

TEACHER TURNOVER IN TEXAS AND ITS IMPACT ON STUDENT ACADEMIC
GROWTH

By

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DISSERTATION

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Abstract

Teacher turnover rates continue to grow since the release of *A Nation at Risk* in 1983 and is an increasingly serious issue for schools. Schools that experience heightened turnover never fully capitalize on the benefits of strong organizational efficacy that negatively effects student growth. Three major external factors contribute to teacher turnover: 1) the growing challenges of teaching low socio-economic, at-risk students; 2) inequities in school finance; and 3) tightening accountability measures.

The purpose of the study is to investigate: 1) the relationship between teacher turnover and student academic growth in Texas schools; and 2) the impact of instructional expenditures per student and number of students identified as at-risk on a Texas district's teacher turnover rate. The study analysis used a linear and multiple regression to investigate if a predictable relationship existed among the targeted variables using accountability data from 1,203 Texas Public and Charter Schools from the 2016/2017 school year. Both models proved statistically significant with a small effect size. Results from the study will support district leaders seeking to understand and address factors that promote teacher retention and student academic growth.

Keywords: Teacher Turnover, attrition, *A Nation at Risk 1983*, burnout, support, stress, accountability, high states testing, financial impact, cultural impact, academic impact, regression analysis, The Coleman Report, *Every Student Succeeds Act*, *No Child Left Behind 2001*, *Elementary and Secondary Education Act 1965*, self-efficacy, effective school correlates, teacher strikes, moral, job satisfaction, student discipline, and organizational leadership.

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CHAPTER 1

INTRODUCTION

A number of studies have investigated the extent teacher turnover negatively impacts the cultural, academic, or financial strength of school districts (Hanselman, Grigg, Bruch, & Gamoran, 2011; Karsenti & Collin, 2013; Ronfeldt, Loeb, & Wyckoff, 2013; Synar & Maiden, 2012). Overall, studies conclude teacher turnover is a multidimensional phenomenon negatively affecting organizational efficacy. The reasons for teacher turnover are complex. Some researchers suggest the rate of teacher turnover correlates with poverty among families with school-aged children, inequities in school finance, and increased expectations in state and federal accountability (Baker, Farrie, & Sciarra, 2016; Vasquez-Heilig, Romero, & Hopkins, 2017). Other researchers find turnover is associated with poor working conditions, job dissatisfaction, inadequate support, and stress (Darling Hammonds & Sykes, 2003; Garcia, Slate, & Delgado, 2009; Ingersoll, 2001; Ingersoll, 2003; McCreight, 2000). Whatever the combination, conditions have forced greater numbers of new and veteran teachers to leave the profession or transfer to more desirable schools with smaller numbers of at-risk students, greater resources, and less pressure related to student performance (Ingersoll, Merrill, & Stuckey, 2014; Superville, 2016). The study extends the research on teacher turnover by investigating 1) the cost-per pupil and percentage of at-risk students on teacher turnover in Texas districts and 2) the impact that teacher turnover on academic growth of students in Texas.

Teacher turnover is part of a much larger problem in education today, teacher retention. More than 500,000 teachers move to different positions or leave education each

year (Alliance for Excellent Education, 2014), with one-third of new teachers exiting within three years (Curtis, 2012) and one-half exiting in five years (Barnes, Crow, & Schaefer, 2007). For comparison, the United States Department of Labor reports a separation rate of 2.8% for Education, 3.1% for Healthcare and Social Assistance, and 4.8% for Professional & Business Services (BLS, 2019). Additionally, the top five 2017 turnover industries are Technology (13.2%), Retail and Consumer Products (13%), Media and Entertainment (11.4%), Professional Services (11.4%), and Government, Education, and Non-profit (11.2%) (Booz, 2018). From 1988 to 2010, 215,482 Texas teachers left the profession, with 72% of those departing during the Texas Assessment of Knowledge and Skills era (Sass, Flores, Claeys, & Perez, 2012). The Texas Academic Performance Report (TAPR) reported a turnover rate in Texas of 16.4% for the 2016-2017 school year but did not differentiate between types of schools. However, studies show in high minority population schools' teachers are twice as likely to leave their current position for a multitude of reasons including teacher burnout (Barnes, Crow & Schaefer, 2007). Unfortunately, with increasing number of schools serving students from low socio-economic backgrounds the prognosis for reducing teacher burnout remains dim.

The impact of teacher turnover goes beyond the impact of teachers leaving a school. Teacher turnover is detrimental to the entire school culture as evidenced by its impact on teachers, administrators, and students who remain (Ronfeldt, Loeb, & Wycoff, 2013; Warren, 2016). New replacement teachers typically need greater support instructionally limiting resources allocated to their established colleagues (Shields et al., 1999). Further, administrators focus attention on replacement teachers often leaving other

teachers to feel isolated and neglected (Gallant & Riley, 2014). Isolation and the lack of support experienced by veteran teachers while working to manage the multitude of responsibilities of their positions often leads to exhaustion and burnout, thereby increasing turnover.

However, teacher turnover has the most devastating impact on student learning (Guin, 2004; Hanushek & Rivkin, 2010; Boyd, Lankford, Loeb, Ronfeldt, & Wyckoff, 2011). Developing a deep understanding of practical pedagogical skills, including those necessary to promote learning for students at-risk for failure, requires time in the job (Karsenti & Collin, 2013). Less-experienced teachers step into the position well behind their more tenured predecessors (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008; Synar & Maiden, 2012). The rate of student learning decreases while the new teacher is building content knowledge and teaching skills. Moreover, replacement teachers, conscious of their limitations, often experience a lowered sense of self-efficacy straining their ability to develop positive relationships and engagement with students for higher levels of learning (Bobis, Way, Anderson, & Martin, 2016; Bryk & Schneider, 2002). The prolonged struggle to learn and master the demands of teaching can gradually flip the “pain worth the gain” balance in teaching making the rewards of teaching seem not worth the effort.

Turnover also places a financial strain on school districts, particularly those with limited discretionary resources. Because of the financial limitations, teachers leave schools that are financially lacking and pursue opportunities in more affluent schools. Teacher turnover costs the nation \$2.2 billion annually (Alliance for Excellent Education, 2014). Some research indicates when organizations consider recruitment and professional

development of replacements and other expenditures related to hiring new teachers, the cost rises to \$7.3 billion annually (Carroll, 2007). The burden of turnover further reduces the allocation of dollars to support the core mission of teaching and learning (Darling-Hammond, 2008; Jimenez-Castellanos, 2010) and school reform efforts (Darling-Hammond, 2003). The district's inability to provide the necessary resources to promote learning inadvertently creates hardships for teachers carrying out their jobs, reducing job satisfaction and motivation (Helms-Lorenz, van de Grift, & Maulana, 2016; Maslow, 1943; Vroom, 1964).

Background and Context of the Problem

Three major external factors contribute to teacher turnover: 1) the growing challenges of teaching at-risk students including those from low socio-economic backgrounds; 2) inequities in school finance; and 3) tightening accountability measures (Feng, Figlio, & Sass, 2010). Many schools experience all three factors, promoting greater levels of teacher turnover and compounding the challenges teachers face. Schools throughout the nation face these challenges in the quest to retain the best teachers.

Increased Poverty among Children in the United States

Nationally, the number of students under 18 who live in poverty rose from 16% in 2000 to 19% in 2013 (Musu-Gillett et al., 2016). In 2013, 14.1 million students were living in poverty, including 45% of children under the age of three (Jiang, Granja, & Koball, 2017). In 2013, the number of children identified as living in poverty of a mother-only household was 46% (Musu-Gillett et al., 2016). Nationally, the number of children living in single parent households rose from 5,829,000 in 1960 to 19,973,000 in

2017 (United States Census Bureau, 2017). Finally, the 2017 Census data reports the number of people living in poverty in America was 39.7 million people.

An increase in the population of low socio-economic status and at-risk school-aged children links to academic challenges in the classroom, teacher burnout, and teacher turnover (Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014; Torres, 2016). The effects of poverty reduce school readiness due to the lack of parental or formal schooling before kindergarten (Coley & Baker, 2013; Musu-Gillett et al., 2016). Further, some children of poverty experience significant difficulties due to increased behavior issues (Bandura, 1993; Duncan, Magnuson, Kalil & Ziol-Guest, 2012; Raver, McCoy, Lowenstein, & Pess, 2013; Roy, McCoy, & Raver, 2014). Increased behavioral issues in the classroom creates a stressful working environment for the teacher decreasing job satisfaction and increasing burnout. Districts lacking resources due to unequal funding struggle to implement relationship programs or training that aids teachers in their discipline management skills. The lack of skills perpetuates student discipline problems, creating an apprehensive environment for the teacher. Over the years, seminal researchers have reported problems requiring teachers to focus more effort on classroom discipline than instruction (Coleman, 1966; Hanushek & Kain, 1971; Brookover & Lezotte, 1979; Vontress, 1963). Indeed, more recent research supports this claim (Helms-Lorenz, van de Grift, & Maulana, 2016; Morettini, 2016; Thibodeaux, Labat, Lee, & Labat, 2015). Consequently, student discipline issues and the lack of teachers' management skills, typically due to lower self-efficacy, are leading causes of teacher burnout and turnover.

Inequity and Inequality in School Funding

Inequality and inequity are two common terms found in the literature related to issues that impact school systems and potentially teacher turnover. For the purpose of the study, inequity refers to students who need more support yet do not receive additional support. Inequality means “unequal” not in just finances, but also in teacher quality, facilities, and other aspects of education. The inability of some districts to secure adequate resources has long been a problem for education (Coleman, 1966; Levin, 1996; Margo, 1990; Ryan et al., 2017). Nationally, the limited financial resources for property-poor districts reduce the efficacy of the organization by limiting the "quality of educational opportunity" (Baker & Coley, 2013). School districts financially lacking often hire new, inexperienced, and lesser qualified teachers due to the lower salary offered (Charters, 1970; Gray, 1948; Lankford, Loeb & Wyckoff, 2002; Scafidi, Sjoquist, & Stinebrickner, 2005). Salary is included in the instructional cost per-pupil and seems to be a factor in attracting effective teachers; yet, its significance in teacher retention remains unanswered. Scholars suggest that once teachers gain experience, they seek districts that pay more and have greater net resources (Cheyney, 1966; Hendricks, 2016; Scafidi, Sjoquist, & Stinebrickner, 2005; Sedivy-Benton & Boden-McGill, 2012; Theobald & Michael, 2002). The organization experiences reduced efficacy because high turnover schools spend a great deal of time and resources retraining replacement teachers. In addition to the costs, the cycle of turnover promotes inequality for educational opportunity as students receive instruction from less effective teachers.

Educational Reform through Accountability

Educational reform initiatives have been ongoing since the 1960s. Consequently, accountability for schools has increased with each reform effort. In response to the *Civil Rights Act of 1964*, Congress requested information on the public-school conditions and performance of racial/ethnic minority students when compared to the white majority known as the Equality of Educational Opportunity Report. The *Elementary and Secondary Act of 1965* was the first federal reform effort to provide equal access to education for economically disadvantaged students (United States Department of Education, 1965). Beginning with *A Nation at Risk* in 1983, The National Commission on Excellence in Education (*NCEE*) forged the mold for academic accountability and high stakes testing in American public schools (Owens & Valeski, 2015). To further enhance accountability in academic achievement, The *No Child Left Behind Act of 2001 (NCLB)* required states to close the achievement gap between white and minority students and prepare all students for academic success. *NCLB* required teachers to be highly qualified, and schools held accountable for national standards related to student performance (U.S. Department of Education, 2002). In December 2015, President Obama signed the *Every Student Succeeds Act (ESSA)*, a reauthorization of the *Elementary and Secondary Education Act of 1965*. *ESSA* empowered states and school districts to create reform efforts to ensure that students meet the rigor of college and career readiness and high academic standards.

Although educational reforms were intended to promote student success, increased accountability and pressure to perform have contributed to a large-scale national issue of teacher turnover (Carroll, 2007; Ryan et al. 2017; Thibodeaux, Labat,

Lee, & Labat, 2015). During early reform efforts, teacher turnover increased steadily (Carroll, 2007; Simon & Moore, 2015). Potentially, as the newest reform *ESSA* gains momentum, the nation may continue to see a rise in teacher turnover. In Texas, recent research contends that teacher movement is a significant issue and 70% of the sample did not return to their same campus for a second year (Hanushek, Rivkin, & Schiman, 2016). Indeed, accountability demands, inequities in educational resources, and the greater academic needs for at-risk students have created a *national turnover crisis* (Karsenti & Collin, 2013).

Purpose and Significance of the Study

The study investigates: 1) the relationship between teacher turnover and student academic growth in Texas schools; and 2) the impact of instructional expenditures per student and number of students identified as at-risk on a Texas district's teacher turnover rate. Principals' behavior and the support they provide to new and veteran teachers are found effective in reducing teacher turnover, even in hard-to-staff schools (Grissom, 2011). Both research questions revealed a small effect size and proved significant for each model. The findings show that turnover was a significant predictor on the district Index 2 score measuring student growth. Further, instructional expenditures and the at-risk percentages were found to predict teacher turnover rates. Results of the study will help educational leaders discern factors significant in determining how best to increase student growth while also focusing on teacher retention. These two dependent variables are interrelated, and by adding these findings to the literature on turnover, district and campus leaders have broader information for strategic initiatives and internal programs to ameliorate the impact of at-risk factors on student learning and reduce teacher turnover.

Finally, the results from the study provide evidence on the importance of the principal's role in leading the campus to better support teachers as their instructional leader, thus reducing turnover and increasing student academic growth.

Theoretical Framework

Three theories provide the foundation for the study: Abraham Maslow's Hierarchy of Needs Theory (Maslow, 1943), Albert Bandura's Self Efficacy Theory (Bandura, 1977; Bandura, 1982; Bandura, 1996; Bandura, 2002), and Freudenberger's Burnout Theory (Freudenberger, 1974). Maslow's Need Theory (1943) applies to both student outcomes and teacher retention because of the nature of student-teacher relationships and the relationships among school staff. Bandura's Self-Efficacy Theory (1977) is instrumental to the study, highlighting the importance of teachers, their effectiveness, and the link to turnover. Finally, teacher burnout (Freudenberger, 1974), which leads to turnover, is the culminating result of reduced staff relational bonds, the effects of sustained exhaustion, and the link to self-efficacy. The next section includes a summary of the major concepts of each theory and the connections to the present study.

Maslow's Hierarchy of Needs Theory. Many consider Maslow's theory the most "influential perspective on human motivation" (Hoy & Miskel, 2013, p.140). The five levels of Maslow's hierarchy of needs are Physiological, Safety and Security, Social Affiliation, Esteem, and Self-Actualization (Maslow, 1943; Owens & Valeski, 2015). When teachers and students fulfill these needs, they begin to realize their real potential for self-fulfillment and self-actualization (Maslow, 1943). As teachers and students experience higher-levels of need fulfillment they demonstrate positive work outcomes

resulting in a sense of job satisfaction (Rasskazoval, Ivanova, & Sheldon, 2016). When teachers experience positive work outcomes, the higher levels of student mastery create a sense of job satisfaction thereby reducing turnover.

Specifically related to the study, Maslow's Hierarchy of Needs Theory proposes that work efficacy and self-actualization are mutually supportive. Satisfied teachers are more likely to build positive, trusting relationships with students promoting higher levels of learning (Haggis, 2017; Holliday, 2005; The Scots College, 2018). Intensive and sustained relationships (Darling-Hammonds, 1997; Dugal, 2014) correlate with higher levels of learning prompting districts to invest in relationship programs. Teachers who build authentic relationships *better know* their student's academic needs. A positive classroom relationship promotes more time spent on instruction and growth versus time spent on learning routines and correcting misbehavior in the classroom. Relationships are especially important for at-risk students or students who do not have a social structure outside of school that supports academic goal attainment.

Edgar-Smith and Palmer (2015) assert that students must feel a sense of belonging to the school and know that influential people within the school care about their success. Similarly, teachers also desire belonging in the organization. Their persistence helps shape the rituals and culture of the organization fostering a sense of team, trust, and commitment (Bolman & Deal, 2008). Due to the challenging nature of teaching, these components are essential factors in teachers' decision to stay or leave their current assignment (Clandinin et al., 2015; Craig, 2014; Darling-Hammonds, 2003; Helms-Lorenz, Van De Grift, Maulana, 2016; Karsenti & Collin 2013; Morettini, 2016). Motivation and positive work culture are necessary components to an organization's

success. So, when teachers find *their purpose* they are more likely to commit for the long term, reducing teacher turnover.

Bandura's Self-Efficacy Theory. Albert Bandura's Self-Efficacy Theory is the belief in one's ability toward goal attainment. The greater the belief in ability, the more effort an individual will expend toward achieving goals even when faced with adverse environments and situations (Bandura, 1977). For teachers to be effective in increasing academic progress for all students, they must believe they can impact learning outcomes and remain with the organization long enough to experience student mastery. Teachers are more likely to experience student and teaching success with increased years of experience in the classroom (Bandura, 1977; Bandura, 1997; Torres, 2016). Experience allows teachers opportunities to develop effective instructional practices, create cognitive frameworks that positively promote student learning (including the relationship component), and develop a sense of self-efficacy (Hramiak, 2017). Bandura (1996) acknowledges that belief in ability does not take the place of motivation and technical expertise as those factors are equally important to achieving outcomes. In summary, teachers who have lower self-efficacy experience a host of issues contributing to turnover including the inability to foster relationships, teach using effective instructional strategies, and lack of belief in their ability as a teacher to impact instructional outcomes.

Teachers with lower self-efficacy struggle with making connections within the classroom and are more likely to utilize an authoritarian classroom management style which reduces positive interactions and effectiveness (Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014). Teachers who experience prolonged levels of low effectiveness lose self-management capabilities that leads to greater levels of stress (Bandura, 1996). Over

time, stress causes teachers to question their purpose, blame students for poor performance and lowering expectations for student outcomes (Brookover, 1973; Edmunds, 1979). Self-actualization and the belief of serving a higher purpose are essential for authentic teacher-student relationships that promote teacher retention and positive student outcomes. Before Bandura's Self-Efficacy Theory existed, Levine, Feeney & George (1969) suggested student outcomes and feelings of success were an essential component in the teacher's career longevity based on their evaluation of "professional competence."

Freudenberger's Burnout Syndrome. Freudenberger (1974) observed that staff who cared for drug addicts experienced emotional exhaustion, inability to sustain motivation, and a reduced sense of commitment that resulted in less work output. His work led to the phenomenon known as burnout syndrome mirroring symptoms of stress experienced by teachers in schools. Researchers cite burnout as a cause for professionals leaving their current jobs (Boe, Cook, & Sunderland, 2008; Gallant & Riley, 2014; Torres, 2016).

Teachers who experience burnout are harmful to organizational effectiveness and are likely to cause others to depart as well. Burnout affects the culture of the organization due to depersonalization, cynicism, and negativity (Shaalvik & Shaalvik, 2010). These attributes lead to a breakdown in both teacher-student and other professional relationships creating a negative work culture and a decreased self-image about the quality of work performed (Shaalvik & Shaalvik, 2010). Burnout is not only harmful to teachers experiencing symptoms but also to effective teachers who strive to affect student learning. In some cases, effective teachers seek employment at

organizations with a more positive work culture to shield themselves from the negativity of teachers experiencing burnout.

Teacher burnout reduces both self-efficacy and the quality of instructional delivery, negatively affecting student learning as measured by high stakes testing. Increased accountability measures have dominated the educational setting for the last 40 years. New research contends accountability-induced burnout is a leading cause for teacher turnover (Ryan, et al., 2017; Thibodeaux, Labat, Lee, & Labat, 2015). Indeed, the workload and hours needed to successfully fulfill job duties increases as teachers experience increased pressure to ensure all students are making academic progress (Dess & Shaw, 2001; Helms-Lorenz, van de Grift, & Maulana, 2016; Karsenti & Collin, 2013; Torres, 2016). Ironically, the accountability measures implemented to ensure greater student outcomes may also decrease student academic performance while promoting burnout and increasing turnover.

Based on the intersection of three theoretical frameworks, the following figures illustrate critical concepts for the study. *Figure 1* presents the four-quadrant model showing the magnitude or degree of the teacher's self-efficacy and need fulfillment leading to the likelihood of teachers experiencing burnout resulting in teacher turnover. *Green* represents optimal conditions in which teachers experience high level of fulfillment and self-efficacy leading to low burnout and turnover. Conversely, *red* represents conditions that lead to high rates of burnout and turnover.

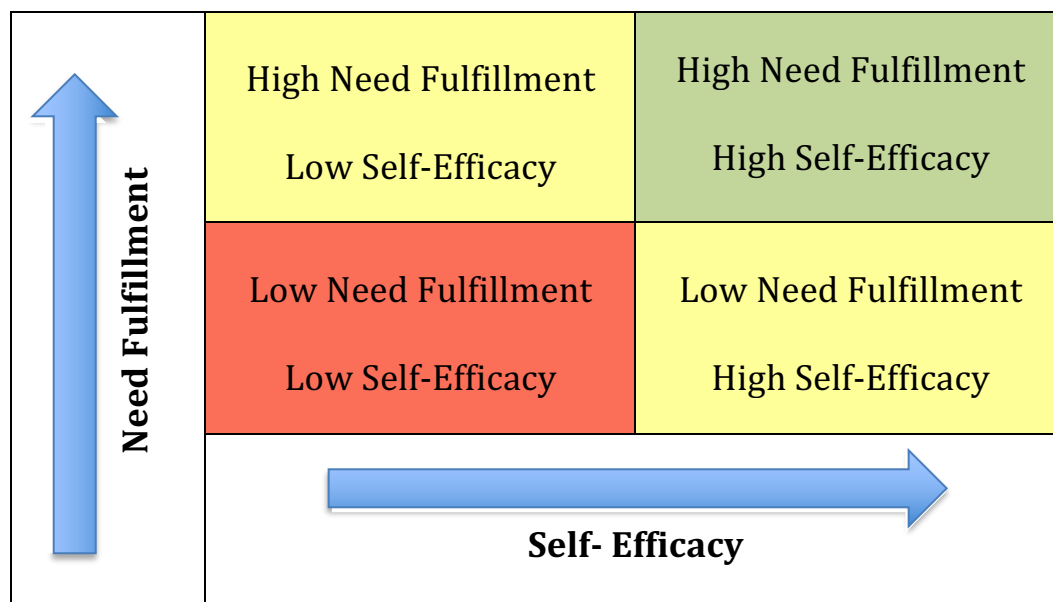


Figure 1: Representation of need for fulfillment and self-efficacy impacting teacher burnout and turnover.

Figure 2 presents the potential impact teacher burnout and turnover has on the overall efficacy of the organization. The literature review contains two sections that emphasizes the importance of the teacher and the importance of the school as a system further supporting the need to investigate the impact of teacher turnover.

High Burnout and Turnover	Average Burnout and Turnover	Low Burnout and Turnover
Poor Work Culture Poor Academic Performance Financial Loss & Inadequate Resources	Average Work Culture Average Academic Performance Average Financial Strength in Resources	Positive Cultural Efficacy Increased Academic Performance Financial Strength in Resources

Figure 2. Organizational efficacy and associated characteristics due to teacher turnover.

Research Questions and Hypotheses

The following research questions and related hypotheses guide the research for this quantitative study:

Question 1: Does the district teacher turnover rate predict the Index 2 score for student growth in Texas school districts?

H1₀: The teacher turnover rate does not predict the district Index 2 score for student growth.

H1: The district teacher turnover rate predicts the district Index 2 score for student growth.

Question 2: Does the annual instructional cost per-pupil and the district at-risk rate predict the teacher turnover rate in Texas school districts?

H2₀: The annual instructional cost per-pupil and the district at-risk rate does not predict the teacher turnover rate within a district.

H2: The annual instructional cost per-pupil and the district at-risk rate predicts teacher turnover rate within a district.

Overview of Methodology

This *ex-post facto* study used descriptive statistics and a regression analysis to answer each of the research questions. The first research question used linear regression to assess if a predictable relationship exists between teacher turnover and student achievement growth, as measured by the Index 2 scores of the Texas Accountability System (TEA, 2017). Research question one identified the independent variable as teacher turnover rate and the dependent variable is the district Index 2 score for student growth. For the second question, a multiple regression analysis assessed if a relationship

exists between the independent variables (the average instructional cost and the district at-risk percentage) and the dependent variable of teacher turnover rate at the $p = \leq .05$ alpha level.

Operational Definitions

The following operational definitions are essential to the study and directly reflect definitions used by the Texas Education Agency (see:

<https://rptsvr1.tea.texas.gov/perfreport/tapr/2017/glossary.pdf>).

1. At-Risk Students: Students classified as at-risk meet one or more of the eligibility requirements that places them at a greater risk of not completing high school and dropping out of school prematurely. The thirteen indicators are:
 1. Is in prekindergarten, kindergarten or grade 1, 2, or 3 and did not perform satisfactorily on a readiness test or assessment instrument administered during the current school year;
 2. Is in grade 7, 8, 9, 10, 11, or 12 and did not maintain an average equivalent to 70 on a scale of 100 in two or more subjects in the foundation curriculum during a semester in the preceding or current school year or is not maintaining such an average in two or more subjects in the foundation curriculum in the current semester;
 3. Was not advanced from one grade level to the next for one or more school years; (Note: From 2010-2011 forward, TEC 29.081 (d-1) excludes from this criteria prekindergarten or kindergarten students who were not advanced to the next grade level as a result of a documented request by the student's parent.)

4. Did not perform satisfactorily on an assessment instrument administered to the student under TEC Subchapter B, Chapter 39, and who has not in the previous or current school year subsequently performed on that instrument or another appropriate instrument at a level equal to at least 110 percent of the level of satisfactory performance on that instrument;
5. Is pregnant or is a parent;
6. Has been placed in an alternative education program in accordance with TEC §37.006 during the preceding or current school year;
7. Has been expelled in accordance with TEC §37.007 during the preceding or current school year;
8. Is currently on parole, probation, deferred prosecution, or other conditional release;
9. Was previously reported through the Public Education Information Management System (PEIMS) to have dropped out of school;
10. Is a student of limited English proficiency, as defined by TEC §29.052;
11. Is in custody or care of the Department of Protective and Regulatory Services or has, during the current school year, been referred to the department by a school official, officer of the juvenile court, or law enforcement official;
12. Is homeless, as defined by NCLB, Title X, Part C, Section 725(2), the term “homeless children and youths,” and its subsequent amendments; or
13. Resided in the preceding school year or resides in the current school year in a residential placement facility in the district, including a detention facility,

substance abuse treatment facility, emergency shelter, psychiatric hospital, halfway house, or foster group home (TEA, 2010).

2. Instructional Cost per Student: Instruction expenditures are expenditures for activities that deal directly with the interaction between teachers and students (function code 11) and expenditures for payments to juvenile justice alternative education programs (function code 95).
3. Cost for Instructional Leadership: Costs for the instructional support are used for managing, directing, supervising, and leading staff who provide either instructional or instruction-related services (function code 21). Function Code 21 in PEIMS records expenditures related to instruction.
4. Additional Instructional Cost: Districts that report instructional leadership costs employ curriculum coaches and directors of instruction that are campus-based and aid in supporting teachers in delivering high-quality instruction. Combined with the instructional cost per-pupil, the costs for instructional leadership potentially gives greater support for academic attainment and is pertinent for analyzing the dependent variable.
5. Student Growth: This term is the year-over-year gain in a specific content/subject area (e.g., mathematics or reading), and is measured by a score ranging from 0-100, and is reported as the Index 2 score of the Texas Accountability System.
6. Teacher Turnover: The loss of teacher employees. In this analysis, turnover is a broad term including retirement, leaving one district, and transferring to another district, leaving the State of Texas ISD's and transferring to a school in another state, sabbatical, death, or a resignation during or after the calendar year.

7. Turnover Rate for Teachers: The percentage of teachers from the fall of 2015–16 who were not employed in the district in the fall of 2016–2017, calculated as the total FTE count of teachers from the fall of 2015-2016 who were not employed in the district in the fall of 2016-2017, divided by the total teacher FTE count for the fall of 2015-2016. Staff who remained employed in the district but not as teachers also count toward teacher turnover.

Assumptions

Assumptions are logical expectations that certain conditions exist. The study contains the following assumptions:

1. All data related to the study are accurate. The district and state safeguards ensured the data reflect the true measure of student performance and teacher turnover figures.
2. Each student who took the STAAR Test or an End of Course (EOC) Test provided authentic effort, and the environment was free from distractions or technical implications that could have improved student performance on the examinations.
3. The certification path of teachers included in the study will not affect the variables analyzed.

Limitations and Delimitations

Limitations are the threats to the validity of a study, and delimitations weaken the generalizability of the results of a study to the broader population. Limitations of the study include:

1. The researcher acknowledges that factors other than those studied contribute to or impact teacher turnover and student academic growth.
2. Since the researcher is using archived quantitative data and does not have the capability of determining the individual reasons for teacher departure, a causal relationship between teacher turnover and student progress cannot be concluded. For example, some teachers may have been asked to resign, forced to leave, retired, or separated employment due to unforeseen circumstances, including death.

Delimitations of the study include:

1. This research includes only Texas public school districts. Generalizability of the results to other states cannot be assumed.
2. The research limits the present study to the 2016-2017 academic year.

Summary

Teacher turnover is a national concern of public school leaders and is increasing at an alarming rate (Barnes, Crowe, & Shaefer, 2007; Ryan et al., 2017). Research indicates that turnover disrupts educational organizations culturally, academically, and financially. The lack of curricular cohesiveness that occurs with high rates of turnover diminishes cultural efficacy and student learning suffers. Schools that experience heightened levels of turnover also expend a large amount of money on training and recruitment of replacement teachers that limits on the instructional cost per-pupil and resources to increase teacher efficacy.

In addition, teaching is a stressful job often leading to burnout (Shaalvik & Shaalvik, 2010). The growing numbers of at-risk students, including students of poverty,

further adds to the stress and manageability of the increasing pressures of federal and state accountability. Students who have greater needs cost more to educate. When schools are not able to obtain the resources needed, teachers experience additional stress. The stress due to greater numbers of at-risk students, heightened accountability, and limited financial resources are major reasons why teachers change schools, districts, or leave the profession.

Several questions regarding relationships between teacher turnover and other important education variables remain unanswered and are the focus of this investigation: 1) relationship between teacher turnover and academic growth, a component of the new *ESSA* accountability requirements; 2) influence of instructional expenditures per student on the relationship between teacher turnover and academic growth; and 3) association between at-risk student enrollment and teacher turnover. The overarching purpose of the study is to provide education leaders and stakeholders with data for use in providing school-aged children with effective teachers to promote higher levels of learning by all students.

Order of Presentation

The purpose of the present study is to investigate the influence of instructional costs per-pupil and number of students identified as at-risk on teacher turnover as well as examine the relationship between teacher turnover and student academic progress. The scope of the study is limited to Texas as it utilizes data specific to the state. The study extended the knowledge of teacher turnover and its impact on student academic achievement. Analyzing the relationships between and among these variables may provide information for district leaders in Texas and beyond proactively addressing the

issue of teacher turnover and mitigating the many adverse effects on organizational efficacy. Without high-quality human capital, schools cannot be effective (Owens & Valesky, 2015).

This report includes five chapters. This first chapter includes the statement of the problem; the background and context of the problem; purpose and significance of the study; the underpinning theoretical frameworks; research hypotheses; an overview of the methodology; operational definitions of important terms; assumptions, limitations, and delimitations of the study; and the order of presentation. Chapter 2 reviews significant studies reported in the literature related to the relationships between and among the major variables of the study and presents areas for discovery. Chapter 3 provides details regarding the methodology, including a description of the research design, statistical procedures used in testing the null hypotheses, a description of the participants, a summary of the Institutional Review Board (IRB) approval process, a discussion of the instrumentation and sources of data, and a description of the study implementation, followed by the summary. Chapter 4 includes the data collection, analysis, and research findings. Chapter 5 summarizes the researcher's conclusions related to the study, recommendations for future research, and suggestions for current district and campus leaders.

CHAPTER 2

REVIEW OF THE LITERATURE

There are several types of literature reviews including selective, comprehensive, and stand-alone. However, a literature review is not always a linear process (University of North Carolina, 2009). The present study uses an outline that is sequential in nature highlighting the evolution of issues related to the variables for this study including teacher turnover, financial disparities between schools, and academic accountability. However, some components are more topical in nature rather than sequential; these topics are presenting the era in which occurred.

The literature review begins with findings related to teacher turnover in the pre-accountability era and some of the significant events that occurred prior to 1983 (see *Figure 3* on page 24). Events and findings presented have had a significant influence on the conditions that have led to the present state of education. This chapter closes with identifying gaps in research supporting the need for the present study on teacher turnover and student progress.

Defining the Eras of Accountability

For the study, the pre-accountability era includes research findings primarily before 1970. However, the period from 1965 up to the release of *A Nation at Risk* in 1983 is an important era and transitional period for American public schools. Schools in the pre-accountability era were largely segregated and contained inequities among facilities and resources and had limited accountability for student outcomes. These issues, along with others, prompted the federal government to intervene for the first time in history. Prior to 1965, the public education system was a function of the state and

received educational funding through local and state taxation. The *Elementary and Secondary Education Act of 1965* drastically changed the role of the federal government as it became directly involved in public education for the first time. After the pre accountability era, the three remaining eras include: *A Nation at Risk 1983* (First Wave); *No Child Left Behind Act of 2001*, (Second Wave); and *Every Student Succeeds Act of 2015*, (Third Wave).

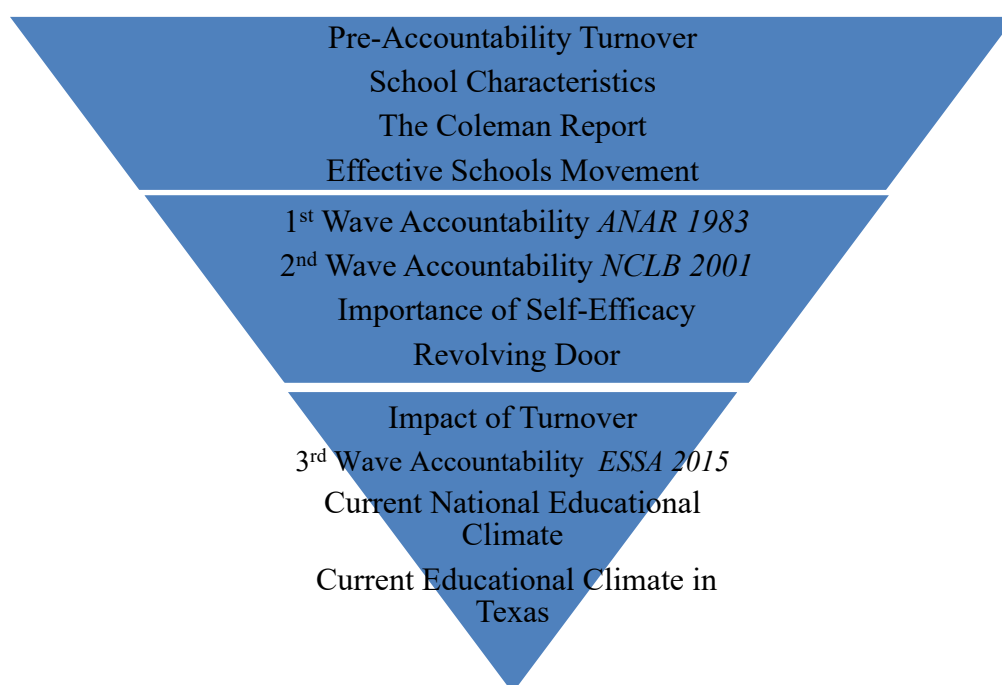


Figure 3. Organization of major topics.

Teacher Turnover in Pre-Accountability Era

Teacher turnover in pre-accountability education posed significant challenges for school leaders, and in some areas, the turnover rates far exceeded modern day national averages. Figure 4 presents major topics to be discussed. Charters (1956) revealed the annual teacher turnover rates varied from 60% to 70% between schools in the 1950's in

Illinois. During the 1954-1955 school year, one in four high school teachers in America left their current teaching assignment. Other research identified extreme cases of turnover that exceeded 100% because of multiple staffing changes during the same school year (Gray, 1948). As teacher turnover became a greater concern due to teacher shortages, researchers began focusing on teacher and school variables to understand its impact and to establish a baseline of data.

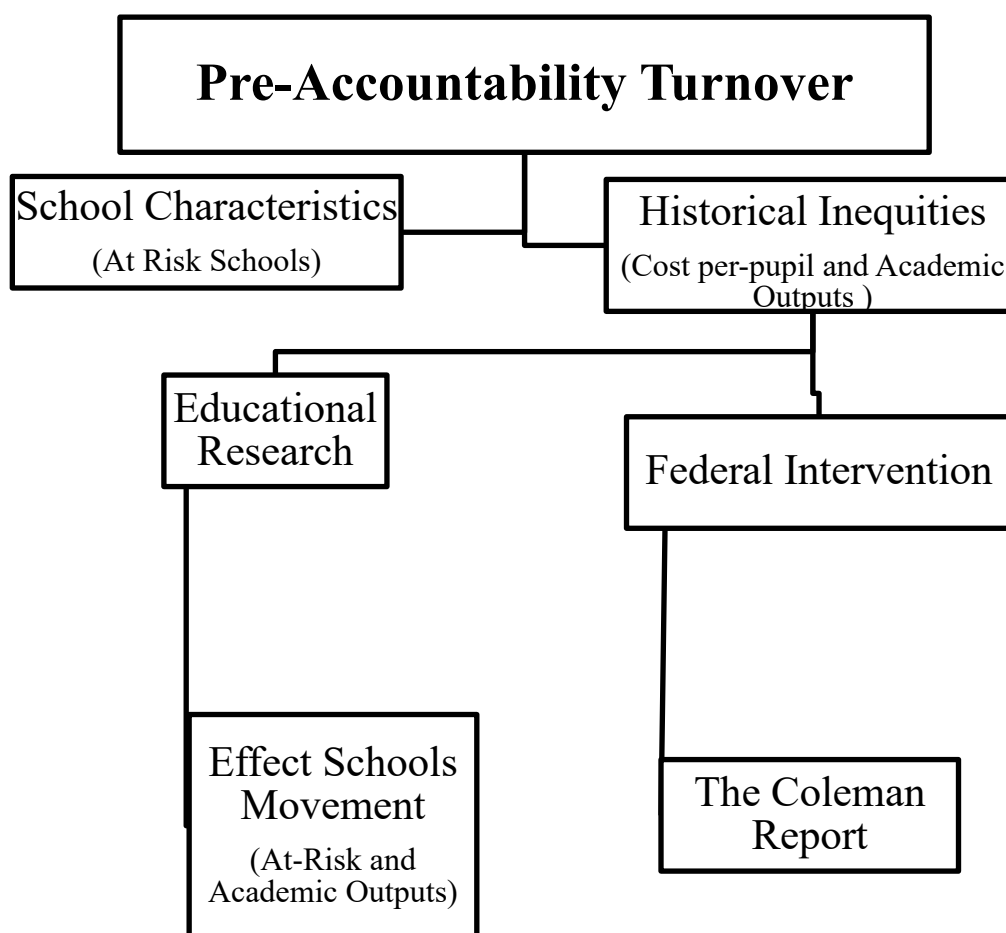


Figure 4: Major topics related to Teacher Turnover in the Pre-Accountability Era.

Early on, researchers hypothesized teachers choose to separate from the organization due to the teaching salary offered (Charters, 1956; Charters, 1970; Pederson, 1970; Friedman, 1964; Gray, 1948). In 1940, teacher pay correlated to the importance and respect of the position at the time, although differences existed based on the location of the schools. However, relative to other professional salaries, teacher salaries have steadily declined since the 1940's, creating issues with the supply and demand of teachers (Hanushek & Rivkin, 2007; Pederson, 1970), and many of the teachers left their positions in pursuit of higher salaries (Charters, 1956; Kern, 1966; Pederson, 1970). Schools that paid higher wages were able to retain more of their teachers and draw upon teachers from the surrounding districts (Pedersen, 1970).

Earlier research showed that higher salaries reduced teacher turnover. Charters (1956) was the first to challenge this idea. He used starting salaries, as well as average salary figures, to examine teacher turnover patterns in school types. Charters determined the marginal difference between beginning and average salary between teachers at the sample schools indicated that the association between salary and turnover were no longer "strong and clear". Later research affirmed that a salary differential between new and veteran teachers existed but was not significant in their decision to remain or leave the organization (Knox, 1968). Charters (1956) is the first in the literature who called for the use of qualitative research. He claimed correlational studies produced generalizations but failed to reveal why teachers leave, suggesting "opportunity" was the driving force behind turnover, not money.

Early qualitative research, teachers cited several reasons for their separation from schools, with economic reasons most often listed. Economic factors could include

schools with better working conditions and greater opportunities for teachers. Correct for the time period, better working conditions largely included suburban schools where the majority of the students were affluent and the schools had adequate resources. Districts that provided greater opportunity also tended to pay more. When transferring to other districts in the state, teachers earned an average of \$500 more annually. In one extreme case, those who left the state of Kentucky averaged a \$1,800 increase (Kern, 1966). Migration from district-to-district was especially true for degreed males (Pedersen, 1970). Kern also found, both the teachers who stayed in the state and those who left, cited working conditions as the reason. Specifically, 31.8% of those teachers who left felt the outlook for improvement was too discouraging to continue finding working conditions and salary earned out of alignment.

School Characteristics. By the 1960's, researchers had begun to shift the turnover focus on school characteristics that impacted turnover. Urban and rural schools with undesirable conditions struggled to attract and retain quality teachers, often experiencing greater rates of teacher turnover (Gray, 1948). Then the 1950's and 1960's experienced a rapid population increase in the suburbs (44.86%), while urban areas increased at the rate of 10.7% (Adkins, 1968). The common driving force behind a teacher's decision to remain or leave the organization depended on the financial strength of the organization, beyond that of teacher pay (Gray, 1948; Pederson, 1970). The "per-pupil valuation," or the instructional expenditures per-pupil, were found to inversely correlate to teacher turnover (Pederson, 1970). When districts had an overall lower per-pupil valuation, these districts experienced higher turnover rates.

Urban and suburban schools began to mirror one another in student economic and demographic makeup in the 1950's and 1960's (Havinghurst, 1963), yet data revealed the school type was significant in a teacher's decision to persist. Urban schools tended to attract younger and middle-aged females, while older females tended to select the suburbs. Pedersen (1970) observed a turnover pattern in which teachers began to move from the inner-city schools to the suburbs. The suburbs grew at a faster rate, and the suburban-larger schools were also more equipped to support teacher retention by the resources available to teachers. The suburbs and the larger schools saw less turnover and migration than did the urban and smaller schools, suggesting more competitive salaries and the net resources may have influenced the turnover decision (Pedersen, 1970). Only 80% of the 76,000 teachers in the 1965-1966 Michigan sample continued teaching and 16 percent dropped out of education altogether.

Researchers recognized that inner city schools often experienced reduced funding and greater gaps in student achievement (Weber, 1971). These obstacles created greater challenges for teachers (Cheyney, 1966), which also led to greater turnover rates in poorly funded schools that consisted of large numbers of students with greater academic needs. Inequitable funding reduced the availability of resources for teachers and created hardships related to their job duties. The lack of resources also contributed to overcrowded classrooms (Gray, 1948; Risk, 1970), sometimes resulting in a teacher to student ratio greater than 1:30. Teachers in overcrowded classrooms often experienced an increase in student discipline issues (Coleman, 1966; Margo, 1990). Researchers found that student discipline infractions strongly influenced the teacher's decision to remain or leave (Gray, 1948; Levine, Murray, Feeney, & George, 1969; Vontress, 1963).

Not only were student discipline issues stressful for the teacher, but they also greatly diminished student learning (Coleman, 1966). Teachers who worked in schools that had heightened discipline issues transferred to “better” schools as soon as they were able (Cheyney, 1966). Toward the end of the 1960’s, researchers began to recognize the importance of teacher retention and began monitoring teacher turnover to observe the potential negative effects on an organization.

Historical Inequities and the Governments Response. Researchers state the achievement gap is related to the inequities created by segregation and the generally lower quality of teachers (Adkins, 1968; Broadhead, 1967), instructional expenditures, higher educational standards (Adkins, 1968), and the quality of school facilities in the pre-1970 era of public schooling (Adkins, 1968; Coleman, 1966; Margo, 1990). Racially segregated, *urban poor*, and hard to staff schools earned titles such as “Ghetto Schools” or “Slum Schools” (Brookover, 1973; Broadhead, 1967; Risk, 1970; Vontress, 1963). Brookover (1973) denounced these terms and replaced the descriptor with “Urban-Poor,” forerunners of modern day high-population, at-risk schools that often experience higher teacher turnover.

Numerous inequities in American public schools from 1880 to 1950 are documented in the literature (Margo, 1990). Minority children received fewer financial resources per-pupil, had teachers who were less prepared (Broadhead, 1967), and in some cases, attended school two months less than white children due to educational funding (Margo, 1990). Districts unable to generate a strong tax base were not able to fund education in a manner that met the needs of all students, contributing to achievement gaps (Baker, Farrie, & Sciarra, 2016). The length of the school year and instructional

expenditures had a “strong positive effect” on literacy, regardless of race (Margo, 1990). Researchers affirm that money matters and contributes to more robust student mastery (Baker, 2012; Baker, Farrie, & Sciarra, 2016; Gray, 1948; Margo, 1990). The financial hardships that limited the student’s ability to perform also created hardships related to teacher performance and higher turnover rates.

Schools that received less funding were also not able to provide many of the basic needs that exist today such as free and reduced meals and transportation for students. Many of the children failed to attend school because their parents did not have transportation or needed them to watch younger siblings (Risk, 1970). Limited resources also reduced time in the classroom and contributed to academic gaps and the lack of student progress (Lezotte, 1985; Bell, 2017). The increased stress endured while trying to educate students, compounded with feelings of ineffectiveness due to factors that were beyond the control of the teacher (Bandura, 1977), resulted in greater teacher turnover.

Dissatisfied with the working conditions and limited resources, teachers looked for affluent regions with better working conditions, causing some schools to experience greater teacher turnover (Gray, 1948; Pederson, 1970). Pederson (1970) conducted an empirical study of turnover in Michigan analyzed data from 76,000 teachers and 508 schools in the 1965-1966 year. Schools that spent less on instruction per pupil had a harder time attracting and keeping quality professional educators. Pederson included teaching wages in the instructional cost per-pupil, revealing a positive correlation with instructional expenditures and teacher retention. The lowest quartile for instructional expenditures per pupil experienced 26% turnover, while the upper quartile experienced

17.4% turnover (Pederson, 1970). Many of these teachers waited to leave the organization once they had more teaching experience.

Influence of Coleman Report on Education. In response to the *Civil Rights Act of 1964*, Congress requested information on the public-school conditions and performance of minority students when compared to the majority, which consisted of students who were white. The two-year study, entitled *Equality of Educational Opportunity* provided Congress with a multitude of controversial findings, which almost led to Dr. Colman being disbarred from the American Sociology Association in 1976 (Ricketts, 2016). In 1965, more than 4,000 schools nationwide and 645,000 pupils were involved in the study, as were the faculty of the participating schools. Thirty percent of the respondents did not take part in the study and the non-participation was potentially due to hostility involving mandated integration and unfavorable findings within the school (Hanushek & Kain, 1971). Ultimately, minority children started school at a disadvantage, and the first-grade data indicated whatever the cause, “schools have not overcome it” (Coleman, 1966, p. 21).

The Coleman Report was one of the most profound, extensive, and complex empirical studies of the time in education, and it tried to do too much (Coleman, 1968; Hanushek & Kain, 1971). Major findings in the Coleman report were: 1) schools had little to do with student achievement; 2) teacher quality only mattered slightly for minority students; 3) a significant achievement gap existed between white and black students; 4) the quality of facilities between ethnic groups varied; 5) the amount of money invested in schools was insignificant; and 6) schools were predominantly segregated (Coleman, 1966).

The Coleman Report defined what equality of educational opportunity meant, a first in history. Hanushek & Kain (1971) concluded that equality in opportunity should be determined based on equal inputs and outputs. By their definition, inputs referred to the amount of dollars invested in the schools and outputs referred to student academic outcomes (Coleman, 1968). *The Coleman Report* brought multiple issues into focus, prompting researchers to challenge the findings that continue to evoke current research in the field of education, such as the importance of the amount of money spent to obtain student outcomes. Hanushek & Kain (1971) affirmed that the state of education was dire. They also concluded the situation called for “radical experimentation, evaluation, and research” (p. 139) on a massive scale to produce greater academic outcomes for minority students. Researchers began focusing on urban schools that defied the odds and yielded greater academic performance, paving the way to the Effective Schools Movement.

Influence of Effective Schools Movement on Education

The Effective Schools Movement (ESM) began in the early 1970’s and lasted until the mid-1990s. The Effective Schools Movement investigated school-based factors analyzing attributes that yielded greater student outcomes. Many researchers report findings during this timeframe that disprove or challenge previous findings of *The Coleman Report* (Brookover, 1973; Edmunds, 1979). Over the course of 25 years, these practices evolved into, what is known as, the Effective School Correlates. Prior to the ESM research, many professional educators believed that outcomes were a result of non-school factors (Edmunds, 1979).

During the Effective Schools Movement, researchers set out to find schools that produced greater academic outcomes despite student at-risk factors (Brookover, 1973).

The Coleman Report contended that schools did not matter; however, Weber (1971) concluded it was not the students' fault nor the fault of their ethnic origin, but rather it was the schools and their organizational processes that attributed to poor academic achievement. Other researchers shared similar beliefs and claimed schools caused poor student performance because of low expectations, poor teacher efficacy (Broadhead, 1967), ineffective leadership, and inferior instructional practices (Brookover, 1973; Edmunds, 1979; Lezotte & Bancroft, 1985). The ESM not only linked many of the associated variables of the present study, but also illustrated why the performance gap between black and white students was significant for the urban-poor schools. These urban-poor, at-risk schools suffered from teacher turnover.

Researchers in the Effective Schools Movement. Weber (1971) was one of the first researchers in the ESM who analyzed teacher turnover. He noted district leaders in New York City schools placed special emphasis on high turnover schools. District officials categorized New York City schools based on the following five criteria: pupil turnover, teacher turnover, percentage of pupils on free lunch, number of children with foreign language problems, and the extent of welfare and attendance problems. Weber's definition of "inner city" shares most attributes with a modern-day, at-risk school and supports the early view that teacher turnover affected student performance. Delimitations to Weber's study were the small sample size of four schools, the self-created reading instrument to assess early reading proficiency, and the removal of limited English students from the study. The four inner city schools yielded higher reading achievement despite the low SES and ethnically diverse student population but lagged behind the more affluent schools. The students who performed better attended schools that had an

instructional leader with an emphasis on reading, a positive campus culture with high expectations, individualized instruction with additional support staff, and “careful evaluation of student progress” (p. 26). These findings are significant to the present study as the instructional leader and additional support staff for specialized instruction increase the instructional expenditure per pupil by campus and district. Weber’s findings support that instructional expenditures per-pupil may potentially increase student academic attainment.

Another pioneer of the ESM was Wilbur Brookover, who denounced the “genetic origin of intelligence” and the lack of environmental resources as an excuse for schools to fail at meeting the needs of low and minority students (1973). He separated high and low achieving schools according to socio-economic status, race, and community type investigating differences in achievement. Controlling for race, SES, and school type, the regression analysis indicated 74% of school achievement related to school climate factors. Sixty percent of the variance in student performance was associated with lower student ability (44.92%); teacher evaluations and expectations (9.83%); teacher recognition of individual students (5.28%); and perceived student expectations (3.36%) (Brookover, 1973). Brookover was one of the first to examine not only the school factors, but also looked at the cultural capital of the teaching staff.

Later research set out to find schools that were unusually effective, examining school factors more closely (Klitgaard & Hall, 1975). The analysis did not find any schools that were extreme overachievers but found some unusually effective performers in Michigan where teachers were more experienced, received a higher wage, and taught classes with smaller teacher to student ratio (1975). Klitgaard and Hall’s findings support

the importance for instructional expenditures per-pupil such as wage, smaller class sizes, and pay increases requiring districts to allocate increased expenditures per-pupil. Using field observations, a set of themes emerged by almost all subsequent Effective School Movement studies: strong leadership, high expectations, good atmospheres, strong emphasis on reading, additional personnel, phonics, individualized instruction, and careful evaluation of student progress (Weber, 1971).

Considered by some as one of the leading researchers in the Effective School Movement era, Edmunds (1979) found 55 schools that showed promise for academic achievement despite a low socio-economic status family background. The schools varied based on student racial composition and the amount spent on resources for each student. Edmunds decided the schools controlled the factors significant in student achievement including leadership, expectations, and atmosphere. His research also found that instructional practices and adjustments of instructional pedagogy did have a significant impact on student academic outcomes for disadvantaged at-risk students. When teachers effectively used progress monitoring, they were able to give the instruction needed to help the student grow, which aligns with Weber's findings (1971).

Edmunds (1979) blamed social scientists for the belief that student outcomes and the instructional effectiveness of schools were a result of family background and economic factors. He challenged this belief by analyzing data for low socio-economic black children who attended instructionally effective schools in comparison to "less effective" schools based on student social background. He concluded that the significant difference based on performance was a result of the school. He sought to "educate

children of the poor” to equal standards of the middle class and stated that equity was more an issue of “politics than social science”.

Later Effective School Movement research also investigated teacher turnover and the impact on student learning. Brookover & Lezotte (1979) assessed student achievement using criterion-referenced tests in both mathematics and reading in fourth and seventh grade in eight elementary schools in Michigan. Unlike most studies conducted during the Effective Schools Movement, their study utilized qualitative data to examine teacher turnover. The following themes prompted greater emphasis on school behaviors to increase student growth including: faculty emphasis on mathematics and language goals, all stakeholders believe students can master the objectives, grand expectations for student learning, ownership in student learning, higher parent-initiated involvement, and compensatory education through paraprofessionals (Brookover & Lezotte, 1979). Schools that placed emphasis on the above attributes not only had greater student achievement but also experienced less teacher turnover.

The Effective Schools Movement research demonstrates that all schools can be successful despite external factors believed to hinder student performance. Organizations that began to place emphasis on these findings produced positive academic outcomes for all children (Lezotte, 1992). Dr. Lezotte named these effective school practices The Effective School Correlates which included: Safe and Orderly Environment; Climate of High Expectations for Success; Instructional Leadership; Clear and Focused Mission and Vision; Opportunity to Learn and Student Time on Task; Frequent Monitoring of Student Progress; and Home-School Relations. The Effective School Correlates, in culmination, focus on increasing the organizational efficacy and cultural capital of the organization.

The Effective Schools Movement focused on school systems and internal components of the organization that produced greater academic outcomes for economically disadvantaged and underperforming students. Later research also began to examine leadership behaviors, teacher quality, the importance of mission and vision, and a focus on instructional personnel. The evolution of the Effective Schools Movement research placed greater emphasis on the teachers' pedagogy and their associated classroom behaviors. The shift in focus was the basis for selecting Bandura's Self-Efficacy theory related to teacher qualities. Bandura's Self Efficacy theory, discovered at the end of the pre-accountability era, was largely unrecognized or studied in the educational setting. For this reason, self-efficacy and its importance for education are discussed in the section presenting the Second Wave Accountability Era when most research regarding teacher self-efficacy was conducted.

Effective Schools Movement research supports the idea that all children and schools can be successful despite external factors that hinder student performance. Not only do the Effective School Correlates assist in increasing student learning, but they are equally important for teacher quality (Darling-Hammonds, 2003). The research related to self-efficacy, although relatively new to the educational setting, correlates with teacher effectiveness, student outcomes, and teacher turnover. Edmunds (1979) and *A Nation at Risk 1983* called for greater accountability to address the need for student outcomes (Guthrie & Springer, 2004). As the first wave of accountability began to gain momentum in the late 1980's, teacher turnover became a large-scale problem in the United States.

First Wave Accountability

Teacher turnover has increased throughout the United States at an alarming rate for the last 30 years (Ingersoll & Merrill, 2012; Simon & Moore, 2015). Ironically, thirty years ago marks the release of *A Nation At Risk* in 1983 when public school reform gained momentum, calling for accountability through high-stakes testing. The tighter accountability exposed teachers to increased demands, stress, and new learning in an effort to ensure all students made academic progress (De Mauro & Jennings, 2016; Ryan, et al., 2017). However, the unintentional consequences resulted in teachers separating from their current role and seeking wealthier (Simon & Moore, 2015), higher performing (Watlington, Shockley, Guglielmino, & Felsher, 2010), and, ultimately, “whiter” schools (Boyd, 2008; Simon & Moore, 2015). Data from 1980 to 1996 revealed New York Public Schools hired 81,000 new teachers. Yet, 15% to 18% of all teachers left by the second year and one-third left by the sixth year (Konanc, 1996).

Large-scale teacher turnover creates social justice issues that further contribute to poor academic performance for minorities and underprivileged students in urban schools (Luschei & Chudgar, 2011; Watlington, Shockley, Guglielmino, & Felsher, 2010). Theobald & Michael (2002) reported that 11,787 teachers, 3,194 of which were in an urban school setting, began teaching in four Midwestern states in the 1995-1996 school year. After five years, data revealed that urban school turnover rates were 60% while the non-urban schools were slightly lower at 50%. These findings align with other research (Barnes, Crow, & Schaefer, 2007; Carrol, 2007; Craig, 2014; Hendricks, 2016; Ingersoll, 2001; Morettini, 2016; Pedersen, 1968; Weber, 1971). For example, before *No Child Left Behind 2001*, 63% ($n = 11,070$) of the elementary teachers in Georgia left their teaching

assignment over a seven-year period (Scafidi, Sjoquist, & Stenebrickner, 2005).

Examining teacher characteristics predicting turnover, researchers discovered teachers 30 or younger left at higher rates (Theobald & Michael, 2002). Fifty years of research finds teachers who are less than 30 years old are more likely to leave (Ingersoll, 2001; Kern, 1966; Knox, 1968; Pederson, 1970).

Several quantitative studies analyzed teacher turnover data the decade before and after *NCLB 2001*, all revealing increased turnover rates (Barnes, Crow, & Schaefer, 2007; Boe, Cook, & Sunderland, 2008; Carroll, 2007; Ingersoll, 2001; Hanushek & Rivkin, 2007). A nine-year longitudinal study from 1991-1992 to 2000-2001 discovered a 60% increase in turnover from 478,000 to 767,000 annually (Boe, Cook, & Sunderland, 2008). During this time, the national teacher turnover rate (16.8%) exceeded the national rate for non-educational entities. Further, the national turnover rate had risen more than 50% than the preceding 15 years (Carroll, 2007). Additionally, during the 2002-2003 school year, more than 30% of teachers switched schools or districts (Barnes, Crow, & Schaefer, 2007). An analysis conducted by Ingersoll (2001) concluded the demand for teachers was a result of early retirement turnover, suggesting increased accountability as the underlying issue. During the onset of *NCLB 2001*, a perceived teacher shortage caused government officials to focus special attention on this issue. *Figure 5* shows the increased turnover rates.

School Year	Turnover Percentages
1992	18.8
2000	25.62
2001	36

Table 1. Increase in turnover prior to *NCLB 2001*. Data from three time periods prior to *NCLB 2001* revealed that turnover peaked once the new law went into effect (Boe, Cook, & Sunderland, 2008).

Second Wave Accountability

The No Child Left Behind Act of 2001 (NCLB) initiated the second wave of educational reform implemented by the federal government that drastically changed accountability for schools and student performance (Klein, 2015). *Figure 6* outlines major topics related to the Second Wave of Accountability. In addition to increasing accountability, *NCLB* substantially reduced the state's power in education by requiring states and school districts to adhere to federal guidelines (Fowler, 2009). *No Child Left Behind* targeted the achievement gap between white and minority students and focused on student outcomes as measured by high stakes testing. *NCLB 2001* included four provisions: 1) Stronger accountability based on testing students in grades three to eight, introducing state criteria of Adequate Yearly Progress (AYP); 2) Flexibility in spending federal funding for schools meeting accountability requirements; 3) Flexibility for parents to pull their children from underperforming schools; 4) Implementation of research-based instructional strategies as evidence to improve student outcomes (Husband & Hunt, 2015; *NCLB*, 2001). As stronger national requirements materialized, states placed schools that did not meet AYP for four consecutive years on probation or closed. Additionally, *NCLB 2001* required teachers to be highly qualified (HQ), obtain a state certification, or demonstrate knowledge in the content area by having a bachelor's degree or higher by passing a state content exam (*NCLB*, 2001). Lawmakers believed the HQ component would positively influence student academic achievement. The final goal of *NCLB 2001* was that all students in the nation be proficient in math and reading by 2014.

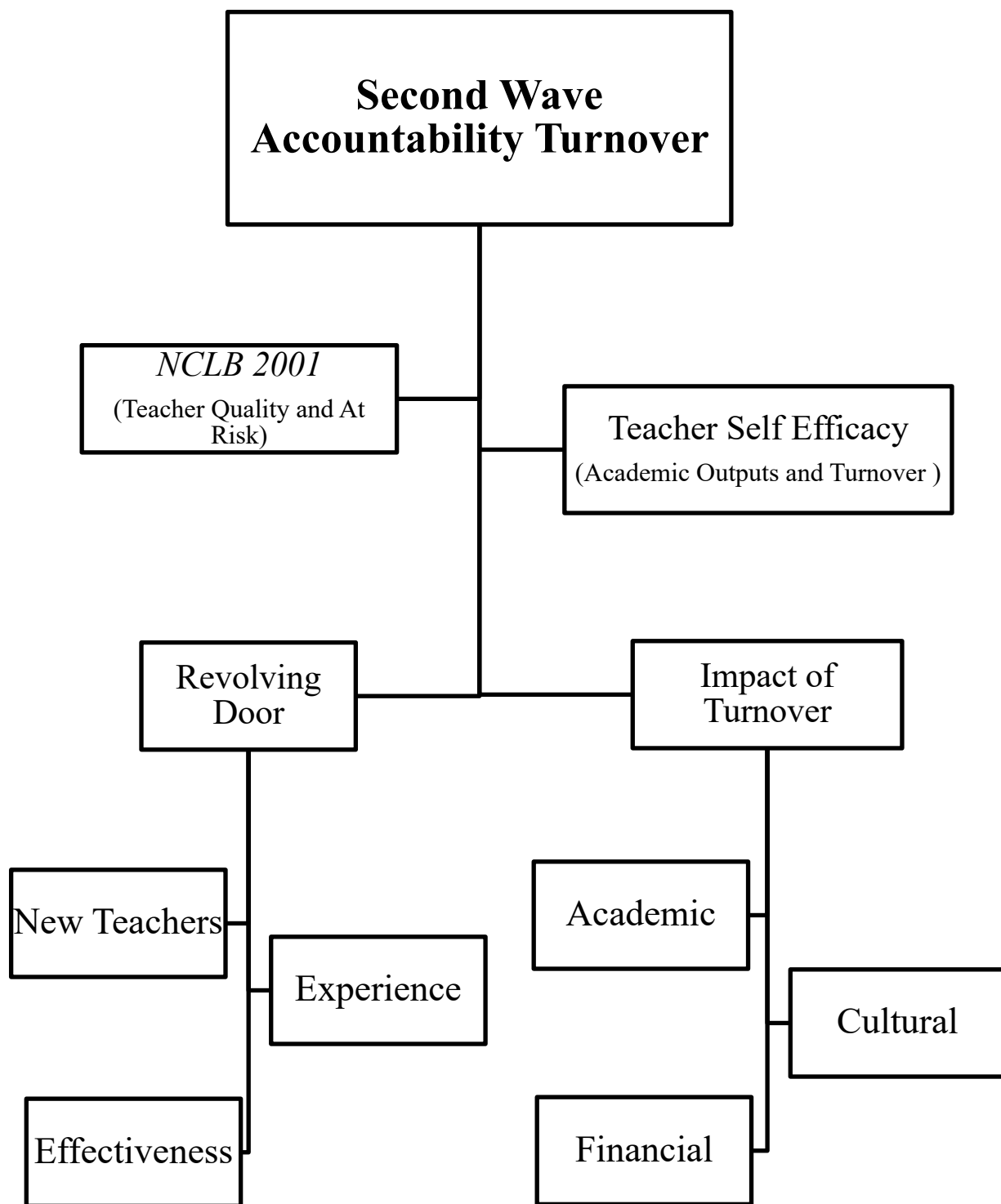


Figure 6: Major topics related to Second Wave Accountability.

During the time period of the 2nd Wave, the United States as well as governments around the world created legislation mandating a greater emphasis on teaching certification requirements in hopes of producing greater academic outcomes (Luschei & Chudgar, 2011; *NCLB*, 2001). However, mixed findings question whether teacher certification or an advanced degree affects student performance. Some researchers affirm that certification, advanced degree, and highly qualified status are significant in increasing student performance (Darling-Hammonds, 2003; Hanushek, 2010; Hanushek, Kain, & Rivkin, 1998). However, other researchers refute the claim suggesting there is an insignificant relationship (Angrist & Guryan, 2003; Goldhaber, 2016; Hanushek & Rivkin, 2007; Haung & Moon, 2009; Luschei & Chudgar; 2011). Some claim removing the certification barrier in becoming a teacher would improve the quality of instruction if compensation aligned with teacher performance (Angrist & Guryan, 2003; Hanushek & Rivkin, 2007).

Researchers also examined whether accomplished teachers or those who score well on certification tests have any correlation to student academic performance and turnover. To this end, Teach for America entered the educational setting with the hopes of increasing student test scores. To hire the best teachers in the neediest schools, Teach for America (TFA) recruits and trains the nation's most talented college graduates requiring a two-year teaching commitment in an urban school teaching predominantly at-risk students. However, data found that 56.4% of TFA teachers, even though they performed well, sought positions other than the first low-income placement after their two-year commitment (Donaldson & Moore-Johnson, 2011). Further, turnover data reveals only 14.8% of TFA teachers remain in the first low-income school by the fifth

year. Other researchers confirm teachers who performed better in academics or certification, as more likely to turnover than those less qualified academically (Boyd, 2008; Dagli, 2012; Hendricks, 2016), including transferring to more desirable schools or quitting the field of teaching altogether.

After *NCLB 2001* and the requirement of highly qualified status went into effect, teachers in specialized areas also showed increased turnover rates. In Boston Public Schools, researchers analyzed turnover in a six-year longitudinal study from 2001 to 2007, showing an increase from 7% to 13% (Levy, Joy, Ellis, Jablonski, & Karenlitz, 2012). Levy's team noted that 13% of the science teachers left the district compared to 15%, which included all other departments combined. Specifically, mathematics and science teachers were more likely to leave teaching (Theobald & Michael, 2002), due to the potential to earn more money outside of education (Synar & Maiden, 2012). Similar to the pre-accountability era findings (Pederson, 1970), opportunity influences a teachers' decision to leave the teaching field, and sometimes a correlation of increased pay follows opportunity. These opportunities include both better teaching assignments and a change in profession.

Losing specialized teachers not only harms student performance but also requires districts to spend additional funds on offering stipends to attract qualified candidates, investing in training, and incurring "opportunity costs" for the organization (Luschei & Chudgar, 2011). Urban and low income rural districts are unable to obtain qualified candidates which is detrimental to student achievement and promotes achievement gaps for students from low income backgrounds (Darling-Hammonds, 2003; Luschei & Chudgar, 2011). When districts are unable to obtain quality teachers, less effective

teachers are more likely to fill these positions (Carroll, 2007; Donaldson, 2012; Guili, Zhang, & Zeller, 2016); teachers who are ill-prepared or lack the necessary skills exhibit higher turnover rates (Dagli, 2012; Gray, 1948; Grissom, 2011; Helms-Lorenz, van de Grift, & Maulana, 2016; Kern, 1966; Knox, 1968; Lochmiller, Adachi, Chesnut, & Johnson, 2016; Pederson, 1970). One cause cited for increased turnover is lack of teaching skills beyond certification (Helms-Lorenz, van de Grift, & Maulana, 2016). Providing support, especially for novice teachers, increases teacher self-efficacy and skill level to influence student outcomes and maximize teacher retention.

Self-Efficacy Research and Its Importance in Education

Recent research outlines the importance of the role a quality teacher as equal to the importance of the practices schools utilize (Darling-Hammonds, 2003; Di Carlo, 2017; Grissom, Viano, & Selin, 2016; Synar & Maiden, 2012). Both are crucial for positive academic outcomes, however, researchers now understand the importance of the teacher, attesting that every principal throughout the nation should place the highest priority on staffing schools with effective and resilient teachers (Hanushek & Rivkin, 2007; Synar & Maiden, 2012). As such, research asserts the quality of the classroom teacher as one of the most influential factors in determining student outcomes and increased student performance (Adnot, Dee, Katz, & Wyckoff, 2016; Borman & Kimball, 2005; Fuller, Waite, & Irribarra, 2016; Green & Munoz, 2016; Guskey, 1987; Konstantopoulos, 2006; Lushei & Chudgar, 2011; Rivikin, Hanushek, & Kain, 2005; Sanders & Rivers, 1996; Sloat, Makkonen, & Koehler, 2007). Understanding the importance of a quality teacher brings further clarity on the importance of teacher retention and turnover.

As evidence of the importance of the role of the teacher, studies have reported an effective teacher to raise student achievement by one full grade level within a school year while a less effective teacher promotes student growth at one-half that rate (Hanushek, 1992). Further, losing highly effective teachers can have “significant negative effects” on student outcomes, as much as a decrease of .60 Standard Deviation or 30 points on mathematics assessments (Adnot, Dee, Katz, & Wyckoff, 2016). The efficacy of the organization improved when district leaders retained the most effective teachers and dismissed mediocre practitioners.

Turnover. One common link to teacher quality is self-efficacy and the many related components. Researchers measure effectiveness by analyzing how students learn, teacher ability in content area (NCLB, 2001), pedagogy, and student discipline management (Warren, 2016). Current research shows a positive correlation between teacher effectiveness and self-efficacy, with higher self-efficacy reducing instances of turnover (Craig, 2014; Torres, 2016).

Teachers who have greater self-efficacy persist longer in the presence of adverse conditions (Bandura, 1982). The literature includes several types of efficacy related to student achievement and teacher turnover. The first two are teacher self-efficacy (TE) and personal self-efficacy (PTE). To differentiate, teacher self-efficacy is the act of teaching while personal self-efficacy (PTE) is the belief in ability to teach (Tschannen-Moran & Woolfolk-Hoy, 2001). In addition, the literature defines the term “perceived self-efficacy,” not be confused with “personal self-efficacy” although the terms share similarities. Perceived self-efficacy is the internal “belief in one’s personal capabilities” (Bandura, 1997, p. 1). Teachers who have low perceived self-efficacy are more likely to

turnover, especially true when placed in challenging classrooms without the necessary support (Craig, 2014; Boe, Cook, & Sunderland, 2008; Darling-Hammonds, 2003; Friedman, 1964; Fuller, Waite, & Irribarra, 2016; Karsenti & Collin, 2013, Kern, 1966; Thibodeaux, Labat, Lee, & Labat, 2015;). The failure of the organization to administer support for struggling teachers is a leading cause of teacher turnover (Craig, 2014). Yet, providing support structure is one area over which districts have direct control.

Perceived self-efficacy also plays a role in the teacher's expectations. Teachers with lower perceived self-efficacy leave the profession because of the difference between their expectations and their experiences. Many new teachers cite wanting to make a difference as the reason for entering education (Craig, 2014), but once given the opportunity, they found the teaching profession more demanding than expected. Some researchers suggest the issue is in the college preparation programs and that, upon program completion, teachers do not possess the skills necessary to endure the demands of education (Carroll, 2007; Grissmer & Kirby, 1992; Torres, 2016). As teachers struggle to manage the various tasks in the profession, the inability to balance the workload effectively creates self-doubt, reducing the teachers' belief in their ability. When the mind cannot convince itself otherwise, those with lower self-efficacy tend to focus on present failure rather than factors they can influence (Bandura, 1977; Bandura, 1982). Therefore, the amount and quality of the support administered to new and veteran teachers is crucial in teacher longevity.

Student Outcomes. When teachers have more self-efficacy, they create conditions within the classroom that yield greater student achievement (Althaus, 2012; Green & Munoz, 2016; Guskey, 1987; Hoy, Tarter, & Woolfolk Hoy, 2006). School

districts throughout the country implement programs to enhance teacher efficacy, leading to better pedagogical practices, delivery methods, and creative thinking (Althausser, 2012; Seals, Mehta, Berzina-Pitcher, & Graves-Wolf, 2017). Teachers with high self-efficacy use more student-centered instructional strategies (Martin, Sass, & Schmidt, 2012) that result in improved student motivation, fewer off-task behaviors, and higher academic outcomes. Althausser (2012) also found that teachers with lower self-efficacy tend to use teacher directed strategies considered less effective for student academic attainment.

Effective teachers capitalize on students' higher order thinking and expect corrective actions to drive high-quality instruction (Francis, Eker, Lloyd, Jinqing, & Alhayyan, 2017). Highly engaging classrooms promote constructivist strategies in which teachers assume the role of facilitator allowing the students to be active learners (Althausser, 2012). Using instructional strategies and techniques to engage students, teachers experience accomplishment due to their increased efforts, thereby increasing their teacher self-efficacy and retention. Consequently, the belief in one's ability helps the teacher establish a greater sense of professionalism (De Mauro & Jennings, 2016; Levine, 1966). Likewise, when teachers engage students in relevant, differentiated instruction, students are more prone to enjoy what they are learning and experience a sense of accomplishment (Haggis, 2017; Martin, Sass, & Schmidt, 2012). Just as teacher efficacy is important, so too is the student's belief in their own ability to perform (Blazer, 2017).

Research initially proclaimed self-efficacy was a set attribute and did not change over time (Bandura, 1977). However, current research supports that professional development targeted to increase self-efficacy has proven effective in higher academic

outcomes (Yoo, 2016). As students exhibit higher academic outcomes, teachers feel a sense of success contributing to the longevity of their career (Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014; Levine, 1966). Other research supports these claims stating teachers who do not experience success are more likely to leave low performing schools (Donaldson & Moore-Johnson, 2011; Hanushek, Rivkin, & Schiman, 2016). In a qualitative study, Seals, Metha, Berzina-Pitcher, & Graves-Wolf (2017) measured teacher efficacy and personal teacher efficacy (PTE) of 49 teachers after one year of participation in a professional development program. Using the teacher efficacy scale (TES), researchers found personal teacher-efficacy increased, indicating promise in building the belief in teacher capability thereby increasing effectiveness and resiliency (Bandura, 1997; Bandura & Locke, 2003).

In another study, Althausser (2012) found that after a two-year program designed to increase teacher efficacy both teacher self-efficacy and personal self-efficacy scores increased. The program focused on curriculum alignment, formative assessment, disaggregation of test data, reflective practice, discussion time, deconstruction of standards, and learning outcomes. Utilizing student achievement as the dependent variable, the researcher determined teacher efficacy correlated to student performance, but personal teacher efficacy did not. Additionally, student economic status was found as significant when correlated with student academic attainment, proving five times more significant than self-efficacy. Yet findings show teachers with higher self-efficacy to be more resilient under stressful situations and are better able to manage student discipline issues.

Supporting growth in efficacy and skill in as short a time as possible allows teachers to become experts without having a substantial number of years of teaching experience (Yoo, 2016). Previous research suggests as the years of teaching experience increases so does the ability to positively affect student learning (Barns, Crow, & Schaefer, 2007; Hanushek, 2010). However, Yoo's recent findings creates opportunity for further research regarding years of teaching experience as related to effectiveness and the ability to produce greater academic gains. In fact, newer research affirms Yoo's findings by controlling for the years of teaching experience and finds professional development positively correlated with student achievement (Haung & Moon, 2009; Hill, Bicer, & Capraro, 2017).

Discipline. As research shows professional development supports academic achievement, research also shows districts investment in teacher training programs provide teachers increased skills in managing a class increasing teacher efficacy and retention (Yoo, 2016; Seals, Mehta, Berzina-Pitcher, & Graves-Wolf, 2017). While this finding is important for all teachers, it is especially important for new teachers as 33% of all new teachers leave education by the 3rd year (Carroll, 2007). Indeed, discipline management issues in the classroom are a leading cause for teacher turnover (Craig, 2014; Donaldson & Moore-Johnson, 2011; Helms-Lorenz, van de Grift, & Maulana, 2016; Ingersoll, 2001; Thibodeaux, Labat, Lee, & Labat, 2015; Torres, 2016; Vontress, 1963). Furthermore, teachers with higher perceived self-efficacy utilize culturally responsive and classroom management techniques shown to improve student learning.

Classroom effectiveness is based on the teacher's ability to manage student discipline (Warren, 2016) and facilitate a "well run" classroom (Wong & Wong, 2001).

Data reveals that teachers who are ill prepared to manage student discipline experience increased stress levels and decreased job satisfaction, which lead to teacher turnover (Unal & Unal, 2013). Higher teacher self-efficacy scores indicate the teachers are more capable and willing to handle student misbehavior and ensure an orderly environment (Aloe, Amo, & Shanahan, 2013; Yoo, 2016). By decreasing off-task and undesirable student behaviors, students spend more time on task contributing to greater student outcomes (Lezotte, 1992). When the classroom is well-managed and the students are engaged, the classroom environment becomes a place conducive to learning. Not only does a well-managed classroom generate greater academic outcomes, but, as research finds, the amount of time spent on discipline decreases and the teacher's chances of persisting increases (Caples & McNeese, 2010).

Teachers with higher self-efficacy tend to view their work environment more favorably (Sung-Hyun & Cohen-Vogel, 2011), creating a sense of job satisfaction. When teachers solidify the classroom management routines and see student success, their overall job satisfaction enhances. Studies show job satisfaction is a significant predictor in a teacher's decision to remain with the organization or leave their current teaching assignment (Green & Munoz, 2016; Grissom, Viano, & Selin, 2016; Sung-Hyun & Cohen-Vogel, 2011; Thibodeaux, Labat, Lee, & Labat, 2015). Providing evidence, a correlational study found the association between satisfaction and working conditions was nine times greater than the association between satisfaction and salary for job switchers (Sung-Hyun & Cohen-Vogel, 2011). Though the authors warn about making a causal assumption due to the correlational study, other research strongly supports the idea that working conditions affect a teacher's decision to remain or leave their current

teaching assignment (Boe, Cook, & Sunderland 2008; Darling-Hammonds, 2003; Donaldson & Moore-Johnson, 2011; Hanushek & Rivkin, 2007; Synar & Maiden, 2012). Therefore, self-efficacy and the ability to endure demanding working conditions are important for teacher longevity.

Burnout. Teachers who have a keen sense of self-efficacy can endure the stress and workload in an educational setting (Bandura & Locke, 2003). The workload for teachers has steadily increased with greater accountability and has been found to be a significant factor promoting burnout and turnover (Berridge & Goebel, 2013; Craig, 2014; Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014; Helms-Lorenz, van de Grift, & Maulana, 2016; Shaefer, Downey, & Clandinin, 2014; Thibodeaux, Labat, Lee, & Labat, 2015; Torres, 2016). Teachers who endure excessive amounts of stress for a prolonged period become victims of the burnout syndrome (Freudenberg, 1974). Further, teachers who work in urban schools where student needs are great are more likely to turnover (Barnes, Crow, & Schaefer, 2007; Carroll, 2007; Craig, 2014; Darling-Hammond, 2003; Grissom, 2011; Hanushek, Kain, O'Brien, & Rivkin, 2005; Hendricks, 2016; Ingersoll, 2001; Morettini, 2016; Ronfeldt, Loeb, & Wyckoff, 2013; Scafidi, Sjoquist, & Stinebrickner, 2005; Simon & Moore, 2015; Synar & Maiden, 2012; Theobald & Michael, 2002).

However, despite the multitude of at-risk factors in urban schools, including poverty, a quality teacher who has strong perceived self-efficacy can produce greater academic outcomes (Guskey, 1987). Likewise, high expectations and student self-efficacy enhances academic achievement (Blazer, 2017). Teachers who have elevated expectations and promote students' belief in themselves foster a powerful sense of

belonging (Maslow, 1943; Johnson, 2009). As research shows, schools must be safe and teacher expectations must be high to achieve “learning for all” (Lezotte, 1992).

Student Self-Efficacy

Student self-efficacy is mutually supportive of academic outcomes and teacher retention prompting a focus on student characteristics in the research on teacher turnover. Researchers discovered that students in an alternative learning environment, which is an indicator for a student at-risk of not graduating high school, demonstrated increased academic outcomes in a supportive environment supporting self-efficacy (Haggis, 2017; Helker & Ray, 2009). Researchers assert, when teachers constructively use relationship-building skills in the classroom, student misbehavior decreases and self-confidence increases. Further, the study found teachers reported increased self-efficacy themselves as they gained confidence in their ability to empathize with students who struggle. In fact, teachers found that their relationships with students were an important strategy for their teaching. These teacher reports highlight the importance of trust and respect for students, especially for students who are academically struggling (Cheyney, 1966; Haggis, 2017).

Importance of Student Self-Efficacy. One significant challenge reported throughout the literature is the teacher’s underlying assumption that students who have diverse learning needs are not capable of high academic achievement (Althausser, 2012; Awkard, 2017; Yoo, 2016). The literature shows teachers in urban schools’ report feelings of hopelessness due to factors beyond their control that are debilitating to perceived self-efficacy. These factors increase stress and worry leading to eventual burnout and turnover (Skaalvik & Shaalvik, 2010).

At the same time, teachers who focus on student weaknesses rather than student capabilities have negligible reason to strive for excellence in the classroom (Bandura, 1996; Edmunds 1979). However, teachers can aid in building positive student self-efficacy by creating opportunities for success and focusing on student strengths (Haggis, 2017). The importance for all stakeholders, including the campus leader, to share the ideology that all students can learn is significant (Brookover and Lezotte, 1979).

Evident of the importance of the campus leader's role, is their responsibility to shape the vision and foster practices that build organizational culture and capital. A positive organizational culture is important in defining teachers' commitment to the task and the overall cultural efficacy of the organization. Culture instills a sense of motivation, builds loyalty to the organization, creates bonds between students and staff, and solidifies the ideas that drive practices (Owens & Valesky, 2015). Teachers who have greater self-efficacy put forth the necessary effort, focus on outcomes versus the lack of ability, and help promote a culture of learning. A positive work culture reduces teacher turnover while also promoting greater academic outcomes (Jimenez-Castellanos, 2010; Owens & Valesky, 2015; Shaefer, Downey, & Clandinin, 2014).

Revolving Door Phenomenon

Prior to *No Child Left Behind (NCLB) 2001*, administrators relied heavily on a steady stream of new teachers leaving the impact of turnover largely ignored. In a study, 2006-2007 data showed the total number of teachers in Boston Public Schools consisted of 4,645; with 13% (612) beginning teachers and, at the end of the year, 13% (611) of total teachers not returning the following year (Levy, Joy, Ellis, Jablonski, & Karenlitz, 2012). The study supports the *revolving door effect* presented by Ingersoll (2001) describing a

phenomenon in which the number of new hires mirrors the number of teachers exiting. Sixty years of research confirms that new teachers or those with less experience are more likely to turnover due to a variety of reasons (Charters, 1956; Kern, 1966; Pederson, 1970).

In another study, researchers investigated turnover specific to new teachers in an urban Philadelphia district. The study reported 919 beginning teachers and 12,000 freshmen entered into the school system in 1999 (Carroll, 2007). After six years, only 30% of the teachers remained to teach in Philadelphia while 58% of the students graduated. Carroll proclaimed that America must deal with a teacher dropout rate, which now exceeds the longstanding concern of student dropout.

New Teacher Turnover. Most scholars examining turnover conclude that ineffective teachers are more likely to turnover (Adnot, Dee, Katz, & Wyckoff, 2016; Boyd et al., 2008; Di Carlo, 2017; Hanushek et al., 2005; Hanushek & Rivkin, 2007; Hanushek, Rivkin, & Schiman, 2016; Simon & Moore, 2015). One study, considered an outlier, found a high number of new teachers, 40-60% considered ineffective, leave teaching altogether after the second year (Boyd, 2008). However, most studies cite that smaller percentages of new teachers, some considered less effective, leave education entirely.

Data indicates that more than 200,000 new teachers enter the teaching profession each year (Ingersoll, 2001). One issue that emerges in the literature is the lack of what constitutes a new teacher. The most accepted definition of a new teacher is a teacher with 0-3 years of experience. However, the following studies provide percentage of teacher turnover describing a new teacher as a teacher with no completed years in the teaching

field: 19.5% (Lochmiller, Adachi, Chesnut, & Johnson, 2016); 25% (Kang & Berliner, 2012); 57.5% (Clandinin et al., 2015); and 13% (Levy, Joy, Ellis, Jablonski, & Karenlitz, 2012). Extracting from those numbers, turnover for beginning teachers ranged from 13% to 60%.

Sadly, as new teachers “churn” through the school system and districts struggle to implement improvement efforts internally, many students never receive instruction from an effective teacher (Synar & Maiden, 2012). Yet, in a study using an experimental treatment of professional development support for new teachers, the results revealed 13.75% turnover for the control group compared to 11.63% for the experimental group (Helms-Lorenz, van de Grift, & Maulana, 2016). The statistically significant difference between groups affirms that new teacher support can potentially reduce turnover.

While new teacher support shows promise, other studies reveal types of turnover present. A recent Texas study revealed that 12% of beginning teachers exit teaching altogether, while 11% transfer within the district, and 7% moved to another Texas district (Hanushek, Rivkin, & Schiman, 2016). Another study examining the difference in turnover rates between private and public schools showed that 22% of private-school new teachers left education, while 10% moved after the first year. The public-school data revealed 9% left education and 14% moved schools (Kang & Berliner, 2012). Results from these two studies show that beginning teachers choose to leave or relocate in the early years of education, and this holds true for both the private and public sector of teaching.

Continuing to examine turnover patterns, one study found that teachers who have zero to two years of experience are twice as likely to quit and four times more likely to

relocate districts or schools (Hanushek & Rivkin, 2007). Likewise, large turnover suggests the first few years are difficult for teachers lacking resilience and they are more prone to turnover (Bandura & Locke, 2003). In all, evidence on early turnover indicates the first few years of teaching is a critical time for administrators to invest in the human capital for greater retention (Darling-Hammonds, 2003; Helms-Lorenz, van de Grift, & Maulana, 2016). Giving support could potentially alleviate premature departure (Boe, Cook, & Sunderland, 2008; Carroll, 2007; Clandinin et al., 2015; Craig, 2014; Darling-Hammonds, 2003; Donaldson & Moore-Johnson, 2011; Fuller, Waite, & Iribarra, 2016; Hanushek & Rivkin, 2007; Helms-Lorenz, van de Grift, & Maulana, 2016; Ingersoll, 2001; Karsenti & Collin, 2013; Sedivy-Benton & Boden-McGill, 2012; Synar & Maiden, 2012; Torres, 2016). Notably, the need for support is equally important for teachers in disadvantaged and non-disadvantaged schools, with turnover slightly higher in urban schools. Similarly, turnover rates tend to decrease once experience increases, which aligns with previous research (Charters, 1956; Kern, 1966; Knox, 1968).

Teachers new to the profession often leave before five years. Shaefer, Downey, & Clandinin (2014) acknowledge that most scholars debate the turnover figures between “5 to 50%.” The vast discrepancy in the turnover percentage identified among studies is due to the loose definition of turnover and new teacher; however, most of the percentages were closer to the middle-upper end of the 5-50% turnover rate. Scholars recognize that most new teacher turnover occurs within the first three to five years (Barnes, Crow, Schaefer, 2007; Boe, Cook, & Sunderland, 2008; Carroll, 2007; Charters, 1970; Donaldson & Moore-Johnson, 2011; Helms-Lorenz, van de Grift, & Maulana, 2016; Lochmiller, Adachi, Chesnut, & Johnson, 2016; Karsenti & Collin, 2013; Konanc, 1996;

Ost & Schiman , 2015; Theobald & Michael, 2002). The breakdown of cultural efficacy occurs due to the strain on existing teachers to provide support to the newcomers, many of which become mentors with less than 5 years of experience (Craig, 2014; Synar & Maiden, 2012; Torres, 2016).

Experience. Data related to teacher turnover issues in the United States follows a bimodal curve, with most departures from the profession happening at the beginning and the end of a teacher's career (Boe, Cook, & Sunderland, 2008; Grissom, 2011; Grissmer & Kirby, 1992; Synar & Maiden, 2012). Some teacher turnover is due to retirement and expected within organizations. Further, data suggest if teachers can endure the first few years, the chance of teachers leaving is almost "zero" (Kern, 1966). Supporting this claim, two studies discovered turnover declined in the early years and then increased after the 9th and 18th year (Grissom, 2011; Hendricks, 2013). The pattern for special education teachers followed a different model as teachers with 13-24 years of experience had a turnover rate that was two times that of the general education teachers (Boe, Cook, & Sunderland, 2008). The high turnover rates at all levels of experience for special education teachers suggest special education teachers are at a higher risk of burnout (Freudenberg, 1974), compared to regular education teachers. As teachers experience burnout, their chances of survival decrease, as does their effectiveness.

Knox (1968) recommended administrators focus on the recruitment of experienced teachers to increase student growth. Researchers support the logical belief that teacher effectiveness and the years of teaching experience are positively correlated (Barnes, Crowe, Schaefer, 2007; Boyd et al., 2008; Carroll, 2007; Grissom, 2011; Hanushek & Rivkin, 2007; Haung & Moon, 2009; Hendricks, 2016; Jimenez-Castellanos,

2010; Knox, 1968; Ronfeldt, Loeb, & Wyckoff, 2013; Simon & Moore, 2015). For recruitment and hiring purposes, Jimenez-Castellanos (2010) suggested the prime teacher in urban schools is one who has 5-15 years of experience, indicating these teachers have surpassed the *hump of survival*. Their findings support the U-shaped pattern of teacher turnover in which beginning and experienced teachers are more likely to leave (Grissom, 2011; Hendricks, 2013; Kern, 1966; Synar & Maiden, 2012). However, the degree of effectiveness as it relates to experience is difficult to establish.

Effectiveness. A quantitative study compared novice teachers' (0-2 years' experience) and experienced teachers' (2-5 years) second-grade test scores in an urban, low-performing district and revealed the novice teachers' students did worse (Haung & Moon, 2009). Although Helms-Lorzen, van de Grift, & Maulana (2016) confirms experience increases teacher effectiveness, this study is notable as it focused on giving support to new teachers to enhance their teaching skills. The new teacher experimental group gained .60 standard deviation, while the control group gained .40 standard deviation in student performance scores.

Other researchers found the *total years* of experience was not significant, but the consecutive years of grade level experience yielded greater reading scores (Haung & Moon, 2009). Movement within the organization reduces the cultural efficacy and capital of the organization, resulting in lower achievement scores. Movement within the organization creates a similar detrimental effect as a teacher leaving (Boe, Cook, & Sunderland, 2008; Hanushek, Rivkin, & Schiman, 2016; Ingersoll, 2001; Simon & Moore, 2015). Therefore, if administrators can keep teachers and teams together, they

stand a chance to increase the team's effectiveness, while also achieving increased student outcomes.

Hanushek (2010) found teachers that have five and 25 years' experience performed about the same. The unexplainable lack of difference in student outcomes between a teachers' experience (5-25 years) raises several questions about the ability of educational institutions to develop educators as skilled practitioners. Not only would the lack of professional growth attribute to lower academic outcomes, but the lack of success also contributes to teacher turnover. Teacher effectiveness and the ability to grow learners or help students reach levels of satisfactory performance are dependent on the teacher's ability.

The Impact of Teacher Turnover on Organizational Efficacy

As presented, teacher turnover is a growing and serious issue for schools around the world. In some cases, district leaders fail to recognize the debilitating effects of turnover including what this phenomenon does to student performance. Unfortunately, schools that experience heightened turnover never fully capitalize on the benefits of strong organizational efficacy. And the continuous cycle of new teachers who enter an organization, only to leave in a few years, negatively effects the organization academically, culturally, and financially (Carroll, 2007).

Academic Impact. The cornerstone of organizational effectiveness is dependent upon the quality of instruction delivered by teachers (Garcia, Slate, & Delgado, 2009; Knox, 1968). Research identifies that scores and quality instruction decline after campuses experience turnover (Hanushek et al., 2005; Hanushek, Rivkin, & Schiman, 2016; Ronfeldt, Loeb, & Wyckoff, 2013). There are many reasons for decreased scores,

but, if the ineffective teachers are leaving, then this finding appears counterintuitive. Previous research suggests the decline in scores is due to the lack of curricular cohesiveness and reduced cultural efficacy (Boyd, 2008; Donaldson & Moore-Johnson, 2011; Simon & Moore, 2015; Theobald, & Michael, 2002). Yet, student growth is a cumulative function, so ineffective teachers create learning gaps that can affect a student long-term (Rivkin, Hanushek, & Kain, 2005). Even though students may begin with similar educational levels, teacher quality results in differences in academic achievement. (Penske & Haycock, 2006; Sanders & Rivers, 1996). These combined findings further support the need for the retention of quality teachers due to the impact on organizational effectiveness and student performance.

Analyzing data on the proportions of new teachers and grade level teams that experienced turnover to mathematics and reading scores indicated a negative and statistically significant relationship (Ronfeldt, Loeb, & Wyckoff, 2013). The findings suggest keeping the grade level team of five teachers yields academic gains between 2 to 4% of a standard deviation for all students in the grade level. Reducing turnover by 40%, or two of five teachers, has the same effect size on student achievement as the student classification of free and reduced lunch, or 3%. Finally, this work contests that turnover is more harmful to at-risk urban schools, but defends turnover is detrimental to academic achievement for all types of schools.

Cultural Impact. The benefit of retaining teachers is twofold: both student achievement scores and the cultural capital of the organization increase (Fusco, 2017; Ingersoll, 2001; Karsenti & Collin, 2013). Each time a teacher leaves the organization, she or he takes all the skills and resources the district has invested in their professional

performance thereby reducing return on the investment for the district (Carroll, 2007; Ryan, et al., 2017). A low return on investment, from a business standpoint, is detrimental to a company's sustainability. Similarly, in an era of reduced educational funding, unequal funding, and greater student needs, district leaders who do not invest in the components within their power will continue to experience significant rates of teacher turnover and decreased cultural efficacy.

Districts faced with the dilemma of continually replacing teachers never fully gain the ability to maintain cultural efficacy that supports student learning (Carroll, 2007; Dess & Shaw, 2001; Synar & Maiden, 2012). A significant amount of resources goes into hiring, recruitment, and retraining. This cycle is not only costly, but it also prohibits teams from reaching their best levels of performance. In addition, turnover reduces the mutually supportive need and motivational necessities of self-actualization and work efficacy (Bandura, 1977). When these two attributes are lacking, teachers experience decreased satisfaction, drive, and are more likely to turnover. Some teachers who stay in high turnover schools' state that the experience is demoralizing due to hardship in keeping work relationships, which increases turnover (Torres, 2016). The reason for the dissatisfaction is the amount of time teams spend on "reinventing the wheel". Even though schools know the formula for success, schools with unaddressed turnover lose opportunities and dollars that could otherwise contribute to a robust organizational culture (Darling-Hammonds, 2003).

Financial Impact. Turnover is detrimental to schools for a variety of reasons, but the monetary impact is far worse for schools considered property poor with scarce or unequal funds. Researchers agree that running a school experiencing excessive turnover

has a crippling effect on instruction and drains financial resources (Barns, Crow, & Schaefer, 2007; Boe, Cook, & Sunderland, 2008; Boyd, 2008; Carrol, 2007; Karsenti & Collin, 2013; Ryan, et al., 2017; Sedivy-Benton & Boden-McGill, 2012; Synar & Maiden, 2012). Finally, many researchers understand that the dilemma of turnover is costly. Synar & Maiden (2012) state there are soft costs which are “difficult to quantify,” but are important to consider.

Within the last decade, researchers have created tools to better track the true monetary *cost* in dollars for each teacher who separates (Carroll, 2007; Levy, Joy, Ellis, Jablonski, & Karenlitz, 2012). The cost incurred to replace teachers varies by region and school setting. Yet, the net cost, once realized, is significant. District-level leaders cannot plan and manage what they do not understand (Carroll, 2007). Several researchers developed turnover cost calculators to illustrate the soft costs that administrators often overlook. Shockley, Guglielmino, & Watlington (2006) created two cost calculators: School Turnover Analysis and the Teacher Turnover Cost Calculator. The two instruments consider soft cost factors such as exit interview time, cost of departing employee’s time, sick leave pay, unemployment tax, hiring cost, hiring incentives, mentoring, and new employee salaries.

The replacement cost and the annual dollar figure for two Florida school districts revealed a large variance between the two schools in the 2004-2005 school year. The replacement cost per teacher for St. Lucie County School District was approximately one-third the cost of replacing a teacher in Broward County School District. The annual turnover figure ranged from \$1.4 million to \$15.2 million. Over five years, St. Lucie County School District had a 45% turnover rate conservatively costing the district \$3.2

million. Instead of losing dollars on the replacement costs of teachers, these dollars could potentially have a significant impact on student outcomes and teacher retention if invested in the instructional cost per-pupil. The research, using a variety of calculation models, all reveal comparable results. *Figure 7* below shows costs associated with turnover in two Florida schools for a loss of \$1.4 and \$15.2 million dollars annually due to turnover.

	St. Lucie County School District	Broward County School District
Total Teachers	1,952	16,648
Teacher Turnover	320 or 16.4%	1,206 or 7.25%
Cost Per Teacher	\$4631	\$12,652
Annual Loss in Dollars	\$1,481,920	\$15,258,312

Table 2. Turnover figures and the annual loss in dollars for school districts. The data both large and small school districts lose a substantial amount of money due to turnover. The amount to replace teachers varies by district with Broward County replacement cost almost three times that of St. Lucie County School District. Data Source: Shockley Guglielmino, & Watlington (2006).

In a similar study, the cost to replace teachers in four school districts ranged from \$4,366 to \$17,872 (Barns, Crow, & Schaefer, 2007). Their study included both rural and urban schools. Chicago Public Schools, representing an urban school district, had the highest per teacher replacement cost and spent \$86 million a year on turnover. Other researchers found that the annual costs related to turnover for urban schools (\$70,000), and non-urban schools (\$33,000) were vastly different (Simon & Moore, 2015).

Districts dedicated a large amount of both financial and human resources in hiring new teachers. The Boston Public Schools' data established the cost to hire and train 612 new teachers hired for the 2006-2007 school year (Levy, Joy, Ellis, Jablonski, & Karenlitz, 2012). The district employed eight full-time staff members dedicated to the task of hiring new teachers, and the district spent \$3,043,232 on training the new recruits. The researchers used the Cost of Turnover instrument using a random sample of four schools averaging just under \$30,000 per school, or \$4,000,000 per year. Another study found similar but more significant figures for the annual dollars spent on teacher turnover for the following cities: Dallas, Texas (\$28.8 million); Houston, Texas (\$35 million); New York City, New York (\$815 million) and Los Angeles, California (\$94 million) (Carroll, 2007). These figures show that teacher turnover is a costly phenomenon, commandeering dollars that could otherwise support teacher quality and student learning.

The amount of money districts can pay teachers, along with deciding class size, educational programs, staff ratios, and administrative salaries, are largely dependent upon the ability to generate income through taxation (Baker, Farrie, & Sciarra, 2016). School districts across the country spend between 80 to 85% of their total operating budget on salaries. Districts that are property-poor and financially limited in resources experience both increased rates of turnover and lower academic achievement. Inequities in funding are more severe between Title I urban and non-Title I suburban schools (Jimenez-Castellanos, 2010). Such funding discrepancies for property-poor districts result in lower wage premiums. Veteran teachers working in urban-poor districts earned about one-third of the salary of those working in higher income schools (Darling-Hammonds, 2003; Lankford, Loeb & Wyckoff, 2002). New teachers often take their first unpleasant, lower-

paying, teaching position and leave once they secure a better job (Synar & Maiden, 2012).

Some districts place emphasis on effective teachers and have implemented large incentive pay bonuses tied to teacher evaluations (Adnot, Dee Katz & Wyckoff, 2016; Craig, 2014). For example, the District of Columbia Public Schools offers a one-time incentive up to \$27,000 annually for effective teachers. The authors claim, “under a robust system of performance assessment, teachers can generate meaningful gains in student outcomes, particularly for the most disadvantaged students” (p. 22). However, the district experienced 13% turnover in both categories of effective and highly effective teachers. Specifically, the turnover rate consisted of 10% in low poverty schools and 14% in high poverty schools (Adnot, Dee, Katz, & Wyckoff, 2016). Again providing evidence, even with incentive pay bonuses, schools without financial resources have only limited influence on teacher turnover.

Third Wave Accountability

One major weakness in *NCLB 2001* was that it lacked flexibility and prescribed a one-size-fits-all reform strategy while failing to consider the unequal funding issues, family challenges, and the complexity of the school districts (Hourigan, 2011). Providing greater state flexibility, the *Every Student Succeeds Act (ESSA)* is the latest reauthorization of *ESEA of 1965* and emphasizes higher levels of academic achievement for America's growing number of at-risk and disadvantaged students. *ESSA* promotes equity by upholding critical protections for America's disadvantaged and high-need students. Included in *ESSA* are the following: 1) Requires for the first time that all students in America be taught to high academic standards that will prepare them to

succeed in college and careers; 2) Ensures that vital information is provided to educators, families, students, and communities through annual statewide assessments that measure students' progress toward those high standards; 3) Helps to support and grow local innovations, including evidence-based and place-based interventions developed by local leaders and educators, consistent with our Investing in Innovation and Promise Neighborhoods; 4) Sustains and expands this administration's historic investments in increasing access to high-quality preschool; 5) Maintains an expectation that there will be accountability and action to effect positive change in our lowest-performing schools, particularly where groups of students are not making progress or graduation rates are low over extended periods of time (US Department of Education, 2017).

One significant addition to the reauthorization of *ESEA of 1965* is the component of college and career readiness in which states must address. In Texas, House Bill 5 addresses the college and career readiness requirement by students select a career endorsement as a requirement to graduate. Similarly, *ESSA* requires students to take state tests to measure academic achievement, which also includes a growth component. For Texas Accountability, Index 2 Progress Measure is the instrument that measures student growth ensuring all districts holding to the same standard regardless of district wealth, student economic factors, or at-risk student population. Though states were granted more flexibility in the new mandates, many of these requirements were unfunded by the federal government placing the burden on the school districts.

Current National Educational Climate

Since the 2008 economic crisis, school districts throughout the nation must operate on reduced funding (Council of the Great City Schools, 2012; Hodges, 2018).

Lack of funding has negatively affected material and human capital resources that are needed to ensure students make academic growth (Baker, Farrie, & Sciarra, 2016; Barnes, Crow, & Schaefer 2007; Darling-Hammonds, 2003; Feng, Figlio, & Sass, 2010; Fuller, Waite, & Irribarra, 2016; Gray, 1948; Helms-Lorenz, van de Grift, & Maulana, 2016; Janik & Rothmann, 2015; Jimenez-Castellanos, 2010; Simon & Moore, 2015). The issue of scarce resources, compounded with increased numbers of at-risk and impoverished students, contributes to decreased academic achievement. Regrettably, reduced federal funding has had a greater negative impact on the nation's urban schools serving at-risk students (Council of the Great City Schools, 2012).

Federal funding has decreased since the 2008 economic crisis (Center on Budget and Policy Priorities, 2016; Council of the Great City, 2012; Leachman, Masterson, & Wallace, 2016). Twenty-three states provide less funding to schools in 2017 than before pre-recession, and the local revenues were not abundant enough to make up the difference (Leachman, Masterson, & Wallace, 2016). Decreased funding challenges districts because economically disadvantaged and at-risk students cost more to educate. Decreased funding and resources create hardships on the teachers to perform their jobs adding stress and workload, often cause teacher turnover (Dess & Shaw, 2001; Helms-Lorenz, van de Grift, & Maulana, 2016).

More recently, worry and frustration have reached critical levels as states throughout the nation have experienced teacher strikes. In April 2018, teachers in Oklahoma and Kentucky staged a walkout with the slogan "No funding-No future," citing poor wages, reduced benefits, and many other issues that lead to turnover (Goldstein, 2018). The teachers in these two states followed a February 2018 teacher-

pay-strike victory in West Virginia where 55 counties closed school for several days (Trimble, 2018). Both Oklahoma and West Virginia strikes lasted for nine days, representing nine lost days of instruction for students (Kilgor, 2018). Now, other states are potentially planning to join forces and support the inequitable funding issues that have long created teacher stress and student performance issues. Inequities that cause teacher strikes disrupt the organization's culture. Moreover, teacher strikes prevent students from receiving instruction, as well as other basic needs such as free breakfast and lunch for low socio-economic students. The issues related to inequitable funding create a negative ripple effect through the organization.

Some researchers are critical of the idea that lawmakers continue to force unfunded, resource-free school reform efforts on school districts throughout the nation (Baker, Farrie, & Sciarra, 2016; Hourigan, 2011). They point to a disconnection between revenue, spending, and tangible resources; which some policymakers deem irrelevant to outcomes. Districts that serve large numbers of students of poverty require more dollars to ensure the chance for equitable educational opportunities, which in this case equates to academic outcomes equal to those students who are not classified as low socio-economic or at-risk (Baker, Farrie, & Sciarra, 2016; Watlington, Shockley, Guielmino, & Felsher, 2010).

One study examined the impact on the total expenditure per pupil related to program improvement status of four Title I schools that had similar demographics (Jiminez-Castellanos, 2010). Jiminez-Castellanos used a mixed method, multiple comparative case study, closely representing the second research question of the present study by examining expenditures and student outcomes. In comparison, Jiminez-

Castellanos used the total expenditures per-pupil and academic ratings, while the present study uses instructional cost per-pupil and student achievement progress. His research found inequities between non-Title I and Title I schools related to facilities, experience, applications, and turnover, which affirmed that categorical funds are negatively correlated to school types and highly predict lower student achievement. Title I schools had more categorical funds and overall expenditures used to support at-risk learners. However, non-Title I schools had more hidden funds through booster clubs, PTA, and business partnerships, resulting in a more enriched learning experience for students.

Another dated study analyzed instructional expenditures and student outcomes during the Texas Assessment of Knowledge and Skills (TAKS) era from 2003 to 2007. Jaska (2009) used a regression analysis and found that instructional expenditures negatively correlated to student outcomes. Researchers concluded that schools “could not spend their way to success” (Jaska, Hogan, & Wen, 2009). Similar to Jiminez-Castellanos’ (2010) findings, Jaska also found the higher student percentage of low socio-economic makeup a school had, the lower the Texas Assessment of Knowledge and Skills (TAKS) scores.

Educational Climate in Texas

From 1988 to 2010, more than 215,482 Texas teachers left the teaching profession, with 72% leaving during the Texas Assessment of Knowledge and Skills (TAKS) period from 2003 to 2010 (Sass, Flores, Claeys, & Perez, 2012). Therefore, 28% left teaching at the latter part of the first wave of accountability (1988-2000) and in the infancy stages of the second wave (2000-2003). Mobility rates also continue to increase throughout the state. The 2011-2012 school year showed a mobility rate of 18.7%, while

the 2015-2016 school year had a mobility rate of 22% (Sullivan, Barkowski, & Lindsay, 2017). More than one half of the mobility figures include teachers who leave the profession altogether. The most recent data from 2016-2017 school year shows a state turnover average of 16.4% (TAPR, 2017).

Previous research concludes that teachers who serve large numbers of at-risk students and students from low socio-economic backgrounds experience heightened levels of stress due to greater student needs and the lack of resources due to inequitable funding, resulting in increased turnover rates (Darling-Hammonds, 2003). The most recent data indicates the national Hispanic student population consists of 22.7% or 57.5 million students (Bauman, 2017), while the Hispanic student population in Texas is 52.4% (TAPR, 2017). Over 1.1 million students (18.9%) are both English Language Learners and from low income backgrounds (TAPR, 2017). The percentage of at-risk students in Texas is 50.3%, while the economically disadvantaged category includes 59% or 3.15 million students (TAPR, 2017). Higher turnover correlates with schools that have over 50% of prevalent poverty enrollment (Ingersoll, 2001). Therefore, Texas may continue to experience increasing numbers of teachers who leave their current role due to the greater numbers of at-risk students from poverty.

Texas public education financing has contested inequities between *property rich* and *property poor* districts numerous times over the last four decades. In 1973, the Texas Supreme Court ruled on *Rodriguez v. San Antonio Independent School District*, deciding that disparities in funding did not violate the Equal Protection Clause of the Fourteenth Amendment. Recently, Texas Supreme Court heard litigation involving 650 school districts serving 3.7 million students. The Texas Supreme Court ruled in *Morath, et al. v.*

The Texas Taxpayer and Student Coalition, et al., that the finance formula did not violate the Texas Constitution (Texas Association of School Boards, 2016). The Texas Supreme Court recognized the funding equation as imperfect (TASB, 2016), suggesting a weakness related to the allocation of resources between the property rich and property-poor districts. Many property-poor districts serve students who have a *parade* of new teachers who are less effective and could benefit from the extra dollars for internal reform efforts (Barnes, Crow, & Schaefer, 2007; Darling-Hammonds, 2003).

In the State of Texas, the State funding formula requires property-rich districts to pay back to the State any overages collected in taxation that exceeds the allotted amount per-pupil. This law, known as Chapter 41 of the Equalized Wealth Level (The Robin Hood Law), is included in Chapter 62 of the Texas Administrative Code (TEA, 2018). The formula, in theory, provides equity in financing between property-poor and property-rich school districts making total expenditures per student similar. For example, Texas Education Agency groups Texas school districts into twenty categories based on the amount of tax revenue generated per pupil. The lowest property wealth category includes schools whose income is under \$109,324 per pupil (property-poor) while the highest category (property rich) of schools encompasses income ranging from \$801,423 to \$24,507,828 per pupil (TEA, 2017).

In Texas, TEA Property Snapshot data from 2016 classifies Boles Independent School District a property-poor district and receives 89.4% of its operating funds from the state, 6.3% from local funds, and 4.3% from federal funds. Students from economically disadvantaged backgrounds comprised 50.4% of the enrollment, and the district spent \$5,514 per pupil on instruction. In the previous year, only 40.7% of

students were economically disadvantaged, and the amount spent on instruction per-pupil was \$5,810. The number of students who were low socio-economic status increased and instructional costs per pupil decreased over a period of one school year. Highland Park ISD, a property-wealthy district, has 0.0% economically disadvantaged students and receives 10.4% from state funds, 88.0% from local funds, and 1.6% from the federal funds. Highland Park Independent School District reported an instructional cost-per-pupil of \$5,856, up from the 2015 Snapshot figure of \$5,395. Unequal funding, along with the increased challenges of supporting at-risk students contributes to teacher turnover and lower levels of student performance. The degree of this association remains unexplained.

Summary

Teacher turnover is a growing problem amplified by several known factors that appear to be strengthening to decrease teacher efficacy and increase teacher burnout. Unfortunately, teacher turnover is an entangled and complicated phenomenon (Clandinin et al, 2015). Reviewing timeframes extending from the Pre-Accountability Era through the Second Wave of Accountability, the literature review examined studies indicating teacher turnover, often by newer and more inexperienced teachers, negatively affects school districts culturally, academically, and financially. Yet, negative cultural, academic and financial effects only serve to further increase teacher turnover creating a complicated and continuing cycle. Additionally, a review of the literature yields limited research on teacher turnover in the newest Third Wave of Accountability established after the implementation of the *Every Student Succeeds Act (ESSA)*. In this Third Wave, *ESSA* provides states more flexibility to address issues affecting student growth. However, state

and district decisions addressing funding and school culture issues have only increased teacher turnover in recent years.

The present study uses Texas school data to investigate predictability of teacher turnover on student growth and predictability of cost-per-pupil and district at-risk rates on teacher turnover. Results of the study will provide pertinent data for scholars and practitioners working to understand the phenomena of teacher turnover. Further, findings from the study will provide state and district leaders information that will assist further decisions and initiatives to reduce turnover and increase student outcomes.

CHAPTER 3

METHODOLOGY

The purpose of the present quantitative ex-post facto study is to investigate if teacher turnover predicts student growth in Texas school districts. In addition, the study measured if the instructional cost per-pupil and the district at-risk percentage predicts the teacher turnover rate in Texas districts. Previous research affirms the quality of the teacher correlates to student academic outcomes necessitating the importance of building and sustaining cultural capital (Luschei & Chudgar, 2011; Ronfeldt, Loeb, & Wyckoff, 2013; Simon & Moore, 2015). However, approximately 50% of all teachers depart by the fifth year of service costing taxpayers and school districts millions of dollars annually (Barnes, Crow, & Schaefer, 2007; Carrol, 2007). As such, schools never fully capitalize on the true efficacy of the organization and students' performance suffers. Results from the study support district leaders seeking to better understand and address internal and external factors that promote teacher retention and student academic growth.

Research Design

Researchers using correlational methods have investigated an array of variables associated with teacher turnover (Adnot, Dee, Katz, & Wyckoff, 2016; Baker, Farrie & Sciarra, 2016; Barnes, Crow, & Schaefer, 2007; Caples & McNeese, 2010; Cheema & Fuller Hamilton, 2017; Coleman, 1966; Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014; Grissom, 2011; Hanushek & Rivkin, 2007; Hendricks, 2013; Hendricks, 2016; Hanushek, Kain, & Rivkin, 1998; Hanushek, Rivkin, & Schiman, 2016; Hill, Bicer, & Capraro, 2017; Ingersoll, 2001; Morettini, 2016; Ryan, et al., 2017; Ronfeldt, Loeb, & Wyckoff, 2013; Scafidi, Sjoquist, & Stinebrickner, 2005; Sedivy-Benton & Boden-

Mcgill, 2012; Sung-Hyun & Cohen-Vogel, 2011). As such, the present ex-post facto study used a non-experimental quantitative research design to predict the relationship among the targeted variables.

Participants

The sample and the population for the present study are the same. The 1,203 school districts in the State of Texas consist of Independent School Districts (ISDs), Consolidated Independent School Districts (CISD's), and Charter Districts. The most recent information from the 2016-2017 Texas Public Schools State Summary shows a combined total of 1,024 ISDs and CISDs with 8,685 schools (TAPR, 2016). These schools, combined, serve over 5,052,091 students and includes 183 Charter Districts with 629 schools that serve 247,337 students. A total of 8,044 public schools and 629 charter schools make up the population for the 2016/2017 accountability year. The combined enrollment for Independent School Districts, Consolidated Independent School Districts, and Charter Districts includes 5,299,428 students.

Sources of Data

The use of archived data allowed the researcher to capture authentic academic effort from students while assessing the variables of interest. Archived data includes standardized testing data, State of Texas Assessment of Academic Readiness (STAAR), which is high stakes testing mandated by the federal government. STAAR is not only important to measure individual student growth, but districts and schools receive accountability ratings based on these test results. For the purposes of accountability, student growth is the year-over-year gain in a specific content/subject area (e.g., mathematics or reading), and is measured by a score ranging from 0-100. Growth data is

reported as the Index 2 score of the Texas Accountability System. Scores calculated as described below:

Index 2 measures student progress in ELA/reading and mathematics by student demographic categories: race/ethnicity, current and monitored ELLs, and special education. Each assessment result is categorized according to the STAAR and the English language learner (ELL) progress measure as Did Not Meet, Met, or Exceeded Progress. These results are grouped according to demographic categories. Weighted scores are calculated based on students' level of performance: one point for each percentage of assessment results that Met or Exceeded Progress and one point for each percentage of results that Exceeded Progress and are aggregated across subjects. Fractions of a percent are rounded to the nearest whole number. Cumulative performance (Met and Exceeded Progress plus Exceeded Progress) for all subjects contributes from 0 to 200 points to each student group that meets minimum-size criteria, including all students. The maximum number of possible points depends on campus type, student population, and demographics. Index 2 is calculated by dividing the total points (cumulative performance) by the maximum number of points, resulting in an overall score of 0 to 100 for all districts and campuses (TAPR, 2016).

The current study involves four variables of interest: District Teacher Turnover Rate, Average Instructional Cost Per-Pupil, District At-Risk Student Enrollment Percentage, and District Index 2 Score measuring student growth. Selected variables were examined to measure their ability to predict teacher turnover, the dependent variable, based on District Teacher Turnover Rate or student growth, based on Index 2.

Institutional Review Board

The present investigation followed all the regulations related to the Institutional Review Board and the policies at Texas A&M University-Texarkana. The researcher completed the necessary training, including the online course to obtain the Institutional Review Board certification before conducting any research for the study. The Institutional Review Board at Texas A&M University-Texarkana reviewed the information and found the study *exempt* as the study does not involve interaction with human subjects. At no time will human subjects actively participate in the study; not by interview or survey, or by any other means affecting the outcome of the study.

Instrumentation and Sources of Data

All data used in the study are open to the public free of charge and come from the Texas Education Agency's website at <https://tea.texas.gov/>. The website contains district data for the various academic school years, including the accountability ratings and details for each of the four indices. Data were retrieved from the 2016/2017 Texas Academic Performance Report (TAPR), and the School Report Card by District found in the Texas Performance Reporting System (TPRS). The TAPR report includes the data for the variables in research questions one (district teacher turnover rate and district Index 2 score) and two (district student-at-risk percentage). The independent variable in research question two (district expenditure for instruction per-pupil) was taken from the School Report Card by District for the total instructional expenditure data.

Summary

Teacher turnover is a significant issue around the world, and many researchers have utilized quantitative-correlational studies to examine the multitude of variables

related to this phenomenon. As such, the present ex-post facto study investigates the following questions as related to Texas school districts: 1) Does teacher turnover predict student growth? 2) Does instructional cost per-pupil and the district at-risk percentage predict the teacher turnover? The current study uses data from the 2016-2017 academic year, currently archived on the Texas Education Agency's website.

CHAPTER 4

RESEARCH FINDINGS

The study investigated two research questions related to teacher turnover and predictable relationships that exist between variables. The study examined four variables retrieved from the Texas Education Agency (TEA) website for all school districts in the State of Texas for the 2016-2017 academic school year. All statistical analyses were performed using an alpha level of .05. First, a linear regression was performed to determine if a predictive relationship existed between teacher turnover rate and student growth scores. The second analysis identified teacher turnover as the dependent variable; a multiple regression analysis was used to determine if instructional expenditures and at-risk population were good indicators of teacher turnover.

Data Collection, Preparation, and Analysis

Data for the present study were retrieved from the TEA website under the Reports and Data tab. Each of the variables of interest was selected from the 2017 Data Download in the Performance Reporting Division. The variables obtained from this section included District Teacher Turnover Rate, District At-Risk Percentage, and District Index 2 score. For each download, the district number and name were included to ensure that each numeric value corresponded to the appropriate district. The instructional expenditure variable used data from the financial reports of the district were retrieved from the TEA website, located in the Public Education Information Management System (PEIMS) Financial Standard Reports section. From the 2016-2017 financial report, the instructional expenditures per pupil and the cost of instructional

leadership categories were added together to determine the district's total instructional expenditures per pupil.

Data Preparation. Data retrieved from the TEA website and included information from the 1,203 school districts in the State of Texas for the 2016-2017 school year. Four total downloads were conducted to retrieve data compiled in a master Microsoft Excel spreadsheet. For each of the district data downloads, the district identification number was saved with the corresponding variable to ensure that each variable matched the district number once transferred to the master data file. The initial district identification number was verified for each of the remaining variables and corresponding district identification number. When the numbers did not match, a blank row was created and a manual search on the TEA website provided the missing data if applicable. Process repeated until all data and district identification numbers matched in each of the columns.

A second check of the data provided a list of the 1,203 school districts in Texas and their academic accountability rating. Using the data from TEA revealed 13 districts not rated for accountability. For research question one, only those districts with an Index 2 score were included in the sample ($n = 1,187$). The independent variable of turnover rate also contained missing data. Some districts contained a dash in the column for turnover rate, which indicated zero observations reported for this group. Any district containing a dash was removed from the sample.

A similar process for data verification was conducted for research question two using the financial data retrieved from PEIMS. Once the data was verified, the sample for this analysis was $n = 1,185$. A multiple regression analysis was used for research

question two to investigate if the instructional cost per-pupil and the at-risk rate was a predictor of teacher turnover.

Analysis. IBM SPSS (version 24) software was used for the statistical tests. The alpha level for all analyses was set to .05. Variable one was the District Identification Number. The second variable was the District Name. The remaining four variables included the District Total Instructional Cost, the District Index 2 Score, the District Turnover Rate, and the District At-Risk Percentage.

A linear regression analysis was performed to determine if teacher turnover rate predicted the district Index 2 score. Missing values were excluded pairwise. By selecting this function, if one of the variables had missing data, IBM SPSS would omit this paired case from the statistical analysis. The final analysis conducted for research question one included a scatterplot with the slope of the model displayed (see *Figure 8*).

To answer the second research question, a multiple regression was performed to determine if the instructional cost per-pupil and the at-risk rate were significant predictors of teacher turnover. Research question two included two scatterplots (see *Figure 9 & Figure 10*). The same process was repeated for the second independent variable (At-Risk) and was assessed on a different figure.

Data Analysis and Results

Research Question 1. The first question asks; *Does the district teacher turnover rate predict the Index 2 score for student growth in Texas school districts?* A simple linear regression analysis was used to determine whether teacher turnover had a predictable relationship with student achievement growth. The regression analysis established the amount of variance in the student achievement growth score that can be

explained by teacher turnover. R^2 was used as the effect size measure and the unstandardized beta coefficient was assessed (Field, 2013). The following regression equation was used to test the null hypothesis.

$$E(Y) = \beta_0 + \beta_1 X_1$$

Y = The district Index Score
X₁ = Teacher turnover

H₁₀: $\beta_1 = 0$. Teacher turnover does not predict the district Index 2 score.

H₁: $\beta_1 \neq 0$. Teacher turnover predicts the district Index 2 score.

The sample included 1,187 cases with an Index 2 mean score of 37.87 ($SD = 5.914$) and a mean turnover rate of 21.029 ($SD = 11.1893$). The Pearson's correlation coefficient was negative and statistically significant [$r(1187) = -.265, p < .001$], suggesting that as the district teacher turnover rate increased, the district Index 2 score decreased. The model yielded an R^2 value of .07, a mid-range small effect size meaning that 7% of the variation in the district Index 2 score could be explained by the amount of teacher turnover within the district.

The model was significant [$F(1, 1185) = 89.169, p < .001$]. The Index 2 score can be predicted based on the amount of turnover that occurs within the district. Because the relationship is negatively correlated, districts can expect a decrease of -.14 points from the Index 2 score for each percentage increase in teacher turnover. Using the coefficient data, the following model equation for the study was:

Index 2 Score = 40.81 + -.14(Turnover Rate). Using the Y-axis intercept of 40.81 and the mean turnover rate of 21.029, the following example illustrates how this equation can be used to predict a district Index 2 score.

$$\text{Index 2 Score} = 40.81 + -.14(21.03\%)$$

$$\text{Index 2 Score} = 40.81 + (-2.944)$$

$$\text{Index 2 Score} = 37.8658 \text{ or } 37.87$$

This equation shows that 21% turnover rate accounts for roughly a three-point loss from the Y-intercept district Index 2 score of 40.81. The scatterplot and slope (see *Figure 6*) further establishes the predictive relationship between the variables. Because the predictive relationship between the two variables was significant, the null hypothesis failed to be accepted. The practical implications and application of the model are discussed in Chapter 5.

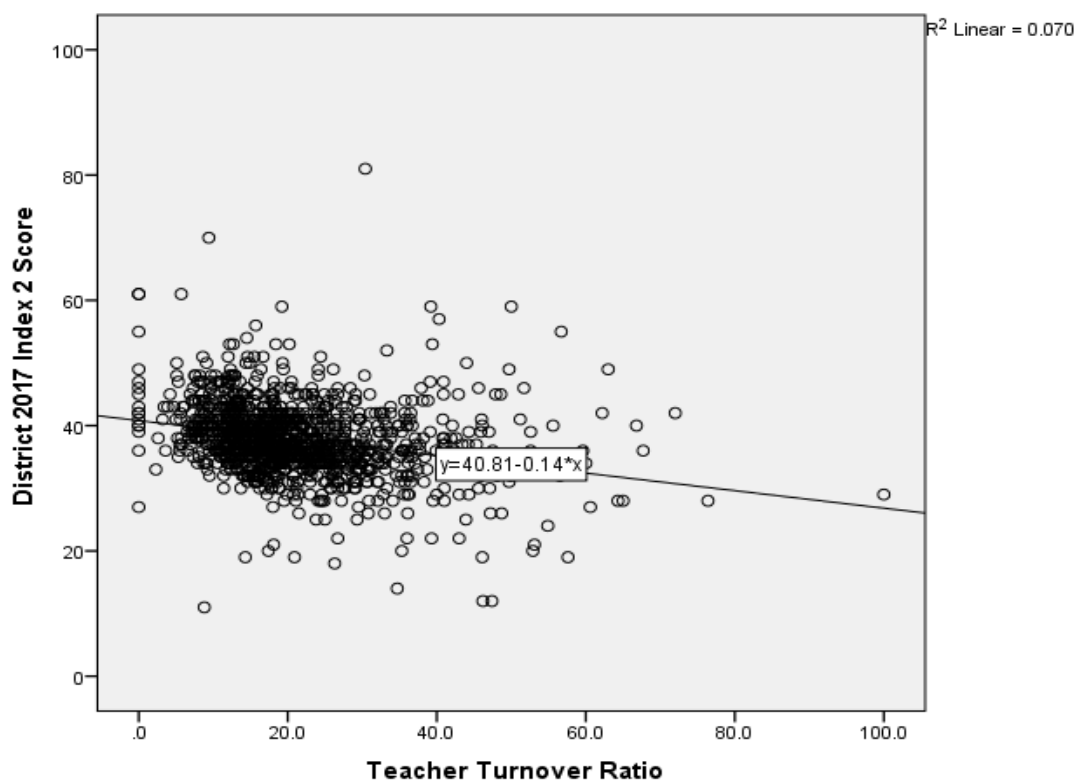


Figure 6. Scatterplot of Teacher Turnover Rate predicting Index 2 score.

Research Question 2. The second question asks; *What is the impact of a district's average annual instructional expenditure per pupil on the relationship between teacher turnover and student achievement progress?* A multiple regression analysis

assessed whether the instructional expenditures per pupil and the at-risk rate predicted the teacher turnover rate. The following equation was used to test the null hypothesis:

$$E(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2$$

Y = Teacher Turnover Rate
X₁ = At-Risk Percentage
X₂ = Investment cost on instruction per pupil

H₂₀: $\beta_2 = 0$. The at-risk percentage and the amount invested in instruction per pupil does not predict teacher turnover.

H₂: $\beta_2 \neq 0$. The at-risk percentage and the amount invested in instruction per pupil is associated with teacher turnover.

The sample for RQ2 included 1,185 districts with a mean district turnover rate of 20.937 (SD = 11.1303), a mean instructional cost per-pupil of \$5847.28 (SD = 1425.54), and a mean district at-risk rate of 44.469 (SD = 17.30). The Pearson's correlation coefficient revealed instructional cost was negatively correlated with the district turnover rate [$r(1185) = -.079, p = .003$]. The data revealed that district that spent less on instruction had somewhat higher turnover rates, though causality cannot be determined. In contrast, at-risk rate was positively correlated to turnover rate [$r(1185) = .238, p < .001$]. The data indicated that as the student at-risk rate increased those districts also had inflated turnover rates. The value of .062 is a small effect size, meaning that 6.2% of the variation in the district turnover rate can be attributed to the instructional cost per-pupil and the at-risk rate within the district. The scatterplot (*Figure 7*) shows the distribution for the variables at-risk rate and turnover rate.

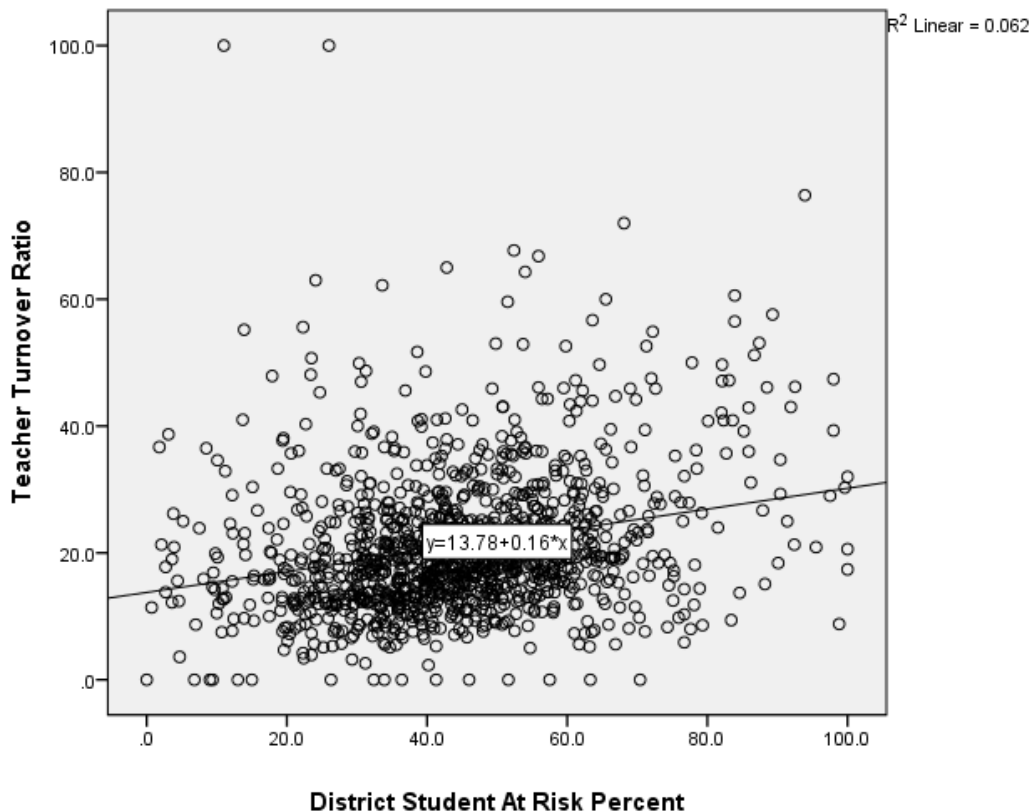


Figure 7. Scatterplot of district at-risk rate and teacher turnover.

The first independent variable exhibited a moderately small effect size with a R^2 value of .062 and a positive slope for the relationship between the at-risk percentage and the teacher turnover rate. The model concluded the slope of the line was $Y=13.78 + 0.16(X)$. Using this formula, the Y value, or the turnover rate can be predicted when all other variables are held to a constant and an at-risk value is substituted for X.

The model for research question two was significant [$F(2, 1185) = 39.04, p < .001$]. The following model equation was developed using coefficients: Turnover rate = $\beta_0 + \beta_1$ (instructional cost) + β_2 (at-risk rate) or turnover rate = $17.570 + .001$ (instructional cost) + $.116$ (at-risk rate). This model indicates the degree to which each predictor variable impacts the outcome variable, if all other variables are held constant (Field, 2013). For example, for every 1 unit (\$1,000) decrease in instructional

cost within a district, teacher turnover will increase by .001 unit (percent). This shows that every \$1,000 less a district chooses to invest on instruction per pupil will result in one teacher who leaves the district, holding the at-risk rate constant. Similarly, an increase of one unit (1%) in the at-risk rate equals an increase of turnover by .15%, holding the instructional cost constant.

The instructional cost per-pupil had a small effect on the predictability on district teacher turnover. The scatterplot below shows the negative correlation between the cost per-pupil on instruction and the rate of teacher turnover.

Summary

The purpose of the study was to investigate: 1) the relationship between teacher turnover and student academic growth in Texas schools; and 2) the impact of instructional expenditures per student and number of students identified as at-risk on a Texas district's teacher turnover rate. The regression analysis proved both models were statistically significant at the .05 level and both models had a moderately small effect size based on the R^2 value (RQ1: $r = .07$; RQ2: $r = .06$). The correlation between teacher turnover and the Index 2 score was negatively correlated and statistically significant.

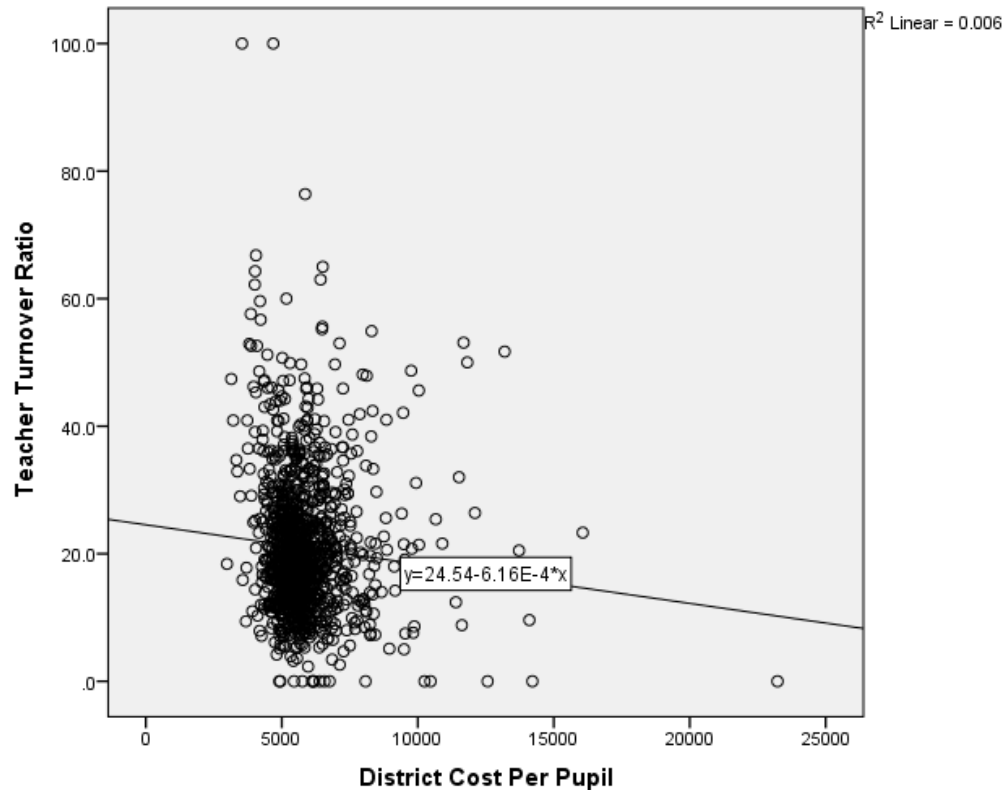


Figure 8. Scatterplot of instructional cost and teacher turnover.

Research Question 2 data provided mixed findings on the strength of the predictable relationship among the independent variables. As Figure 8 shows, the instructional cost negatively correlated to teacher turnover. The instructional cost per-pupil and teacher turnover rates are not linearly strong predictors, even though the model and the instructional cost proved significant. On the other hand, the at-risk rate showed a positive correlation and had a small effect size related to the predictability the at-risk rate had on teacher turnover. These findings have both practical and applicable implications for both dependent variables. In both cases, more than 90% of the variance between models can be attributed to something other than the independent variables of investigation.

CHAPTER 5

DISCUSSION

Data related to teacher turnover and the associated variables will assist district leaders in focusing on factors that ensure students make academic growth each school year, while also reducing turnover. Undisputed, high quality human capital is an essential component for organizational efficacy and student performance. Further, this teacher turnover study also adds to the existing body of research related to turnover and expands to include the student growth component required by the newest and higher federal accountability requirements.

Summary of Study Findings

This quantitative turnover study utilized data for the 2016-2017 academic year for the State of Texas to determine if turnover predicted the district Index 2 score measuring student growth. A second research question assessed if a predictable relationship existed by examining both the at-risk percentage and the instructional cost per-pupil toward the potential turnover rate within the district. Both questions utilize a regression analysis and the data was assessed at the $p = .05$ level, or at the 95% confidence interval. Using data from Texas school districts, the first research question contained the sample of $n = 1,187$. The second research question sample included $n = 1,185$. All the data examined within the study were retrieved from the State of Texas's website that is open to the public.

The findings from the study revealed that both models had a small effect size and a low predictability among the variables. Both models were statistically significant, and the null hypotheses were rejected for each of the research questions. The first research

question indicated that a small level of predictability existed between teacher turnover and the district Index 2 score and yielded an R^2 value of .07. The second research question used a multiple regression analysis to determine if the at-risk percent along with the instructional cost per-pupil were good predictors of teacher turnover. Overall, the findings revealed that both models were statistically significant, but each had a very small effect size.

Discussion

One of the limitations a regression analysis has is the inability to establish a cause and effect relationship among variables. The results from this study must be interpreted with caution. Schools and districts are loosely coupled organizations (Perreault & Lunenburg, 2002) with a number of unique attributes that influence the outcome of each variable. However, the data for research question one confirms districts that experience heightened levels of teacher turnover may experience a decrease in the Index 2 score. Failing to meet the state accountability measures opens the floodgates to a host of other issues leaders must manage, but the real tragedy is that students did not master the grade level curriculum or make the necessary growth. Ultimately, a small percentage of the decreased growth index score is predicted by turnover, but this raises further questions regarding the root cause of poor academic performance or growth by students. The implications of students failing to make considerable growth each year only foster the longstanding achievement gap placing them further at-risk.

Another significant finding in the study contends that school districts that spend less on instruction per pupil and contain large numbers of students who are at-risk may experience heightened levels of teacher turnover. Longstanding, scholars debate the

importance resources play into the overall equation toward student performance and teacher turnover. Based on the model in the study, when both are input into the equation, they are statistically significant. The negative correlation between the instructional cost per pupil and turnover rate could be expected. However, the low predictability and the zero effect of the instructional cost per pupil, was unexpected and creates further questions related to the importance of educational expenditures.

A large number of researchers argue that money matters; it matters in student outcomes and teacher turnover due to the lack of resources which create hardships in meeting the needs of all students. For the study, the mean instructional cost per-pupil is \$5847.28 ($SD = 1425.54$) and the analysis produced a very small constant value ($\beta_1 = .001$) for the instructional cost multiplier. Though the mean score is important for reporting, the range for instructional cost per-pupil is perhaps a better statistic. Similarly, schools were not grouped based on their district wealth classification and the amount each district spent on instruction. It is possible that the overall funds per pupil or a different value versus the one selected would add strength to the model and produce a greater R^2 value for the effect size.

Another factor to consider when examining the instructional cost per pupil and the predictable relationship on teacher turnover is the sheer strength in numbers. For example, a district that is comprised of a large student population, be that affluent or poor, has more money. The (N) multiplied by the average cost per pupil (\$5847.28) yields very different figures for a district that has 100,000 students versus smaller district that have 1000 or less students. Strength in numbers translates to dollars that could be

invested into the other resources needed to educate students (at-risk) well while also providing the teaching resources needed so teachers may better perform their duties.

The second independent variable examined the at-risk rate for each district. In Texas, roughly 50% of all students are at-risk and these numbers are likely to increase in the future. Texas may see a rise in teacher turnover, especially with newer and higher student accountability. The model shows that the at-risk rate is a predictor of teacher turnover to a small degree. The at-risk rate is a factor that is beyond the control of district leaders. However, the way in which districts respond to the growing number of students who are at-risk is certainly within the control of those charged with leading a campus or district. As such, there are inherent implications which tie back to financial resources. Unfortunately, school districts throughout the state that struggle to secure the financial resources needed to serve large populations of at-risk students are at a disadvantage. Researchers and policy makers argue that money does not matter. Contrary to this belief, anyone who works with high populations of students who are at-risk can attest that those with greater needs cost more to educate and this cost extends beyond money.

Similar to the soft and hard cost of turnover mentioned in the literature review, there are also hard and soft costs that teachers experience that potentially impact turnover. It is important to note the cost exist in both at-risk and non-at-risk schools. The hard costs are items related to financial resources that are easy to quantify. The soft costs are the “opportunity-costs” or hidden costs that teachers experience that are not as easy to quantify or calculate and these are largely linked to time. It is believed that the soft costs are the ones that potentially lead to burnout. These soft costs include extended

work days without compensation including weekends, before and after school tutoring- with and sometimes without pay, bureaucratic meetings and paperwork that yields very little academic benefit for students, purchasing materials and resources for students with personal finances, working a second and third job due to the low teacher pay scale, poor working environments, a conference period that exists on paper only, lack of support, teaching multiple content and grade level assignments, and poor leadership. These examples are well documented in the literature and are found to impact a teacher's decision to remain or leave. If these conditions are a largescale problem in schools throughout America, logically it would be hard for even veteran teachers to be effective in performing their duties. These soft costs could explain why so many new teachers never get to develop their craft of teaching and leave education by their third year.

Suggestions for Future Research

The study brings into focus several important factors that will extend the research in the area of turnover, student growth, instructional expenditures, and at-risk student populations. The possibilities for future research are extensive as there are a number of variables that could be tested related to organizational effectiveness. Similar to what the scholars in the Effective Schools Movement did, researchers could seek schools and districts based on their Index 1 or the Index 2 score in comparison to the at-risk district makeup. A case study would provide a clearer picture of what these organizations do to produce greater student growth measures and could focus more deeply on the issue of turnover within these districts. Districts that can demonstrate greater Index 2 scores and lower turnover rates could be used as models for other districts to implement the practices that positively impact the organization.

Districts that can generate greater Index 2 scores could further be examined at the micro and macro level related to teacher and organizational effectiveness and how turnover impacts the organization. Teacher effectiveness is one area that will be critical for the decades to come in pursuit of closing the achievement gap. At the time of this research project, Texas has implemented a new component of the teacher appraisal system that places emphasis on student growth. A portion of the teacher's evaluation links the teachers' ability to increase or grow students academically and is a testament to their technical skill. The debate regarding teacher effectiveness related to the years of experience is conflicting and worthy of future research. A replication study could determine if the years of experience correlates to the Index 2 growth measure and student achievement. Hanushek (2010) found that a teacher with five and 25 years' experience performed about the same. If true, district leaders have not done a very good job of building, refining, and instilling the ideological "lifelong learning" mantra so many school districts proclaim. Ultimately, leaders who could develop their teachers into masterful practitioners would not only see an increase of student learning but may also retain the very teachers who are needed in public schools.

Jiminez-Castellanos (2010) discovered that non-Title 1 schools had more hidden funds through local business partnerships and booster club activities that created a richer educational experience for students. The degree to which hidden funds exist in Texas is unknown. The amount of money school districts spend on education is regulated by the state, yet discrepancies exist between districts and schools. As mentioned earlier, using a different financial figure related to the financial expenditures may produce a different outcome related to teacher turnover. Using the instructional cost per pupil to predict the

turnover rate failed to reveal a correlation or impact on student growth. In hindsight, the instructional cost per-pupil may better assess the academic output by students, be that Index 1 or Index 2. A qualitative study could investigate if hidden funds exist within the schools and if these funds have any impact on academic outputs, growth, or teacher turnover.

Recommendations for Practice

The information from the study provides information for the practical application within organizations to promote teacher retention and student learning. The recommendations are derived from the findings as well as the holistic learning acquired by researching the phenomena of turnover. Extending these findings further, the information in the study could also be used as a policy instrument to help guide educational practices that could potentially improve the working conditions for teachers and promote teacher retention.

Research Question 1. Research question one analyzed the predictable relationship between teacher turnover and student growth. The small effect size predicts that turnover will lower student growth. The biggest challenge facing district leaders is finding and retaining the best teachers to impact student learning and growth. Based on the research inquiry, the “best” teachers are technicians and counselors. Excellent teachers know how to reach and teach a diverse audience, build and foster authentic relationships, produce academic results, contain strong self-efficacy, and have a genuine love for learning and students. These attributes are especially important when working with students who are at-risk. Luckily, teachers with these attributes are also effective

with non-at-risk students. The following are the implication for practice for research question one related to student performance:

1. District leaders can utilize the turnover formula to predict Index 2 Scores and improvise strategic initiatives to impact student learning.
2. Districts and administrators must place an emphasis on recruiting quality teachers and provide them with the resources needed to be effective. Self-efficacy is one critical component that may assist in teacher retention and student outcomes.
3. Extensive support frameworks must be introduced into the system and implemented with fidelity. Initiatives that lack the resources for success should be avoided. This may require new an unconventional position's that support new and veteran teachers.
4. Reexamine and challenge practices in which principals and district leaders are selected and placed. The role of the principal can no longer be managerial or a political figurehead. If increases in student learning and teacher retention are desired, then a strong instructional leader with interpersonal skills must lead this initiative.

Research Question 2. Because Texas is nearing the 50% mark for at-risk students, district leaders and policy makers should pay close attention to the shift that has become the norm in Texas schools. The study supports the findings that large at-risk population schools are correlated to increased teacher turnover and turnover is negatively correlated to student growth. Who sets foot on the campus is beyond the control of the principal and superintendent. However, initiatives can be implemented to support

students who are at-risk and safeguard teachers from burnout. The recommendations for research question one also apply to research question two as these two concepts are interrelated. The following implications for practice are derived from research question two and focus on teacher turnover:

1. Implement training programs that focus on working with at-risk students and the unique challenges. These include:
 - a. Relationship programs
 - b. Discipline frameworks that are uniform across districts
 - c. Early interventions for struggling learners and careful monitoring of student progress
2. Provide teachers with uninterrupted conference periods or other professional learning times so they can better manage the technical core.
3. Identify and respond quickly to teachers who are experiencing burnout.

Recommendations as a Policy Instrument

Little information exists on large scale policy measures that focus on improving the overall conditions for teachers and educators. The Teacher Incentive Fund Grants were intended to promote teacher retention and like this study, the money invested did not matter much on retention or student outcomes. One criticism of the TIF Grant initiative was that it failed to address or improve the working conditions for teachers. To date, no such improvement exists from the federal or state level to drastically improve education at the ground level. It is plausible that large scale reform to improve the working conditions for teachers and educators is the missing component that is needed for greater observed academic outputs by students and lower turnover rates by teachers.

In the course of this study, several books discussed the need for a new structure to improve student outcomes, while others take a more radical approach and call for a new educational system entirely. In closing this chapter, these ideas are worth mentioning.

After the release of a Nation at Risk 1983, school improvement has been a major driving force in public education. School reform and the deep change needed to impact student learning is problematic on the following premises: change occurs on the small scale; it does not last; and the insignificant impact on the students' learning (Perreault & Lunenburg, 2002). Loose coupling and the logic of confidence are two opposing forces that create challenges regarding the organization and disrupt the internal stability. This occurs primarily due political forces that creates conditions in which superintendents also cycle through the organization. When the change happens, all the ideologies that guided the institution from the leader are amended or replaced. Similar to what teachers experience, leaders within the district may also find this reinventing the wheel demoralizing and burdensome.

When organizations experience turnover, principals are unable to be instructional leaders because they manage the all the items or "infrastructure" that supports the institution. Most, if not all of what they do, has very little to do with supporting teachers and focusing on instruction. The systems design is perhaps an inherent weakness that may create a ripple effect on both learning and teacher turnover. Based on this information, the mobility of the superintendent or principals by category is not currently recorded on any of the accountability reports for Texas. This is one area that may lend itself to investigation by policymakers.

The issue of turnover is complex and has a well-documented history on the causes and the impact on schools. However, the term turnover is vague and varies among studies and organizations. The literature review revealed that what constitutes turnover may be mobility, retirement, death, a sabbatical to finish a graduate degree, or leave the educational setting altogether. The number of teachers who leave education only to return later is not well documented or tracked. In a similar way, all these categories may have a significant impact on student learning. Carroll (2007) stated that district leaders cannot grasp the impact of turnover if they do not understand this phenomenon. For this reason, the recommendation is for state educational institutions to create a code that is assigned to all teachers, principals, superintendents, and other support staff so that turnover and its impact can be more accurately investigated. Moreover, this unified code should be the same throughout the United States because the issue of turnover is a national phenomenon. Based on the research investigation, the issue of turnover may be greatly underrepresented.

Many of the teachers who live close to state borders work across state lines due to the monetary benefits and a host of other reasons. If such a system was implemented, then the true impact of turnover could be better analyzed. Similarly, if students' academic progress was tied to the teacher of record and archived, then it would be easy to settle the debate on whether the most effective or least effective teachers' turnover. The ramifications for an ineffective teacher to move from one school district to another, only to be equally unsuccessful, for their entire career goes largely unchecked. In the quest of providing 21st Century Learning along with heightened accountability measures, organizations cannot afford to have average or below average teachers serving students.

The last recommendation is centered around the idea and concept of what 21st century leaning looks like and the implications on the United States economy if education fails to meet this necessity. In 2007, the National Center on Education and the Economy released the report titled *Tough Choices or Tough Times*. For most of the 20th century America could claim to have the best-educated workforce with 30% of the world's college enrollment. Today, this is no longer the case and countries throughout the world continue to surpass the US for the number of the world's population entering college. At the time of the report, the US had fallen to 14% of the world's college population. The report warns that the slow transition will be irreversible, and that this will decrease the American standard of living. The report concluded the current educational system was designed for a different era and is beyond repair; No amount of money from the Government can remedy the issue. Ultimately, the only way to produce the best students to compete in a global economy is to create a new educational system (NCEE, 2007; Vollmer, 2010). The NCEE listed ten recommendations to support this endeavor which include:

1. Do the job right the first time.
2. Efficient use of available resources.
3. Recruit the top one-third of the high school graduates to become teachers.
4. Develop standards, assessment, and curriculum that reflect today's needs and tomorrow's requirements.
5. Create high performance schools everywhere.
6. Provide high quality, universal early childhood education everywhere.
7. Provide strong support to those who need it most (At-Risk). ‘

8. Enable every adult in the workforce to acquire new literacy skills.
9. Create personal competitiveness accounts-a GI Bill for our times.
10. Create regional competitiveness authorities to make America competitive (p. xxx).

More than ten years have passed since NCEE released this report and no substantive changes have occurred to allow for such a system. The evidence from this report is clear and the American educational system may benefit by implementing some, if not all, of these components. Hanushek and Wossmann (2010) indicate if the US could bring the level of student performance to that of Finland, the gross domestic product would increase by the trillions. The US educational system would pay for itself.

Policy makers and those who have the ability to impact educational change are truly faced with *Tough Choices or Tough Times*. It seems the timer has already started. The question remains: *Who will make this call for change a reality?* It is plausible the action required may better come from a *21st century learning superintendent*, at the local level. Indeed, districts that can creatively implement these recommendations will not only produce a better student, but will also create a working environment in which good teachers will commit for the long haul.

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