in the state of Texas is as follows: African American 9.34%; Hispanic 24.81%; White 62.9%; and Asian 1.35%. Since 2008, the number of White teachers in Texas has declined marginally, while the Hispanic

teacher population has seen a small increase, but overall the trends remain the same (National Center of Educational Statistics, 2014).

Teacher Attrition

The effects of attrition for the teaching profession are well documented over the past decades. According to statistical data, the teaching profession seems to have experienced a high rate of in-and-out movement, where more teachers are choosing to move permanently out of the profession (Craig, 2013). The profession is losing as many as 60% of teachers before they reach their fifth year of service (Claybon, 2008). With education losing this number of early career professionals, it is becoming more difficult to train high-quality teachers (O'Rourke et al., 2008).

In 1994, then Secretary of Education, Richard W. Riley, estimated the United States would need to hire an additional two million new teachers in order to fill all of the teaching positions left vacant from the aging and retiring baby boomer generation (Shaw & Newton, 2014). The United States met and surpassed the goal in 2004 by hiring 2.25 million teachers (Shaw & Newton, 2014). Filling the void of the leaving baby boomers who have filled many teaching positions was a great accomplishment; however, the new feat will be to retain this new generation of teachers so they remain in their positions long enough to develop the skills necessary to become high-quality teachers rather than perpetuating the proverbial revolving door syndrome.

Teacher background. Teachers seem to enter the field of education for a variety of reasons. For many teachers, the final decision to enter education was based on the

benefits of teaching such as vacation time, working conditions, salary, and intrinsic value of helping students (Hughes, 2012). In a study conducted by Hughes (2012), they asked pre-service teachers what factors influenced them to enter education. The most common themes were: 71% stated to teach for personal fulfillment; 70% stated they enjoyed the content of the subject they teach; and 66% stated they like working with young people. Notably, one of the lowest responses was to start and raise a family (Curtis, 2012), which breaks historical trends of past. The literature supports the notion teachers are entering a profession they feel will be a good fit for them; however, something is occurring within the first five years of service making educators question the benefits from teaching which introduces the issue of teacher attrition.

The problematic issue of teacher attrition is not a new topic in education. In fact, from 1987 to 2008, the annual teacher attrition rose by 41% (Ingersoll & Merrill, 2012). The profession of education sees far worse attrition rates when compared to other professions in the United States, which presented an interesting question as to why education has worse attrition rates (Ingersoll, 2001; Ingersoll & Smith, 2003). In fact, the issues surrounding teacher attrition cannot be explained by losing teachers to retirement or by an increase in student population; rather, this would indicate there are systemic issues within education that are driving teachers out of the educational profession (Hughes, 2012).

Studies suggest that some teachers are more apt to leave the educational field when compared to some other teachers; however, the fact still remains that the majority

of the nation's teachers are white and female, a trend that has remained constant for the past 30 years (Curtis, 2012). Recent numbers did indicate that more intellectually able women are deciding to enter other careers besides education due to more career opportunities for women in the work force (Education Commission of the States, 2005).

Also, general trends show the more intellectual ability one possesses, the less likely they will enter into an educational career (Curtis, 2012). Guarino, Santibanez, and Daley (2006), found that the "preponderance of evidence suggests that teachers with higher measured ability have a higher probability of leaving and that retention rates varied by level of education and field, as well" (p. 186). Podgursky et al., (2004) found that teachers with high ACT scores were less likely to remain in teaching. Also, teachers with college entrance scores in the top quartile were twice as likely to leave teaching in their first five years (Henke, Chen, Geis & Knepper, 2000). If education is to continue to provide a quality education for students, the types teachers listed above must be retained to ensure quality instruction in schools.

In their meta-analytic review, Borman and Dowling (2006), concluded teachers with graduate degrees were also more likely to exit the education field in search of other job opportunities. However, Latham and Vogt (2007) contradict Borman and Dowling because their research found no significant relationship between graduate degrees and teacher attrition rates. Regardless, the literature still indicated teachers who remain in education are those who have scored lower on teacher tests as well as college entrance exams (Hughes, 2012).

Attrition by demographics. Attrition rates for new teachers are higher than the attrition rates of mature more experienced teachers (Curtis, 2012). Factors such as age, experience, gender, and ethnicity were indicators of who goes into the educational field, and who will stay in (Guarino et al., 2006). Teacher ethnicity is directly related to attrition; White teachers are 1.36 times more likely to leave the field of education than non-White teachers (Borman & Dowling, 2006). Similarly, other studies have shown higher attrition rates for minority teachers suggesting, non-White teachers are more likely to stay in education (Hughes, 2012). The literature also shows more qualified teachers and those who score higher on college entrance exams are more likely to leave education than their counterparts (Borman & Dowling, 2006; Guarino et al., 2006).

Attrition by campus and content. Attrition rates were also affected by the teachers' campus type and content area. When compared which teachers had better attrition rates, elementary teachers were more likely to remain in the profession when compared to their secondary counterparts (Guarino et al., 2006; Kukla-Acevedo, 2009; Murnane, Singer, & Willett, 1988). Middle school teachers, grades six through eight, had the worst attrition rates when compared to all educators (Brill & McCartney, 2008). According to Brill and McCartney (2008), this is due to problems associated with adolescence and the issues that manifest themselves around this age group.

Teachers' content area was also an indicator as to rather they will stay in education or not. The content areas least likely to remain in education were teachers of math and science, due to greater number of career opportunities outside of education

(Borman & Dowling, 2006; Guarino et al., 2006; Ingersoll, 2001; Kukla-Acevedo, 2009; Podgursky et al., 2004). Whereas, other subject area teachers tend to remain in education for longer periods of time, due to not being able to find careers outside of educational system (Hughes, 2012).

Literature supported the notion that teachers are leaving the educational field within their first five years of service. With some studies showing 60% of teachers leaving education within the first five years, teachers are dissatisfied with the state of education for many reasons (Ingersoll, 2001).

Factors Attributing to Teacher Attrition

In the United States it is well documented that 50% of educators leave the profession within their first five years of service (Darling-Hammond, 2003; Ingersol, 2004; & Levine, 2006). As Skilbeck and Connell (2003, p. 32-33) contest, teaching is becoming a career of "movement in and out" and the "out" may be permanent. Guarino et al., (2006) contends education is viewed by some as a short-term occupation, rather than being a long-term career. These findings raise the question as to why educators are leaving the profession of education.

The reasons have appeared in literature and vary pending on personal issues and school environment issues. Teachers have cited many reasons as to why they decided to leave the education field including: negative working conditions (Loeb, Darling-Hammond, & Luczak, 2005), lack of professional support (Cochran-Smith, 2004; Kersaint, Lewis, Potter, & Meisels, 2005), subpar administration (Bogler, 2001; Fantilli

& McDougal, 2009; Kersaint et al., 2005, Liu & Meyer, 2005), personal responsibilities (Kersaint et al., 2005), low salary (Kersaint et al, 2005; Liu & Meyer, 2005), and emotional burnout (Haberman, 2004; Hong, 2010). There are a wide variety of variables educators are weighing on a daily basis, and many cases could cause teachers to leave education, only worsening the attrition rate of educators. All of the above listed factors make teachers question their future in education and weigh their options of seeking other professional opportunities (Cochran-Smith, 2004).

In a study conducted by the research and accountability department for a school district, the accountability department found that 46.3% of teachers left education with not feeling valued in the workplace, 45.2% left from lack of support from administrators, and 43.9% left due to workplace conditions and policies (Terry, 2009). Other factors included: job security, professional development opportunities, salary, and benefits (Craig, 2013).

One of the reoccurring themes as to why teachers are leaving the education field can be attributed to poor pay and low starting salaries. During his Seventh State of American Education address, United States Secretary of Education, Richard Riley stated the teaching profession needed to be a better-paid profession (Riley, 2005). Not much has been done to date on improving salary for educators as the income gap between experienced teachers with a master's degree and people in other fields with the same level of education is a difference of $32,000 a year (Morris, 2006).

According to the Texas Education Agency (TEA) (2016), the minimum salary,

school year 2015-2016, for a first year teacher in Texas is $28,080. To put this salary in context and too give it some perspective, according to the U.S. Department of Health and Human Services (2016), this salary would place a family of five at the poverty threshold, which is $28,410. With salaries that can best be described as anemic, teachers are finding their workload to be too much and their salary too little; therefore, making it easier for teachers to exit the educational field to seek other opportunities that will provide more economic opportunities, and in some cases, less stress (Watt & Richardson, 2007).

A study conducted by Watson, Harper, Ratliff, and Singleton (2010) found stress to me a major contributor to decreased job satisfaction among new teachers (Hughes, 2012). Stress in education can be manifested through many areas within the educational setting including salary (Certo & Fox, 2002; Feng, 2009; Hahs-Vaughn & Scherff, 2008), levels of administrative support (Fontaine, Kane, Duquette, & Savoie-Zajz, 2012; Gersten, Keating, Yovanoff, & Harniss, 2001; Kukla-Acevedo, 2009), low collegiality (Billingsley, 2004), the disempowerment of teachers (Fore, Martin, & Bender, 2002), and personal life concerns (Ingersoll, 2001). With many areas in education that have the potential to create stress, poor leadership, or lack of administrative support, can create significant reasons for teachers to leave education, or at least to seek employment with another school district (Claybon, 2008).

The school leader has a direct impact on teacher attrition for their campus (Curtis, 2012). School leaders have attributes that make teachers want to stay in education, and on the other hand, the school leaders can have attributes that directly make teachers leave

education, continuing to worsen the attrition rates for teachers (Curtis, 2012). According to Shaw and Newton (2014), one-third of teachers leave the education profession due to the perception of no administrative support. In a study conducted at Charlotte-Mecklenburg Schools, the traits and strategies of successful principals were studied to see what attributes would help retain more teachers. The study concluded that self-motivation, problem solving, and risk-taking were the three most important traits in retaining teachers (Curtis, 2012). The study explained effective leadership as:

> They were seen as committed and passionate about their profession, and were successful in building appropriate relationships with staff, supporting teachers, including teachers in decision-making, empowering staff, providing teachers opportunities to grow in their profession, being accessible to teachers, and providing individual and team structured planning time. (Curtis, 2012, p.781-782)

When teachers are under the control of a poor leader, attrition will be higher; when teachers are under the control of an effective leader, attrition rates will be lower because teachers care about who is at the helm of the organization (Curtis, 2012).

High poverty schools. Another factor, which affected teacher attrition rates, was the school campuses themselves. Literature showed teachers are twice as likely to leave poor urban schools than any other (Hunt & Carroll, 2003; Loeb et al., 2005). Money incentives help to draw more teachers to high-poverty schools yet the financial incentives do little to help retain teachers from year-to-year (Kirchhoff, 2009). In fact, according to Hunt and Carroll (2003), one third of teachers in the United States leave education and

the schools with the highest attrition rates are high-needs schools, which are classified as urban and rural schools with low income and minority populations.

Teachers on campuses that had a high population of student poverty are more likely to exit education due to high rates of student poverty coincide with higher rates of teacher attrition (Hughes, 2012). Some of these high-needs schools are known to have a turnover rate as high as 85% (Craig 2013). It is also noteworthy that schools with low academic achievement and high poverty are likely to have less experienced teachers (Curtis, 2012). Schools with high poverty have a number of issues that make educating more difficult such as: inadequate funding, low parental involvement, poor leadership, and student behavior problems, all of which increase the stress of the educator and increasing the likelihood of the teacher leaving to find employment elsewhere (Hughes, 2012).

In yet another survey conducted by MetLife, it concluded that both new teachers as well as experienced teachers expressed dissatisfaction with education (McCalister, 2003). The survey found as education changed and the demands on teachers increased, it would only increase negativity and would eventually result with decreased teacher moral and increased job dissatisfaction (McCalister, 2003). With both novice and experienced teachers feeling dissatisfied with the atmosphere of education, it is important to understand attrition of zero-year through fifth-year teachers in hopes of trying to lessen the impact of teacher attrition on the educational system.

For many teachers, family and personal reasons play a large role in leaving the field of education. Many educators cited family and personal reasons for reasons why they left the field of education, which include: pregnancy; demands from childrearing; and health reasons (Chisolm, 2008). Other factors increasing dissatisfaction in education can be related to poor salary, poor administrative support, and student discipline problems are cited as among the most frequent reasons for teacher attrition (Ingersoll, 2001;Tye & O'Brien, 2002). With attrition being influenced by both internal and external factors, it is important to understand the factors within the educational system itself to lesson the effect of teacher attrition.

Attrition's Impact on Education

The overall impact attrition has on education is negative (Goldhaber & Cowan, 2014). With high teacher attrition comes more training at the expense of the district, and the overall quality of teachers is poorer (Rockoff, 2004). With teachers leaving before year five, which some authors suggests is not enough time to develop into a master teacher, districts are left with inexperienced teachers that lack the training and understanding of how to implement effective instruction for learners (O'Rourke et al., 2008).

Cost. A negative side effect of high teacher attrition and teacher turnover is the cost of having to constantly replace and retrain teachers. Some authors have estimated the national annual financial cost of recruiting, hiring, and training new teachers to be anywhere from $2.2 billion up to $7 billion per year (Borman & Dowling, 2006). Some

districts with high attrition rates spend millions of dollars recruiting and training new teachers, many of whom are hired at the last minute and are under qualified teachers with little to no experience in the classroom (Heineke et al., 2014). The hiring of these under qualified teachers seems to be part of the problem with attrition rates for education (Borman & Dowling, 2006).

In an effort to help schools hire teachers in an already under populated profession, 42 states now issue licensures to people who have an out of field degree (Claybon, 2008). Claybon (2008) contends teachers hired with this alternative certification have no previous in class training in education, no formal educational training, and no teaching experience. With little to no background knowledge about education, many alternative certified teachers, will too, leave the field of education, and therefore, not help the problem of attrition as many states thought they would; this quite possibly is exacerbating the problem (2008). In a 2013 study conducted by Teach for America, in Houston, Texas, found 85% of second-year teachers left their placement campus to find employment elsewhere (Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005). Suggesting these alternative certified teachers are looking for short-term employment with little intentions of staying in the educational field permanently adding to the existing problem of teacher attrition.

Teacher quality and impact on instruction. Due to high attrition rates, school districts are not given the time to develop these novice teachers into master teachers. With attrition being prevalent in the first five years of teaching, the question remains as to

the impact attrition will have on instructional effectiveness and student learning (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). With districts not being able to hire and train master teachers because too many educators are leaving the field of education, this presents an issue on the quality of instruction occurring in schools (Goldhaber & Cowan, 2014). By studying and investigating this apparent continuum of teachers leaving, school districts would be able to establish a framework for preventing the high personal and professional costs associated with teacher attrition.

According to O'Rourke et al. (2008), it takes three to seven years for a novice teacher to become a high quality teacher; however, over one third of teachers exit the education field within the first five years, and some authors would suggest the number is much higher than one third (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). These statistics make it difficult for school districts to hire and to develop high-quality educators for their students (Hughes, 2012). As there is no collective working definition of a high-quality educator, Looney (2011) lays out important factors that are known to be vital to the development of high-quality teachers: (1) are intellectually able; (2) have knowledge of content areas and competences; (3) develop positive relationships with students; (4) have strong classroom management skills; (5) are skilled assessors; and (6) work collaboratively with peers (p. 443). High attrition rates have not allowed teachers to develop into the characteristics laid out by Looney (2011).

Student performance is directly affected by teacher attrition (Rockoff, 2004). According to Rockoff (2004), there are three areas in which instruction are negatively

affected by teacher attrition, they are: having less effective and more inexperienced teachers in the classroom; classroom instruction lends itself to be unstable and less cohesive; and teacher turnover is very expensive and may deplete funds that would otherwise be spent on student instruction. Studies show it takes three to seven years for a novice teacher to become a high-quality teacher (O'Rourke, Catrett, & Houchins, 2008).

Yet, as previously stated, about one-third of all teachers exit the profession within the first five years (Shaw & Newton, 2014). With it taking up to seven years to become a high-quality teacher, and many teachers are leaving the classroom before reaching this point, it is creating a void of high-quality teachers in the classroom to instruct and create the classroom environment needed to provide a quality education to the learner.

With attrition having a connection to poor instruction (Goldhaber & Cowan, 2014), the new charge must be to prevent the attrition of teachers from education. In the 1990s, there was a need to replace a waning sect of teachers. For today's purposes, there is an eminent need to determine the causes of teacher attrition and what can be done to keep educators in classrooms, especially during their early years (Goldhaber & Cowan, 2014). Schools across the nation are wasting precious money on the training and re-training of teachers because of attrition. Claybon (2008), supposes that the money used to train and re-train teachers that are leaving the field after a short amount of time might be better spent on addressing ways to keep them in the classroom. When the problem of teacher attrition is addressed and solutions are determined, schools could have more

resources available to their students to supplement and improve instruction (Claybon, 2008).

Research showed experienced teachers, simply put, are better teachers (Hughes, 2012). The literature showed the teaching profession is losing a number of classroom teachers within five years of their service (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). Additional literature spoke to the ineffectiveness found in novice teachers' classrooms because of their inexperience (Claybon, 2008).

Hierarchal Educational System

The American psychologist, Urie Bronfenbrenner, is responsible for developing the ecological systems theory (Tissington, 2000). The ecological systems theory views development within a complex system (Tissington, 2000). The original work of Bronfenbrenner, developed an understanding of the systems that directly affect the development of children (Bronfenbrener, 1979). Through the ecological systems theory, Bronfenbrenner distinguished specific realms or systems that are connected to the environment. These levels extend beyond immediate surrounding of the child and will be juxtapose to the educational system surrounding educators.

Bronfenbrenner's ecological systems theory is based on four realms or four nested systems: the microsystem; the mesosystem; the exosystem; and the macrosystem (Bronfenbrenner, 1979). The most inner system, the microsystem, is given priority due to its location in the center of the ecological system theory model. The larger systems

surrounding the microsystem; indicate the larger systems are each connected to each other.

Microsystem. In Bronfenbrenner's (1979) *The Ecology of Human Development,* the term microsystem is defined as "a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (p. 22). This setting, for the child, is the most immediate environment consisting of factors such as family, parents, and siblings (Swick & Williams, 2006). The power of the microsystem establishes an initial set of interrelations with family and the development of trust and mutuality with their most significant people (Swick & Williams, 2006).

The microsystem will be related to the needs of the teacher and at the heart of the teaching profession is the classroom. As the family is the microsystem to the child, the classroom is the microsystem to the teacher (Bronfenbrenner, 1979). Within the classroom, there exist factors that can lead to teachers leaving the teaching profession (Darling-Hammond, 2003; Ingersoll, 2004; & Levine, 2006).

Mesosystem. In Bronfenbrenner's *The Ecology of Human Development,* the term mesosystem is defined as "the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school, and neighborhood peer group; for an adult, among family, work and social life)" (p. 25). Bronfenbrenner (1979) continues to explain:

> A mesosystem is thus a system of microsystems. It is formed or extended whenever the developing person moves into a new setting. Besides this primary link, interconnections may take a number of additional forms: other persons who participate actively in both settings, intermediate links in a social network, and formal and informal communications among settings. (p. 25)

The mesosystem helps to move us beyond the single relationship between the self and family, and opens the system for more interaction and relationships with more people.

The mesosystem will be related to the needs of the teacher. The mesosytem, as it encompasses the microsystem, or the classroom, will be symbolic of the campus for the teacher. If a teacher moves beyond the interactions of the classroom, the next level of communication and interaction will be those interactions at the campus level. As the microsystem, the mesosytem also holds factors that can contribute to teacher attrition (Darling-Hammond, 2003; Ingersoll, 2004; & Levine, 2006).

Exosystem. In Bronfenbrenner's (1979) *The Ecology of Human Development,* the term exosystem is defined as "one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person" (p. 25). Some examples of the exosystem, according to Bronfenbrenner (1979), are for a child an exosystem could be their parent's work or an older siblings classroom. An exosystem for a teacher could be the local school board and the decisions that will have a direct impact on their practices within that particular educational system (Bronfenbrenner, 1979).

The exosystem for this study will be symbolic of the district level system for a teacher. At the district level, there exists certain factors that can lead to higher attrition rates for teachers (Darling-Hammond, 2003; Ingersoll, 2004; & Levine, 2006).

Macrosystem. The final level of Bronfenbrenner's (1979) Ecological System Theory is the macrosystem. According to *The Ecology of Human Development,* the term macrosystem is defined as:

> Consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems or ideology underlying such consistencies. (p. 26)

In other words, the macrosystem we live in influences what, how, when and where we carry out our relations. An example presented by Bronfenbrenner (1979), he describes the macrosystem as the classroom, post office, café, and park in France are all similar in how they carry out their functions, yet when compared to how they function in the United States, they are very different. In each system's blueprints, differences can be found for various socioeconomic, ethnic, religious, and other subcultural groups, reflecting contrasting belief systems and lifestyles, which in turn help to perpetuate the ecological environments specific to each group.

The macrosystem for this study will be symbolic of the state level and how factors within the state education agency may cause higher attrition rates for teachers (Darling-Hammond, 2003; Ingersoll, 2004; & Levine, 2006).

Connecting Ecological Systems Theory to hierarchal educational system. The diagram below visually shows how Bronfenbrenner's Ecological System Theory has been adapted to fit the important systems of a teacher's career.

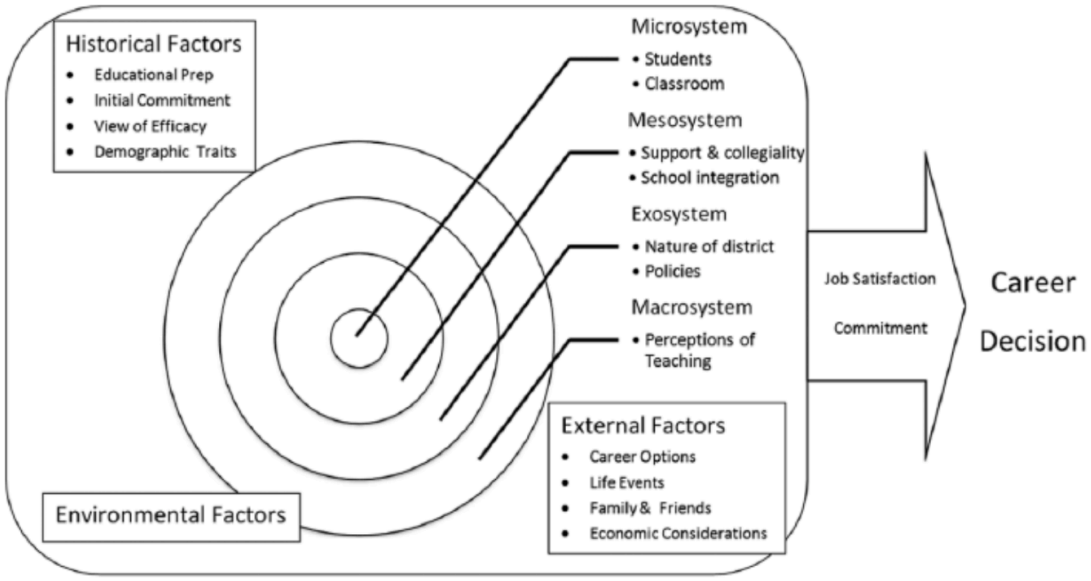

Figure 1. The hierarchal education system connected to Bronfenbrenner's Ecological Systems Theory (Brownell & Smith, 1993, p. 272).

Brownell and Smith (1993), have developed different realms of the educational system, in which; each realm contains a set of unique factors for teachers to confront. Within each system, the factors present are the issues that could lead to teachers wanting to leave the field of education and increase the attrition rates of the teaching profession.

There are many realms or spheres that can develop problems for a teacher, and therefore cause them to reflect on their future in education (Darling-Hammond, 2003; Ingersoll, 2004; & Levine, 2006). This study contends to understand what those factors are and relate those factors back to Bronfenbrenner's Ecological Systems Theory: the

microsystem; the mesosystem; the exosystem; and the macrosystem. Heineke et al. (2014) contends the above stated realms will affect a teacher's job satisfaction therefore allowing them to make career decisions.

Teacher Designations

The terms: stayer, lingerer, mover, and leaver have appeared in studies to help readers understand how teachers perceive their level of wanting to leave or stay in the field of education (Heineke et al., 2014; National Center for Educational Statistics, 2014). Each designation will allow the reader to understand the plight of each participating teacher in the study.

The terms are operational and have been adapted from studies based on teacher attrition (Heinek et al, 2014; National Center for Educational Statistics, 2014). A teacher that identified as a stayer means they will be staying at the same school for the next school year, and are satisfied with their current placement. A teacher that identified as a lingerer means they will stay at the same school yet are dissatisfied with their current placement. A teacher that identified as a mover means they will be moving to a new campus or school district at the conclusion of the school year, due to being dissatisfied with their current placement, but not leaving the educational profession. And finally a teacher that identified as a leaver means they will exit the field of education and will seek employment in a different profession (Heineke et al., 2014; National Center for Educational Statistics, 2014).

Summary of Findings in Literature

Experienced teachers are better teachers; however, schools are facing an uphill battle when it comes to retaining their staff (Brill & McCartney, 2008; Hanushek, Kain, & Rivkin, 1998). As previously stated, schools in the United States have attrition rates that range anywhere from 20% to 50% for teachers within their first five years of education (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). The implications of not retaining and being able to mold a mature staff of educators could have negative ramifications across the educational setting, with the most negative impact being on instruction and student learning (Goldhaber & Cowan, 2014).

The literature presented the factors of teacher attrition, which are wide and varied; however, the factors span the entire hierarchal educational system: the microsystem; mesosystem; exosystem; macrosystem (Bronfenbrenner, 1979). The review of literature presented the issues surrounding teacher attrition, and the hierarchal educational system, which will be foundational and provide validity to the findings of study.

Chapter I presented the background information on attrition and retention of zero year through fifth year teachers. Chapter II of the study presented an extensive review of literature to ground the study of teacher attrition. Chapter III will explain the methodological approach of the study, which is mixed-methods, convergent parallel design. In Chapter IV, the data collected will be presented, both quantitative and qualitative, as well as the merger of the two data sets. Finally, Chapter V will present the summary of results, implications, and recommendations of the study.

CHAPTER III

Methodology

Introduction

To conduct this study, a mixed-methods research design was utilized. According to Tashakkori and Teddlie (2003), there are three reasons why we conduct mixed-methods research: (1) mixed-methods research can answer research questions that the other methodologies cannot; (2) mixed-methods research provides better and/or stronger inferences; and (3) mixed-methods research provides the opportunity for presenting a greater diversity of divergent views. In the following sections, the designs of mixed methods research will be presented and the advantages listed above will be made evident. By conducting a mixed-methods study, the study was strengthened by the results stemming from the collection and analysis of both quantitative and qualitative data (Creswell & Clark, 2007).

As previously stated, the philosophy of mixed methods research lies in using the strengths of both quantitative and qualitative research to design a study (Creswell, 2002; Creswell & Clark, 2007). Each mixed-methods design has strengths and limitations, depending on the intent of the study. However, the researcher needed to consider heavily which design to use as each design has its own unique nuances that will add depth to the

research. If used improperly, the design chosen could impede the overall research of the study. The design of the study was aligned to the research questions themselves (Tashakkori & Teddlie, 2003). By aligning the design with research questions, the researcher was able to create a valid study that was easily understood by the intended audience (Creswell & Clark, 2007).

The research questions used in this study were:

1. For teachers with 0-5 years of classroom experience, what classroom factors exist that would influence their decision to leave the educational profession?
2. For teachers with 0-5 years of classroom experience, what campus factors exist that would influence their decision to leave the educational profession?
3. For teachers with 0-5 years of classroom experience, what district factors exist that would influence their decision to leave the educational profession?
4. For teachers with 0-5 years of classroom experience, what state factors exist for teachers that would influence their decision to leave the field of education?
5. As defined by the ecological systems theory of Bronfenbrenner (1979), for teachers with 0-5 years of classroom experience, which hierarchal educational system would influence their decision to leave the field of education?

According to Tashakkori and Teddlie (2003), an important strength of mixed methods research was being able to draw inferences from the study. This has drawn stark criticism from researchers in the quantitative realm of research because it contradicted the core tenants of quantitative studies. This has kept the research community divided on

mixed methods research since the 1980s when the concerted effort began to mainstream mixed methods research (Creswell & Clark, 2007; Tashakkori & Teddlie, 2003; Terrell, 2012). Inferences are based on the researcher's interpretations and explanations of such results from the research (Tashakkori & Teddlie, 2003).

There are, however, three basic challenges related to making inferences in mixed-methods research: (1) confusion between the quality of data/observations and the quality of inferences that are made on the basis of the analysis of such data; (2) controversies regarding standards for evaluating inferences quality; and (3) creating bridges or superordinate standards for evaluating the quality of inferences in mixed methods research (Tashakkori & Teddlie, 2003). Researchers must understand, when making inferences, they must follow the rules of both quantitative and qualitative methods (Terrell, 2012). Following the rules eliminates validity issues with the research and allows for stronger inferences to be made (Tashakkori & Teddlie, 2003).

To address the problem associated with this study, which is what part of the hierarchal education system is connected to teacher attrition, the convergent parallel design was used as the methodological framework. This design allowed for both quantitative and qualitative data to be collected, which allowed the study to make stronger inferences on which factors within education were significantly connected to teacher attrition.

Research Design

The convergent parallel design of mixed-methods conveys both the quantitative and qualitative data collection is occurring simultaneously (Creswell & Clark, 2011). Of all the mixed-methods design, it is the most well known approach as scholars began discussing the design in the early 1970s (Creswell & Clark, 2011). The convergent parallel design was initially utilized as a "triangulation" design yet, due to the different meaning of triangulation in qualitative studies, the term was dropped to prevent confusion and the design was named convergent parallel design (2011). It is also suggested that researchers work from a pragmatic paradigm to provide an "umbrella" paradigm to the research study (Creswell & Clark, 2011, p. 78).

According to Creswell & Clark (2011):

> The convergent parallel design occurs when the researcher uses concurrent timing to implement the quantitative and qualitative strands during the same phase of the research process, prioritizes the methods equally, and keeps the strand independent during analysis and then mixes the results during the overall interpretation. (p. 70-71)

Convergent parallel allowed the researcher to collect both sets of quantitative and qualitative data at the same time. The data collected from both quantitative and qualitative parts can be different yet they must be complementary and on the same topic (Morse, 1991). The data sets were complementary because, by using the convergent parallel design, the intent is to bring together the differing strengths and non-overlapping

weaknesses of quantitative methods: large sample size; trends; generalization; and with those of qualitative methods: small sample size; details; and in-depth (Patton, 1990).

Once the two data sets were collected, the quantitative and qualitative data were merged together. In merging the quantitative and qualitative data, the researcher "wants to triangulate the methods by directly comparing and contrasting quantitative statistical results with qualitative finding for corroboration and validation purposes" (Creswell & Clark, 2011, p. 77). It is vital the quantitative and qualitative data be complementary so the data can be merged.

Creswell and Clark (2011) provide the following guidelines:

(1) The researcher has limited time for collecting data and must collect both types of data in one visit to the field;

(2) The researcher feels that there is equal value for collecting and analyzing both quantitative and qualitative data to understand the problem;

(3) The researcher has skills in both quantitative and qualitative methods of research;

(4) The researcher can manage extensive data collection and analysis activities. In view of this design is best suited for team research or for the sole researcher who can collect limited quantitative and qualitative data. (p. 77)

All four of the guidelines were considered when selecting the convergent parallel design for this study. To help the reader conceptualize the convergent parallel design, a diagram was provided below to show the flow of the research design.

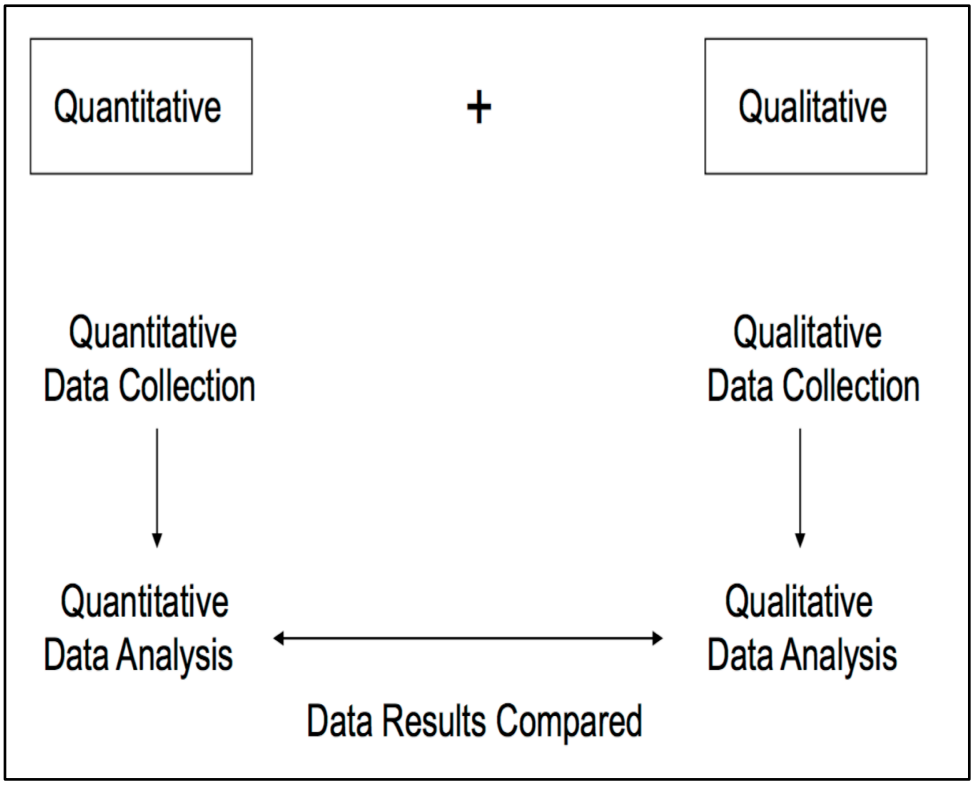

Figure 2. The flow and modeling of convergent parallel design. Both quantitative and qualitative data sets are collected simultaneously. Both are then merged to compare data results (Terrell, 2012).

Within the convergent parallel design, researches should follow the four procedures below to guide the study:

(1) The researcher collects both quantitative and qualitative data;

(2) The researcher analyzes the two data sets separately and independently from each other using typical quantitative and qualitative analytic procedures;

(3) The researcher merges the two results; and

(4) The researcher interprets to what extent and in what ways the two sets of results converge, diverge from each other; relate to each other, and/or combine to create a better understanding in response to the study's overall purpose. (Creswell & Clark, 2011, p. 78)

The overall strength of this mixed-methods design allowed the researcher to go beyond the strict boundaries of quantitative designs and to merge the quantitative data with qualitative data. By using the strengths of one method, qualitative, to support the weaknesses of the other method, quantitative, stronger inferences could be gathered as to which part of the educational system was connected to teacher attrition (Creswell & Clark, 2011).

Participants

The participants of this mixed methods study were selected based on the following criteria:

(1) The participants must currently be in their zero-year, first-year, second-year, third-year, fourth-year, or fifth-year of service as a teacher;

(2) for the purpose of this study, only teachers that hold a current teaching certificate, issued by the state of Texas, will be considered participants;

(3) participants must be currently teaching at a secondary school campus, which is defined as any grade between 6^{th} – 12^{th} grades, and any campuses which houses these grade levels; and

(4) participants are from a Houston, Texas, urban, school district.

There were a total of 2,312 teachers in the district. The teacher demographics were: African American 798.7/34.5%; Hispanic 448.5/19.4%; White 984.9/42.6%; and Asian 53.5/2.3%. Teachers by years of experience were as follows: 0 year, 286.7/12.4%; 1-5 years, 752.6/32.5%; 6-10 years, 546.3/23.6%; 11-20 years, 530.3/22.9%; and over 20 years, 196.8/8.5% (Texas Education Agency, 2016).

Instrumentation

The researcher created the instrument used in the study. To ensure the instrument was reliable, one pilot study was conducted to ensure content and construct validity, and instrument reliability. According to Neuman (2011), reliability is the degree to which an instrument consistently measures whatever is being measured. In this case, the degree to which factors of teacher attrition was connected to the hierarchical educational system. The pilot study took place in a district that had similar demographics as the intended district in which the study took place. In order to gain access, district officials were contacted to gain permission for the pilot study to take place; this letter can be found in Appendix A.

Survey. The instrument was designed by the researcher as a survey to collect data from participants. Surveys are useful when trying to gain knowledge from a large group of people, and to look for common trends among the respondents (Neuman, 2011). As stated by Neuman (2011), "The researcher does not manipulate a situation or condition to see how people react; he or she simply carefully records answers from many people who have been asked the same questions" (p. 43). The study did not seek to learn

from a group, rather the opinions of individual respondents; therefore, by using a survey, this can be accomplished to help further understand possible causes of teacher attrition.

The quantitative and qualitative data were collected through the use of an electronic survey, created by the platform SurveyMonkey. The link to the survey was sent through the district's email system with the link to the survey embedded in the email. The link was sent by each principal to their staff on their campus. The quantitative questions appeared first in the survey. Next appeared four descriptors, stayers, lingerers, movers, and leavers, and the participant selected the one that best described their current perception of their job satisfaction. And finally, qualitative, open-ended response statements were presented for the participants to answer at the conclusion of the survey. The survey stayed open for three weeks. A reminder email was sent to the staff each Monday the survey was open in hopes of increasing teacher participation.

Pilot study. The survey in the study is referred to as the *Educational Systems Teacher Attrition Survey*, or the *ESTAS*. The researcher created the survey, therefore, a pilot study was conducted to check for content and construct validity, as well as instrument reliability.

Based on the collection and analysis of the pilot survey, the researcher ran a Cronbach alpha, or interchangeably known as coefficient alpha, through the Statistical Package for the Social Sciences, or SPSS, in order to ensure the components of the survey were reliable. The analytics of the Cronbach alpha can best be explained by the following:

> The Cronbach alpha by mathematical definition is an adjustable proportion of total variance of the items scores explained by the sum of covariance between item scores, and thus ranges between 0 and 1 if all covariance elements are non-negative. (Heo, Kim, & Faith, 2015, p. 152)

Instruments with greater Cronbach alpha, 0.8 or higher, should be used as they have greater statistical value for the research setting (Heo, Kim, & Faith, 2015). Based on the analysis of the Cronbach alpha performed on the pilot study, the researcher made the necessary changes to the survey that suggested the item was not reliable. Changes were made to other components that showed to be unreliable, such as the ones that fell below the 0.8 Cronbach alpha score.

In addition to the pilot study survey, an additional page was added to the very end of the survey. This page asked participants if they easily understood the content of the survey, and if they understood the construct, or design of the survey. This page was omitted from the actual survey for data collection. This page was used to check the survey for content and construct validity. The participants of the survey could voice any concerns about the survey's content or construct. Based on the participants' responses, the researcher adapted the survey to ensure the survey had content and construct validity.

Results of Pilot Study. The pilot study was conducted at a high school campus with a student population of 927. The teacher demographics of the campus were: African American 8.6%; Hispanic 7.7%; White 80.9% (Texas Education Agency, 2016). The researcher gained access to the campus through the principal and the school's

superintendent. The survey link was sent to the high school staff by the campus principal. The survey link was open for one week, which allowed teachers to participate. At the conclusion of the week, 66 participants had taken the survey.

The quantitative data were sent to a statistician to run the Chronbach's alpha analytics. The results of the Chronbach's alpha analytics was .919. An interpretation of this number by the statistician was that survey was highly reliable. The researcher also analyzed the survey for content and construct validity, and found 100% of the participants easily understood the content of the survey as well as 100% understood the design of the survey. At the conclusion of the pilot study, the survey was found to be valid. The instrument used in the pilot study was the same instrument that was used to conduct the research.

Data Collection

Convergent parallel design of mixed methods allowed both quantitative and qualitative data to be collected, which in turn, allowed the two data sets to be merged so stronger inferences could be gathered; for this study in particular, the topic discerning which of the educational systems as defined by Bronfenbrenner (1979), affects teacher attrition. The quantitative data were collected by using Likert-scale response statements, and the participants answered four open-ended response statements. Likert-scale data has traditionally fallen under the quantitative realm of data collection while open-ended response statements are qualitative in nature (Creswell & Clark, 2011).

The Likert-scale questions were divided into four sets, each set contained four or five Likert-scale responses. The reasoning behind the divisions is each set of Likert-scale responses correlated to factors specific to the hierarchal educational system, based on the ecological system theory: microsystem, mesosystem, exosystem, macrosystem (Bronfenbrenner, 1979). See Appendix D for the *Educational System Teacher Attrition Survey, ESTAS*.

Following the quantitative Likert-scale response statements, the participants selected a descriptor that best described their perceptions of their current teaching position. The participants chose one of the four definitions: #1 - stayer, #2 - lingerer, #3 - mover, or #4 - leaver. Once the descriptor was selected, they were directed to four, open-ended response statements, specific to the descriptor they selected. Once the four, open-ended response statements were answered, that concluded the survey and the participants were allowed to exit the survey.

Data Analysis

Mixed methods require the analysis of both quantitative and qualitative data sets (Creswell & Clark, 2011). Specifically, convergent parallel design was used as the methodological design for this study. Therefore, both the quantitative and qualitative data were analyzed as well as the merger of the qualitative and quantitative data (Creswell & Clark, 2011).

Quantitative. The quantitative data were collected through descriptive statistics, an ANOVA test, and Tukey pairwise comparison. Descriptive statistics were used to

present demographic data as well as to present the descriptor chosen by participants to represent their current level of job satisfaction. Secondly, an ANOVA test was conducted on the quantitative Likert-scale questions in the survey. The factors were analyzed according to the system of education: the classroom; campus; district; state level. There were a total of 5 ANOVA tests conducted to find significance for the factors in each educational system. Finally, a post hoc Tukey comparison test was conducted to further analyze which factors within the educational systems were statistically significant.

Qualitative. The qualitative data were collected through the participant's answers of the open-ended response statements. Based on the responses, the information was coded for factors that indicated causes for the teacher staying or leaving the education profession. Next, themes were developed for each individual group of teachers, the stayer, lingerers, movers, and leavers. The coded themes then provided more insight into the factors that are connected to teacher attrition for each individual group of teachers.

Merging of quantitative and qualitative data. Specific to convergent parallel design, this mixed-methods design allows the quantitative data to be merged with the qualitative data (Creswell & Clark, 2011). An ANOVA test, and post hoc Tukey pairwise comparison test were utilized to find which factors within the educational system were statistically significant. In order to merge the two data sets, convergent parallel design used the strengths of the qualitative data to support the possible weaknesses in the quantitative data.

The quantitative, Likert-scale responses only contained the primary factors connected to teacher attrition, based on supportive literature. The study does not assume these factors are the only issues affecting teacher attrition, nor that each school is affected by the same factors connected to teacher attrition. By merging the quantitative, Likert-scale responses, with the qualitative, open-ended response statements, the study showed convergence and/or divergence (Creswell & Clark, 2011). By merging the two data sets, it supports already known factors connected to attrition and can provide more insight into other factors connected to teacher attrition caused within the hierarchal educational system.

Provisions of Trustworthiness

According to Guba (1998), there are four areas in which to ensure validity and reliability in research, which are: credibility (in preference to internal validity); transferability (in preference to external validity/generalizability); dependability (in preference to reliability); and conformability (in preference to objectivity).

1. Credibility – to ensure the study measures or tests is actually intended;
2. Transferability – demonstrating the results of the work can be applied to a wider population;
3. Dependability – If the work were repeated, in the same context, with the same methods and with the same participants, similar results would be obtained;

4. Conformability – The steps taken to ensure the work's findings are the results of the experiences and ideas of the participants, rather than the preferences of the researcher (Shenton, 2004).

These components of the study were intact to ensure trustworthiness and provide validity to the study. The researcher has accounted for all four of the provisions of trustworthiness by conducting a pilot study to ensure the survey was reliable and content and construct of the survey is valid.

CHAPTER IV

Findings

Introduction

The problem addressed in this study was the lack of understanding for which part or parts of the hierarchal educational system was connected to teacher attrition of zero-year through fifth-year teachers. There is supportive literature that shows teachers leave during year zero through year five of service (Battle & Looney, 2014). However, there is no clear understanding as to which factors within the hierarchal educational system are causing teachers to stay, stay yet be dissatisfied, move campuses or districts due to being dissatisfied, or leaving the educational field altogether to seek other career possibilities. By not fully understanding which part of the educational system is connected to teacher attrition, districts cannot improve practices to help solve high rates of teacher attrition (Brownell & Smith, 1993).

Setting descriptive statistics. The setting of the study was in an urban school of the Houston, Texas area. The teacher demographics of the district were as follows. There were a total of 2,312 teachers: African American 798.7/34.5%; Hispanic 448.5/19.4%; White 984.9/42.6%; and Asian 53.5/2.3%. Teachers by years of experience were as follows: 0 year, 286.7/12.4%; 1-5 years, 752.6/32.5%; 6-10 years, 546.3/23.6%; 11-20 years, 530.3/22.9%; and over 20 years, 196.8/8.5%.

To provide more information on the setting, the student demographics of the district were as follows. There were a total of 36,813 students: African American 14,831/40.3%; Hispanic 15,888/43.2%; White 3,559/9.7%; Asian 1,189/3.2%; and American Indian 662/1.8%. Of the student population, 26,008/70.6% were economically disadvantaged, while 10,805/29.4% were non-educationally disadvantaged (Texas Education Agency, 2016).

Demographic descriptive statistics. Using survey research, the *Educational Systems Teacher Attrition Survey,* or *ESTAS* was disseminated to secondary campuses. Only teachers with zero to five years of experience were included in the data analysis. As the survey was anonymous, little demographic data was taken, as the most important factor was the years of service for each teacher. The 44 participants had the following number years of service: zero years of service 6/44, 13.64%, one year of service 8/44, 18.18%, two years of service 12/44, 27.27%, three years of service 9/44, 20.45%, four years of service 4/44, 9.09%, and five years of service 5/44, 11.36%. There were 44 teachers that participated in the survey; however, it was not mandatory to answer every item on the survey. This explains why there were varying number of participants for the items on the survey.

To be a participant in the study, a teacher must be in a secondary education setting, meaning they had to be teaching a grade between 6^{th} – 12^{th} grades. Of the 44 participants, 43 participants were teaching in the following grade level: sixth grade 21/43, 48.84%, seventh grade 11/43, 25.58%, eight grade 9/43 20.93%, ninth grade 1/43, 2.33%,

tenth grade 1/43, 2.33%.

The participants selected the content area that best described their current teaching position. The 40 out of 44 participants were teaching content in the following areas: english 9/21.95%, history = 7/17.07%, math = 6/14.63%, reading = 1/2.44%, science = 5/12.20%, and elective = 12/29.27%. The last demographic information gathered by the survey was gender. The gender of the 43 participants was, female 27/62.79%, and male 16/37.21%.

Self-described descriptors. The *ESTAS* allowed each participant to select a descriptor that would further explain how they feel about their current teaching position. The descriptors were: stayers; lingerers; leavers; and movers. A definition of each descriptor was provided in Chapter I. Of the 44 teachers involved in the survey, 38 responded to the section on self-descriptions and this resulted in: stayers 18/47.37%, lingerers 16/42.11%, movers = 4/10.53%, and leavers = 0/0%.

The following sections provide data collected for each set of factors from the classroom - microsystem, campus - mesosystem, district – exosystem, and state level system - macrosystem (Bronfenbrenner, 1979). Each section provides descriptive statistics of data collected, as well as the results of the ANOVA and Tukey comparison analysis of quantitative data. The analysis of the open-ended response statements will be presented in the qualitative data portion of the Chapter IV findings.

Classroom Factors and Teacher Attrition

The first series of Likert-scale questions asked participants to what degree do they

agree or disagree the listed factors influence their decision to leave the teaching profession. The factors were: student behavior; workload; classroom resources; teacher autonomy; and parent involvement. Each of the listed factors is unique to the classroom setting or the microsystem, according to Bronfenbrenner (1979). Data were analyzed through an ANOVA and post hoc Tukey comparison test. The ANOVA statistical method was used to test differences between two or more means for overall significance (Drummond & Vowler, 2012). However, the ANOVA test does not show where differences lie within the group, rather the test shows if the factors were significant (Drummond & Vowler, 2012). The post hoc Tukey comparison test was used to further explain the differences within the group to understand factors in the classroom that were significant to teacher attrition (2012).

Descriptive statistics of classroom factors. Each classroom factor was given a designated letter: student behavior – group A; workload – group B; classroom resources – group C; teacher autonomy – group D; parent involvement – group E. The table below shows the mean, 95% confidence interval for mean, and standard deviation for each group.

Table 1
Descriptive Statistics of Classroom Factors

Group	Mean	95% Confidence Interval for Mean	Standard Deviation
A	2.17	1.850 - 2.525	1.24
B	1.95	1.600 - 2.300	1.01
C	2.33	1.975 - 2.675	1.05
D	2.50	2.150 - 2.850	1.09
E	2.85	2.500 - 3.200	1.21

Note. For group A, B, C, D, E, n=40.

For the purpose of rating the Likert-scale, strongly agree was weighted as 1, neither agree/disagree was weighted as 3, and strongly disagree was weighted as 5. All of the classroom factors, groups A through E, are on the agree side of the Likert-scale. The factor with a value closest to 1 was workload, and the factor with a value closest to 3 was parent involvement.

ANOVA results of classroom factors. An ANOVA test was conducted on the classroom factors to analyze if the factors were statistically significant in relation to teacher attrition. For the purpose of the ANOVA analysis, the null hypothesis was:

H_0 – There is no difference in the means of the classroom factors that would cause a teacher to leave the profession.

The alternative hypothesis was:

H_A – There is a difference in the means of the classroom factors that would cause a teacher to leave the profession.

The following table reports the findings of the ANOVA analysis.

Table 2
ANOVA Results - Classroom Factors

Source of Variation	Sum of Squares	d.f.	Mean of Squares	F
Between	18.53	4	4.633	3.679
Error	245.60	195	1.259	
Total	264.10	199		

Note. The probability of this result, assuming the null hypothesis, is 0.007.

To determine if the differences between the means is statistically significant, compare the p-value from the ANOVA test to the significance level. With a 0.05 significance level the results of the test analysis is 95% confident the results would not occur by chance.

If the *p*-value is less than or equal to the significance level then the null hypothesis is rejected, implying the means are not all equal If the *p*-value is greater than the significance level, then there is not enough evidence to reject the null hypothesis that the population means are all equal. The *p*-value from the ANOVA test of the data was 0.007, and with a significance level of 0.05. Since the *p*-value is less than the level of significance the null hypothesis is rejected. In rejecting the null hypothesis, the difference of the group means is statistically significant.

The figure below compares the group means with 95% confidence intervals.

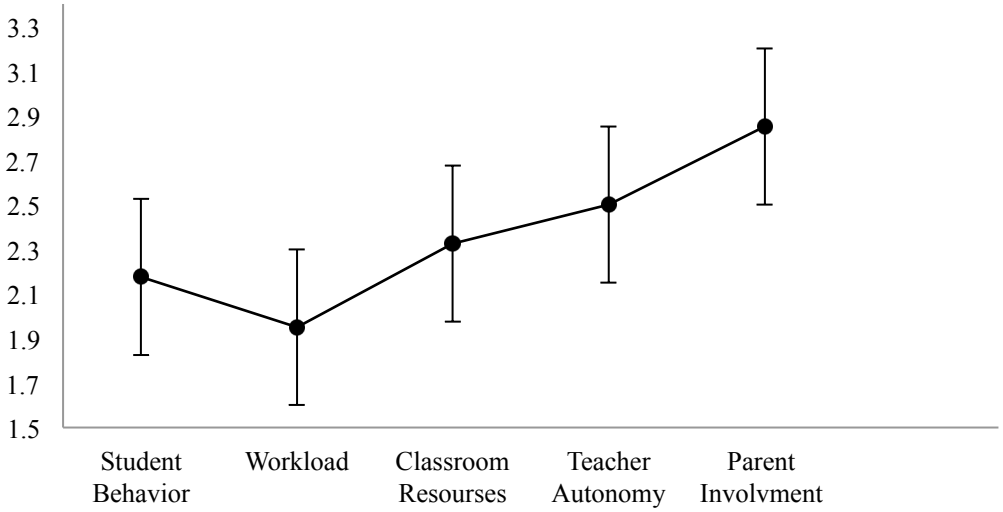

Figure 3. Interval plot with 95% confidence for classroom factors.

By examining the group means of the classrooms factors, using a significance level of 0.05, this indicated the study had a 95% confidence that a group means would fall within that interval. Examining the individual means resulted with workload having the lowest mean while parent involvement had the highest within the classroom factors. A determination cannot be made as to whether individual factors were a contributor to the attrition rate of teachers, therefore a Tukey comparison test was conducted.

Tukey comparison results of classroom factors. To determine if the individual differences were statistically significant, a post hoc Tukey comparison test was conducted to determine whether the mean difference between any pair of groups were statistically significant. The table below shows data results of the Tukey simultaneous test.

Table 3

Tukey Simultaneous Tests for Difference of Means – Classroom Factors

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Workload - Student Behavior	0.251	0.251	(-0.915, 0.465)	-0.90	0.898
Classroom Resources - Student Behavior	0.150	0.251	(-0.540, 0.840)	0.60	0.975
Teacher Autonomy - Student Behavior	0.325	0.251	(-0.365, 1.015)	1.30	0.694
Parent Involvement - Student Behavior	0.675	0.251	(-0.015, 1.365)	2.69	0.059
Classroom Resources - Workload	0.375	0.251	(-0.315, 1.065)	1.49	0.567
Teacher Autonomy - Workload	0.550	0.251	(-0.140, 1.240)	2.19	0.187
Parent Involvement - Workload	0.900	0.251	(0.210, 1.590)	3.59	0.004
Teacher Autonomy - Classroom Resources	0.175	0.251	(-0.515, 0.865)	0.70	0.957
Parent Involvement - Classroom Resources	0.525	0.251	(-0.165, 1.215)	2.09	0.228
Parent Involvement - Teacher Autonomy	0.350	0.251	(-0.340, 1.040)	1.39	0.632

Note. Individual confidence level = 99.35%.

Parent involvement and workload, when paired provide a 95% confidence interval that did not include zero. All other pairings of factors contain zero in the confidence interval. Since the parent involvement and workload pairing did not contain zero, the two were considered contributing factors, therefore statistically significant. The other pairings, containing zero, indicated the differences were not statistically significant. The simultaneous confidence level indicated a 95% confidence level that the intervals contained the true differences. The analysis also showed an individual confidence level of 99.35%. This result indicated one could be 99.35% confident that each individual interval contained the true difference between a specific pair of group means.

To condense the Tukey simultaneous test, the table below shows the grouping information using the 95% confidence interval.

Table 4

Tukey Pairwise Comparison - Classroom Factors

Factor	N	Mean	Grouping	
Parent Involvement	40	2.850	A	
Teacher Autonomy	40	2.500	A	B
Classroom Resources	40	2.325	A	B
Student Behavior	40	2.175	A	B
Workload	40	1.950		B

Note. Grouping information using the Tukey Method and 95% confidence.

Parent involvement and workload are not paired and have one letter in their grouping column. Parent involvement had the letter A, only, and workload had the letter B, only. The other factors in the table share letters in their grouping column. Differences between means that share a letter were not statistically significant. However, differences between means that do not share a letter were statistically significant. Parent involvement and workload were statistically significant because they were alone and not grouped with another letter. Teacher autonomy, classroom resources, and student behavior, share letters in their grouping indicating there was no statistical significance.

The ANOVA analysis found the classroom factors to be significant while the Tukey pairwise comparison found parent involvement and workload specifically to be significant to teacher attrition. The following section will provide analysis on campus factors and their significance in relation to teacher attrition.

Campus Factors and Teacher Attrition

The second series of Likert-scale questions asked participants to what degree do they agree or disagree the listed factors influence their decision to leave the teaching profession. The factors were: campus leadership; provided support; professional growth

opportunities; collegiality. Each of the listed factors was unique to the campus setting or the mesosystem, according to Bronfenbrenner (1979). Data were analyzed through an ANOVA and post hoc Tukey comparison test. The ANOVA statistical method was used to test differences between two or more means for overall significance (Drummond & Vowler, 2012). However, the ANOVA test does not show where differences lie within the group, rather the test shows if the factors are significant ((Drummond & Vowler, 2012). The post hoc Tukey comparison test was used to further explain the differences within the group to understand factors within the campus that were significant to teacher attrition (Drummond & Vowler, 2012).

Descriptive statistics of campus factors. Each campus factor was given a designated letter: campus leadership – group A; provided support – group B; professional growth – group C; collegiality – group D. The table below shows the mean, 95% confidence interval for mean, and standard deviation for each group.

Table 5
Descriptive Statistics of Campus Factors

Group	Mean	95% Confidence Interval for Mean	Standard Deviation
A	1.846	1.528 - 2.165	1.113
B	1.750	1.435 - 2.065	0.927
C	2.359	2.040 - 2.678	1.013
D	2.564	2.246 - 2.883	0.968

Note. For groups A, B, D n= 39, B n=40.

For the purpose of rating the Likert-scale, strongly agree was weighted as 1, neither agree/disagree was weighted as 3, and strongly disagree was weighted as 5. All of the classroom factors, groups A through E, were on the agree side of the Likert-scale. The

factor with a value closest to 1 was provided support, and the factor with a value closest to 2 was campus leadership.

ANOVA results of campus factors. An ANOVA test was conducted on the classroom factors to analyze if the factors were statistically significant in relation to teacher attrition. For the purpose of the ANOVA analysis, the null hypothesis was:

H_0 – There is no difference in the means of the campus factors that would cause a teacher to leave the profession.

The alternative hypothesis was:

H_A – There is a difference in the means of the campus factors that would cause a teacher to leave the profession.

The following table reports the findings of the ANOVA analysis.

Table 6
ANOVA Results - Campus Factors

Source of Variation	Sum of Squares	d.f.	Mean of Squares	F
Between	18.31	3	6.104	6.02
Error	155.14	153	1.014	
Total	173.45	156		

Note. The probability of this result, assuming the null hypothesis, is 0.001.

To determine if the differences between the means is statistically significant, compare the p-value from the ANOVA test to the significance level. With a 0.05 significance level the results of the test analysis is 95% confident the results would not occur by chance.

If the *p*-value is less than or equal to the significance level then the null hypothesis is rejected, implying the means are not all equal. If the *p*-value is greater than the significance level, then there is not enough evidence to reject the null hypothesis that

the population means are all equal. The *p*-value from the ANOVA test of the data was 0.001, and with a significance level of 0.05. Since the *p*-value was less than the level of significance, the null hypothesis was rejected. In rejecting the null hypothesis, the difference of the group means was statistically significant.

The figure below compares the group means with 95% confidence intervals.

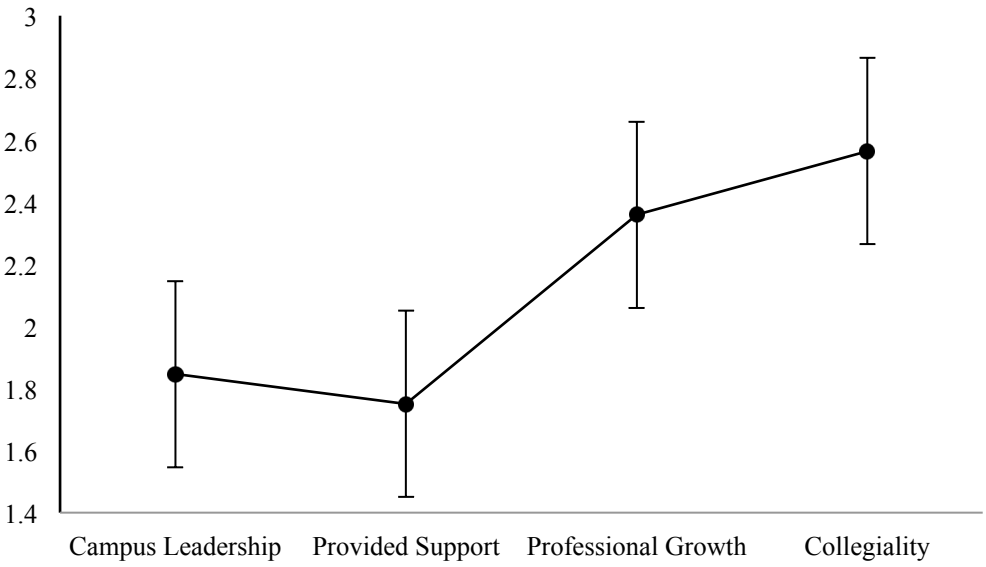

Figure 4. Interval plot with 95% confidence for campus factors.

By examining the group means of the campus factors, using a significance level of 0.05, this indicated the study had a 95% confidence that a group means would fall within that interval. Examining the individual means resulted with workload having the lowest mean while parent involvement had the highest within the campus factors. A determination cannot be made as to whether individual factors were a contributor to the attrition rate of teachers, therefore a Tukey comparison test was conducted.

Tukey comparison results of campus factors. To determine if the individual differences were statistically significant, a post hoc Tukey comparison test was run to determine whether the mean difference between any pair of groups was statistically significant. The table below shows data results of the Tukey simultaneous test.

Table 7
Tukey Simultaneous Tests for Difference of Means – Campus Factors

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Provided Support – Campus Leadership	-0.096	0.227	(-0.684, 0.492)	-0.42	0.974
Professional Growth – Campus Leadership	0.513	0.228	(-0.079, 1.105)	2.25	0.115
Collegiality – Campus Leadership	0.718	0.228	(0.126, 1.310)	3.15	0.011
Professional Growth – Provided Support	0.609	0.227	(0.021, 1.197)	2.69	0.040
Collegiality – Provided Support	0.814	0.227	(0.226, 1.402)	3.59	0.002
Collegiality – Professional Growth	0.205	0.228	(-0.387, 0.797)	0.90	0.805

Note. Individual confidence level = 98.96%.

Collegiality, campus leadership, professional growth, provided support, and collegiality, provided support when paired provided a 95% confidence interval that did not include zero. All other pairings of factors contain zero in the confidence interval. Since the collegiality – campus leadership, professional growth – provided support, and collegiality – provided support pairings did not contain zero, the three pairings were considered contributing factors, therefore statistically significant. The other pairings, containing zero, which indicated the differences were not statistically significant. The simultaneous confidence level indicated a 95% confidence level that the intervals contained true differences. The analysis also showed an individual confidence level of 98.96%. This result indicated one can be 98.96% confident that each individual interval contained the true difference between a specific pair of group means.

To condense the Tukey simultaneous test, the table below shows the grouping information using the 95% confidence interval.

Table 8

Tukey Pairwise Comparison - Campus Factors

Factor	N	Mean	Grouping
Collegiality	39	2.564	A
Professional Growth	39	2.359	A B
Campus Leadership	39	1.846	B C
Provided Support	40	1.750	C

Note. Grouping information using the Tukey Method and 95% confidence.

Collegiality and provided support are not paired and only have one letter in their grouping column. Collegiality had the letter A, only, and provided support had the letter C, only. The other factors in the table share letters in their grouping column. Differences between means that share a letter were not statistically significant. However, differences between means that do not share a letter were statistically significant. Collegiality and provided support were statistically significant because they were alone and not grouped with another letter. Professional growth, and campus leadership share letters in their grouping, indicating there was no statistical significance.

The ANOVA analysis found the campus factors to be significant while the Tukey pairwise comparison found collegiality and provided support specifically to be significant to teacher attrition. The following section will provide analysis on district factors and their significance in relation to teacher attrition.

District Factors and Teacher Attrition

The third series of Likert-scale questions asked participants to what degree do they agree or disagree the listed factors influence their decision to leave the teaching

profession. The factors were: salary; district leadership; district vision; district school board; communication. Each of the listed factors was unique to the district setting or the exosystem, according to Bronfenbrenner (1979). Data were analyzed through an ANOVA and post hoc Tukey comparison test. The ANOVA statistical method was used to test differences between two or more means for overall significance (Drummond & Vowler, 2012). However, the ANOVA test does not show where differences lie within the group, rather the test shows if the factors are significant (Drummond & Vowler, 2012). The post hoc Tukey comparison test was used to further explain the differences within the group to understand district factors that were significant to teacher attrition (Drummond & Vowler, 2012).

Descriptive statistics of district factors. Each classroom factor was given a designated letter: salary – group A; district leadership – group B; district vision – group C; district school board – group D; communication – group E. The table below shows the mean, 95% confidence interval for mean, and standard deviation for each group.

Table 9
Descriptive Statistics of District Factors

Group	Mean	95% Confidence Interval for Mean	Standard Deviation
A	2.622	2.266 – 2.978	1.187
B	2.158	1.807 – 2.509	1.079
C	2.622	2.266 – 2.978	1.037
D	2.892	2.536 – 3.248	1.125
E	2.000	1.644 – 2.356	1.054

Note. For group A, C, D, E n=37, B n=38.

For the purpose of rating the Likert-scale, strongly agree was weighted as 1, neither agree/disagree was weighted as 3, and strongly disagree was weighted as 5. All of the

district factors, groups A through E, were on the agree side of the Likert-scale. The factor with a value closest to 1 was communication, and the factor with a value closest to 3 was salary.

ANOVA results of district factors. An ANOVA test was conducted on the district factors to analyze if the factors were statistically significant in relation to teacher attrition. For the purpose of the ANOVA analysis, the null hypothesis was:

H_0 – There is no difference in the means of the district factors that would cause a teacher to leave the profession.

The alternative hypothesis was:

H_A – There is a difference in the means of the district factors that would cause a teacher to leave the profession.

The following table reports the findings of the ANOVA analysis.

Table 10
ANOVA Results - District Factors

Source of Variation	Sum of Squares	d.f.	Mean of Squares	F
Between	20.13	4	5.033	4.18
Error	218.03	181	1.205	
Total	238.16	185		

Note. The probability of this result, assuming the null hypothesis, is 0.003.

To determine if the differences between the means was statistically significant, compare the p-value from the ANOVA test to the significance level. With a 0.05 significance level the results of the test analysis is 95% confident the results did not occur by chance.

If the *p*-value is less than or equal to the significance level then the null hypothesis is rejected, implying the means are not all equal. If the *p*-value is greater than

the significance level, then there is not enough evidence to reject the null hypothesis that the population means are all equal. The *p*-value from the ANOVA test of the data was 0.003, and with a significance level of 0.05. Since the *p*-value was less than the level of significance the null hypothesis was rejected. In rejecting the null hypothesis, the difference of the group means was statistically significant.

The figure below compares the group means with 95% confidence intervals.

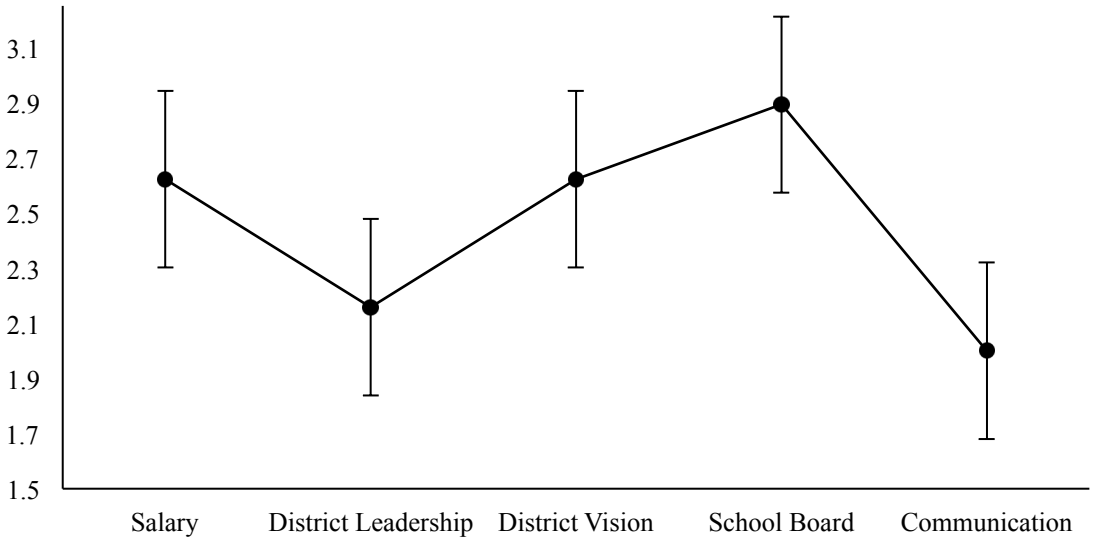

Figure 5. Interval plot with 95% confidence interval for district factors.

By examining the group means of the district factors, using a significance level of 0.05, this indicated the study had a 95% confidence that a group means would fall within that interval. Examining the individual means resulted with communication having the lowest mean while school board had the highest within the district factors. A determination cannot be made as to whether individual factors were a contributor to the attrition rate of teachers.

Tukey comparison results district factors. To determine if the individual differences were statistically significant, a post hoc Tukey comparison test was conducted to determine whether the mean difference between any pair of groups was statistically significant. The table below shows data results of the Tukey simultaneous test.

Table 11
Tukey Simultaneous Tests for Difference of Means – District Factors

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
District Leadership – Salary	-0.464	0.253	(-1.163, 0.235)	-1.83	0.360
District Vision – Salary	0.000	0.255	(-0.704, 0.704)	0.00	1.000
School Board – Salary	0.270	0.255	(-0.433, 0.974)	1.06	0.827
Communication – Salary	-0.622	0.255	(-1.325, 0.082)	-2.44	0.111
District Vision – District Leadership	0.464	0.253	(-0.235, 1.163)	1.83	0.360
School Board – District Leadership	0.734	0.253	(0.035, 1.433)	2.90	0.034
Communication – District Leadership	-0.158	0.253	(-0.857, 0.541)	-0.62	0.971
School Board – District Vision	0.270	0.255	(-0.433, 0.974)	1.06	0.827
Communication – District Vision	-0.622	0.255	(-1.325, 0.082)	-2.44	0.111
Communication – School Board	-0.892	0.255	(-1.596, -0.188)	-3.50	0.005

Note. Individual confidence level = 99.36%.

School board, district leadership, and communication, school board when paired provide a 95% confidence interval that does not include zero. All other pairings of district factors contained zero in the confidence interval. Since the school board, district leadership pairing, and communication, school board pairing did not contain zero, the two groups were considered contributing factors, therefore statistically significant. The other pairings, containing zero, indicated the differences were not statistically significant. The simultaneous confidence level indicates a 95% confidence level that the intervals contained true differences. The analysis also showed an individual confidence level of

99.36%. This result indicated one can be 99.36% confident that each individual interval contained the true difference between a specific pair of group means.

To condense the Tukey simultaneous test, the table below shows the grouping information using the 95% confidence interval.

Table 12

Tukey Pairwise Comparison - District Factors

Factor	*n*	Mean	Grouping
School Board	37	2.892	A
District Vision	37	2.622	A B
Salary	37	2.622	A B
District Leadership	38	2.158	B
Communication	37	2.000	B

Note. Grouping information using the Tukey Method and 95% confidence.

School board, district leadership, and communication are not paired and only have one letter in their grouping column. School board had the letter A, and workload and communication had the letter B. The other factors in the table share letters in their grouping column. Differences between means that share a letter were not statistically significant. However, differences between means that do not share a letter were statistically significant. School board, district leadership, and communication were statistically significant because they were alone and not grouped with another letter. District vision, and salary share letters in their grouping, indicating there was no statistical significance.

The ANOVA analysis found the district factors to be significant while the Tukey pairwise comparison found school board, district leadership, and communication

specifically to be significant to teacher attrition. The following section will provide analysis on state factors and their significance in relation to teacher attrition.

State Factors and Teacher Attrition

The fourth series of Likert-scale questions asked participants to what degree do they agree or disagree the listed factors influence their decision to leave the teaching profession. The factors were: state funding for education; standardized testing; Texas Education Agency (TEA); Texas State Board of Education (SBOE). Each of the listed factors is unique to the state level system, or the macrosystem, according to Bronfenbrenner (1979). Data were analyzed through an ANOVA and post hoc Tukey comparison test. The ANOVA statistical method was used to test differences between two or more means for overall significance (Drummond & Vowler, 2012). However, the ANOVA test does not show where differences lie within the group, rather the ANOVA test shows if the factors are significant or non-significant (Drummond & Vowler, 2012). The post hoc Tukey comparison test was used to further explain the differences within the group to understand factors at the state level that were significant to teacher attrition (Drummond & Vowler, 2012).

Descriptive statistics of state factors. Each state factor was given a designated letter: state funding – group A; standardized testing – group B; TEA – group C; SBOE – group D. The table below shows the mean, 95% confidence interval for mean, and standard deviation for each group.

Table 13
Descriptive Statistics of State Factors

Group	Mean	95% Confidence Interval for Mean	Standard Deviation
A	2.62	2.262 - 2.969	1.09
B	2.00	1.642 - 2.358	1.07
C	2.76	2.405 - 3.121	1.15
D	2.82	2.458 - 3.174	1.16

Note. For group A *n*=39, B *n*=38, C *n*=38, D *n*=38.

For the purpose of rating the Likert-scale, strongly agree was 1, neither agree/disagree was 3, and strongly disagree was 5. All of the state factors, groups A through D, were on the agree side of the Likert-scale. The factor with a value closest to 1 was standardized testing, and the factor with a value closest to 3 was SBOE.

ANOVA results of state factors. An ANOVA test was conducted on the state factors to analyze if the factors were statistically significant in relation to teacher attrition. For the purpose of the ANOVA analysis, the null hypothesis was:

H_0 – There is no difference in the means of the state factors that would cause a teacher to leave the profession.

The alternative hypothesis was:

H_A – There is a difference in the means of the state factors that would cause a teacher to leave the profession.

The following table reports the findings of the ANOVA analysis.

Table 14
ANOVA Results - State Factors

Source of Variation	Sum of Squares	d.f.	Mean of Squares	F
Between	16.07	3	5.358	4.296
Error	185.80	149	1.247	
Total	201.90	152		

Note. The probability of this result, assuming the null hypothesis, is 0.006.

To determine if the differences between the means is statistically significant, compare the p-value from the ANOVA test to the significance level. With a 0.05 significance level the results of the test analysis is 95% confident the results did not occur by chance.

If the *p*-value is less than or equal to the significance level then the null hypothesis is rejected, implying the means are not all equal. If the *p*-value is greater than the significance level, then there is not enough evidence to reject the null hypothesis that the population means are all equal. The *p*-value from the ANOVA test of the data was 0.006, and with a significance level of 0.05. Since the *p*-value was less than the level of significance, the null hypothesis was rejected. In rejecting the null hypothesis, the difference of the group means was statistically significant.

The figure below compares the group means with 95% confidence intervals.

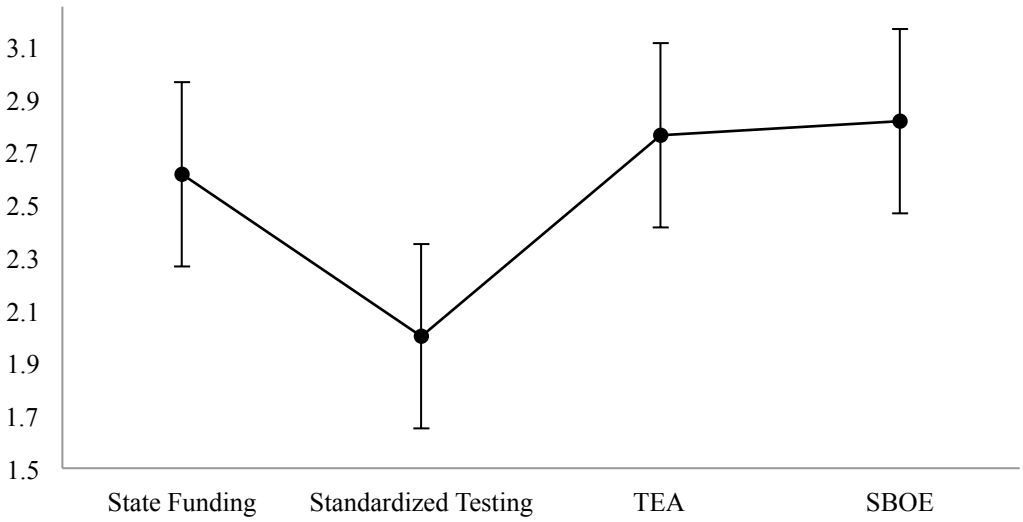

Figure 6. Interval plot with 95% confidence for state factors.

By examining the group means of the state factors, using a significance level of 0.05, this indicated the study had a 95% confidence that a group means would fall within that interval. Examining the individual means resulted with standardized testing having the lowest mean while SBOE had the highest within the state factors. A determination cannot be made as to whether individual factors were a contributor to the attrition rate of teachers.

Tukey comparison results of state factors. To determine if the individual differences were statistically significant, a post hoc Tukey comparison test was conducted to determine whether the mean difference between any pair of groups was statistically significant. The table below shows data results of the Tukey simultaneous test.

Table 15

Tukey Simultaneous Tests for Difference of Means – State Factors

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Standardized Testing - State Funding	-0.615	0.255	(-1.276, 0.045)	-2.42	0.078
TEA - State Funding	0.148	0.255	(-0.513, 0.808)	0.58	0.938
SBOE - State Funding	0.200	0.255	(-0.460, 0.861)	0.79	0.860
TEA – Standardized Testing	0.763	0.256	(0.098, 1.428)	2.98	0.018
SBOE – Standardized Testing	0.816	0.256	(0.151, 1.481)	3.18	0.009
SBOE - TEA	0.053	0.256	(-0.612, 0.717)	0.21	0.997

Note. Individual confidence level = 98.96%.

TEA, standardized testing, and SBOE, standardized testing when paired provide a 95% confidence interval that does not include zero. All other pairings of factors contained zero in the confidence interval. Since the TEA, standardized testing pairing and SBOE, standardized testing pairing did not contain zero, the three factors were considered contributing factors, therefore statistically significant. The other pairings, containing zero, indicated the differences were not statistically significant. The simultaneous confidence level indicated a 95% confidence level that the intervals contained true differences. The analysis also showed an individual confidence level of 98.96%. This result indicated one could be 98.96% confident that each individual interval contained the true difference between a specific pair of group means.

To condense the Tukey simultaneous test, the table below shows the grouping information using the 95% confidence interval.

Table 16

Tukey Pairwise Comparison - State Factors

Factor	*n*	Mean	Grouping	
SBOE	38	2.816	A	
TEA	38	2.763	A	
State Funding	39	2.615	A	B
Standardized Testing	38	2.000		B

Note. Grouping information using the Tukey Method and 95% confidence.

SBOE, TEA, and standardized testing are not paired and only have one letter in their grouping column. SBOE had the letter A, only, TEA had the letter A, only, and standardized testing had the letter B, only. The other lone factor in the table share letters in their grouping column. Differences between means that share a letter are not statistically significant. However, differences between means that do not share a letter were statistically significant. SBOE, TEA, and standardized testing were statistically significant because they were alone and not grouped with another letter. State funding shares letters in its grouping indicating there was no statistical significance.

The ANOVA analysis found the state factors to be significant while the Tukey pairwise comparison found SBOE, TEA and standardized testing specifically to be significant to teacher attrition. The following section will provide an analysis of all factors and how each system within the hierarchal educational system may or may not be connected to teacher attrition.

All Factors and Teacher Attrition

The four series of Likert-scale questions asked participants to what degree do they agree or disagree the listed factors influence their decision to leave the teaching profession. The factors were grouped according to their placement within the hierarchal

educational system: classroom; campus; district; state. According to Bronfenbrenner (1979), these systems are known as: microsystem; mesosystem; exosystem; macrosystem. All factors were analyzed through a final and fifth ANOVA analysis and post hoc Tukey comparison test. The ANOVA statistical method was used to test differences between two or more means for overall significance (Drummond & Vowler, 2012). However, the ANOVA test does not show where differences lie within the group, rather the test shows if the factors are significant or non-significant (Drummond & Vowler, 2012). The post hoc Tukey comparison test was used to further explain the differences within the group to understand the significance of all of the factors and relate back to the hierarchal education system and teacher attrition (Drummond & Vowler, 2012).

ANOVA results of all factors. An ANOVA test was conducted on all factors to analyze the statistical significance in relation to teacher attrition. It was important to note, due to the number of factors analyzed, an interval plot for the Tukey comparison could not be drawn. For the purpose of the ANOVA analysis, the null hypothesis was:

H_0 – There is no difference in the means of the factors that would cause a teacher to leave the profession.

The alternative hypothesis was:

H_A – There is a difference in the means of the factors that would cause a teacher to leave the profession.

The following table reports the findings of the ANOVA analysis.

Table 17
ANOVA Results - All Factors

Source of Variation	d.f.	Sum of Squares	Mean of Squares	F
Factor	17	88.60	5.212	4.39
Error	678	804.53	1.187	
Total	695	893.13		

Note. The probability of this result, assuming the null hypothesis, is 0.000.

To determine if the differences between the means is statistically significant, compare the p-value from the ANOVA test to the significance level. With a 0.05 significance level, the results of the test analysis is 95% confident the results did not occur by chance.

If the *p*-value is less than or equal to the significance level then the null hypothesis is rejected, implying the means are not all equal. If the *p*-value is greater than the significance level, then there is not enough evidence to reject the null hypothesis that the population means are all equal. The *p*-value from the ANOVA test of the data was 0.000, and with a significance level of 0.05. Since the *p*-value was less than the level of significance, the null hypothesis was rejected. In rejecting the null hypothesis, the difference of the group means was statistically significant.

Tukey comparison results of all factors. It was important to note, due to the number of factors that were analyzed, an interval plot for the Tukey comparison could not be drawn. To determine if the individual differences were statistically significant, a post hoc Tukey comparison test was conducted to determine whether the mean difference between any pair of groups was statistically significant. The table below shows data of the Tukey grouping pairwise comparison, and established which factors were significant to teacher attrition.

Table 18

Tukey Pairwise Comparison - All Factors

Factor	*n*	Mean	Grouping
District School Board	37	2.892	A
Parent Involvement	40	2.850	A B
SBOE	38	2.816	A B
TEA	38	2.763	A B C
District Vision	37	2.622	A B C D
Salary	37	2.622	A B C D
State Funding	39	2.615	A B C D
Collegiality	39	2.564	A B C D E
Teacher Autonomy	40	2.500	A B C D E
Professional Growth	39	2.359	A B C D E
Classroom Resources	40	2.325	A B C D E
Student Behavior	40	2.175	A B C D E
District Leadership	38	2.158	A B C D E
Standardized Testing	38	2.000	B C D E
Communication	37	2.000	B C D E
Workload	40	1.950	C D E
Campus Leadership	39	1.846	D E
Provided Support	40	1.750	E

Note. Grouping information using the Tukey Method and 95% confidence.

District school board and provided support are not paired and only have one letter in the grouping column. District school board had the letter A, only, and provided support had the letter E, only. The other factors in the table share letters in their grouping column, which made them less significant. Differences between means that share a letter were statistically less significant. However, differences between means that do not share a letter were statistically significant. District school board and provided support were statistically significant because they were alone and not grouped with another letter. The other factors, since they were grouped with another letter, were less significant to teacher attrition.

The ANOVA analysis found all factors to be significant while the Tukey pairwise comparison found district school board and provided support specifically to be significant to teacher attrition. The following section will provide qualitative analysis of the open-ended statements.

Open-Ended Response Themes

The qualitative data were collected through the participant's answers of open-ended response statements. Based on the responses, the information was coded for factors that indicated causes for the teacher leaving the education profession. Next, this allowed themes to be developed for each individual group of teachers, stayers, lingerers, movers, and leavers. Themes provided more insight into the factors that were connected to teacher attrition for each individual group of teachers.

Stayers themes. A stayer is described by the following: Satisfied with my current teaching position and will return to the same campus next school year. Of the total 44 participants, 18 participants chose this descriptor to describe their perception on their current teaching position. The survey provided the participants with four open-ended response statements, each related to factors within the hierarchal educational system: classroom (microsystem); campus (mesosystem); district (exosystem); state (macrosystem) (Bronfenbrenner, 1979). The open-ended response statements asked participants to report factors that caused them to stay at their campus. The below table reports the major themes gathered from stayers open-ended response statements.

Table 19
Stayers Qualitative Themes

Educational System	*n*	Theme A	Theme B	Theme C	Theme D
Classroom	15	Students 11/15 (73.3%)	Coworkers 6/15 (40%)	Teaching 4/15 (26.6%)	Classroom2/15 (13.3%)
Campus	15	Colleagues 7/1 (46.6%)	Leadership 6/15 (40%)	Environment 4/15 (26.6%)	Students 2/15 (13.3%)
District	12	None 5/12 (41.6%)	Advancement 2/12 (16.6%)	Training 2/12 (16.2%)	
State	12	None 7/12 (58.3%)	Texas 2/12 (16.6%)		

Note. The themes gathered from stayers were reasons why they chose to stay on their campus.

The themes above were gathered by coding each individual response of stayers for factors that caused the participant to stay at their current campus. After the factors were coded in the open-ended response statements, a grouping method was used to put similar factors together. Once the similar factors where grouped together, each group was designated by a theme. Frequency of each theme was found by dividing each participant who reported a common theme by the total number of participants who answered the open-ended response statement.

Lingerers themes. A lingerer is described by the following: Dissatisfied with my current teaching position yet will return to the same campus next school year. Of the total 44 participants, 16 participants chose this descriptor to describe their perception on their current teaching position. The survey provided the participants with four open-ended response statements, each related to factors within the hierarchal educational system: classroom (microsystem); campus (mesosystem); district (exosystem); state (macrosystem) (Bronfenbrenner, 1979). The open-ended response statements asked participants to report factors that caused them to be dissatisfied, even though the

participants intend on staying at their campus next school year. The below table reports the major themes gathered from open-ended response statements of lingerers.

Table 20
Lingerers Qualitative Themes

Educational System	*n*	Theme A	Theme B	Theme C	Theme D
Classroom	13	Student behavior 5/13 38.5%	Discipline 3/13 23.1%	Class size 2/13 15.4%	Workload 2/13 15.4%
Campus	12	Organization 5/12 41.6%	Discipline 4/12 33.3%	Leadership 3/12 25%	Communication 2/12 16.6%
District	12	None 4/12 33.3%	Salary 2/12 16.6%	Poor Planning 2/12 16.6%	
State	11	None 4/12 33.3%	Standardized testing 4/12 33.3%	Behavior support 2/12 16.6%	Funding 2/12 16.6%

Note. The themes gathered from lingerers were reasons why they are dissatisfied with their current teaching position.

The themes above were gathered by coding each individual response of lingerers for factors that caused the participant to be dissatisfied with their current teaching position. After the factors were coded in the open-ended response statements, a grouping method was used to put similar factors together. Once the similar factors where grouped together, each group was designated by a theme. Frequency of each theme was found by dividing each participant who reported a common theme by the total number of participants who answered the open-ended response statement.

Movers themes. A mover is described by the following: Dissatisfied with my current teaching position and will not return to the same campus/district next school year, yet will stay in the educational profession. Of the total 44 participants, 4 participants chose this descriptor to describe their perception on their current teaching position. The survey provided the participants with four open-ended response statements, each related to factors within the hierarchal educational system: classroom (microsystem); campus (mesosystem); district (exosystem); state (macrosystem) (Bronfenbrenner, 1979). The

open-ended response statements asked participants to report factors that caused them to be dissatisfied and move to a new campus or district. The below table reports the major themes gathered from open-ended response statements of movers.

Table 21
Movers Qualitative Themes

Educational System	*n*	Theme A	Theme B
Classroom	3	Behavior 2/3 (66.6%)	Discipline 2/3 (66.6%)
Campus	3	Lack of support 3/3 (100%)	Discipline 2/3 (66.6%)
District	3		
State	3	None 2/3 (66.6%)	

Note. The themes gathered from lingerers were reasons why they are dissatisfied with their current teaching position.

The themes above were gathered by coding each individual response of movers for factors that caused the participant to be dissatisfied with their current teaching position, and make them want to move campuses or districts. After the factors were coded in each response, a grouping method was used to put similar factors together. Once the similar factors where grouped together, each group was designated by a theme. Frequency of each theme was found by dividing each participant who reported a common theme by the total number of participants who answered the open-ended response statement. No themes could be developed from the open-ended response statements for district factors.

Leavers themes. A leaver is described by the following: dissatisfied with my current teaching position and will not seek employment in the educational profession next school year. Of the total 44 participants, 0 selected this descriptor; therefore, there are no themes to report. The following section of Chapter IV will present the merged data from

the quantitative, Likert-scale responses, with the qualitative, open-ended response statements.

Merger of Quantitative and Qualitative Data

The use of convergent parallel design allowed the researcher to collect both sets of quantitative and qualitative data at the same time. The data collected from both quantitative and qualitative parts can be different yet they must be complementary and on the same topic (Morse, 1991). The data sets were complementary because, by using the convergent parallel design the intent is to bring together, or merge, the differing strengths and non-overlapping weaknesses of quantitative methods: large sample size, trends, generalization; with those of qualitative methods: small sample, details, in depth (Patton, 1990).

In order to best merge the quantitative and qualitative data, tables were created with both sets of data reported in one table. The tables were grouped according to the hierarchal educational system, classroom (microsystem), campus (mesosystem), district (exosystem), and state (macrosystem) (Bronfenbrenner, 1979). The merged data is reported in the below tables, with the classroom system being reported first.

Table 22

Significant Factors from Quantitative and Qualitative Data – Classroom System

Data Analysis	Factor A	Factor B	Factor C
Quantitative			
ANOVA/Tukey	Parent Involvement	Workload	
Qualitative			
Stayers	Students	Coworkers	Teaching
Lingerers	Student Behavior	Discipline	Class Size
Movers	Behavior	Discipline	

Notes. The ANOVA and Tukey comparison test reported two significant factors. Only three significant factors were reported from the qualitative data.

Table 23

Significant Factors from Quantitative and Qualitative Data – Campus System

Data Analysis	Factor A	Factor B	Factor C
Quantitative			
ANOVA/Tukey	Collegiality	Provided Support	
Qualitative			
Stayers	Colleagues	Leadership	Environment
Lingerers	Organization	Discipline	Leadership
Movers	Lack of Support	Discipline	

Notes. The ANOVA and Tukey comparison test reported two significant factors. Only three significant factors were reported from the qualitative data.

Table 24

Significant Factors from Quantitative and Qualitative Data – District System

Data Analysis	Factor A	Factor B	Factor C
Quantitative			
ANOVA/Tukey	School Board	District Leadership	Communication
Qualitative			
Stayers	None	Advancement	Training
Lingerers	None	Salary	Poor Planning
Movers			

Notes. The ANOVA and Tukey comparison test reported three significant factors. Only three significant factors were reported from the qualitative data, and no themes were developed for movers in the district system.

Table 25

Significant Factors from Quantitative and Qualitative Data –State System

Data Analysis	Factor A	Factor B	Factor C
Quantitative			
ANOVA/Tukey	Standardized Testing	SBOE	TEA
Qualitative			
Stayers	None	Texas	
Lingerers	None	Standardized Testing	Behavior Support
Movers	None		

Notes. The ANOVA and Tukey comparison test reported three significant factors. Only three significant factors were reported from the qualitative data, and no themes were developed for movers in the district system.

Each table contains the merged quantitative and qualitative data. The quantitative data used an ANOVA and Tukey comparison test to find significant factors, based on the Likert-scale responses. The qualitative data was coded so themes could be discovered, based on the open-ended response statements of the participants. The tables of merged data allow for deeper interpretations in Chapter IV by using the strength of the open-ended statements to make up for the weaknesses of the Likert-scale responses.

Summary

A mixed-methods research design was used for this research to assist various educational entities as to the possible significant factors that influence teacher attrition as well as determine the most influential hierarchal educational system and its impact on teacher attrition. A Likert-scale was used to determine the significance of the factors in association with the qualitative data collected from the open-ended response statements.

An ANOVA and Tukey comparison test were conducted on the quantitative data. The ANOVA was able to substantiate factors were significant, while the post hoc Tukey comparison test, was able to distinguish which factors were most significant to teacher

attrition. The qualitative, open-ended response statements were coded to gather themes based on participants responses. The coded information was placed into similar groups, and the common themes were created. Specific to the convergent parallel mixed methodology, the two different data sets were then merged so stronger inferences could be developed and to allow the strength of the qualitative, open-ended response statements, to overcome the weakness of the quantitative, Liker-scale responses.

Chapter V presents the summary of the research and a discussion of the findings in order to make recommendations to educational entities regarding the possible prevention of potentially high teacher attrition rates. The analysis provides important points on the issue of teacher attrition and the implications of the research.

CHAPTER V

Summary

Introduction

Experienced teachers are better teachers; however, schools are facing an uphill battle when it comes to retaining their staff (Brill & McCartney, 2008; Hanushek, Kain, & Rivkin, 1998). As previously stated, schools in the United States have attrition rates that range anywhere from 20% to 50% for teachers within their first five years of service (Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione et al., 2008). The implications of not retaining and being able to mold a mature staff of educators can have negative ramifications across the educational setting, with the most negative impact being on instruction and student learning (Goldhaber & Cowan, 2014).

The problem addressed in this study was the problem of teacher attrition and what part of the hierarchal educational system was most connected to teacher attrition of zero-year through fifth-year teachers. There is supportive literature that shows teachers leave during year zero through year five of service (Battle & Looney, 2014). However, there is no clear or outstanding reason as to which factors, within the hierarchal educational system are causing teachers to stay, stay yet be dissatisfied, move campus or districts due to being dissatisfied, or leaving the educational field all together to seek other career

possibilities. By not fully understanding which part of the educational system is connected to teacher attrition, districts cannot improve practices to help solve high rates of teacher attrition (Brownell & Smith, 1993).

The following research questions were used to guide the study to further understand teacher attrition and the hierarchal educational system:

1. For teachers with 0-5 years of classroom experience, what classroom factors exist that would influence their decision to leave the educational profession?
2. For teachers with 0-5 years of classroom experience, what campus factors exist that would influence their decision to leave the educational profession?
3. For teachers with 0-5 years of classroom experience, what district factors exist that would influence their decision to leave the educational profession?
4. For teachers with 0-5 years of classroom experience, what state factors exist for teachers that would influence their decision to leave the field of education?
5. As defined by the ecological systems theory of Bronfenbrenner (1979), for teachers with 0-5 years of classroom experience, which hierarchal educational system would influence their decision to leave the field of education?

The literature presented the factors of teacher attrition, which are wide and varied; however, the factors span the entire hierarchal educational system: the microsystem; mesosystem; exosystem; and macrosystem (Bronfenbrenner, 1979). There were three intentions of this study. The first intention was, to better understand the factors that are significant in relation to teacher attrition. Secondly the researcher wanted to better

understand which part of the hierarchal educational system was most significant in relation to teacher attrition: classroom (microsystem); campus (mesosystem); district (exosystem); state (macrosystem) (Bronfenbrenner, 1979). And thirdly, the researcher hped to better understand how teachers perceived themselves in relation to their educational setting and attrition: stayers; lingerers; movers; and leavers. These intentions and the study's research questions will be further analyzed in the following sections, providing important implications as it pertains to teacher attrition.

Quantitative Data Analysis

Three types of quantitative data analysis were used to analyze the quantitative portions of the study. Descriptive statistics were used to provide a demographic picture of the participants of the study, and the descriptors selected by the participants. An ANOVA and Tukey comparison test was conducted on the Likert-scale responses to first understand if the factors were significant, and secondly, to distinguish which factors were the most significant within each grouping. The sections below provide the findings of the quantitative data.

Descriptive statistics. There were a total of 44 participants who completed the survey. Survey items were not mandatory to answer, meaning participants had the freedom to answer or not answer certain items in the survey. Of the 44 participants, 12 (27.27%) teachers, the largest group, had 2 years of service. The smallest group was four (9.09%) teachers with 2 years of service. Also noteworthy, combined zero-year and one-year teachers out numbered four-year and five-year teachers 14 to 9. This occurrence is

supported by literature, which suggests teachers in education stay two, or three years then make other career decisions before making it to years four and five (Hughes, 2012).

One requirement of the study was all teachers had to be in a secondary setting. A secondary setting was defined as any grades 6-12, and any middle school, junior high, or high school. The participants, overwhelmingly, came from a middle school setting; 41 out of 44 participants (93.1%). The largest group of grade level teachers was 6th grade with 21 teachers. There were only two participants from the high school setting, one from 9th grade and one from 10th grade. The focus of participants being at secondary campuses was still relevant to the study with the majority represented in grades 6-8. Participants were also asked for their teaching content area, and 40 out of 44 teachers selected their content area with the most being 12, elective teachers. The content area with the second most responses was English, with 9 teachers reporting.

Self-described descriptors. The study developed four descriptors that best describe how teachers perceived themselves in relation to attrition. The four descriptors were: stayers; lingerers; movers; and leavers. Participants were asked to select the descriptor that would best describe their view on their current job. The category with the most descriptor selected was stayers, 18 out of 44 (47.37). The second most was lingerers, 16 out of 44 (42.11%). Next were movers, 4 out of 44 (10.53%). There were not any participants that selected the descriptor leaver. The definition of a leaver was a teacher that had intentions of leaving the field of education at the end of the school year.

These data indicated the participants had every intention of returning to the same campus next year, although 16 of them said they were returning yet dissatisfied. This indicated the majority of teachers were satisfied with their current position, enough so, they intend on returning. Also important to note from the self-described descriptors, that there were no teachers reporting they had intentions of leaving the educational professional. Four participants stated they had intentions on moving to a new campus/district. However, it is a positive finding that no participant in the study reported that they would be leaving the teaching profession to seek alternative employment.

The district used for this study has a positive outlook when considering the issue of teacher attrition since only 10% of the teachers reported that they would be leaving the district to find other employment within their educational framework. Some caution should be mentioned regarding the percentage (52.6%) of teachers that shared they were dissatisfied with their current standing. The district should address this issue and seek measures to ensure that the lingerers do not start to shift their belief systems that would change their status to a mover. If the district ignores this group of teachers, they could easily see their attrition rates increase in the future.

Quantitative classroom factors. To identify the classroom factors significant to teacher attrition, quantitative analysis was used. An ANOVA test was conducted on the factors to find if the factors were statistically significant and would affect teacher attrition. Secondly, a Tukey comparison test was conducted to see which of the factors were most significant in relation to teacher attrition.

The five classroom factors listed in the Likert-scale question were: student behavior; workload; classroom resources; teacher autonomy; and parent involvement. The result of the ANOVA test concluded that all factors were statistically significant, and would affect a teacher's decision to leave the educational profession.

The Tukey comparison test was then used to determine which factors were the most significant to teacher attrition. The results of the Tukey comparison test found the two most significant factors to be parent involvement and teacher workload. This finding does not indicate the other factors are not significant to teacher attrition; rather, the two most significant out of the listed factors are parent involvement and teacher workload.

Based on these data, according to the teachers who participated in the study, workload was a reason why they would leave the teaching profession. This suggested that these teachers felt they were being asked to do too much, or there existed a disconnect in communication over the teacher's job requirements and duties. Teachers were asked to take on many other tasks besides instruction such as: special education documentation; 504 documentations; English as a second language, ESL, documentation; lesson plans; response to intervention, RTI documentation; provide other opportunities of instruction (tutorials); attend admission, review, and dismissal, or ARD meetings; and attend 504 meetings. The district could take a few actions in order to help decrease the workload for their teachers such as commit to additional personnel, provide compensation for additional assigned duties, and leverage duties among various support personnel.

Additionally, the district could review the overall workload they are placing on their teachers. Based on their findings, the district could streamline the work demands on teachers by keeping instruction and student learning as primary foci and delegating other managerial tasks. By doing this, workload may not be a reason why teachers leave the district and/or education.

The teachers also reported that a lack of communication caused several to consider their current standings in the district. Determining the root cause of this response might be an action of the district when trying to ease teachers' concerns about a lack of communication in the district.

Parent involvement was found as a significant factor in the classroom, in relation to teacher attrition. This was found to be interesting, more interesting than workload. The researcher was surprised these data showed parent involvement to be more significant than student behavior. Some literature shows that student behavior has an affect on teacher attrition (Claybon, 2008; Hughes, 2012). The data could indicate teachers found parent involvement more significant because the parents initially have a stronger impact on student behavior. However, in this frame of thinking, student behavior was not found to be non-significant, rather, workload and parent involvement were more significant. These findings could suggest teachers would like more parent involvement because of the positive impact it might have on student behavior.

Quantitative campus factors. To identify the campus factors significant to teacher attrition, quantitative analysis was used. An ANOVA test was conducted on the

factors to discover if the factors were statistically significant and would affect teacher attrition. Secondly, a Tukey comparison test was conducted to see which of the factors were most significant in relation to teacher attrition.

The four campus factors listed in the Likert-scale question were: campus leadership; provided support; professional growth opportunities; and collegiality. The result of the ANOVA test concluded that all factors were statistically significant, and would affect a teacher's decision to leave the educational profession.

The Tukey comparison test was then used to determine which factors were the most significant to teacher attrition. The results of the Tukey comparison test found the most significant factors were collegiality and provided support. This finding did not indicate the other factors are not significant to teacher attrition; rather, the two most significant out of the listed factors are collegiality and provided support.

Provided support could be connected to workload from the classroom factors as discussed previously. These findings indicated teachers felt as if they were not being provided enough to successfully fulfill their duties which, in turn, could lead to teachers leaving the campus, district, or the profession altogether. Workload was found to be a significant classroom factor, should the campus provide more support to teachers, the campus could possibly address provided support and workload simultaneously. If these two factors were addressed on a more positive way, teachers could move into the stayers category and quite possibly prevent teachers from sliding into a movers category.

The data also found collegiality to be a significant factor in the campus system. This study specifically targeted teachers with 0-5 years of experience. Studies have shown that the incorporation of teacher academies early in the career of a teacher prove to be a successful means if initiating collegiality (Claybon, 2008; Ingersoll & Merrill, 2012; O'Rourke et al., 2008).

These programs provide many services to novice teachers especially in the area of assisting them with their integration into a school community where they support systems and mentors gain importance (Claybon, 2008). This process has a large impact on whether teachers decide to leave or stay on their campuses. Since the results of this study found collegiality to be a significant factor in teacher attrition, this could indicate teachers with 0-5 years of service are not being fully integrated into a school system. If they are not growing in their professional relationships on their campuses, this could cause those who identified as stayers to become lingerers and eventually movers or leavers.

Quantitative district factors. To identify the district factors significant to teacher attrition, quantitative analysis was used. An ANOVA test was conducted on the factors to discover if the factors were statistically significant and would affect teacher attrition. Secondly, a Tukey comparison test was conducted to see which of the factors were most significant in relation to teacher attrition.

The five district factors listed in the Likert-scale question were: salary; district leadership; district vision; district school board; and communication. The result of the

ANOVA test concluded that all factors were statistically significant, and would affect a teacher's decision to leave the educational profession.

The Tukey comparison test was then used to determine which factors were the most significant to teacher attrition. The results of the Tukey comparison test found the three most significant factors were the district school board, district leadership, and communication. This finding does not indicate the other factors are not significant to teacher attrition; rather, the three most significant of the listed factors are the district school board, district leadership, and communication.

One of the more interesting points from these data was that the issue of salary was found not to be significant. Salary, like student behavior, is well documented in literature as being a main reason why teachers leave the educational profession (Battle & Looney, 2014; Claybon, 2008; Hughes, 2012; Kersaint et al, 2005; Liu & Meyer, 2005). However, teachers in this study did not find salary to be the most significant reason as to why they would leave their campus, district, or educational profession. This would suggest that the district's salary schedule was not too low and teachers felt they were compensated adequately for their work.

The results of the Tukey comparison test found the school board, district leadership, and communication to be significant in relation to attrition. Each of these factors could present additional concerns; however, the data did suggest communication practices from the top down perspective need updating. It is important for teachers to feel a part of the communication process and when mandates filter their way from emails

with little to no explanation, this causes additional trepidation for teachers regarding their role in the decision-making process in their districts. If the communication process was improved, those who identified as stayers may change to lingerers, and those who identified as lingerers to movers thus perpetuating the already existing issue of teacher attrition.

Meaningful communication is vital to the overall health of the educational system. Making sure the district level entities are communicating effectively could have positive effects in the other systems within the educational system, such as the campus and classroom. Provided support was found to be a significant factor in the classroom system, and communication was also seen as a form of support. This provided reasonable consideration for the main avenues of communication to be open and available to all members of the educational systems.

Quantitative state factors. To identify state factors significant to teacher attrition, quantitative analysis was used. An ANOVA test was conducted on the factors to discover if the factors were statistically significant and would affect teacher attrition. Secondly, a Tukey comparison test was conducted to see which of the factors were most significant in relation to teacher attrition.

The four state factors listed in the Likert-scale question were: SBOE; TEA; state funding of education; and standardized testing. The result of the ANOVA test concluded that all factors were statistically significant, and would affect a teacher's decision to leave the educational profession.

The Tukey comparison test was then used to determine which of the state factors were the most significant to teacher attrition. The results of the Tukey comparison test found the most significant factors were SBOE, TEA, and standardized testing. This finding does not indicate the other factor, state funding, was not significant to teacher attrition; rather, the three most significant out of the listed factors are SBOE, TEA, and standardized testing.

When comparing all of the state factors, the factor with the mean closest to strongly agree was standardized, and the Tukey comparison test concluded it was significant to teacher attrition. Standardized testing has evolved over the past decades and the public consensus is not unanimous over the effectives of standardized testing. The state of Texas has had its own evolution of standardized tests over the years: TABS; TEAMS; TAAS; TAKS; and now STAAR. TABS was the first standardized test implemented in 1980, and currently Texas is in year four of implementation of the STAAR test. Each new test has seen increase in rigor and depth of content; however, the stakes and ramifications of these tests scores have also increased, if not more than the increased rigor and depth of content.

These data could support teachers' beliefs that standardized testing is now the driving force of instruction and is the focal point for districts trying to remain in good standing with the state and local communities. With so much focus on standardized testing taking place, some teachers in the state feel students are the ones suffering the consequences.

Based on the analysis of the ANOVA test, teacher autonomy was found to be a significant factor in relation to teacher attrition from the classroom system. This supports the claim teachers felt as if standardized testing was taking too much instructional control away from the teachers and their classrooms. Rather the issue of standardized testing is being dictated by state expectations as to instructional methods, curriculum efforts, and how student and school success is being measured.

Additionally, in school year 2015-2016, Texas switched its testing vendor from Pearson to ETS. The change in testing vendors produced several problems that caused schools and students additional concerns about the validity of the test. Student tests were lost and testing schedules were cancelled. Specific to Texas, this only exacerbated an already leery view of standardized testing and what it meant for teachers and their instructional abilities.

The SBOE and TEA entities were also found to be significant by the Tukey comparison test. As the two governing bodies of education in the state of Texas, these data could indicate they were receiving blame for standardized testing practices and or problems that occurred with the 2015-2016 STAAR test. With the SBOE and TEA in control positions in the state system, a district really has no control over their edicts.

In this instance with state agencies holding authority, the district should stand for the voices of their teachers at the state level. When districts are prepared to do this, they also accept the responsibility as advocates for the entire educational system. District may not be able to control the issue of standardized testing, but the voice heard at the state

level should be from the district not necessarily individual teachers. Regardless, the data indicated both organizations were the reasons why teachers would leave the field of education.

Quantitative all factors. In order to identify which part of the hierarchal educational system was connected to teacher attrition, quantitative analysis was used. An ANOVA test was conducted on all of the factors to discover if the factors were statistically significant and would affect teacher attrition. Secondly, a Tukey comparison test was conducted to see which of the factors were most significant in relation to teacher attrition. Based on the Tukey comparison test, the most significant factors will be grouped to disclose the system which is most connected to teacher attrition.

Based on Bronfenbrenner's (1979) Ecological Systems Theory, the hierarchal system of education was designated by the following: classroom (microsystem); campus (mesosystem); district (exosystem); and state (macrosystem). Each system contains its own unique factors connected to teacher attrition, as identified earlier. It was important to identify the system that most influenced a teacher's decisions regarding the dissatisfaction associated with their current position and possibly causing teacher attrition. In order to identify the most problematic system within Brofenbrenner's hierarchal educational system, the results of the ANOVA and Tukey comparison test were used to identify the system with the most significant factors connected to teacher attrition.

All 18 factors underwent the ANOVA testing and found the factors would affect teachers leaving the profession, as shown prior when the ANOVA test was conducted on the same factors within smaller groups. Since the factors were found to be statistically significant, the Tukey comparison test was conducted to further understand which of the 18 factors were most significant. The Tukey comparison resulted in the district school board, and provided support to be significant, as they were not grouped with any other letters. District school board, only had the letter A, while provided support only had the letter E; factors with only one letter were found to be more significant to the cause of teacher attrition. The district school board was part of the district system, or the exosystem (Bronfenbrenner, 1979). Provided support was part of the campus system, or the mesosystem (Bronfenbrenner, 1979).

Since the two most significant factors were from different systems, this presented a problem for distinguishing the actual system that was the most significant. Because of this, the factors that were found to be the next most significant were included. These were identified as those factors that had two parings in their group. Parent involvement, and SBOE were grouped as A, B. While, campus leadership was grouped as D, E. Parent involvement was part of the classroom system, or the microsystem (Bronfenbrenner, 1979). SBOE was part of the state system, or the macrosystem (Bronfenbrenner, 1979). And, workload was part of the campus system, or the mesosystem (Bronfenbrenner, 1979).

By analyzing factors with a lone letter, and factors grouped in a pair, there were five factors: district school board; provided support; parent involvement; SBOE; and campus leadership. Out of the five factors, campus leadership and provided support both are part of the campus system, mesosystem (Bronfenbrenner, 1979). The other three, come from a different system. Therefore, the data indicates that each system within the hierarchal educational system has an effect on teacher attrition. However, out of the five, two factors come from the campus system. Since there were two campus factors present, the data indicated, for teachers of this study, the most problematic part of the hierarchal educational system is the campus system, or mesosystem (Bronfenbrenner, 1979).

Qualitative Data Analysis

To provide participants with opportunities to give more details into their identifications as one of the four categories and the system that impacts them the most, open-ended statements were added to the survey. Teachers who participated in the study had the chance to voice their own opinions. The open-ended statements also allowed the participants to provide other factors that might not have been found in the listing of factors for each of the hierarchal educational systems due to the fact that there are unique circumstances in every educational system, unknown by people outside of the school setting.

Teachers could disclose personal points and beliefs that the quantitative portion of the survey could not discover. In doing so, the strength of the qualitative open-ended statements, helped with possible weakness in the quantitative portion of the survey. The

open-ended responses were coded for factors that had an impact on teacher attrition. After the open-ended responses were coded, a groping method was used to develop themes for the factors.

Qualitative themes of stayers. The open-ended statements asked the stayers for factors that caused them to stay for each of the hierarchal educational systems: classroom (microsystem); campus (mesosystem); district (exosystem); and state (macrosystem) (Bronfenbrenner, 1979). For the classroom, the themes were students, coworkers, and teaching. For campus factors, colleagues was identified as a theme signifying that stayers are remaining in education due to the relationships that have been created with their coworkers in the classroom as well as on campus.

Another theme identified by stayers for the campus setting was leadership, which could indicate these particular teachers have campus leadership that is causing them to stay at their campus. There were no themes identified for the district and state systems. This data could be interpreted to mean there were no factors within the district and state systems that were causing them to stay in education or these teachers might be unaware of circumstances occurring at the district or state levels that might influence their decision to stay in the teaching profession.

Qualitative themes of lingerers. The open-ended statements asked the lingerers for factors that caused them to be dissatisfied, even though they were staying on the campus for each of the hierarchal educational systems: classroom (microsystem); campus (mesosystem); district (exosystem); and state (macrosystem) (Bronfenbrenner, 1979).

Student behavior and discipline were common themes in both the classroom and campus systems suggesting the behavior of students in the classroom is causing teachers to be dissatisfied, and discipline support from the campus level, too, was causing teachers to be dissatisfied. Teachers can become dissatisfied with student behavior when they feel discipline does at adequately address the negative behavior of the students. When student behavior goes uncheck with inadequate consequences, behavior can become worse in the classroom making the classroom system more problematic for teachers.

In the campus system, organization was a theme suggesting the campus system had part or parts that were unorganized. A school is a complex system with major and minor parts within. If campus leadership does not align the system, and allows the system to be unorganized, the environment can become toxic. The data might suggest, the campus is unorganized, and in return, this caused teachers to contemplate staying or leaving.

Finally, at the district and state level, no common themes were identified. The data reflected there were no factors in either of those systems that caused teacher dissatisfaction in their current placements. Standardized testing, however, was found as a theme for the state system. As stated prior, Texas has had its own unique problems with standardized over the past four years with the STAAR test. Teachers feel as if the test drives instruction, along with the problems associated with the 2015-2016 STAAR testing, the data indicated standardized testing was connected to attrition.

Qualitative themes of movers. For movers at the classroom and campus systems, the theme of student behavior and discipline was discovered. Much like the lingerers, the movers were experiencing the same student behavior and discipline issues. The data suggests these teachers were experiencing far worse student behavior and discipline problems and quite possibly be the reason this group of teachers identified as movers. Should better practices be put in place, it is possible these teachers could go back into the lingering category. There were no data to report regarding leavers as no participants selected that descriptor.

Merged Quantitative and Qualitative Data Analysis

Specific to mixed methods, and convergent parallel design, this methodological approach allowed the merger of two different types of data, quantitative and qualitative. For the study, Likert-scale, quantitative data and open-ended, qualitative data were collected. As stated prior, this approach allowed for a deeper understanding of the participants in this particular educational setting. This approach allowed the voice of the teachers to be expressed and be merged with the quantitative portion of the study. By merging the two different data sets, the strengths of the qualitative data will make up for the weaknesses of the quantitative data, allowing stronger inferences to be made on teacher attrition. Reference tables 22, 23, 24, and 25 to better conceptualize the merging process.

Merged Data Classroom System. Two significant classroom factors from the quantitative data were parent involvement and workload. The two classroom factors

from the qualitative data were student behavior and discipline. Quantitative and qualitative data sets lacked common factors that merged. However, student behavior was found to be significant in the quantitative data by the ANOVA test, but was found not to be the most significant. When looking at the data like this, student behavior did merge between the two data sets of quantitative and qualitative. Since student behavior did merge, a stronger inference can be made to student behavior's impact on teacher attrition.

Merged Data Campus System. The two significant campus factors from the quantitative data were collegiality and provided support. From the qualitative campus factors, the movers did have a theme of lack of support; therefore, there was a merge of quantitative and qualitative data for movers in the area of lack of support. The ANOVA test found collegiality significant to teacher attrition; however, for stayers, the qualitative data showed collegiality was a reason why they were staying on their campuses. These two data did not merge, but there is some importance associated with further examination of collegiality and it's meaning to the stayers. Once the influencing factors were determined, campuses could try to replicate its impact.

Merged Data District System. The three significant district factors from the quantitative data were district school board, district leadership, and communication. When the two data sets were merged, no factors merged similarly which resulted in mixed factors. Since there was no merger of factors for the district system, this indicated the district has possible unknown factors associated with attrition that were not listed in the quantitative portion of the survey.

Merged Data State System. Standardized testing merged between the quantitative data and the lingerers qualitative data. As discussed prior, many educators view standardized testing negatively. The merger of standardized testing between the two data sets could provide stronger inferences indicating standardized testing has an impact on teacher attrition. It is important to note that the stayers did not report standardized testing as a reason why they were staying on their campuses. However, with the increase of importance for school accountability in the form of standardized testing, it is possible to assume that this factor could affect this group of teachers as well in regards to the issue of attrition.

Implications

Teacher attrition is a continuing concern for all aspects of the education system. Many districts are only keeping track of the number of teachers they lose on a yearly basis and not diagnosing potential reasons for attrition or any viable solutions to the problem. This may be in direct correlation to districts not having the wherewithal to address the problem at the varying levels such as the classroom, campus, district, or state. This may prove to be a difficult task.

With districts being accountable to campuses and state entities, a difficulty arises when trying to pinpoint the most urgent problem regarding teacher attrition. Many districts and campuses make superficial attempts to address teacher attrition but the results have a limited impact on solving the "real" problem. In order to address this problem in hopes of changing the ever growing attrition rate for teachers with zero to five

years of teaching experience, the data from this study presented some factors and sectors that might possibly impact the attrition rate in school districts.

From the results of this study, the *ESTAS* is a possible tool that districts could use to assess the overall health of their educational system and identify factors that not only influence teacher attrition but also prevent the rising number of teachers leaving the profession. The *ESTAS* allows teachers, campus administration, district leaders, and state officials to address the issue of teacher attrition in a scientific manner and how attrition is also connected to a hierarchal educational system. This type of district inspection allows facets of the educational system a starting point for further discussion and discovery of root concerns. Once this is completed, districts can focus on the resources needed to address the issue of teacher retention as well as teacher attrition.

The *ESTAS* has far reaching potential because of the differences found in school systems. The completion of an *ESTAS* in a school district will "take the temperature" of each individual educational system and present possible treatments to slow the negative impacts of teacher attrition. Systems are complex and the *ESTAS* does provide districts a tool to navigate through the complexity of the system finding the problematic areas. Once the problematic areas are discovered, the district can begin the process of creating a healthier system, happier teachers, and see the negative effects of teacher attrition diminish over time.

Recommendations

As discussed in the above section, the *ESTAS* is a tool that will diagnose the educational system. Based on the diagnosis, the district can develop their plan of treatment starting with the most pressing factors and most affected system within the hierarchal educational system. The following recommendations are for the school setting of the study:

- As it pertains to the overall educational system, classroom (microsystem), campus (mesosystem), district (exosystem), and state (macrosystem) (Bronfenbrenner, 1979), the campus was indicated as the most influential system as it pertains to teacher attrition. More resources and time need to be given to the campus system as it had the most influence on teacher attrition.
- To better improve the classroom, or microsystem (Bronfenbrenner, 1979), parent involvement should be addressed and measures taken to increase parent involvement. Also, teacher workload needs to be addressed to improve teachers' perception of their job. Both of the factors were found to be significant to teacher attrition.
- To better improve the campus, or mesosystem (Bronfenbrenner, 1979), collegiality on the campus needs to improve. Also, more support needs to be provided to teachers. Both of the factors were found to be significant to teacher attrition.

- To better improve the district, or exosystem (Bronfenbrenner, 1979), the district school board, district leadership, and communication needs to be addressed. All three of the factors were found to be significant to teacher attrition.
- To better improve the state, or macrosystem (Bronfenbrenner, 1979), the district needs to advocate for change in standardized testing, SBOE, and TEA. The district can only advocate for change since the three factors are in a system larger then the district. All three of the factors were found to be significant to teacher attrition.
- To better understand the entire school system, a broader study should be conducted and all teachers should be included. By including all teachers there will be a better understanding of the factors that cause teacher attrition for the district.

If the district developed a comprehensive plan to address the campus system, along with the significant factors found in other systems, the district could see more teachers joining the stayers' category. Overtime, the district would see less of the negative side effects of teacher attrition.

Concluding Remarks

The *ESTAS* tool allows schools the power to navigate through the complex educational system finding areas significant to teacher attrition. By addressing those significant factors, schools can begin to solve the problem of teacher attrition. The issues surrounding teacher attrition are worth trying to solve because students are the people

that are negatively affected. We need educational systems that are healthy and with happy teachers. Working towards improving the system and improving teacher attrition, will have a direct impact on the educational quality students within our schools receive. Teachers will only stay in an educational system when we cater to their needs and develop a system they are comfortable working in. Should we take the option of ignoring teacher's needs and the systems that surround them, we should accept the collateral damage of teacher attrition.

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APPENDIX A

Joshua Douglas Nation
3500 Tangle Brush
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josh.nation1869@yahoo.com

To Whom It May Concern:

My name is Josh Nation and I am a doctoral student at the Stephen F. Austin State University doctor of education program. I have recently progressed to the pilot study phase of my dissertation to analyze the survey for content, construct validity as well as reliability. I am requesting your districts help in the data collection process of the pilot study.

My dissertation title is *Examining Attrition Through the Hierarchal Educational System for Zero – Fifth Year Teachers: A Mixed Methods Study*. My study focuses on teacher attrition as it pertains to the system of education as a whole: the classroom, the campus, the district, and the state level systems. My hope is to understand teacher attrition through the educational system and learn which part(s) of the system are promoting teacher attrition.

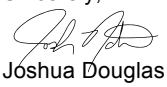
My data collection is an electronic survey titled *Educational Systems Teacher Attrition Survey* (ESTAS). The first part consists of quantitative, Likert-scale questions, and the second part consists of qualitative open-ended response statements. For purposes of the pilot study, all teachers on the high school campus are eligible to participate in the pilot study.

The pilot study is completely anonymous, confidential, and there is zero risk involved for the participants. The purpose of the pilot study is to ensure the survey has valid content and construct, as well as to ensure the survey is reliable. The participants' responses will not be reported in the dissertation; only the issues of content, construct validity as well as reliability will be reported in the dissertation.

The study has been reviewed and approved by the Stephen F. Austin State University's Institutional Review Board (IRB) and found the study does not place any participants at risk nor does it break any ethical standards as established by the IRB.

I greatly appreciate your professional assistance in considering to allow the pilot study be conducted at [redacted]. Should you have further questions or would like to schedule a meeting to discuss the pilot study, please contact me through the information provided on this letter.

Sincerely,



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APPENDIX B

Joshua Douglas Nation
3500 Tangle Brush
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To Whom It May Concern:

My name is Josh Nation and I am a doctoral student at the Stephen F. Austin State University doctor of education program. I have recently progressed to the data collection phase of my dissertation to analyze teacher attrition. I am requesting your districts help in the data collection process of the dissertation study.

My dissertation title is *Examining Attrition Through the Hierarchal Educational System for Zero – Fifth Year Teachers: A Mixed Methods Study*. My study focuses on teacher attrition as it pertains to the system of education as a whole: the classroom, the campus, the district, and the state level systems. My hope is to understand teacher attrition through the educational system and learn which part(s) of the system are promoting teacher attrition.

My data collection is an electronic survey titled *Educational Systems Teacher Attrition Survey* (ESTAS). The first part consists of quantitative, Likert-scale questions, and the second part consists of qualitative open-ended response statements. For purposes of the study, all teachers on secondary campuses with zero – five years of service can participate in the study.

The study is completely anonymous, confidential, and there is zero risk involved for the participants. The participants' identity will not be reported in the dissertation, and the identity of the school district shall remain anonymous.

The study has been reviewed and approved by the Stephen F. Austin State University's Institutional Review Board (IRB) and found the study does not place any participants at risk nor does it break any ethical standards as established by the IRB.

I greatly appreciate your professional assistance in consideration to allow the study be conducted in [redacted]. Should you have further questions or would like to schedule a meeting to discuss the study, please contact me through the information provided on this letter.

Sincerely,

Joshua Douglas Nation

Dissertation Chair:
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APPENDIX C

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

1. **Welcome to the Educational Systems Teacher Attrition Survey (ESTAS)**

Thank you for your time and participation in the Educational Systems Teacher Attrition Survey pilot study. Your feedback is important and welcomed.

The purpose of this pilot study is to understand teacher attrition and the factors within the education system associated with teacher attrition.

Your participation in the Educational Systems Teacher Attrition Survey pilot study is voluntary and you may cease completion of the survey at anytime with no penalty. There are no risks nor benefits for your participation in the pilot study. All participants responses will be kept confidential.

Your participation in this survey constitutes your permission to be part of the pilot study. Any concerns with this research may be directed to the Office of Research and Sponsored Programs at (936) 468-6606.

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1

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

2. **Participant Information**

Select COMPLETED year(s) of service in education

Select grade level currently teaching

Select teaching content area

Select gender

2

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

3.

In the following section you will complete Likert-scale response statements.

3

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

4. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Student behavior	○	○	○	○	○
Workload	○	○	○	○	○
Classroom resourses	○	○	○	○	○
Teacher autonomy	○	○	○	○	○
Parent involvement	○	○	○	○	○

4

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

5. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Campus leadership	○	○	○	○	○
Provided support	○	○	○	○	○
Professional growth oppurtinites	○	○	○	○	○
Collegiality	○	○	○	○	○

5

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

6. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Salary	○	○	○	○	○
District leadership	○	○	○	○	○
District vision	○	○	○	○	○
District school board	○	○	○	○	○
Communication	○	○	○	○	○

6

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

7. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
State funding for education	◯	◯	◯	◯	◯
Standardized testing	◯	◯	◯	◯	◯
Texas Education Agency	◯	◯	◯	◯	◯
Texas State Board of Education	◯	◯	◯	◯	◯

7

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

8.

You have now completed the Likert-scale portion of the survey. In the following section, you will be asked to select a descriptor that best describes you, based on your current job. Once the descriptor is selected, you will automatically be taken to four, open-ended response statements.

8

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

9. **Survey Transition**

Select the descriptor that best describes your perception on your current teaching position

- ◯ **#1** - Satisfied with my current teaching position and will return to the same teaching position next school year.
- ◯ **#2** - Dissatisfied with my current teaching position yet will return to same campus next school year.
- ◯ **#3** - Dissatisfied with my current teaching position and will not return to the same campus/district next school year, yet will stay in the educational profession.
- ◯ **#4** - Dissatisfied with my current teaching position and will not seek employment in the educational profession next school year.

9

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

10. **#1 Open-Ended Response Statements**

The factors in the CLASSROOM, causing me to stay at my campus are...

The factors on the CAMPUS, causing me to stay at my campus are...

The factors at the DISTRICT level, causing me to stay at my campus are...

The factors at the STATE level, causing me to stay at my campus are...

10

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

11. **#2 Open-Ended Response Statements**

The factors in the CLASSROOM causing me to stay at my campus, even though I am dissatisfied, are...

The factors on the CAMPUS causing me to stay at my campus, even though I am dissatisfied are...

The factors at the DISTRICT level, causing me to stay at my campus, even though I am dissatisfied are...

The factors at the STATE level, causing me to stay at my campus, even though I am dissatisfied are...

11

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

12. **#3 Open-Ended Response Statements**

The factors in the CLASSROOM, causing me to move campuses/districts are...

The factors on the CAMPUS, causing me to move campuses/districts are...

The factors at the DISTRICT level, causing me to move campuses/districts are...

The factors at the STATE level, causing me to move campuses/districts are...

12

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

13. **#4 Open-Ended Response Statements**

The factors in the CLASSROOM, causing me to leave the educational profession are...

The factors on the CAMPUS, causing me to leave the educational profession are...

The factors at the DISTRICT level, causing me to leave the educational profession are...

The factors at the STATE level, causing me to leave the educational profession are...

13

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

14. Educational Systems Teacher Attrition Survey (ESTAS) Feedback

Were the survey items easily understood? If not, which items on the survey were not easily understood.

Was the layout, structure, and flow of the survey user friendly? If not, what could be changed to help make the layout, structure, and flow of the survey more user friendly.

14

Educational Systems Teacher Attrition Survey (ESTAS) Pilot Study

15. Exit Survey

You have now completed the Educational Systems Teacher Attrition Survey (ESTAS) pilot study. Your participation is greatly appreciated.

Thank you

15

APPENDIX D

Educational Systems Teacher Attrition Survey (ESTAS)

1. **Welcome to the Educational Systems Teacher Attrition Survey (ESTAS)**

Thank you for your time and participation in the Educational Systems Teacher Attrition Survey (ESTAS). Your feedback is important and welcomed.

The purpose of this study is to understand teacher attrition and the factors within the education system associated with teacher attrition.

Your participation in the Educational Systems Teacher Attrition Survey (ESTAS) is voluntary and you may cease completion of the survey at anytime with no penalty. There are no risks nor benefits for your participation in the study. All participants responses will be kept confidential.

Your participation in this survey constitutes your permission to be part of the study. Any concerns with this research may be directed to the Office of Research and Sponsored Programs at (936) 468-6606.

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1

Educational Systems Teacher Attrition Survey (ESTAS)

2. **Participant Information**

Select COMPLETED year(s) of service in education

Select grade level currently teaching

Select teaching content area

Select gender

2

Educational Systems Teacher Attrition Survey (ESTAS)

3.

In the following section you will complete Likert-scale response statements.

3

Educational Systems Teacher Attrition Survey (ESTAS)

4. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Student behavior	○	○	○	○	○
Workload	○	○	○	○	○
Classroom resourses	○	○	○	○	○
Teacher autonomy	○	○	○	○	○
Parent involvement	○	○	○	○	○

4

Educational Systems Teacher Attrition Survey (ESTAS)

5. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Campus leadership	○	○	○	○	○
Provided support	○	○	○	○	○
Professional growth oppurtinites	○	○	○	○	○
Collegiality	○	○	○	○	○

5

Educational Systems Teacher Attrition Survey (ESTAS)

6. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Salary	○	○	○	○	○
District leadership	○	○	○	○	○
District vision	○	○	○	○	○
District school board	○	○	○	○	○
Communication	○	○	○	○	○

6

Educational Systems Teacher Attrition Survey (ESTAS)

7. **Educational Factors**

Regarding the below factors, do you agree or disagree they influence your decision to leave the teaching profession.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
State funding for education	○	○	○	○	○
Standardized testing	○	○	○	○	○
Texas Education Agency	○	○	○	○	○
Texas State Board of Education	○	○	○	○	○

7

Educational Systems Teacher Attrition Survey (ESTAS)

8.

You have now completed the Likert-scale portion of the survey. In the following section, you will be asked to select a descriptor that best describes you, based on your current job. Once the descriptor is selected, you will automatically be taken to four, open-ended response statements.

8

Educational Systems Teacher Attrition Survey (ESTAS)

9. **Survey Transition**

Select the descriptor that best describes your perception on your current teaching position

- ○ **#1** - Satisfied with my current teaching position and will return to the same teaching position next school year.
- ○ **#2** - Dissatisfied with my current teaching position yet will return to same campus next school year.
- ○ **#3** - Dissatisfied with my current teaching position and will not return to the same campus/district next school year, yet will stay in the educational profession.
- ○ **#4** - Dissatisfied with my current teaching position and will not seek employment in the educational profession next school year.

9

Educational Systems Teacher Attrition Survey (ESTAS)

10. **#1 Open-Ended Response Statements**

The factors in the CLASSROOM, causing me to stay at my campus are...

The factors on the CAMPUS, causing me to stay at my campus are...

The factors at the DISTRICT level, causing me to stay at my campus are...

The factors at the STATE level, causing me to stay at my campus are...

10

Educational Systems Teacher Attrition Survey (ESTAS)

11. **#2 Open-Ended Response Statements**

The factors in the CLASSROOM causing me to stay at my campus, even though I am dissatisfied, are...

The factors on the CAMPUS causing me to stay at my campus, even though I am dissatisfied are...

The factors at the DISTRICT level, causing me to stay at my campus, even though I am dissatisfied are...

The factors at the STATE level, causing me to stay at my campus, even though I am dissatisfied are...

11

Educational Systems Teacher Attrition Survey (ESTAS)

12. **#3 Open-Ended Response Statements**

The factors in the CLASSROOM, causing me to move campuses/districts are...

The factors on the CAMPUS, causing me to move campuses/districts are...

The factors at the DISTRICT level, causing me to move campuses/districts are...

The factors at the STATE level, causing me to move campuses/districts are...

12

Educational Systems Teacher Attrition Survey (ESTAS)

13. **#4 Open-Ended Response Statements**

The factors in the CLASSROOM, causing me to leave the educational profession are...

The factors on the CAMPUS, causing me to leave the educational profession are...

The factors at the DISTRICT level, causing me to leave the educational profession are...

The factors at the STATE level, causing me to leave the educational profession are...

13

Educational Systems Teacher Attrition Survey (ESTAS)

14. Exit Survey

You have now completed the Educational Systems Teacher Attrition Survey (ESTAS). Your participation is greatly appreciated.

Thank you

14

VITA

Joshua Douglas Nation graduated from Hughes Springs High School in 2004. He attended the University of Central Arkansas and Stephen F. Austin State University for his undergraduate studies. After earning his Bachelor's of Science from Stephen F. Austin State University, he began his teaching career that has taken him to schools throughout East Texas and the Houston, Texas area. He received his Master's of Education from Stephen F. Austin State University in May 2013, and received is Doctor of Education from Stephen F. Austin State University in May 2017. He currently is an assistant principal in Humble ISD at Summer Creek High School.

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Style manual designation: *Publication Manual of the American Psychological Association, Sixth Edition*

Typist: Joshua Douglas Nation