

Spring 5-1-2017

An Investigation of the Variables that Impact the Strength of Arkansas Public Schools' Educator Workforce

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AN INVESTIGATION OF THE VARIABLES THAT IMPACT THE STRENGTH
OF ARKANSAS PUBLIC SCHOOLS' EDUCATOR WORKFORCE

A Dissertation Submitted
to the Graduate College
Arkansas Tech University

in partial fulfillment of requirements
for the degree of

DOCTOR OF EDUCATION

in School Leadership

in the Center for Leadership and Learning
of the College of Education

May 2017

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Title: An Investigation of the Variables that Impact the Strength of Arkansas
Public Schools' Educator Workforce

Program: School Leadership

Degree: Doctor of Education

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Date

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Acknowledgements

The completion of this doctoral program has been an amazing journey. There are so many who have helped to make this achievement possible, including colleagues, family, and friends. I first want to thank my grandmother, the late Melba Maxine Fielder, who believed that education was the most valuable gift to bestow upon her family. Through her legacy, my mother, Dr. Jan Ziegler helped make this goal financially possible by providing tuition support using funds from my grandmother's life savings. While relatively small, the savings have supplemented not only my tuition but also the tuition of an additional grandchild and three great-grandchildren for higher education tuition expenses.

In addition to financial encouragement, I would like to thank my colleagues Dr. Denise Airola and Dr. Frank Servedio for their assistance with feedback and data to help me complete this process. I would also like to thank Dr. Mark Gotcher for his encouragement and continuous support to persevere. Special thanks to the Arkansas Department of Education team members Bobby Lester and Amy Thomas who provided me with information and clarity about Title II, Part A funding and patiently directed (and re-directed) me to the information needed to answer my questions.

I would also like to extend my gratitude to my advisor Dr. John Freeman for his guidance and feedback and to my dissertation committee whose probing questions and interest in my topic helped me to improve my study.

Finally, I want to thank my husband, Joey, and children, Katelyn and Tyler, for their patience and understanding as I spent nights and weekends away from them to reach

this goal. The completion of this degree would not have been possible without their faith in me, and I am truly grateful for their support.

Abstract

The purpose of this study was to examine the variables that impact the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and to determine if current allocations, expenditures and uses of Title II, Part A funds impact a district's ability to recruit and retain quality teachers, identified as 'excellent' teachers in this study. This study used a quantitative data analysis approach to describe and test relationships.

The researcher selected a total of 126 schools from 37 Arkansas school districts for the study based on the school's reported poverty and minority status in yearly Cycle 2 submissions to the Arkansas Department of Education from the most recent three academic years. The identified schools were classified as High-Poverty or High-Minority if their reported demographics were in the top 25% of Arkansas's identified poverty and minority schools based on student populations for the past three academic years. Each school and district were assigned an equity composite score as a way to measure the school's workforce.

The composite score, a combination of the district or school's three-year percentage of inexperienced and unqualified teachers, teachers teaching out of their area of preparation, and the percent of teacher turnover, converted percentages into average raw numbers. A high composite score reflected more instability in the district's workforce, while a lower composite indicated that the school had fewer teachers in these categories, thus a stronger workforce.

One-sample *t*-tests, bivariate correlations, and univariate ANOVA were conducted to test the hypotheses in this study. The dependent variable in all of the

calculations were the equity composite scores. While the analysis did show promise in the equity composite scores as a descriptive measure for determining workforce strength, the research did not reveal definitive relationships between Title II-A funding and expenditures and the workforce strength.

The results of the investigation provide a foundation for future study and highlight the need for state agencies, local districts, policymakers, and communities to focus on the educator workforce.

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CHAPTER I: INTRODUCTION TO THE STUDY

Since the passage of No Child Left Behind [NCLB] in 2001, researchers and policymakers have paid much attention to school accountability, with the quality of a school measured, to a significant degree, by student performance on state-mandated tests. Public schools have been held accountable for the performance of all students and pushed to examine academic achievement and growth gaps among student sub-population groups, including students with disabilities, non-white students, and economically disadvantaged students (Klein, 2002). Research literature points to the classroom teacher as the most influential factor within a school impacting student's academic success, with the building principal's influence a close second (Clotfelter, Ladd, Vigdor & Wheeler, 2006; Loeb & Beteille, 2009).

The Arkansas Department of Education (ADE) has joined other states in efforts to provide all students with access to qualified, effective teachers and leaders (Arkansas Department of Education [ADE], 2015). According to Haycock (1998), minority students and students of poverty experience academic growth and achievement at the same rates as their academic peers if excellent teachers apply the same levels of expectation. But the reality is that often students with the greatest needs are assigned to teachers with the least experience and preparation (Peske & Haycock, 2006). Although high poverty and high minority communities have many dedicated and talented teachers, these professionals are often out-numbered by unqualified and less prepared educators (Haycock, 1998; Ingersoll, Merrill, & Stuckey, 2014; Loeb & Beteille, 2009; Peske & Haycock, 2006). In the United States (U.S.), providing all students an opportunity for a quality education is paramount, as evidenced by the past efforts of the U.S. Department

of Education to fund states through Race to the Top grants. The competitive grants were designed to provide states with incentives to implement innovative approaches to reform education systems within the United States (United States Department of Education [USDE], 2009).

The Elementary and Secondary Education Act (ESEA) allowed states to seek waivers from some NCLB requirements, but required states to develop teacher evaluation systems that included student growth as a major criterion in rating an educator's performance (Polikoff, McEachin, Wrabel, & Duque, 2014). Despite efforts to support improvement, notable achievement gaps still exist between poor and minority students and their counterparts (ADE, 2015). Researchers have attributed these differences to inadequate funding, the lack of qualified teachers, large class sizes, and poor facilities in schools that primarily serve economically disadvantaged and minority students (Rebell, Wolff, & Rogers, 2012).

Background of the Study

At a time when access to excellent teachers and leaders is accepted as a fundamental right for all students, preparation programs in Arkansas are showing a decline in the number of teacher candidates enrolling in programs preparing educators (United States Department of Education [USDE], 2014; ADE, 2015; ADE, 2016). Several data sources report general enrollment declines and shortages particularly for demographically diverse individuals who represent the diversity of the students they are preparing to teach (ADE EPPR, 2016; Sawchuk, 2015; Sutchter, Darling-Hammond, & Carver-Thomas, 2016). In its Equitable Access to Excellent Educators Plan (2016), the ADE noted a 58% reduction in teachers enrolled in all Educator Preparation Programs

(EPP) compared to enrollment in 2010, a decline of 4753 enrollees since 2010. Based on preliminary Title II data reported from the Educator Preparation Programs, the most recent enrollee count is 3,502, representing a continued decline (ADE EPPR, 2016). Particularly alarming is the trend in enrollment in traditional educator preparation programs, a subset of EPPs. Traditional programs experienced a 50% decline in the number of teacher candidates enrolled between 2010 and 2015, with the decline continuing in 2016 (Arkansas Department of Education [ADE] EPPR, 2015; ADE EPPR, 2016). The drop in Arkansas' teacher pipeline mirrors the trend of decline in teacher preparation programs nationwide (Sutcher et al., 2016; Westervelt, 2015). In light of the trend, states must focus on strengthening the educator workforce and prioritize efforts and funding to meet the ultimate goal of providing excellent teachers and leaders in every classroom of every school (Minnici, Barringer, & Hassel, 2016).

Arkansas' data also indicated an increase in the number of young, novice teachers over the past five years, and through studies, the ADE has found a link between age and attrition, with younger teachers more likely to leave (ADE EPPR, 2016). A young workforce, combined with a shrinking pipeline, creates a perfect storm of conditions for an extreme shortage of quality educators in the future (ADE EPPR, 2016).

In December 2015, President Obama signed the Every Student Succeeds Act (ESSA), reauthorizing the Elementary and Secondary Education Act of 1965. ESSA replaced the No Child Left Behind Act (NCLB) of 2001. New provisions in ESSA required school districts and states to focus on improvements in teacher quality and effectiveness and ensure equity in students' access to excellent teachers (S. 1177, 2015). The NCLB provision that required all teachers to meet the definition of a Highly

Qualified Teacher (HQT) was eliminated, leaving states to decide on measures of quality and effectiveness for current and future teachers. ESSA will require states to meet the following specifications (Klein, 2015; S. 1177, 2015). States must:

- Identify if low-income and minority students in the state's Title I schools are being taught by ineffective, inexperienced, unqualified or out-of-field teachers at greater rates than their counterparts;
- Determine how the state will address these disparities; and
- Publicly report imbalances and how the state will address them. (S. 1177, 2015)

Under ESSA, states will develop strategic plans to analyze their current educator workforce and identify strategies to address equity gaps in students' access to excellent educators. According to recently released updates by the Council of Chief State School Officers (CCSSO, 2015), states will create educator workforce systems designed to attract, prepare, develop, support, and retain excellent educators (CCSSO, 2015). Given this focus, states should seek to understand the K-12 labor force better and prioritize the educator workforce as a key educational policy area and promote strategic decisions around talent management (Minnici et al., 2016).

As amended by the ESSA (S. 1177, 2015), State and LEA report cards must include professional qualifications of teachers with data presented in the aggregate and further disaggregated comparing high-poverty and low-poverty schools, with a particular focus on the reporting of data at the student level (with privacy protected). State report cards must also include the number and percentage of:

1. Teachers, principals and other school leaders who lack experience (with inexperience defined by the state);
2. Teachers holding emergency or provisional credentials; and
3. Teachers who are not teaching in the subject or field for which they are licensed. (USDE, 2016)

Before the passage of the ESSA, in response to a U.S. Department of Education Federal Call to Action in June 2015, the ADE developed a plan to address the equitable distribution of teachers. The plan addressed long-term educator workforce needs through a comprehensive approach to strengthening teacher and leader effectiveness throughout the state (ADE, 2015; ADE, 2016). The ADE defined the terms *Excellent Teacher* and *Excellent Leader* in its plan. According to the plan, an *excellent teacher* is one who is “experienced, prepared to teach in the assigned area, able to motivate all students to achieve at high levels of performance, and receives evaluation ratings at proficient and distinguished levels” (ADE, 2015, p.6). Similarly, an *excellent leader* is an “instructional leader who demonstrates ethical decision-making and commitment to students, collaborates with communities, and ensures a safe, productive learning environment” (ADE, 2015, p. 6).

Under ESSA states are required to create a comprehensive plan that takes advantage of opportunities to maximize appropriate federal funds to link efforts to build and retain a quality educator workforce with activities that will reduce discrepancies in students’ access to excellent teachers and leaders (CCSSO, 2016). ADE’s 2016 Equitable Access to Excellent Educators update expands the list of definitions to include those required by the ESSA (ADE, 2016, p. 4). Before the ESSA, NCLB and related

federal guidance and regulations specified that school districts or Local Education Agencies (LEAs) use restricted funds for the following activities (USDE, 2006).

- Recruiting and Retaining Highly Qualified Teachers in core academic areas;
- Providing professional development for core academic areas;
- Supporting teachers through mentoring, induction of other development activities;
- Covering costs of testing teachers in core academic areas; and
- Hiring to reduce class sizes.

Title II funds were approved only for salaries tied to the decrease in class size. In a nationwide analysis, many overall recruitment and retention strategies included stipends to staff difficult to fill positions and bonuses for teachers who had proven records of success with evidence of student achievement. Other retention strategies involved identifying master teachers to provide support and professional development to colleagues (USDE, 2006). Under ESSA (S. 1177, 2015), the Title II, Part A formula for dispersing funds changed and will impact future funding amounts to schools. An incremental phase-in formula will start in 2017 whereby 35% of funds will be allocated based on total student population, and 65% of funds will be based on the state's number of students of poverty. By 2020, states will receive 20% of funding based on total population and 80% based on poverty rates of students. Further, the list of Title II funds has been updated to include various uses for State Education Agencies and Local Education Agencies to expand support, development and retention efforts and controls to more closely scrutinize productive uses of funds (S. 1177, 2015; USDE, 2016).

While ESSA eliminates requirements related to HQT, the new law replaces the previous HQT requirements with state-determined measures of teacher quality, emphasizing a focus on teacher effectiveness. Instead of adding federal requirements for teacher quality, ESSA leaves the responsibility to states to ensure that teachers meet applicable state certification and licensure standards and state-determined measures of effectiveness. ESSA also mandates that all funds be allocated for programs that address the needs of all students and can meet requirements for evidence of success. Included in a list of possible resource uses are recruitment and retention initiatives; recruitment of mid-career professionals into education; high-quality professional development; teacher residency programs; redesign of preparation programs; and supporting the instructional services provided by school librarians. ESSA still allows program funds to be used for class size reduction (CSR) but emphasizes that approval for using funds for CSR must show evidence of positive impact (S. 1177, 2015; CCSSO, 2015).

Problem Statement

Arkansas schools, like many nationwide, are experiencing shortages of quality, effective teachers, particularly in schools designated as High Poverty and High-Minority. Nationwide, there is enough evidence to expect that the shortage trends may continue to worsen through the 2017-18 academic year (Sutcher et al., 2016). In Arkansas, students who attend High Poverty and High-Minority schools are less likely to have an experienced teacher who is fully licensed to teach in his/ her chosen field (ADE, 2015; ADE, 2016).

Research documents rapid growth in the rate of teacher turnover causing declining teacher retention as the primary factor in the nation's teacher shortages,

particularly in poverty and minority schools (Cochran-Smith, 2006). Keller (2007) reported that teachers in poor, urban or rural, minority schools are more likely to change schools, leaving economically disadvantaged, minority students to less experienced and often less effective teachers. While efforts to recruit teachers have shown success, strategies to retain them have not (Ingersoll & May, 2011). The greatest movement of teachers occurs at schools with the highest levels of low-income and minority students and also at schools which are designated as the lowest achieving schools (ADE, 2015; ADE, 2016). This constant churn of teachers directly increases the percentage of unqualified and ineffective teachers in these schools, contributing to a high variance in the rate of access to effective teachers (Partee, 2014). The reason for the lack of workforce stability may be attributed, in part, to districts redirecting funding targeted to teacher recruitment and retention efforts or not fully using the Title II, Part A funding stream to adequately address workforce needs. Annual Title II allocations in the range of \$3 billion are sent to states to encourage teacher and leader quality; however, there is insufficient evidence that the funding is driving the impact and change needed to ensure that schools can provide access to effective educators to all students. Allowable activities such as mentoring, recruitment efforts, teacher residencies, redesigned preparation opportunities are neglected while most of the expenditures are spent on professional development and class-size reduction (Rotherham, 2008).

Purpose of the Study

The purpose of this study was to examine the variables that impact the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and to determine if current allocations, expenditures and uses of Title II, Part A funds impact a

district's ability to recruit and retain quality teachers, identified as 'excellent' teachers in this study. The study focused on the rate of inexperienced, out-of-field, and unqualified teachers and the rate of teacher turnover in Arkansas's High-Poverty and High-Minority schools and analyzed current use of Title II, Part A funds to enhance the quality of educators. For this study, turnover was measured using a five-year occurrence rate of novice teachers in schools. The study analyzed Local Education Agencies (LEAs) use of Title II, Part A allocations to enhance the teacher quality issues. The study examined variables that impact the strength of the educator workforce, such as, the rate of inexperienced teachers, teachers teaching outside of their field of preparation, and teacher turnover in Arkansas's High-Poverty and High-Minority schools, and how funds are utilized to increase the likelihood of student access to excellent teachers and leaders.

Title II, Part A funds may be used by school districts in efforts to develop and retain teachers (ASCD, 2016); however, the effective use of these funds has been challenged. A 2013 Center for American Progress survey reported that 75% of the Title II, Part A funds were used for class size reduction and professional development (Pennington, 2013). The author questioned the effectiveness of efforts to increase the number of qualified teachers and reduce the rate of turnover given the pattern of use of funds found in that study.

The intent of the Title II Part A funding is to increase student achievement by improving the quality of teachers and principals (USED, 2014). Title II, Part A funds can be used for core teacher or instructional leader professional development (PD), class-size reduction (CSR), teachers' salary, salaries for master teachers, recruitment hiring highly qualified core academic teachers, teacher retention, and teacher induction support. Title

II, Part A funds are only allowable for activities that enhance, not supersede non-federal funds to be used for teacher and principal requirements (Krasnoff, 2014). The Center for American Progress reported that the \$3 billion spent through Title II funds to improve student achievement through improved teacher quality show little evidence of success (Chait & Miller, 2009). Because schools may choose to utilize these funds in a variety of ways, and because analysis shows Arkansas schools typically are not targeting funds to recruitment and retention efforts in a time of pending shortages, the study will seek to determine if the proportional amount of funding for specific purposes has an impact on a school's ability to retain excellent teachers as defined in Arkansas' plan.

Research Questions and Hypotheses

In Arkansas, students who attend High Poverty and High Minority schools are less likely to have an experienced teacher who is fully licensed to teach in his/ her chosen field (ADE, 2015). Ingersoll (2003) stated that reasons unrelated to retirement are causing experienced teachers to leave the profession. This study explored the variables that affect the Arkansas educator workforce and the relationship between Arkansas's High Poverty and High Minority schools' ability to attract and retain excellent teachers and the proportional amount of Title II, Part A funding received to address teacher quality. The following research questions were investigated using a quantitative, correlational data approach.

The following research questions were investigated using a quantitative, correlational data approach.

- Does the strength of the educator workforce among Arkansas's High Poverty/ High Minority schools vary based on size and locale classification?

- Does the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and districts vary significantly from the strength of the educator workforce statewide?
- Does the availability and expenditure of Title II, Part A federal funding at the local level impact the strength of the educator workforce in the state's High Poverty/High Minority schools?
- Does *how* a district spends its Title II money appear to impact its ability to recruit and retain *excellent teachers*?

The first null hypothesis is that a school district's size and locale classification will not have an impact on the educator workforce strength as measured by the equity composite score. The first alternative hypothesis is that a school district's size and locale classification will impact its workforce strength as measured by the equity composite score.

The second null hypothesis is that the strength of the educator workforce in Arkansas's High Poverty/High Minority schools and districts will not vary significantly from the strength of the educator workforce statewide, as measured by the equity composite score. The second alternative hypothesis is that there will be a significant difference between the workforce strength of High Poverty/High Minority schools and districts and schools and districts statewide, as measured by the equity composite score.

The third null hypothesis is that there is no relationship between the amount of available Title II, Part A funding per school within a district, the amount expended at the identified schools, and the school's educator workforce strength as shown by its ability to recruit and retain *excellent teachers* measured by the equity composite score. The third

alternative hypothesis is that higher amounts of available Title II, Part A funding and greater amounts expended in the identified schools correlate with the ability to recruit and retain *excellent teachers* as measured by the equity composite score.

The fourth null hypothesis is that how a district spends its Title II, Part A funds does not impact its ability to recruit and retain *excellent teachers*. The second alternative hypothesis is that how the available Title II, Part A funding is spent correlates with a district's ability to recruit and retain *excellent teachers*, as measured by the district's equity composite score.

Theoretical Foundation

A healthy workforce of educators is vital to provide a quality education for all students, yet the overall teacher labor market prospects are cause for concern (Guarino, Santibanez, Daley, & Brewer, 2004; San Diego Unified School District, 2014). Even though the teacher workforce has grown during the past five decades and many research studies have been conducted to understand the educator workforce, there are still gaps in the knowledge and information to actually understand the dynamics that contribute to the workforce (Loeb & Beteille, 2009). Annually, schools in the United States fill approximately 250,000 vacant positions to meet varied needs caused by student population changes, changing teacher-student ratios, district growth and decline, and teacher attrition (Sutcher et al., 2016). The labor market plays a significant role in where teachers will work and the amount that they will be paid and is a factor in both content area and geographic shortages of teachers (Guarino et al., 2004; Haggstrom, 1988). The national data point to large-scale problems with teacher recruitment and retention with increasingly fewer high school and college students interested in a career as an educator

(Aragon, 2016; Sutchter et al., 2016). Within the teacher labor market, potential teachers tend to want to stay close to home, meaning that the local workforce are products of the educational systems where they will likely return to teach, a factor that can be both positive and negative, depending on the quality of the early educational experience (Goldhaber, 2016).

Historically, the teacher supply and demand ratios have been difficult to quantitatively measure, in part, because there are so many variables in determining both supply and demand needs (Guarino et al., 2004; Haggstrom, 1988). Haggstrom (1988) recognized the importance of understanding the teacher labor market to be a key factor in identifying issues that impact educator decisions to stay or to leave the profession. For several decades, studies have been conducted to examine the United States' teacher supply and demand's impact on the educator workforce, but researchers have encountered difficulty due to the consistency and availability of key data, such as characteristics of teachers who enter, stay, and leave the profession, the types of schools that are more likely to retain teachers, and the policies showing the most promise in teacher recruitment and retention (Guarino et al., 2004). To summarize, shortages occur when the demand is less than the supply of educators, but because the demand is so varied, due to the ever-changing market, shortages become difficult to address because of geographic and content area variations (Sutchter et al., 2016). In multiple analyses, findings show that school and district leaders cannot find adequate numbers of candidates to fill available positions (Ingersoll, 1995; Ingersoll & May, 2011; Loeb & Beteille, 2009). Over time, more evidence has emerged to indicate a more severe and ongoing imbalance in the teacher labor market (Sutchter et al., 2016).

Along the same lines as the labor market theory, the teacher workforce can be studied regarding supply and demand, looking at the overall numbers of qualified, quality teachers willing to accept employment at a given school and the need or demand for those who are available (Guarino et al., 2004). The workforce theory can provide a framework to help understand and study issues surrounding effective teacher and recruitment initiatives by providing data about educator career choices and school efforts in recruitment and retention (Loeb & Reininger, 2004).

A large number of baby boomers chose careers as teachers at a time of education expansion in the mid-1950s, with a high demand for new teachers during the 1960s (Haggstrom, 1998). Over the past 50 years, the educator workforce has grown with the number of teachers in the United States almost tripling in size (Ingersoll et al., 2014; Loeb & Beteille, 2009). The workforce growth can be attributed, in part, to an increase in the number of students in U.S. schools, the implementation of smaller student-teacher class size ratios, growth in the numbers of educators working in public charter and private schools, and growth in the numbers of people in specialized subject areas to meet student needs (Ingersoll et al., 2014; Loeb & Beteille, 2009). Ingersoll (1995) reported that the shortage of teachers was caused not so much by the number of available educators, but the inadequate quality of teachers available in the workforce; yet schools continued to fill positions to meet local needs and compliance requirements, even at the risk of lower-quality hires. More recent research points to the workforce becoming less stable with high rates of teacher churn in high-poverty and high minority schools and high rates of attrition among minority teachers (Ingersoll et al., 2014).

Current national data report a five-year rate of turnover (teachers who move from district to district or leave the profession) at 46%, a statistic that, when combined with an increasing public school population, causes concern regarding the available supply of teachers to meet the demand (Aragon, 2016). Teacher shortages occur when the demand outpaces the supply, driving schools to fill vacancies regardless of the overall quality of candidates, leading to substantial numbers of teachers teaching in areas where they do not have sufficient training (Guarino et al., 2004; Ingersoll, 1995). Educators who are currently in the workforce often report dissatisfaction with various aspects of the job and work conditions, which national studies show contributes to turnover rates (Aragon, 2016).

Teacher shortages occur when the need or demand for candidates is greater than the number qualified for the job (Ingersoll, 1995; Loeb & Beteille, 2009; Sutch et al., 2016). Educator preferences often contribute to the sorting of personnel throughout a district or a region, with wages, working conditions, and location being the primary considerations in selecting employment (Loeb & Reininger, 2004). Many schools experience issues with finding candidates to staff openings, particularly in schools with high concentrations of poverty and minority students (Ingersoll, 1995; Loeb & Reininger, 2004). Aragon (2016) reported that shortages of teachers often occur in high-poverty, high minority schools where working conditions (including lower salaries and large classes) and community factors (such as safety) impact decisions to remain or go. Loeb and Reininger (2014) advocated focused strategies to address current workforce shortcomings, including training and monetary incentives.

Overview of the Study

Data in this study focused on the past three academic (school) years, 2013-14, 2014-15, and 2015-16 in examining schools defined in Arkansas's Equitable Access to Excellent Educators plan as High Poverty and High Minority schools. Schools meeting both high poverty and high minority criteria each year for the past three years were assigned a composite score to measure the strength of the school's educator workforce. The score was calculated based on the percentage of teachers who are inexperienced, teaching out-of-field, unqualified, and the rate of turnover. A high composite indicated fewer educators were meeting the 'excellent educator' definition of the state's Equitable Access plan and more variability in the workforce strength (based on experience, preparation, qualifications and turnover) at the school level. Because teacher effectiveness ratings were not available for the three years analyzed in this study, it was not a factor in the equity composite score used in this study; however, it should be a variable for future consideration as the state has data available.

The study examined the identified schools and districts' workforce strength as measured by the equity composite score and compared the scores of those in this study with scores for schools and districts statewide to determine if equity gaps exist. The workforce strength of the identified schools and districts in the study was also analyzed according to the district size and locale classification. The district's three-year average Title II, Part A funding was divided by the total number schools within the district to obtain an average dollar amount the district has available to spend in the identified schools on recruitment, development, support, and retention opportunities in each school

within the district. The expenditures were then analyzed based on how the funds were spent to determine if expenditure types were related to the strength of the workforce.

Definitions

Throughout this study, the following terminology and associated definitions, which have been employed by the Arkansas Department of Education in its Equitable Access to Excellent Educators Plan (2015), will be used:

Equity Composite Score: A statistical measure developed by the Arkansas Department of Education to calculate the rate of inexperienced, out-of-field, unqualified teachers, and the average rate of turnover in High Poverty/High Minority districts; the score be used a measure of the strength of the educator workforce in the identified schools and districts and to identify the equity gaps in high poverty/high minority schools in students' access to excellent teachers.

Excellent Teacher: An educator who has gained knowledge and skills through experience to motivate students to maximize student progress, has preparation and experience in the assigned area of teaching (ADE, 2015).

High Minority Schools: Schools in the highest quartile (25%) of all schools as ranked by percent non-white students.

High Poverty Schools: Schools in the highest quartile (25%) of all schools as ranked by free and reduced lunch percentages.

Inexperienced Teacher: A teacher with less than one year of experience.

Low Minority Schools: Schools in the lowest quartile (25%) of all schools as ranked by percent non-white students.

Low Poverty Schools: Schools in the lowest quartile (25%) of all schools as ranked by free and reduced lunch percentages.

Out-of-Field Teacher: A teacher who is teaching outside of their licensure area while working on an Additional Licensure Plan (ALP).

Teacher Turnover: The 5-year occurrence rate of novice teachers in a school.

Unqualified Teacher: An individual, licensed or unlicensed, using a long-term sub waiver to substitute teach in an out-of-area position for more than 30 consecutive days during one semester.

Assumptions

An assumption of this research was that the equity composite score is an accurate measure of the workforce strength. Another assumption was whether the composite score is an accurate measure to determine a relationship between the amounts of funding available, the district expenditures of funds, which are targeted for specified purposes, and the results of a district's ability to retain licensed, experienced, effective teachers. The research also relied on the state's definition of an 'Excellent Teacher,' that included experience, certification, and workforce stability. Overall, the assumption was that the composite score adequately captured a school's workforce regarding teacher quality. Another assumption was that there are equity gaps in the identified schools.

National data also show trends that Title II, Part A funds tend to be spent on professional development and class size reduction and show very little impact on overall teacher retention efforts; therefore, it is expected that the money is not targeted to the end goal. However, because all federal funds can only supplement and not supplant required expenditures, there may be too many limitations for districts to fully maximize the

funding for significant workforce impact. Additionally, there are many issues that contribute to teacher employment and turnover, which could skew results; however, using three-year trend data to identify schools workforce characteristics and average funding available per school should assist with identification of schools with trends in variability and use of funds. The study also assumed that districts consider the amount of Title II, Part A funding in terms of allowable funds for the identified schools and examine data to determine the best use of funds based on needs for all students to be surrounded by a team of “excellent teachers” as defined by the state.

Limitations

The data in this study is based on self-reported data by districts and is dependent on the quality of data reported. The data is also limited to the type of information that is required to be reported and may be limited by the function codes already established. Any district not spending Title II, Part A funds in the identified district will not be represented in some of the data calculations, which may limit the findings. Because the ADE has not historically been collecting district and school turnover rate as the number of teachers who leave a school district in a given year, turnover has been measured as the five-year occurrence rate of novice teachers, which is the data reported in this study.

Scope and Delimitations

The study was delimited to Arkansas’s High Poverty and High Minority public school districts and the amount of funding received by the selected districts. The results of the study may neither be relevant to other schools within Arkansas nor other schools with varying demographics and different funding. The results are indicative of this population, and should not be generalized to all public schools. The study will be further

delimited to an analysis of how funds in the districts were spent, with an analysis of each district's schools excellent teacher composite variability and expenditures of Title II, Part A funds.

The ADE's plan includes data regarding "excellent teachers" at a building level, which is a good depiction of what is going on in individual schools within one or more districts regarding teacher quality. Data on funding are available at the identified district and school levels but are not broken down into the level of specificity to determine exact types of personnel, professional development, purchased service, or supply expenditures.

This study will be delimited to public schools in Arkansas whose data classifies the school as High Poverty and High Minority based on a three-year average of demographic and free/reduced lunch percentage data. The study will be limited to 126 schools in 37 school districts (See Appendix A). The district and school names have been de-identified for this study. The study will also only include Title II, Part A funding for the selected school districts and not represent the state total. Because the use of funds can include the hiring of personnel and professional development activities, the full impact of these expenditures may not be known from the data in this study because other federal funding streams can be used for hiring personnel and PD support. In some cases, the Title II, Part A expenditures may be based on general areas and may not fully represent the manner in which the funds supported recruitment and retention efforts of teachers.

Significance of the Study

This study has implications to impact both policy and practice in education. While teacher retention is not a new problem in education, the number of teachers

leaving has increased, and with fewer entering the profession, the issue of recruiting quality teachers for all students is a growing concern (Cochran-Smith, 2006). To address this problem, it is important that educators and policy makers at all levels gain an understanding of the issues surrounding the educator workforce, teacher quality, and a school's ability to attract and retain excellent teachers. Admittedly, some of these matters will lie outside the boundaries of the schools' ability to address; however, there are factors impacting teacher quality over which the schools and the policymakers can exercise a measure of control. This study is a move toward a deeper understanding of the actions the state may take to assist schools in addressing the quality of educators. With confirmation through research and empirical data of the variables impacting the educator workforce, including whether a correlation exists between the amount of money a district receives and the teacher quality score indicating a high rate of excellent teachers within the High Poverty and High Minority schools within the district, educational leaders can make data-driven decisions on how to help retain effective teachers in the classroom.

Impact on educational equity. This study explores issues that are central to the question of educational equity. In an age when educational reform is heavily debated, great diversity exists in the classroom, and teacher turnover rates are high in many schools, high minority, high poverty, or low performing schools are more likely to have fewer qualified teachers, a factor with a statistically significant negative correlation with student performance (Madkins, 2011). Ronfeldt, Loeb, & Wyckoff (2013) found that higher rates of teacher turnover resulted in lower standardized test scores for schools, especially those with more academically struggling minority students.

Research emphasized the importance of teachers as the most powerful variable in student learning (Labelle, 2010/2011). The discrepancy between the percentages of students of color and teachers of color exists nationwide due to a predominately white educator workforce (Achinstein, Ogawa, Sexton, & Freitas, 2010). Having educators with a diverse background help to reduce the demographic gaps and provides educators and students the opportunity to learn and interact with individuals from a variety of unique backgrounds and experiences, and at a minimum, students benefit from the learning experiences that diversity provides (Madkins, 2011). Villegas and Irvine (2010) reported academic benefits for students who experienced a teacher workforce representative of the student population. Egalite's research supported the representation of same-race teachers in the classroom, reporting academic gains for students taught by teachers of their race (Egalite, Kisida, & Winters, 2015). However, equity gaps often exist because the largest movement of teachers occurs at schools with the largest percentages of minority students and students of poverty (ADE, 2015; Loeb & Beteille, 2009). While nationally the number of minority teachers in the workforce has grown in recent years, the increase is not at the same rate of growth as the number of minority students enrolling in public schools (Barth, Dillon, Hull, & Higgins, 2016). The continuous movement of educators creates instability and creates a greater number of inexperienced teachers with a greater turnover rate in schools and is an area where district policy decisions can have a great impact (ADE, 2015; ADE, 2016). In districts where the least experienced and least prepared teachers are faced with challenging assignments for which they have little training, especially without adequate support, there are teacher

staffing, teacher development, and teacher retention challenges and minority teachers are more likely to leave the profession (Barth et al., 2016; Partee, 2014).

Summary

Chapter I included an overview of the research problem of attracting and retaining excellent teachers in today's educator workforce, the conceptual framework, key definitions, the purpose of the study, and the research questions and hypotheses. The chapter concluded with assumptions and delimitations of the study, as well as, the significance of the research. Chapter II includes an examination of literature regarding teacher turnover and the negative impact that high rates of turnover have on the organization, further emphasizing the need for schools to wisely use resources to improve access for all students to excellent educators.

CHAPTER II: REVIEW OF LITERATURE

Achieving an equitable distribution of effective teachers has been a focal point of educational policy for several decades with various state and federal programs implemented to attract and retain teachers to schools with high need (Adamson & Darling-Hammond, 2012). The retention of teachers is essential for school stability and student success because of its strong link to a school's culture (Wilkins, 2003), and successful teachers tend to be successful year after year (Goldhaber, 2016). The Coleman study (as reported by Goldhaber, 2016) found that the quality of teachers within a school has a close link to student achievement and the effect greatest for those who are the most disadvantaged. The economic and academic costs of teacher turnover are most significant for the most vulnerable schools that serve large numbers of economically disadvantaged and non-white students (Karp, 2014). According to Chetty, Friedman, and Rockoff (2013), the quality of teachers' instruction is the most important within-school influence on students' academic success. Teacher turnover contributes to an inequitable distribution of, and access to, effective teachers, and is greater than the rates of turnover found in other professions (Hughes, 2012). New teachers, in particular, leave at high rates (Hentges, 2012).

Literature Search Strategy

In completing research, multiple searches were conducted using the Education Source and ProQuest Education Journal Online Databases. Other information was found after conducting internet searches, focusing on peer-reviewed articles, and utilizing government resources. Key search terms included words and phrases such as *teacher turnover*, *teacher attrition*, *federal funding*, *Title II, Part A*, *ESSA*, *teacher satisfaction*,

causes of turnover, educator workforce, organizational theory, mentoring, No Child Left Behind, and teacher effectiveness. Several recent articles from reputable policy groups were used in research due to the recent passage of the Every Student Succeeds Act (ESSA). Seminal research by Richard Ingersoll and Linda Darling-Hammond was also used.

Theoretical Foundation

A healthy workforce of educators is vital to ensure that all students have a quality education experience, yet the overall teacher labor market research indicated that additional research is needed to provide information for good policy decisions (Loeb & Beteille, 2009). The National data point to large-scale problems with teacher recruitment and retention and few high school and college students are interested in a career as an educator (Aragon, 2016). In a recent assessment of student career interests, only 5% of students taking the ACT college exam expressed an interest in pursuing a career as an education (Sutcher et al., 2016). Historically, teacher supply and demand have been difficult to determine, in part because there are so many variables in determining both supply and demand needs (Guarino et al., 2004; Haggstrom, 1998). Haggstrom (1998) recognized the importance of understanding the teacher labor market to be crucial in identifying issues that impact educator decisions to remain in or to exit the profession.

For the past several decades, studies have been conducted to examine the United States' teacher supply and demand's impact on the educator workforce and encountered difficulty due to the absence of key indicator data (Guarino et al., 2004). Annually, about 250,000 teaching positions are filled nationwide due to a combination of factors that may include teacher attrition, increases in student numbers requiring more new hires, and

changes in class size ratios to meet student needs (Sutcher et al., 2016). In multiple analyses, findings showed that school and district leaders could not find adequate numbers of candidates to fill available positions (Ingersoll, 1995; Ingersoll & May, 2011; Loeb & Beteille, 2009; Sutcher et al., 2016).

Over the past decade, additional research has begun to analyze the teacher labor market and to predict future trends (Loeb & Beteille, 2009). In the early 2000s, until about 2012, demand numbers decreased and balanced with the supply. Beginning in 2013, as the economy recovered from the Great Recession, the supply diminished and demand for teachers increased sharply and exacerbated a shortfall of educators, leading to the current shortages, which are expected to continue (Sutcher et al., 2016). A large number of baby boomers became educators at a time of education expansion in the mid-1950s with a high demand for new teachers during the 1960s (Haggstrom, 1998). Over the past 50 years, the educator workforce has grown with the number of teachers in the United States almost tripling in size (Ingersoll et al., 2014; Loeb & Beteille, 2009). The workforce growth can be attributed, in part, to an increase in the number of students in U.S. schools, the implementation of smaller student-teacher class size ratios, growth in the numbers of teachers in public charter and private schools, and growth in numbers of people in specialized subject areas to meet student needs (Ingersoll et al., 2014; Loeb & Beteille, 2009; Sutcher et al., 2016). Ingersoll (1995) reported that the shortage of teachers was caused not so much by the number of available educators, but the inadequate quality of teachers available in the workforce; yet schools continued to fill positions, even at the risk of lower-quality hires. More recent research pointed to the workforce becoming less stable with high rates of teacher churn in high-poverty and high

minority schools and high rates of attrition among minority teachers (Ingersoll et al., 2014). Attrition rates of teachers before retirement makes up the greatest portion of teacher demand in today's workforce (Sutcher et al., 2016). The numbers enrolling in educator preparation programs also impacts the quality of the workforce. Most recently, steady decreases in enrollment in programs nationwide is a cause for concern with data showing a national decline of 35% (or 240,000 fewer potential educators) between 2009 and 2014 (Sutcher et al., 2016).

Current national data report a rate of turnover (teachers who move from district to district or leave the profession) at 46%, a statistic that, when combined with an increasing public school population, caused concern regarding the available supply of teachers to meet the demand (Aragon, 2016). Teacher shortages occur when the demand outpaces the supply, driving schools to fill vacancies regardless of the overall quality of candidates, leading to substantial numbers of teachers teaching in areas where they do not have sufficient preparation (Guarino et al., 2004; Ingersoll, 1995). Educators who are currently in the workforce often report dissatisfaction with various aspects of the job and work conditions, which national studies show contributes to turnover rates (Aragon, 2016). Teacher shortages occur when the need or demand for candidates is greater than the number of available of candidates qualified for the job (Ingersoll, 1995, Loeb & Beteille, 2009). Educator preferences often exacerbate shortages as they contribute to a sorting of personnel throughout a district or a region, with wages, working conditions, and location being the primary considerations in selecting employment (Loeb & Reininger, 2004). Many schools cannot find a sufficient number of candidates to staff openings, particularly schools with high concentrations of poverty and minority students

(Ingersoll, 1995; Loeb & Reininger, 2004). Aragon (2016) reported that shortages of teachers often occur in high-poverty, high minority schools where working conditions (including lower salaries and large classes) and community factors (such as safety) impact decisions to stay or leave. Loeb and Reininger (2014) advocated for focused strategies to address current workforce shortcomings, including training and incentives.

The Need for Effective Teachers

Students benefit from having experienced teachers in their classrooms, as experienced teachers have better planning skills, are better equipped to differentiate learning experiences to meet students' varied needs, and are more efficient at managing time and student behavior (Loeb & Beteille, 2009; Stronge, 2007). Evidence from several research studies pointed to the quality of the teacher as the most important in-school factor impacting student academic growth and achievement (Eide, Goldhaber, & Brewer, 2004; Hightower et al., 2011; RAND Corporation, 2012). The quality of schools and a school's influence on student achievement has been studied to examine whether a relationship exists. James Coleman conducted the "Equality of Educational Opportunity" study and found that, among school resources, the quality of teachers was more positively associated with student outcomes than other factors, and even more so for minority students when compared to White students (Goldhaber, 2016). In short, the author found that schools most effectively improve student outcomes by investing in the quality of teachers.

While the need for quality teachers is evident, defining teacher quality or identifying qualities of effective teachers is difficult. For most teachers, experience enhances effectiveness, with the rate of effectiveness increasing when educators are

placed in supportive, stable work environments (Kini & Podolsky, 2016). According to Bracey (2002), several components are used to determine a complete measure of teacher excellence, including years of experience, the level of degree attainment, certification for areas teaching, prior performance history on certification assessments, and the quality of preparation programs. Peske and Haycock (2006) described how Illinois researchers used an index with combined measures of teacher quality to determine differences in teacher quality and how students were impacted. The results showed the impact of teacher quality in high poverty schools with twice as many students achieving expected standards (Peske & Haycock, 2006). Realizing there are many non-school factors that impact students' achievements that are beyond a school's control, access to effective teaching can level the playing field (RAND Corporation, 2012). Yet, many students do not have the stability of effective teachers. When the most effective teachers leave, not only do organizations lose out on human capital, skills, and experience, the loss of knowledge and sense of community creates setbacks for the school (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Ramlall, 2004).

Today's Educator Workforce

Historically, teacher supply and demand has been difficult to measure quantitatively (Haggstrom, 1998). For the past several decades, studies have examined the impact on the educator workforce of the United States' teacher supply and demand. Findings showed that school and district leaders were unable to find adequate numbers of candidates to fill available positions (Ingersoll, 1995; Ingersoll & May, 2011; Loeb & Beteille, 2009). Teacher shortages occur when the need or demand for candidates is more than the supply of available of candidates qualified for the job (Guarino et al., 2004;

Ingersoll, 1995; Loeb & Reininger, 2004). Growth in the teacher workforce during the 1990s did not impact the rate of turnover. While the workforce grew by 60%, the rate of public school teacher turnover increased by 47% (Boe, Cook, & Sunderland, 2008). Alternatively certified teachers, who enter the workforce with limited preparation, are often tapped to fill available positions in today's workforce, with studies reporting that over half of teachers who are certified through alternative routes teach in the nation's minority schools (Sutcher et al., 2016). Teacher turnover is highest among younger educators, novice teachers and also those nearing retirement, yet schools with the highest turnover rates are most likely to fill vacancies with inexperienced or teachers prepared through alternative routes, thus perpetuating the cycle of attrition (Kukla-Acevedo, 2009). According to Sutcher et al. (2016), teacher retirement explained about two-thirds of the reasons for those who exit the workforce, with early attrition being the primary driver of workforce demand. At one time, researchers attributed future teacher shortages to an aging baby boomer workforce; emerging trends point to what Richard Ingersoll called the "greening" of the workforce as a factor contributing to shortages (Ingersoll, Merrill, & Stuckey, 2014). Two decades ago a typical teacher was one with 15 years of experience. However, today's most common teacher is one with less than five years of experience (Ingersoll et al., 2014). The ideal teacher candidate is one who is strategically recruited, well prepared and mentored, and thoroughly evaluated during their first three years of teaching to ensure quality and sustained the development of expertise (Kini & Podolsky, 2016).

Nationwide shortage. In general, the overall teacher labor market data has many gaps, making policy decisions difficult to implement (Loeb & Beteille, 2009). The National data point to large-scale problems with teacher recruitment and retention and few high school and college students are interested in a career as an educator (Aragon, 2016). Reports cited the alarming growth in the rate of teacher turnover and retention, as well as fewer entering the profession (Boe, et.al, 2008). Teacher salaries, while not always the most important motivation for teachers yet a factor, have lagged behind increases in salary trends in other professions. Since 2009, there has been a steady decline in the numbers of new teachers, hitting an all-time low in 2016 (Sutcher et al., 2016). According to Darling-Hammond & Sykes (2003), teachers' earnings were 15-30% less than those of college graduates in other occupations, even when wages are adjusted for the number of days worked within a year, a factor impacting the level of satisfaction with work which impacts teachers' decisions to stay or leave.

A large number of baby boomers became educators at a time of education expansion in the mid-1950s with a high demand for new teachers during the 1960s (Haggstrom, 1998). The demand began to decline with shifts in the labor market providing more career options for women and minorities (Haggstrom, 1998). Ingersoll (1995) reported that the shortage of teachers was caused not so much by the number of available educators, but the inadequate quality of teachers available in the workforce; yet schools continued to fill positions, even at the risk of lower-quality hires. As teachers gain experience, they become more effective as research shows teaching experience is related to increased student achievement (Kini & Podolsky, 2016).

In the review of the literature, turnover was defined as teachers who leave the workforce and also those who move from school to school. In many cases, these were referred to as "leavers" and "movers" (Achinstein et al., 2010). Boe et al. (2008) categorized teacher turnover into three components: attrition, movers, and transfers. Attrition refers to those who are leaving the profession, movers are those who leave one school and begin teaching in another school, and transfers are those who take on a different assignment within a school.

Employee turnover has a significant economic impact on organizations each year, with teacher attrition costs amounting to billions of dollars annually (Darling-Hammond & Sykes, 2003). In 2005, the Alliance for Excellent Education reported the yearly cost in the United States for replacing teachers at two billion dollars. Greenlee and Brown (2009) cited that the cost for school districts around the country to recruit, retrain and replace teachers is over seven billion dollars. Other researchers illustrated the high price tag associated with the cost of teacher turnover with estimates of the national price-tag for turnover at \$2.2 billion per year, and when adding the financial impact of those who transfer schools, the estimate increases to \$4.9 billion per year (Watlington, Shockley, Guglielmino, & Felsher, 2010).

In responding to the shortage of quality candidates, school officials make decisions to hire teachers who were less qualified, assign teachers to positions outside of their licensure areas, or fill vacancies by hiring substitute teachers (Ingersoll, 1995). The teacher labor market has shifted from a workforce of surplus to one of shortage, especially in some grade-level and content areas (Ingersoll et al., 2014, Loeb & Beteille, 2009). Current national data report a rate of turnover (teachers who move from district to

district or leave the profession) at 46%, a statistic which, when combined with an increasing public school population, causes concern regarding the available supply of teachers to meet the demand (Aragon, 2016). Data from decades of research indicated that schools fill vacancies regardless of the overall quality of candidates, leading to substantial numbers of teachers teaching in areas where they do not have sufficient training (Ingersoll, 1995).

Howard (2003) concluded that the shortage of teachers is worsened by the shortfall in the number of excellent or effective teachers, especially in urban schools where students are more likely to have teachers with the least preparation and those who are the most unqualified. Murnane and Steele (2007) cited evidence surrounding the disproportionate distribution of teacher quality across the country in schools with high percentages of poor, minority (nonwhite) students. High poverty and high minority schools are more often staffed by inexperienced, noncertified teachers, or teachers who had failed first attempts at licensure examinations, perpetuating the cycle of shortage in various geographic locations (Murnane & Steele, 2007). Others point out that even though the financial, school operations and student achievement costs of teacher turnover are known unless clear causes emerge and better mechanisms to deal with the crisis are uncovered, public school systems will continue to struggle to manage the problem (Boe et al., 2008). Murnane and Steele (2007) also stated that 61% of new teachers find their first jobs within 15 miles of their high schools and up to 85% of new teachers tend to take jobs within 40 miles of their homes, which are often near to the places where they grew up. While recruitment efforts get considerable attention, the reasons teachers exit the profession should be carefully studied since teacher attrition, or turnover is also a

contributing factor to teacher shortages (Howard, 2003). Because geographic areas of high poverty tend to have fewer college graduates than more affluent areas, schools in impoverished areas find it difficult to find a sufficient number of local people who desire to return to their hometowns to teach, often in more difficult working conditions than they would find elsewhere (Murnane & Steele, 2007). Boe et al. (2008) asserted that the teacher supply would be adequate to deal with the demand if teacher attrition were not such a huge issue.

Today's teacher attrition. Teachers leave the profession for many reasons, including dissatisfaction with teaching or to pursue more attractive options related to salary, working conditions or location changes that provide better options (Boe et al., 2008; Loeb & Reininger, 2004). Hentges (2012) attributed teacher attrition to the following reasons: stress, salaries, working conditions, and school leadership. Difficult work conditions, limited support, low salaries, and unrealistic expectations for new teachers to perform at the level of veteran teachers are also reasons new teachers leave the workforce (Ingersoll, 2001; Hentges, 2012). In Arkansas, approximately one-third of new teachers leave within the first five years of teaching (ADE EPPR, 2016). Nationally, less than one-third of teachers who leave the workforce ever return (Sutcher et al., 2016).

According to Ingersoll and Smith (2003), the working conditions within schools are a major factor in teacher shortages. Hughes (2012) also cited teacher dissatisfaction with salaries and workload, combined with paperwork, as issues that influence teachers' decisions to leave the workforce. Loeb, Darling-Hammond, and Wyckoff (2005) found that school conditions are more likely factors than student characteristics influencing teachers decisions to leave, and cited human, financial and social conditions as strong

predictors of turnover in a study of California schools. Ingersoll and Smith (2003) reported student discipline as the most cited reason (behind low salaries) for teacher turnover. Schaefer, Long, and Clandinin (2012) identified both individual and organizational factors as contributing to teacher turnover. Individual factors, such as burnout, demographics, and personal circumstances can influence a teacher's decision to continue his or her career. In schools with high percentages of minority students, teachers were more likely to leave than those in majority white schools (as cited in Achinstein et al., 2010). In a study of those who leave the profession, Boe et al. (2008), found that both general education and special education teachers leave to "escape" the profession, with special education teacher attrition accounting for about one-third of the total special education teacher numbers and one-fourth of general education teacher population.

School working conditions and the educator workforce. Until recently, most research focused on teacher and student characteristics when examining reasons why teachers leave their jobs; however, new research is increasingly focused on school working conditions as a factor in teacher recruitment, attrition, and retention (Simon & Johnson, 201). An improved working environment can be a low-cost, effective way to lessen turnover, especially in hard-to-staff schools (Ladd, 2011; Loeb et al., 2005). According to Ladd (2011), working conditions are highly correlated with an educator's decision to stay in his/her current position and are predictors of future departure rates. School-related work conditions are a significant impact on an individual's decision to remain in a school. Teaching assignments, workplace conditions, and teachers' beliefs about their work environment directly influence their decisions to remain (Morello,

2014). Because school climate – or school conditions – has been found to be a major factor in teacher attrition rates, the level of employee satisfaction should be closely considered as a way to both predict and to stem increasing rates of turnover (Ingersoll & Smith, 2003). Simon and Johnson (2015) conducted studies, which indicate that teachers who leave are not running away from their students, but rather, they are leaving due to dissatisfaction with poor working conditions. These same schools face more than a retention battle as they also struggle with recruitment efforts to fill job openings with experienced teachers, yet often have to staff schools with inexperienced or unqualified candidates (Simon & Johnson, 2015).

According to Dugguh and Ayaga (2014), work environments that recruit, motivate, and retain quality workers are much better positioned to be successful in a competitive, global society. Simon and Johnson (2015) described the role the working environment has not only on the retention of quality educators but also on the organization's ability to have strong, sustained relationships to promote a shared vision for student success, leading to sustainability in the school culture; however, educators who are currently in the workforce often report dissatisfaction with various aspects of the job and work conditions, which national studies show contributes to turnover rates (Aragon, 2016).

Because educators leave their jobs for many reasons, it is important to understand the impact that a positive work environment has on an organization's ability to retain effective teachers. Ingersoll (2004) reported that job dissatisfaction is a primary reason teachers reported leaving their job, with the lack of satisfaction related to low pay, limited opportunities for leadership or input on decisions, discipline issues and lack of

administrative support. While the negative impact of turnover can be mitigated if schools hire more effective teachers than those who leave, researchers have shown that turnover may have a larger disruptive influence on the organization, leaving teachers and students more vulnerable and subject to negative impacts on student achievement during times of constant transition and instability (Ronfeldt, et al., 2013). In addition to salary, Ladd (2011) reported teachers often make their employment decisions based on the satisfaction of the condition of their work environment. The work environment includes factors such as school leadership, empowerment to make decisions, support in improvement efforts, and opportunities for professional growth and development.

Bracey (2002) indicated low student interest, lack of student discipline, and little administrative support were the other reasons cited for turnover decisions. In surveys of teachers from large, urban schools, a lack of student motivation was cited as a primary reason for turnover with low salaries a close second (Jacob, 2007). The enrollment trends in public schools depict large numbers of immigrant students enrolling in the country's urban schools, making the need for well-trained, effective teachers even more vital to work with students who may have a limited educational background and English language proficiency (Howard, 2003).

School conditions have been found to affect the rate of teacher turnover for those who leave the profession and transfer schools. Achinstein et al. (2010) reviewed various school contexts to study the rate of teacher turnover in general and also among teachers of color and found that high occurrence of student discipline incidents and low student motivation increased the likelihood of teacher turnover. Schools with greater percentages of inexperienced teachers were found to experience higher turnover rates from “movers”

because of the general lack of knowledge and expertise within the system and the desire to find schools better organized for successful experiences for teacher and students (Achinstein et al., 2010). Simon and Johnson (2015) advocated that research focuses on the role the school environment has not only on the retention of quality educators but also on the organization's ability to have strong, sustained relationships to promote a shared vision for student success.

Other factors impacting the educator workforce. Ingersoll (2001) reported that retirement accounts for only a small percentage of teacher attrition rates compared to other factors, such as job dissatisfaction, inadequate support, student discipline, and lack of leadership opportunities. Howard (2003) cited retirement, increasing student populations, new education policies, and teacher attrition as causes of teacher shortages, with each factor impacting the shortage problem differently and each requiring unique solutions to address issues impacting quality within the educator workforce. According to Souza-Poza and Hennebergers (2000), an employee's interest in his or her job and a positive relationship with his or her supervisor has the largest effect on overall employee satisfaction, yet dissatisfaction among teachers persists and has a negative impact on the workforce. Salary differentials also create shortages in schools that cannot compete with higher-paying districts (Sutcher et al., 2016). Bracey (2002) indicated low student motivation, student discipline, and the lack of administrative support were other reasons cited for turnover decisions. Jacob (2007) cited inadequate support from administrators and poor salaries as the main causes of dissatisfaction for educators who moved from one school to another.

Employee satisfaction and turnover. Simply put, satisfaction with one's job indicates an employee's level of contentment with the work experience, with positive feelings indicating job satisfaction and negative attitudes toward the job indicating dissatisfaction, yet in reality, job satisfaction is a multifaceted and complex construct which impacts educators' decisions whether to leave or stay in their jobs (Dugguh & Ayaga, 2014). Teachers become more effective when working in supportive environments (Kini & Podolsky, 2016). According to Souza-Poza and Hennebergers (2000), an employee's interest in his or her job and a positive relationship with his or her supervisor has the largest effect on overall employee satisfaction, yet causes of dissatisfaction among teachers vary. Bracey (2002) found that among teachers who left the profession because of reported job dissatisfaction, 45% cited low salary as an issue. Ingersoll (2003) focused on turnover of new teachers exiting the workforce because of job dissatisfaction. He reasoned better working conditions would increase retention (Ingersoll, 2003). Kukla-Acevedo (2009) advocated that districts and schools could improve turnover rates by improving working conditions to provide a more attractive work environment, increasing job satisfaction.

Darling-Hammond and Sykes (2003) suggested that geography plays an important role in job satisfaction as teachers tend to seek jobs in areas near where they grew up or attended college; however, the number of teacher recruits growing up in urban areas is not sufficient to fill the demands, making geography an important consideration in policy recommendations if local efforts to attract educators can entice future educators to the profession. In their research, Achinstein et al. (2010) cited findings from a report by The National Commission on Teaching and America's Future (2003) that pointed to educators'

dissatisfaction with their jobs as the most common cause of attrition. Hughes (2012) researched the relationship of teachers' satisfaction with salary and facilities to retention. His findings showed that a relationship to retention exists with regard to salary, but not to facilities. The researcher recommended that a focus on salaries, workloads, and improved parent/student cooperation are related to teacher satisfaction and could also improve retention (Hughes, 2012).

Ingersoll (2003) focused on turnover of new teachers exiting the workforce because of job dissatisfaction. Inadequate support from administrators and poor salaries were main causes of dissatisfaction for educators who moved from one school to another, and Ingersoll's research reasoned that better working conditions would increase retention (Ingersoll, 2003). Ingersoll (2004) reported that job dissatisfaction is a primary reason teachers leave their job, with the lack of satisfaction related to low pay, limited opportunities for leadership or input on decisions, discipline issues and lack of administrative support. Teachers who have the opportunity to teach in a consistent environment, grade level, or subject area, and in a collegial, supportive environment are more effective (Kini & Podolsky, 2016). Kukla-Acevedo (2009) advocated that districts and schools could improve turnover rates by improving working conditions to provide a more attractive work environment, increasing job satisfaction. Howard (2003) reported that urban districts and districts and poverty districts tend to have the largest teacher shortages, while wealthy districts experience a glut of applicants. The shortage is not confined to urban schools, as rural schools also experience difficulty in finding and keeping qualified teachers. In a comparison to corporate turnover, teacher turnover was

about 4% greater than job turnover rates in other occupations (Boe et al., 2008; Hughes, 2012).

Shortage in high poverty, high minority schools/districts. While the need for well-trained, highly qualified educators is critical, especially for schools with high poverty and high minority student populations, school districts serving the most disadvantaged students have about twice as many non-certified and inexperienced teachers as do those serving the fewest (Adamson & Darling-Hammond, 2012). Peske and Haycock (2006) suggested that poor and minority children often are further disadvantaged because of the quality of teachers available to them, due to an inequitable distribution of highly effective, well-prepared teachers, which is more alarming because students who have experienced teachers are more likely to perform better on multiple measures of academic success within a school (Kini & Podolsky, 2016).

According to Murnane and Steele (2007), the unequal distribution of highly qualified educators is one of the most compelling problems facing education today. While teacher retention impacts can have negative impacts on schools across the country, the impact is the most severe in the nation's most disadvantaged schools, those with the greatest numbers of low-income, minority and lower-achieving students (Greenlee & Brown, 2009). Reacting to the declining trends in teacher preparation program enrollment, hiring officials often settle for lower admission standards, even accepting claims that aspiring teachers in minority and poverty communities often are less likely to have had opportunities to be as prepared as their more advantaged counterparts and hire less-qualified teachers under terms that often lead to increased turnover rates (Ingersoll & May, 2011; Loeb & Beteille, 2009).

Schools with high percentages of students from poverty and minority backgrounds are much more likely to be staffed by inexperienced or less prepared teachers (Darling-Hammond, & Sykes, 2003). Aragon (2016) reported that shortages of teachers often occur in high-poverty, high minority schools where working conditions (including lower salaries and large classes) and community factors (such as safety) impact decisions to stay or leave.

According to Gay (2013), a diverse educator workforce includes educators who are prepared to promote an equitable education for all students by connecting experiences in school with real-life, relevant student experiences, regardless of the students' ethnic, cultural or social background. In addition to functioning as a role model for culturally responsive teaching practices, teachers from diverse ethnic and racial backgrounds have reduced the teacher shortage in high-minority urban schools (as cited in Villegas & Irvine, 2010). Villegas and Irvine (2010) identified a diverse teaching force as a crucial element of an overall strategy to address achievement gaps that exist between minority students and their White counterparts. Even among African-American teachers in an inner-city school, teachers of middle-class income status often did not feel an alliance or connection with their students when placed in high-poverty, high minority buildings (Gordon, 2002).

According to Howard (2003), one of the deep-seated issues for the lack of teachers is the deterioration of the image of the teaching profession. Other reasons for the lack of diversity include changes in the workforce which today provides more diverse career options for women and minorities, creating difficulties in recruiting and retaining those who in the past chose education and now have various options, including higher-

paying, more (perceived) prestigious opportunities (Murnane & Steele, 2007). According to Madkins (2011), a lack of academic preparation contributes to a lack of diversity with minority students often unprepared during their K-12 academic careers and unsuccessful in meeting entrance requirements or persisting through higher education programs. Gordon (2002) reported challenges in attracting a racially and ethnically diverse workforce stemming from the fear or lack of desire to work in the inner city or urban schools, often the only locations where new teachers find jobs.

In his analysis, Bracey (2002) reported that poor and minority students have a greater likelihood of being taught by unqualified teachers and in schools with higher rates of teacher turnover. Keller (2007) cited that teachers in economically disadvantaged, minority schools (rural or urban) are more likely to change schools, leaving poor, minority students to be taught by teachers with less experience and often teachers who are less effective. Even though efforts to recruit teachers have shown some success, strategies to retain them have not proven as effective (Ingersoll & May, 2011). The reason for the lack of success may be attributed, in part, to the redirection of funding intended for teacher recruitment and retention efforts to other funding streams or school efforts. The greatest movement of teachers occurs at schools with the highest levels of low-income and minority students and also at schools which are designated as the lowest achieving schools. This constant churn of teachers directly impacts the percentage of unqualified and ineffective teachers in these schools, contributing to a high variance in the rate of access to effective teachers (Partee, 2014).

Lack of diversity in the teaching workforce. According to the National Center for Education Statistics (U.S. Department of Education [USDE], 2015), between 1990 and 2000, the student enrollment in public schools increased by 14% to 47 million students, and since 2000, enrollment has increased to a student population of 52.9 million. The National Center for Educational Statistics reported that the percentage of white students enrolled in public schools has declined since 1995 from approximately 65% to 49%. In 2016, almost 42% of students in U.S. public schools will be comprised of what has traditionally been called “minority” students (NCES, 2016). Between 1987 and 2011, the minority student population increased by 88%, but the majority of teachers are still white (Deruy, 2013; Ingersoll et al., 2014). These changes in student demographics create a need for educators with the passion, knowledge, and skills to meet the needs of students who in the past have not always been well-served (Murnane & Steele, 2007). The enrollment trends depict large numbers of immigrant students enrolling in the country’s urban schools, making even more vital the need for well-trained, effective teachers to work with students who may have little educational background and English language proficiency (Howard, 2003). Deruy (2013) reported that nearly one-half of all U.S. children under five are from a minority race, a key statistic indicating future student demographics and challenges with a workforce where the nonwhite student percentage is much larger than the percentage of nonwhite teachers (Loeb & Beteille, 2009). Ingersoll (2014) reported that while the nation’s student population is increasingly more diverse, the educator workforce has not kept pace. Ingersoll (2011) argued that the lack of diversity in the educator workforce has contributed to the achievement gap between white students and students of color.

Gordon (2002) reiterated the importance of attracting and preparing a more diverse educator workforce as crucial to providing a high-quality education for students and promoting more optimal work conditions for educators. Several studies revealed that individuals from culturally diverse groups often perceive the education profession negatively (Howard, 2003).

Achinstein et al. (2010) cited three personal factors that impact retention rates of teachers of color: gender, class, and choice of career pathways. While in the overall teacher workforce, turnover is more likely to be caused by women, studies focusing on teachers of color suggest that men were much more likely to leave. Gordon (2002) stated that minority students are not encouraged to become teachers. Gordon also reported that negative perceptions about the profession and a perceived lack of respect for teaching are factors discouraging minorities from entering the teaching profession.

Madkins (2011) concluded that the percentages of African American teachers in the workforce began to decline in 1978, and now comprising only 8% of the educator workforce. The main reason for the diversity shortage is too few minority candidates enrolling in and completing educator programs (Ingersoll, 2011). While several historical events may have led to the decline, contemporary issues such as inadequate foundations for college entrance exams and graduation requirements, opportunities for employment in other career areas, and requirements for teacher licensure have also influenced recent trends of low numbers of African American teachers entering the pipeline. Madkins' (2011) research showed that African American candidates have had the lowest passing rates on the Praxis I basic skills assessment when compared to other groups, thus preventing them from entering the profession. Earlier generations of

teachers entered a different teaching workforce than today's educators who have more career opportunities for women and minorities (Cochran-Smith, 2006). Because teachers who teach poor and minority students are more likely to be inexperienced than teachers in schools where greater numbers of students are white and affluent, often early preparation for black students is lacking (Keller, 2007).

Across the country, the teachers with the weakest qualifications are most often teaching in the schools with the most academically struggling, highest poverty, and minority students (Loeb & Beteille, 2009). The variation in access to the most effective teachers is often greatest within schools, especially in schools with the highest populations of poverty, minority, and low-performing students, where there is a "systematic sorting" of teachers with the fewest qualifications (Loeb & Reininger, 2004). Stronge (2007) reported 21% of teachers in high minority schools have fewer than three years of experience compared to 10% in low minority schools. Critics question the validity of standardized assessments in predicting the effectiveness of educators and maintain that assessment should not be a deterrent to entry or licensure requirements, especially for students who did not have quality public school preparation (Madkins, 2011).

The shortage of teachers in Arkansas. At one time, the nation was producing more new teachers than were needed to fill vacancies (Darling-Hammond, & Sykes, 2003). Although prepared to teach, many in today's workforce are not actively employed as educators, a finding by Darling-Hammond and Sykes (2003) noted in their research that more than 4 million prepared teachers were not teaching. In Arkansas, a three-year trend shows that approximately 40% of candidates who completed an educator

preparation program in 2013, 2014 and 2015 were not employed in an Arkansas Public School the next school year (ADE, 2015). Between the 2014-15 and 2015-16 school years, Arkansas public schools had an average teacher attrition rate of 8.6%, a rate that closely mirrors the most recent national data (ADE, 2016; Sutchter et al., 2016). When compared to other countries (Finland, Singapore, Canada) that report 3-4% rates of teacher attrition, the attrition rate of teachers in the United States is double (Sutchter et al., 2016). At a national level, the difference between an attrition rate of 6% and 8% equates to an increase of 25% in demand (Sutchter et al., 2016).

According to Arkansas' Equitable Access to Excellent Educators (2015) plan, students in high minority schools are 2.6 times more likely to have an inexperienced teacher than students in low minority schools. The plan also stated that schools with moderate and high minority populations have significantly higher turnover compared to low minority schools. The differences among the high and moderate minority schools and low minority schools are statistically significant. In Arkansas, the effects of inequitable access to excellent teachers can be tied to student achievement. Achievement data, based on state assessments, shows the disparity in achievement results between the state's high poverty/ high minority and low poverty/ low minority schools. In 2014, 34% of high poverty/ high minority schools were classified as "Priority" schools, a designation identifying the lowest 5% performing schools in the state. No low poverty/ low minority schools received this designation. In contrast, 75% of low poverty/ low minority schools were identified as "Achieving" schools, while only 13% of high poverty/ high minority schools were identified as "Achieving" schools. Research by Ronfeldt, et al. (2013)

suggested that schools with more low-performing minority students experienced lower student performance due to higher teacher turnover rates.

Efforts to grow and to diversify the teaching workforce. Attracting more culturally diverse educators to keep pace with the changes in the ethnic composition of the country's student population is a strategy to address teacher shortages and to improve teacher retention (Howard, 2003). The diversity in the teaching population has not kept pace with the growing diversity in the student population in the country's K-12 schools (Boser, 2011). Students are more likely to consider education as a profession if they see individuals who look like them in the classroom and who build relationships of respect, trust and high standards (Howard, 2003). However, the gaps between student and educator diversity are wide, as evidenced in some states where up to 75% of student demographics are identified as a minority but only 25% of teachers are minority demographic identified (Boser, 2011). While some nontraditional programs do well at attracting diverse educators, programs that supply educators for the short-term exacerbate the cycle of inexperienced teachers for the least-advantaged students (Murnane & Steele, 2007). Diversity is crucial to creating and maintaining positive relationships with Latino and African American parents who have often experienced inequality in their own educational experiences and can relate to students of color in ways that White teachers cannot (Villegas & Irvine, 2010).

National efforts. Efforts to improve the educator workforce involve strategies to attract quality candidates, preparation through multiple routes, supportive work environments, and opportunities for support, development, and enhancement of professional responsibilities (Minnici et al., 2016). Because every state has a gap

between the diversity of its student population and teacher population, it is important that alternative programs are considered in future efforts as they attract more diverse candidates than traditional programs (Boser, 2011). While efforts to attract minority candidates into the education workforce have produced a greater percentage of minority teachers; however, minority teachers are leaving their schools at greater rates (Barth et al., 2016; Bireda & Chait, 2011). This may be due, in part, to the fact that minority teachers are more likely than white teachers to teach in schools serving more disadvantaged students (Ingersoll & May, 2011). Boser (2011) found that minority teachers are more likely to be dissatisfied with salary and school management. According to Madkins (2011), minorities are often less prepared for their K-12 academic careers and, therefore, unsuccessful in meeting entrance requirements or persisting through higher education programs. Solutions to reduce high attrition rates of teachers include quality teacher induction programs to support novice teachers, access to relevant professional development opportunities, and a positive professional image of the teaching profession (Hentges, 2012).

Efforts in Arkansas. Diverse teachers can be an important bridge between students' homes and their schools and may also be more likely to understand and intervene when a student experiences problems (Gay, 2013). The demographics of Arkansas's current teaching workforce do not reflect the diversity of Arkansas' student population to ensure that educators are prepared to meet the needs and challenges of the students they teach. In Arkansas, few educators of color are teaching and leading schools, and in some cases, even fewer are in the preparation pipeline. During the 2014-15 school year, 37% of Arkansas's students were non-white, while only 10% of teachers

were non-white (Title II Reports, 2015). According to Arkansas' Institutions of Higher Education's 2015 Title II data, 2,997 fewer teachers were enrolled in an Educator Preparation Program (EPP) than in 2010, representing a 36% reduction (ADE, 2015). The ADE EPPR (2016) continued to show declines in overall enrollment, and also in both traditional and non-traditional programs. According to Westervelt (2015), the decline in Arkansas' teacher pipeline mirrors the trend in teacher preparation programs nationwide. Arkansas' data also shows an increase in the number of novice teachers, those who are most vulnerable to turnover in the early years of their careers, over the past five years, creating a perfect storm of inexperienced teachers entering the workforce without the capacity to continue to fill the potential need (ADE, 2015). Recent analysis, conducted in partnership with the University of Arkansas's Office for Education Policy, find significant differences in teacher equity in Arkansas's schools. When analyzed by percent minority, Arkansas's high minority schools have about 10% more novice teachers than low minority schools (ADE, 2016).

Ingersoll (2003) reported that the annual attrition for new teachers is slightly higher than that of other professions, with the annual departure rate at 14-17%. This national data is consistent with Arkansas' first-year attrition rate of approximately 15%, evidenced by data collected in Arkansas' State Information System (SIS, 2015). Howard (2003) cited that while other states find that between 30-50% of those who study to become teachers never enter the educator workforce, the shortage of teachers isn't found everywhere. Ingersoll (2003) reported that, in high-poverty schools, teachers are 50% more likely to leave. In qualitative interviews with teachers in high-poverty, urban schools, researchers found that educators with a sense of teaching as a mission, a

disposition for persistence, strong preparation programs, and networks within the school are key factors for retaining teachers (Freedman & Appleman, 2008).

Efforts to understand and to prevent attrition. Ingersoll (2004) argued against widely accepted research that the shortage of teachers is simply a supply and demand imbalance and instead focuses on teacher attrition and retirements as the main issue. Kukla-Acevedo (2009) reported research that found two factors connected to higher teacher retention rates: recruitment selectivity and preparation specifically focused on the teaching context or environment in which the candidate would be teaching. Loeb and Reininger (2004) cited wages, working conditions, and location as the primary factors that are important to teachers' workforce decisions and called for policy changes focusing on motivators for teachers to teach in the most challenging to staff schools. Nationally, approximately 25% of teaching assignments experience turnover each year, and until the tide turns, a greater supply of qualified teachers in the workforce is necessary (Boe et al., 2008). In Arkansas, on average, 36% of teachers leave after five years (Arkansas EPPR, 2016). Improvements in teacher retention require substantial changes in the culture of public education, the distribution of funds and resources, as well as improved working environments and higher salaries to create a more attractive profession as a career choice (Boe et al., 2008).

The Center for American Progress advocates for states and districts to utilize data systems to monitor the movement of teachers both within districts and those who leave, and to invest in human resource talent management to better retain and reward effective teachers. The Center also encourages the federal government to hold states responsible for reporting on disparities in access to effective teachers, monitor state plans for

improvement, and ensure that schools with the greatest numbers of disadvantaged students receive equitable funding (Partee, 2014).

In efforts to oversee an equitable distribution of educators, states will have to refine data systems that report information on teacher qualifications, preparation, experience, and assignments (Partee, 2014). With the reauthorization of the federal education law, states have begun a transition from No Child Left Behind, the law's 2002 inception, to the Every Student Succeeds Act of 2015 (U.S. Department of Education [USED], 2016), which encourages more state autonomy in developing policies that move away from a stringent focus on qualifications for teachers to a spotlight on equitable access to effective teachers who can promote student academic growth with states held accountable for results.

Novice teachers often feel unprepared during their probationary years of teaching and desire more classroom experience and support from their preparation programs (Ingersoll, 2004). The new ESSA (2015) legislation promotes partnerships and grants, using Title II funds, for districts to team with preparation providers and link educator preparation with professional work experience residencies (Sawchuk, 2016). An area for further study is the current “demonization” of the teaching profession as Ingersoll et al. (2014) mentioned in a policy update as an area where little research exists but anecdotal evidence has emerged.

National and state efforts to promote a quality workforce. In a call for policy change, the U.S. Department of Education (2014) stated that access to excellent teachers and leaders is a fundamental right for all students; however, Arkansas Educator Preparation Programs are showing a decline in the number of individuals entering the

teaching profession, particularly too few representing the diversity of the students whom they teach (Title II Report, 2014). In addition to the lower numbers of teacher candidates in the preparation pipeline and growing diversity among Arkansas' student population, teacher retention is a growing challenge for today's educator workforce (Hentges, 2012). While retirement contributes to the teacher turnover rate, it is only a small part of the overall attrition (Darling-Hammond & Sykes, 2003). According to Ingersoll (2001), the largest turnover of new teachers was due to dissatisfaction with the working environment and the lack of preparation for the challenges they encountered. States have responded to the call for a focus on equity in the distribution of teachers by developing state plans, which specifically address equity gaps. In an analysis of states' 2015 equity plans, Sutter et al. (2016) reported common trends across the country with poverty and minority students attending schools more likely staffed by teachers who lack experience, training, and credentials for their job assignments. A teaching workforce that has experienced teachers is a more stable environment that benefits students as veteran teachers provide the support for inexperienced staff in practices that support higher levels of student achievement (Kini & Podolsky, 2016). Arkansas's Equitable Access to Excellent Educators plan was developed in collaboration with stakeholders and will be a key component of the state's ESSA plan to be submitted for 2017-18. Key components in Arkansas's plan include:

- Promoting innovations in teacher preparation, including teacher residencies;
- Encouraging "Grow Your Own" initiatives through a partnership to create a Certified Teacher Assistant Pathway from high school to the workforce;

- Providing districts with access to data to support teacher growth and development through effective feedback;
- Improved opportunities for personalized, competency-based learning experiences for educators that align with their needs, varying by school and needs of students or the school community;
- Revision of state policies to allow flexibility in recruitment and hiring;
- Encourage opportunities for teacher leadership and utilize teacher leaders to mentor and model effective practices. (ADE, 2015; ADE, 2016)

Possible solutions to turn the trend cited by Henteges (2012) included improving the image of teaching as a profession, providing teachers with relevant professional development opportunities, and ensuring that strong induction programs are in place for novice teachers, all of which are strategies related to the research on job satisfaction. To improve teacher retention, policymakers must identify and address the factors that are driving educators out of the profession. Darling-Hammond and Sykes (2003) found federal and state support a critical investment to ensure equitable access to qualified teachers in classes throughout the country. Sutchter et al. (2016) found that many who leave the profession have intentions of returning; however, research estimates that less than one-third actually return within five years of leaving. Strategies to reach out to encourage re-entry within the first few years of leaving may show promising results. Creating opportunities for accomplished teachers to advance within a career continuum also provide promising retention data where teacher have opportunities to lead peers, earn additional pay, and to participate in identified career advancement opportunities (Minnici et al., 2016).

Use of Title II funds. Sufficient, equitable funding for schools to recruit and retain a quality workforce shows a positive association with higher student outcomes (Baker, 2016). Title II state funds are a result of the NCLB consolidation of two former funding streams and provide states with flexibility in how funds are spent to improve the quality of educators within schools. While the funding can be used to support incentive pay and career advancement for teachers, most of the money continues to be spent to reduce class size and for professional development (The Title II Conundrum, 2007). The passage of No Child Left Behind in 2002 pushed the federal government to increase the amount of Title II, Part A funds provided to States (GAO, 2003). To help meet requirements for Highly Qualified Teachers early on, states focused funding on professional development while districts targeted recruitment and retention activities (GAO, 2003). Approximately \$2.3 billion in federal funds is currently spent on Title II grants to states (Camera, 2015).

Many states' 2015 Equitable Access to Excellent Educators plans did not include data regarding the use of Title II, Part A funds in strategies to assure poor and minority student access to quality educators (CCSSO, 2016). According to Angela Minicci, Director of the Center for Great Teachers and Leaders, only a handful of states discussed ways in which future funds might be utilized. Indiana plans to use funds for educator surveys and support for National Board Certification funding while Ohio will focus on educator preparation. Other states like Massachusetts will revise the Title II, Part A application and require states to explain how the funds will be used to promote teacher equity (Education Grants Alert, 2015). The federal government's role in education, while more limited than states' roles, is important to ensure equity by supporting states' efforts

for educational excellence (GAO, 2003). ESSA brings additional flexibility to states and districts in the use of the Title II, Part A funding, but will require districts to prove the need for expenditures through state-approved plans (USDE, 2016). This study will focus on how effective uses of Title II, Part A funding can assist with closing equity gaps in high poverty/ high minority schools access to excellent teachers by focusing on the use of funding to address the recruitment and retention of excellent educators.

Summary

Research is vital to understanding the perpetual cycle in which schools and districts engage to recruit quality teachers while at the same time trying to retain effective educators (Egalite, Jensen, Stewart, & Wolf, 2014). Ingersoll and May (2011) suggested that developing recruitment and retention strategies together might be a solution instead of isolated attempts to solve singular problems. These strategies should address the workplace environment and salary issues that promote work dissatisfaction and contribute to a strong educator workforce. While many reasons for turnover have been cited, all of the reasons relate back to educators' overall satisfaction with some aspect of their job. Although there are numerous studies conducted to better understand trends of reasons for teacher shortages, there have been far fewer studies, which combine quantitative and comprehensive qualitative data trends (Egalite et al., 2014). In qualitative studies, researchers found that schools with concerted, collaborative support for new teachers through mentoring programs lowered turnover rates (Egalite et al., 2014). A systemic approach to building a strong educator workforce to encourage career entry, development, advancement and the retention of quality educators for the country to

build a strong profession and recruit and retain educators in the areas of greatest need (Sutcher et al., 2016).

The U.S. Census Bureau (2010) projected that by the year 2100, the U.S. minority population will become the majority. Non-Hispanic whites will comprise only 40% of the U.S. population. According to Aragon (2016), efforts to combat educator shortages should focus less on general recruiting and more on recruitment and retention of excellent teachers for the subjects they are most qualified to teach in the schools where they can best serve students. To prepare, schools should increase efforts to reach students by diversifying the workforce and preparing educators using pedagogical approaches that are culturally responsive to empower teachers and leaders with the knowledge and skills to be successful (Gollnick & Chinn, 2002). Better use of Title II, Part A funding will be a crucial strategy for improving the teacher workforce, using the available funding in focused ways to recruit, develop and retain effective educators. Regardless of the reasons for turnover, resources are wasted when public school systems engage in a revolving door of quality educators, and in the end, the students suffer.

Chapter II included a review of literature related to teacher turnover, the importance of teacher quality to reduce the rate of turnover, the impacts of turnover and the use of available funding to address turnover. Chapter III will detail the research methodology used to analyze the current reality of Arkansas's High Poverty and High Minority schools current workforce and the use of Title II, Part A funding to address the equity of access to excellent educators.

CHAPTER III: RESEARCH METHODOLOGY

The purpose of this study was to examine the variables that impact the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and to determine if current allocations, expenditures and uses of current Title II, Part A funds impact a district's ability to recruit and retain quality teachers, identified as 'excellent' teachers in this study. The study centered on the rate of inexperienced, out-of-field, and unqualified teachers and the rate of teachers in Arkansas's High-Poverty and High-Minority schools and analyzed the current uses of Title II, Part A funds to enhance the quality of educators. For the purposes of this study, turnover was defined using a five year occurrence rate of novice teachers in schools. The study analyzed variables that impact the educator workforce strength and Local Education Agencies (LEAs) uses of Title II, Part A allocations to enhance teacher quality issues. The study focused on the rate of inexperienced teachers, teachers teaching outside of their field of preparation, and teacher turnover in Arkansas's High Poverty and High Minority schools, and how funds were utilized to increase the likelihood of student access to excellent teachers and leaders.

According to the ESEA Title II, Part A non-regulatory guidance for Improving Teacher Quality State Grants (U.S. Department of Education [USDE], 2006), the program has historically been designed for a LEA to identify and implement activities that focus on improving its educator workforce. Specifically, the activities were designed to:

- Recruit and retain highly qualified teachers, focusing on those teaching in core academic areas
- Provide professional development to improve content knowledge and classroom practices

- Implement hiring practices that promote multiple career paths and allow for differences in teacher pay, including incentives for career advancement
- Provide mentoring, induction, and support for new teachers and principals during their first three years; and
- Utilize financial incentives to retain teachers and principals who demonstrate success with student performance and growth.

In a 2015 Joint Federal Programs Summit, the Oklahoma Office of Federal Programs presented on Title II, Part A Best Practices. According to the presentation, the intent of the funding has been to increase student achievement by improving the quality of teachers and principals. Title II, Part A funds can be used for core teacher or instructional leader professional development (PD), class-size reduction (CSR), teachers' salary, salaries for master teachers, recruitment hiring highly qualified core academic teachers, teacher retention, and teacher induction support. Title II, Part A funds cannot supplant required spending; therefore, they are only allowable for activities that supplement non-federal funds for teacher and principal requirements (Krasnoff, 2014). However, the Center for American Progress reported that the \$3 billion spent through Title II funds efforts to improve student achievement through improved teacher quality have shown little evidence of success (Chait & Miller, 2009). Because schools have chosen to utilize these funds in a variety of ways, this study sought to examine funding, among other variables that impact the educator workforce, and determine if the available amount of funding, the amount spent, and the activities for which funds have been expended have had an impact on a school's ability to recruit and retain effective teachers.

Quantitative data was collected from Arkansas' Statewide Information System (SIS) to report and analyze the three-year average number of inexperienced, out-of-field, and unqualified teachers. Additionally, the average rate of turnover in each school was calculated (as measured by a five-year novice teacher occurrence rate), using the most recent data five-year data available. Statewide data has been reported representing schools designated as High Poverty and High Minority each year for the past three years as part of the ADE's Equity plan. Title II-A data was also obtained from the Arkansas Department of Education's data archives (See Appendix B) to complete the analysis. The research utilized a formal, objective quantitative approach to describe and test relationships (Creswell, 2014).

To complete the analysis, the percentages of inexperienced, out-of-field, unqualified and turnover rates were converted to a composite score, which is referred to as the 'equity composite score,' an indicator of a school's educator workforce strength. The idea of a composite score to define educator quality has been done in other studies (Bracey, 2002; Partee, 2014). Ohio is currently using an educator strength index and outlines its use in its 2015 Equitable Access to Excellent Educators plan. Within this study, the elements of the composite score represented a combination of teacher 'excellence' components and were used a measure of a school (or districts) educator workforce strength, indicating the ability to provide students an equity of access to excellent teachers.

Because correlational research examines the magnitude and direction of relationship between two variables, the school's ability to attract and retain excellent teachers was statistically measured to determine the strength of relationship based on

district size, locale classification and between the amount of Title II, Part A funding available and expended per school and the manner in which funds were spent.

This chapter will examine research methodology including the research design, appropriateness of the design, the methodology, research questions, participants, research instrumentation, procedures, and plans for data analysis, as well as assumptions and limitations of the study. Chapter III will conclude with an overview and transition to Chapter IV.

Research Questions and Hypotheses

In Arkansas, students who attend High Poverty and High Minority schools are less likely to have an experienced teacher who is fully licensed to teach in his/ her chosen field (ADE, 2015; ADE, 2016). Ingersoll (2003) stated that reasons unrelated to retirement are causing experienced teachers to leave the profession. This study explored the variables that affect the Arkansas educator workforce and the relationship between Arkansas's High Poverty and High Minority schools' ability to attract and retain excellent teachers and the proportional amount of Title II, Part A funding received to address teacher quality. The following research questions will be investigated using a quantitative, correlational data approach.

The following research questions were investigated using a quantitative, correlational data approach.

- Does the strength of the educator workforce among Arkansas's High Poverty/ High Minority schools vary based on size and locale classification?
- Does the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and districts vary significantly from the strength of the

educator workforce statewide?

- Does the availability and expenditure of Title II, Part A federal funding at the local level impact the strength of the educator workforce in the state's High Poverty/High Minority schools?
- Does *how* a district spends its Title II money appear to impact its ability to recruit and retain *excellent teachers*?

The first null hypothesis is that a school district's size and locale classification will not have an impact on the educator workforce strength as measured by the equity composite score. The first alternative hypothesis is that a school district's size and locale classification will impact its workforce strength as measured by the equity composite score.

The second null hypothesis is that the strength of the educator workforce in Arkansas's High Poverty/High Minority schools and districts will not vary significantly from the strength of the educator workforce statewide, as measured by the equity composite score. The second alternative hypothesis is that there will be a significant difference between the workforce strength of High Poverty/High Minority schools and districts and schools and districts statewide, as measured by the equity composite score.

The third null hypothesis is that there is no relationship between the amount of available Title II, Part A funding per school within a district, the amount expended at the identified schools, and the school's educator workforce strength as shown by its ability to recruit and retain *excellent teachers* measured by the equity composite score. The third alternative hypothesis is that higher amounts of available Title II, Part A funding and

greater amounts expended in the identified schools correlate with the ability to recruit and retain *excellent teachers* as measured by the equity composite score.

The fourth null hypothesis is that how a district spends its Title II, Part A funds does not impact its ability to recruit and retain *excellent teachers*. The second alternative hypothesis is that how the available Title II, Part A funding is spent correlates with a district's ability to recruit and retain *excellent teachers*, as measured by the district's equity composite score.

District size and locale classification were correlated with the selected district's equity composite scores to examine the relationships between these variables, as was the relationship between the identified schools and districts and all other schools and districts statewide. After determining the strength of the relationship between the amount of funding available and expended within a district and the variability in teacher quality, (as measured by the equity composite score) a more in-depth look was conducted into the actual allocation of funds to analyze the manner in which funds were expended and if uses of funds correlate with a greater likelihood for a district to attract and retain excellent teachers. Of particular interest was to determine if all funds were used to address activities specifically related to teacher recruitment and retention in the identified schools with the greatest need or if funds were spent in other schools or transferred out of Title II and used in more general ways. The general categories investigated were:

1. Funds used for personnel in identified schools
2. Funds used for purchased services in identified schools
3. Funds used for professional development

4. Funds used for materials and supplies
5. Funds used for multiple purposes
6. Funds not expended for the identified schools

The results may be used to inform further research, policy, and practice.

Participants

Statewide, high poverty and high minority schools were identified as schools in the highest 25% of all schools ranked by the percentage of non-white students, totaling 269 schools in the state for each group. These school classifications were those in Arkansas's approved EAEE plan. High minority schools' minority student populations ranged between 55.63% - 100% non-white, with the median non-white population at 77.81%. Low minority schools, those in the lowest 25% of all schools statewide ranked by percentage of non-white students, ranged between 0-5.99% non-white, with a median minority student population of 5.99%. The mean percentage of non-white students at high minority schools is 76.7% and 6.32% in low minority schools. High poverty schools student populations also have a wide range, distinguishing poverty and non-poverty student quartiles. In schools designated as high-poverty, the percentages of students receiving free/reduced lunch range from 85.91% median populations in high-poverty schools to 41.24% in low poverty schools. The mean for high poverty schools is 86.55% and 38.18% for low poverty schools. For this study, 126 met the criteria as both high poverty and high minority each year for the past 3 academic years, 2013-14, 2014-15, and 2015-16. These schools, representing 37 Arkansas school districts and their districts will be the focus of the study (See Appendix A).

Methodology

Data for this study included the past three academic (school) years, 2013-14, 2014-15, and 2015-16. This study examined Arkansas schools defined in Arkansas's Equitable Access to Excellent Educators plan as both High Poverty and High Minority schools. Schools meeting both high poverty and high minority criteria each year for the past three years were assigned an equity composite score based on the percent of inexperienced, out-of-field, unqualified teachers and the rate of turnover. The composite score, calculated for each of the identified schools, and for the districts within which they reside was the dependent variable used to determine the stability and strength of the district or school's workforce, ensuring equitable access to excellent teachers for all students. A high composite indicated lower numbers of educators meeting the 'excellent educator' definition of the state's Equitable Access plan, thus a sign of more variability and less strength in the district's workforce quality (based on experience, preparation, qualifications, and rate of turnover) at the school or district level.

The initial analyses provided information about the identified schools and their districts. The first analysis compared the district composite score with the identified districts' size to determine if a relationship existed between the two variables using a bivariate correlation in SPSS. The same analysis was performed to examine the strength of the relationship between the district's composite score and the district locale. The next analysis focused on the identified schools' workforce strength, as measured by their equity composite scores and compared the schools in the study to the composite scores of schools statewide to determine if a significant difference existed between the population means using a one-sample *t*-test. The same analysis was conducted to determine if the identified

district composite scores were significantly different from the composite scores of the rest of the state. An additional bivariate correlation was performed using a bivariate correlation to test the strength of the relationship between the identified High Poverty/High Minority schools and the composite scores of the district in which they reside.

To analyze the relationship between the educator workforce strength and Title II, Part A funding, data for Title II funding was obtained from the Arkansas Department of Education's archived data. To address the third hypothesis, the selected district's three-year Title II, Part A funding was divided by the total number of schools within the district to obtain an average dollar amount the district had available to spend per school on the educator workforce recruitment, development, support, and retention opportunities. The three-year total amount of available funding per school was correlated using a bivariate correlation with the school's equity composite score to examine if a correlation exists between the amount a district has available to address the quality of educators within the district and the outcome of workforce equity. To determine if available funds were spent in ways that impacted the educator workforce, the total three-year expenditures per school were correlated, using a bivariate correlation analysis, to determine the strength of relationship between the expenditures of Title II, Part A funding and the equity composite score, seeking to determine if the amount spent produced the desired result of a consistent excellent educator workforce.

To examine the fourth hypothesis, data was requested from the Arkansas Department of Education's financial archives to examine the manner in which funds were expended and to determine if the spending decisions had an impact on the identified

school's workforce as measured by the equity composite score. Data were provided for the three years and the researcher used the Arkansas Financial Accounting Handbook to classify the expenditures based on the fund codes provided by the Department. Because funding decisions are made at the district level, and because not all of the identified districts allocated the available funds to the identified schools, the analysis was conducted using the district equity composite score. From the data provided by the Department, the total three-year expenditures were sorted into expenditure categories and then grouped to detail how the district spent the funds, identifying the expenditures were used for one or more purposes, or not expended in the identified schools. Univariate ANOVA was conducted to test the relationship between the type of expenditure(s) and the district's composite score.

Research Design and Rationale

This quantitative, correlational study examined the variables impacting the strength of the educator workforce and the relationship between schools classified as High Poverty and High Minority each year for the past three years, amounts of proportional Title II, Part A funding available to address teacher quality and their ability to recruit and retain excellent, effective teachers. A quantitative, correlational study is suitable to examine relationships between independent and dependent variables (Creswell, 2014). These interactions between variables demonstrate a connection that may provide confirmation and valuable insight for future studies, although it does not demonstrate cause and effect. Using a composite score developed by the ADE to identify the equity gaps in high poverty/high minority schools, the study examined whether equity gaps exist in each of the high poverty/ high minority schools' access to effective teachers, how Title

II, Part A funding was used to address disparities, and investigated if the manner in which funds were expended correlated with higher rates of recruiting and retaining excellent educators, as measured by the equity composite score to determine workforce strength. The independent variables were the composite scores of non-high poverty/ high minority schools and districts and also the amount of available and expended Title II A funding per district. The manner in which the funds were expended were grouped prior to data analysis to analyze relationships between the workforce strength and the manner in which funding was expended.

The equity composite score as presented by this index is a statistical measure developed by the Arkansas Department of Education to calculate the rate of inexperienced, out-of-field, unqualified teachers, and the average rate of turnover in High Poverty/High Minority districts each year for the past three years. The composite score has not been independently analyzed for statistical validity; however, the ADE will seek the guidance of an independent Accountability Technical Advisory Committee (TAC) in October to use the composite score as the official “calculation of disproportionality” required under the ESSA (USDE, 2016).

Population

The study represented 37 school districts with 126 total schools from the districts represented. Each identified district had one or more schools that met the ADE Equity Plan’s designation as a High Poverty and High Minority school each year for the past three academic years. The identified schools and districts’ workforce strength was compared to the strength of other schools and districts statewide to determine if statistical differences existed. Because funding is allocated at the district level, the study considered

the amount of funding available to the district per school for efforts related to teacher quality and examined how the funds were expended with particular attention to whether funds were used in the districts' schools with the most need. For the past three academic years, the districts have received a total of \$25,533,355.69 in Title II, Part A funds, averaging \$8,511,118.56 per year over the past three years, which is about 35% of Arkansas's total annual Title II, Part A funding.

Instrumentation and Operationalization of Constructs

The ADE's Office of Educator Effectiveness, in response to the EAEE plan requirements, developed a mechanism to analyze equity gaps in teacher quality between High Poverty and High Minority schools as compared to Low Poverty and Low Minority schools and also gaps in state averages. The instrument used to conduct this study was a composite score developed by employees of the Arkansas Department of Education to measure the strength of the educator workforce and educator equity in the educator workforce. The score can be used to depict the rate that Arkansas's students are taught by inexperienced, out-of-field, or unqualified teachers and to illustrate the rate of turnover impacting districts. The composite takes into account the factors research indicates cause variances in educator quality and combines them into a measurable number to look at the state, district, and school-level data.

These indicators align with ESSA non-binding regulatory guidance established from the final rules in December 2016. The rules require states to ensure that disproportionality calculations are performed and reported statewide using similar data across districts (USDE, 2016) and implement statutory requirements for reporting educator qualifications in State and LEA report cards (S. 1177, 2015). States would be

required to adopt consistent statewide definitions to ensure uniformity in how teachers who have no experience or are teaching out-of-area are identified and defined. States' calculations must also provide an explanation for the reasons for disproportionalities to ensure that low-income students and minority students are not taught at disproportionate rates by ineffective, out-of-field, or inexperienced teachers and states will be required to explain the reasons and how support will be provided to address the reasons (USDE, 2016).

The calculation instrument used in this study takes the number of teachers in each school who are classified as inexperienced, teaching out-of-field, unqualified, and the percentage of teacher turnover and assigns a composite score based on a multiplier of 100. Together, these factors align with the ESSA criteria in determining school access to excellent teachers. Since teacher effectiveness data will be reported for the first time in July 2016, the effectiveness ratings were not included. Arkansas's definitions of high poverty and low poverty schools are already consistent with the required definitions under ESSA rules (USDE, 2016). Information was disaggregated by high and low poverty schools and provided meaningful data to better understand workforce needs while encouraging states to focus on efforts to recruit, prepare, support, and retain excellent educators.

Data Analysis Plan

To examine the impact of funding on a district's ability to attract/retain quality teachers, the proportion of Title II-A funds available was compared to the amount spent (on a per school basis) in the district's high poverty and high minority schools. Each identified school's equity composite score was compared to the composite scores of

school's statewide. The identified district composite scores were also compared to district composite scores statewide using a bivariate correlation to determine if a significant relationship existed. The identified school's composite scores were also calculated and correlated with the amount of Title II-A funds available and expended in the schools and the manner in which the funds were expended. The next analysis examined the categories of expenditures and the district's composite scores by correlating how the funds were expended and the district's equity composite score. When considering educational resources, money does matter and can have a positive impact, especially when sufficient funds are distributed in an equitable manner and used consistently with research guided choices (Baker, 2016).

A Pearson correlation matrix was constructed to examine the strength of the relationship between the variables and uses of funds using the Excellent Educator Composite Score and the average amount of Title II, Part A funding available per teacher. A univariate ANOVA analysis was run to analyze the various purposes of funds expended to see the effect size for each and determine which variables have more impact.

Ethical Procedures

All data collected are available publically through state reports or publically identifiable information. Most will be obtained through ADE data archives or through data requests from the ADE staff. The ADE Federal Programs unit is gathering the historical data from the Arkansas Public School Computer Network regarding the Title II-A expenditures.

Prior to beginning data collection, the researcher applied to the Arkansas Tech University Institutional Review Board (See Appendix D) and received approval to conduct

the study. Since the data were all archived data from the ADE no human subjects were directly contacted for data collection and all data were anonymous.

Summary

The purpose of this study was to examine the variables that impact the strength of the educator workforce and the relationships between the amount of available and expended funds within the identified schools and the equity composite score. The study also focused on how Title II-A funds are expended to examine the relationship between district spending decisions and the district's variability in providing students' access to excellent educators, as measured by the district composite score.

This chapter addressed the research methodology, including the research questions, research design and rationale, population, instrumentation, data collection, data analysis and data validity. The results of the data analysis will be reported and analyzed in Chapter IV.

CHAPTER IV: RESULTS

In Arkansas, students who attend High Poverty and High Minority schools are less likely to have an experienced teacher who is fully licensed to teach in his/ her chosen field (ADE, 2015). Researchers have cited the need for states to focus on building an experienced workforce because experience is linked to higher teacher performance when measured by student academic gains. Teachers with experience also benefit less experienced colleagues when able to mentor in supportive work environments (Kini & Podolsky, 2016). Ingersoll (2003) stated that reasons unrelated to retirement are causing experienced teachers to leave the profession. Kini and Podolsky (2016) stated that the greatest teacher churn occurs in schools with large minority and poverty student populations. The purpose of this study was to examine the variables that impact the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and to analyze if allocations, expenditures and uses of current Title II, Part A funds impact a district's ability to recruit and retain quality teachers, identified as 'excellent' teachers in this study.

This study was done using a quantitative data analysis approach to analyze variables that contribute to the strength of an educator workforce and to describe and test relationships between selected district's allocation and expenditures of Title II part A funding and the assigned equity composite score that identifies the district's workforce. A total of 126 schools from 37 school districts were chosen for the study. The criteria for selection was based on the school's reported poverty and minority status in yearly Cycle 2 submissions to the Arkansas Department of Education from the 2013-14, 2014-15 and 2015-16 school years. The identified schools were classified as High Poverty or High

Minority if their reported demographics were in the top 25% of Arkansas's identified poverty and minority schools based on student make-up. To be included, the school had to be classified as both high poverty and high minority each year for the past three academic years (noted above). Each school and district were assigned an equity composite score as a way to measure the school's workforce. The composite score was a combination of the district or school's three-year percentage of inexperienced (less than one-year of experience) and unqualified (long-term sub) teachers, teachers teaching out of their area of preparation (out-of-field), and the percent of teacher turnover, as measured by the occurrence rate of novice teachers. The percentages were converted to raw numbers and averaged for the most recent past three years. A high composite score reflected more instability in the district's workforce, with a higher percentage of inexperienced, out-of-field, unqualified or rates of turnover or a combination thereof. A lower composite indicated that the school had fewer teachers in these categories, thus a stronger workforce.

Research Questions and Hypotheses

The following research questions were investigated using a quantitative, correlational data approach.

- Does the strength of the educator workforce among Arkansas's High Poverty/ High Minority schools vary based on size and locale classification?
- Does the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools and districts vary significantly from the strength of the educator workforce statewide?
- Does the availability and expenditure of Title II, Part A federal funding at the local level impact the strength of the educator workforce in the state's High

Poverty/High Minority schools?

- Does *how* a district spends its Title II money appear to impact its ability to recruit and retain *excellent teachers*?

The first null hypothesis is that a school district's size and locale classification will not have an impact on the educator workforce strength as measured by the equity composite score. The first alternative hypothesis is that a school district's size and locale classification will impact its workforce strength as measured by the equity composite score.

The second null hypothesis is that the strength of the educator workforce in Arkansas's High Poverty/High Minority schools and districts will not vary significantly from the strength of the educator workforce statewide, as measured by the equity composite score. The second alternative hypothesis is that there will be a significant difference between the workforce strength of High Poverty/High Minority schools and districts and schools and districts statewide, as measured by the equity composite score.

The third null hypothesis is that there is no relationship between the amount of available Title II, Part A funding per school within a district, the amount expended at the identified schools, and the school's educator workforce strength as shown by its ability to recruit and retain *excellent teachers* measured by the equity composite score. The third alternative hypothesis is that higher amounts of available Title II, Part A funding and greater amounts expended in the identified schools correlate with the ability to recruit and retain *excellent teachers* as measured by the equity composite score.

The fourth null hypothesis is that how a district spends its Title II, Part A funds does not impact its ability to recruit and retain *excellent teachers*. The second alternative

hypothesis is that how the available Title II, Part A funding is spent correlates with a district's ability to recruit and retain *excellent teachers*, as measured by the district's equity composite score.

In looking at characteristics of the identified schools and districts, district size was analyzed according to a frequency distribution to identify the types of districts whose schools were part of the study. The district size was based on the Arkansas Activities Association's classifications, which categorize based on school population. Because the classification is based on school size (high schools), districts that had multiple high schools were classified in the largest classification, 7A. Also, 16.2% of the districts with schools in the study are among the state's largest school districts, while 5.4% are from the state's smallest school districts. The model classification, 2A, represents districts with a median high school enrollment of 145 students, comprising 21.6% of districts in the study. The results are listed in Table 1.

Table 1

District Size

Valid	Frequency	Percent	Valid %	Cumulative %
1	2	5.4	5.4	5.4
2	8	21.6	21.6	27.0
3	4	10.8	10.8	37.8
4	5	13.5	13.5	51.4
5	6	16.2	16.2	67.6
6	6	16.2	16.2	83.8
7	6	16.2	16.2	100.0
Total	37	100.0	100.0	

The locale classification of the districts with identified schools was categorized according to the following characteristics, based on the National Center for Education

Statistics Urban and Rural calculations. Based on these criteria, the districts in the study were identified as: Rural 1; Town 2; Suburb 3; and City 4.

Over one-third of the districts were classified as ‘town’, which was the most common classification for the identified districts. According to the definitions, a town is a territory outside of a principal city but within an urban cluster that can be up to 35 miles from an urbanized area. Rural districts comprised 29.7% of districts with schools in the study and schools in city districts 27% of the identified group. The smallest percentages of districts were identified as suburban districts, at 8.1%. The identification is based on codes that identify how geographically close an address is to an urban area, which is defined as a densely populated area with an area of density in its core and surrounding areas (NCES, 2016). Each of the locale codes can be further broken down to characterize them as fringe, distant or remote; however, for this study, the districts were only given a general locale code to provide information on the types of districts with schools involved in the study. The district locale is depicted in Table 2.

Table 2

Frequency Distribution District Locale

Valid	Frequency	Percent	Valid %	Cumulative %
1	11	29.7	29.7	29.7
2	13	35.1	35.1	64.9
3	3	8.1	8.1	73.0
4	10	27.0	27.0	100.0
Total	37	100.0	100.0	

Hypothesis 1

Correlations were first conducted using district composite scores to determine if relationships existed between the district's composite scores and the size or locale classification of the district. The first null hypothesis stated that a district's size and locale classification would not have an impact on the strength of the educator workforce as measured by the equity composite score. A bivariate correlation was run to examine the relationship between the average equity composite scores for each district size classification. The results of the calculation indicated a significantly significant negative relationship between the district size and the equity composite score, [$r = -.829$, $n = 7$, $p = .021$], with the smaller districts, classified as 1-3, having a higher composite, a sign of a weaker workforce than the larger districts. The results are depicted in Table 3.

Table 3

District Size and Composite Correlation

		District Size	District Composite
District Size	Pearson Correlation	1	-.829*
	Sig. (2-tailed)		.021
	N	7	7
District Composite	Pearson Correlation	-.829*	1
	Sig. (2-tailed)	.021	
	N	7	7

*. Correlation is significant at the 0.05 level (2-tailed).

An additional bivariate correlation was run to test the strength of the relationship between the identified district's locale classification and the average composite for districts of similar locales. The results showed no significant relationship exists between these two variables, $r(4) = .155$, $p = .845$, two-tailed, as indicated in Table 4.

Table 4

District Locale and Composite Correlations

		Locale Classification Type	District Composite
Locale classification Type	Pearson Correlation	1	.155
	Sig. (2-tailed)		.845
	N	4	4
District Composite	Pearson Correlation	.155	1
	Sig. (2-tailed)	.845	
	N	4	4

*. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 2

To further understand the schools and districts in the study, a one-sample T-test was run to test the second null hypothesis, which stated that the strength of the educator workforce in the identified High Poverty and High Minority schools will not vary significantly from the strength of the schools statewide as measured by the equity composite score. The t -test showed a significant difference between the mean equity composite scores of the high poverty/ high minority schools and the mean equity composite scores for all other schools within the state, $t(126) = 4.39$, $p = .001$, with means (SD) of 28.99 (30.90) and 16.93. The results are shown in Table 5.

Table 5

One-Sample t-Test Schools

Test Value = 16.93						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
High Poverty High Minority Schools	4.342	126	.000	10.92690	5.9467	15.9072

A one-sample *t*-test also was run to examine the composite scores for the districts with one or more high poverty/ high minority schools identified in the study. When compared to the composite scores for districts statewide, the test showed a statistically significant difference in the high poverty/ high minority district populations and the other districts within the state. The *t*-test showed a significant difference between the mean equity composite scores of the high poverty/ high minority districts and the mean equity composite scores for all other districts within the state, $t(37) = 3.08$, $p = .003$, with means (SD) of 35.79 (35.74) and 17.39. The results are shown in Table 6.

Table 6

One-Sample t-Test Districts

Test Value = 17.39						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
High Poverty High Minority Districts	3.174	37	.003	18.40842	6.6586	30.1583

To further test relationships for the second null hypothesis, an additional bivariate correlation was run to test the strength of the relationship between the identified high poverty/ high minority schools and the districts within which they reside. The results show a significant relationship exists between these two variables, $r(126) = .920$, $p = 0$, two-tailed, as indicated in Table 7.

Table 7

High Poverty/High Minority School and District Composite Correlations

		HiPovHiMin Districts	HiPovHiMin Schools
High Poverty High Minority Districts	Pearson Correlation	1	.920**
	Sig. (2-tailed)		.000
	N	126	126
High Poverty High Minority Schools	Pearson Correlation	.920**	1
	Sig. (2-tailed)	.000	
	N	126	126

**. Correlation is significant at the 0.01 level (2-tailed).

A scatterplot summarizes the results in Appendix C, *Figure C1*.

Hypothesis 3

Hypothesis 3 focused on the relationship between the strength of the workforce, as measured by a school district's ability to recruit and retain excellent educators in its schools, and the dedicated federal funds to address the educator workforce needs. To determine the relationship between a Local Education Agency's uses of its Title II, Part A funds and its educator workforce, the researcher examined both the amount of funding available for each identified school and districts' expenditures of funds, first looking at the relationship between the amount of funding available to spend in each school, and then the amount actually expended during the previous three school years. To determine the amount of funding available for each identified school, the amount of total district funding was divided by the number of schools within the district. Actual three-year expenditures were obtained to test the relationship between the composite and expenditures. Title II,

Part A funds are distributed by the State Education Agency to the local agency at the school district level where determinations are made in how (or if) to spend funds in the district's schools. Of the school districts with identified schools in the study 11 districts did not expend any Title II, Part A funds in any of the identified schools during the time period, indicating that funds were spent at the district level or transferred to other funding sources and not specifically directed at the uses for Title IIA funding. On average, approximately 42% of the available funds available for the identified schools were actually expended at the school level.

To test the relationships between the available amount of funding and the schools' composite scores and the amount of funding expended with the composite score, a correlation analysis was run using SPSS. The goal of the test was to examine the relationship between the funding and the schools' workforce, to examine patterns and see if funding was associated with a greater likelihood for the school to have an excellent educator workforce.

The third null hypothesis stated that there is no correlation between the amount of Title II, Part A funding available and expended per High Poverty/ High Minority school and the school's ability to recruit and retain *excellent teachers* as evidenced by the equity composite score. A bivariate correlation was run to examine the strength of the relationship between the available funding per school (based on the district's Title II, Part A funding and a total number of schools within the district) and the school's composite. A Pearson correlation coefficient was computed to assess the relationship between the amount of available funding in each identified school and the schools' equity composite

score. The results showed no significant relationship exists between these two variables, $r(126) = -.034$, $p = .703$, two-tailed, as indicated in Table 8.

Table 8

Correlation Available Funding and Composite

		Composite	Available Funding per school
Composite	Pearson Correlation	1	-.034
	Sig. (2-tailed)		.703
	N	126	126
Available Funding per school	Pearson Correlation	-.034	1
	Sig. (2-tailed)	.703	
	N	126	126

A second bivariate correlation was run to test the relationship between the amount of Title II, Part A funds spent in the identified schools and the school's equity composite score. The correlation showed that no significant relationship exists, $r(126) = -.033$, $p = .716$, two-tailed, as reported in Table 9.

Table 9

Correlations Amount Expended and Composite

		Composite	Expenditures
Composite	Pearson Correlation	1	.033
	Sig. (2-tailed)		.716
	N	126	126
Expenditures	Pearson Correlation	.033	1
	Sig. (2-tailed)	.716	
	N	126	126

An additional correlation was run to include only the schools where available funding was expended. The correlation showed no significant relationships but highlighted that funds were expended in only 56 of the 126 identified schools, $r(56) = .026$, $p = .847$, two-tailed, as indicated in Table 10.

Table 10

Correlations Only Schools with Available Funds Expended

		Composite	Expenditures
Composite	Pearson Correlation	1	.026
	Sig. (2-tailed)		.847
	N	56	56
Expenditures	Pearson Correlation	.026	1
	Sig. (2-tailed)	.847	
	N	56	56

Hypothesis 4

The fourth null hypothesis stated that how a district spends its Title II, Part A funds does not impact its schools' ability to recruit and retain *excellent teachers* as evidenced by the school's equity composite score. To determine the strength of the relationship between the manner in which funds were expended and the impact on the equity composite score, data were collected to show how Title II, Part A funds were expended in the identified schools. Because not all schools were allocated Title II, Part A funds, the expenditures were examined at the district level to see if the manner in which total district funds were expended varied in significantly different ways. The expenditures were examined at the district level and all of the districts used some portion of the funds in expenditures related to personnel. The expenditures were classified into four different expenditure types:

- 1- Personnel (including salary, benefits, compensation)
- 2- Supplies and Materials
- 3- Purchased Services
- 4- Professional Development

The types were then grouped into seven categories based on if the district used the funds for multiple type expenditures.

- Group A Personnel Only
- Group B Personnel and Supplies
- Group C Personnel and Purchased Services
- Group D Personnel and Professional Development
- Group E Personnel, Supplies, and Purchased Services

Group F Personnel, Supplies and Professional Development

Group G Personnel, Purchased Services, and Professional Development

To test the hypothesis, univariate ANOVA was conducted with the results listed in Table 11. For the dependent variable, the equity composite score, the F value for Levene's test of homogeneity is 1.092 with a P value of .389, which is greater than the level of significance set at $p > .05$. After ANOVA analysis, there were no significant effects between the manner in which the funds were expended on the districts' equity composite scores at the $p < .05$ level for the conditions $F = .414, p = .864$.

Table 11

ANOVA Funds How Spent

Dependent Variable: Composite

Source	Sum of Squares	<i>df</i>	Mean Square	F	Sig.
Contrast	3504.511	6	584.085	.414	.864
Error	43776.687	31	1412.151		

A line plot with the estimated marginal means is included in Appendix C, *Figure C2*.

CHAPTER V: DISCUSSION

The U.S. Census Bureau (2010) projected that by the year 2100, the U.S. minority population will become the majority. To prepare, states must establish educator workforce priorities to ensure that schools increase efforts to attract, support, and retain quality educators who are prepared to meet all students' needs. With growing diversity in the state's student population, efforts to recruit educators should include strategies aimed at diversifying the workforce and preparing educators using pedagogical approaches that are culturally responsive to empower teachers and leaders with the knowledge and skills to be successful (Gollnick & Chinn, 2002). Better use of Title II, Part A funding will be a crucial strategy for improving the strength of the educator workforce, using the available funding in focused ways to recruit the highest quality teachers, develop their professional skills to meet evolving student academic, social and societal needs, and retain the most effective educators. The ESSA is a bipartisan effort that provides expanded ways to utilize federal funding for strategic and targeted opportunities in strengthening the educator workforce through intentional, strategic recruitment and retention of excellent teachers (Policy, 2016). Title II funding changes will require each state to submit an annual report to the U.S. Department of Education that describes how state-approved activities improved equitable access to effective teachers and school leaders (S. 1177, 2015).

The purpose of this study was to examine the variables that impact the strength of the educator workforce in Arkansas's High Poverty/ High Minority schools, and to determine if current allocations, expenditures and uses of Title II, Part A funds impact a district's ability to recruit and retain quality teachers, identified as 'excellent' teachers in

this study. This study was done using a quantitative data analysis approach to describe and test relationships between selected district's allocation and expenditures of Title II part A funding and the assigned equity composite score that identifies the district's workforce.

This chapter reflects on the results of the data analysis performed and details conclusions based on the results. Recommendations for the state and for school districts to further focus on improving the strength of local school's educator workforces to ensure all students have access to the most effective teachers are also prescribed.

Conclusions

Hypothesis 1. The data analysis began with the examination of the identified school district's characteristics and progressed with an analysis of how a district's financial decisions or actions might impact the strength of the workforce, as measured by the equity composite score. The first hypothesis examined the relationship between the school districts' (identified in the study) workforce strength and their size and locale classification. The first null hypothesis stated that a school district's size and locale classification would not have an impact on the strength of the educator workforce as measured by the equity composite score. A bivariate correlation showed a statistically significant relationship between a district's size and workforce strength. The analysis highlighted a negative relationship between the district size and the composite score with the smaller districts having a higher composite score, which would signal a weaker workforce and less equity in access to experienced educators who are teaching in their field of preparation in a school with stability from low turnover. For district size, the null hypothesis was rejected. This result is one to warrant additional study, especially since

smaller districts often have fewer resources, including financial and human capital. When analyzed to determine if a relationship exists based on the district's locale classification, the results from the bivariate correlation showed no relationship between locale classification and the composite score, therefore, the null hypothesis could not be rejected. The differences in the findings of a relationship based on size but not locale warrants further study but may also be explained by the distribution of High Poverty/High Minority schools being located in isolated pockets of the state where many factors may contribute to educator's decisions of whether to stay or to leave and also provide additional employment opportunities if the locale is in an urban area.

Hypothesis 2. The second null hypothesis stated that the strength of the workforce in the identified High Poverty/High Minority schools and districts would not significantly vary from schools statewide. Data analysis showed a statistically significant difference in the composite scores of the identified schools' composite scores and the identified districts' composite scores when compared to the composite scores of all other schools and districts in the state. The data also confirmed a positive relationship between the composite scores of the identified schools and the composite scores of their districts, indicating that improvement in the school composite will positively impact the overall district workforce strength. This relationship also highlights the overall district's ability to impact the workforce quality in each of its schools since the two are strongly related, making it important to ensure that district leaders are equipped with the data to make informed, strategic workforce decisions. Therefore, the null hypothesis was rejected.

Hypothesis 3. The third null hypothesis stated that there is no relationship between the amount of available Title II, Part A funding available and expended per High

Poverty/ High Minority school and the school's ability to recruit and retain *excellent teachers* as evidenced by the equity composite score. Bivariate correlations found no relationship between available funds and the composite score, nor a correlation with expenditure amounts and the composite score. Therefore, the null hypothesis could not be rejected. It may be, however, that these results are indicative of current practices of local district decisions regarding the allocation of available funds and the manner in which they are expended, rather than an indication that money doesn't matter. Districts only allocated and expended Title II, Part A funds in 56 of the 126 schools identified in the study, with approximately 43% of available funding not expended in the identified schools, which limited the data analysis.

Because no relationship exists between the amount of funding available to be spent in the identified schools and the equity composite score, and because the amounts expended did not show a correlation to the composite score, there is a great need to further examine the practices surrounding the use of Title II, Part A funds to address educator quality and equity in schools, especially those serving the highest populations of minority and poor students. Further, the lack of targeted financial attention in the identified schools to use the funds for intended purposes indicates a need for better guidance and monitoring in the use of the funding appropriations to determine if district spending is targeting needs.

Hypothesis 4. The fourth null hypothesis stated that how a district spends its Title II, Part A funds does not impact its schools' ability to recruit and retain *excellent teachers* as evidenced by the school's equity composite score. Univariate ANOVA results confirmed that there is no significant interaction between the manner in which the districts

spent money and the impact on the equity composite scores. Therefore, the null hypothesis could not be rejected.

One-sample t-tests, bivariate correlations, and univariate ANOVA were conducted to test the hypotheses in this study. The dependent variable in all of the calculations was the equity composite score. The null hypothesis was rejected for district size in Hypothesis 1 and for Hypothesis 2. The null hypothesis was not rejected for hypothesis 3 and 4.

Because the first hypothesis (for district size only) and second null hypothesis was rejected, the study showed that the composite score may be a good descriptive indication of a school or districts' workforce variables that impact workforce strength (as measured by teacher experience, teaching in the prepared area, and rate of turnover), and that the score can be valuable data for the state to further develop. The further development of the equity composite score as a strong index of workforce strength, combined with the district and school training to understand the index could prove beneficial in addressing recruitment and retention concerns and also promote good financial decision making with Title II, Part A funds.

Overall, these results may mean that the equity composite score is not appropriate for measuring the impact of the funding on the strength of an educator workforce but a better descriptive workforce measure. While there may be no relationship between how a district spends its available funding and the quality of its workforce, there are so many confounds around how money is spent that no single factor may ultimately prove significant. A lack of relationship in the findings of this study may be because this study only investigated one funding source that is available to schools, and it is a source often

criticized for its allowable funding activities to lack research to support the expenditures. Because many of the variables that affect recruitment, assignment, and retention do not show a strong relationship with the amount of money Arkansas' districts spend in these areas, the ESSA requirements that states and districts meaningfully engage with stakeholders in decisions surrounding the use of federal title funds in creating ESSA plans has more promise for the future of educator equity.

Recommendations

The results indicated that the educator workforce should be further studied to examine equity issues in Arkansas's schools and districts with high populations of poverty and minority students. To examine the strength of the workforce, additional work needs to be done to further develop a valid measure that can be applied to all school and districts to determine overall educator workforce strength and also able to measure each variable to determine if one variable is more significant than another. To do this, the ADE will have to have consistent data for each variable and examine all potentially valid variables that aren't accounted for in this study, i.e. the addition of data regarding the number of teachers with provisional licenses and the number of teachers who are reported as ineffective. Further study might also seek to analyze high poverty schools separately from high minority schools. The ADE's equitable access plan identifies the schools separately with the highest quartile for each type identified so that some schools are identified as only high poverty or only high minority. These separate identifications would result in larger numbers of schools identified for study and possibly show differences based on poverty or minority that could potentially be masked with the combined identification.

The results also supported the ESSA changes to Title II, Part A funding allocations and spending requirements. The data confirmed the knowledge that current practices to primarily use the funding for class-size reduction (personnel) and professional development do not show to be significantly impacting the strength of a school's educator workforce. Data on the elements of the equity composite score need to be developed and analyzed for further covariate study. Future analyses should seek to break down the composite elements further and analyze with the various expenses that are broken down in more detail and possibly to look at yearly expenditures rather than averages over three years. Current reporting of expenditures are still not specific enough to get to the level of detail needed to statistically determine if relationships do exist for specific activities. Because of this research, the state should conduct a data inventory and determine future data needs and seek additional ways to collect information needed to further study this topic. Consistent data must be reported to ensure that analysis can fully address the many questions around teacher quality and educator equity for all students. Through the development of Arkansas's ESSA plan, the state has an opportunity to engage stakeholders and to garner support for a continued focus on educator equity to ensure the quality of educators in all schools.

Data literacy. The ESSA requires that states must calculate and report the rates at which poverty and minority students (in the state's Title I schools) are taught by teachers who are inexperienced, teaching out of their field of licensure, and are ineffective as compared to students who are non-poverty and not classified as minority students. Currently, local-level decisions regarding the quality of the educator workforce are not always informed by data. It is important that the ADE clearly articulate this as a priority.

The state-level priorities provide the context for which LEAs can better understand the local data. The ADE should expand its equity work with the Equitable Access to Excellent Educators initiative to the Local Education Agency (LEA) level, refining the equity composite score to a statistically validated workforce strength index that reports on these and other variables that indicate the strength of the educator workforce. Using the new ESSA federal guidelines, the workforce data should serve as a foundation to ensure that high poverty/ high minority schools are receiving appropriated Title II, Part A funds and identifying strategies to address the areas of need shown by the data. Policies requiring a gap analysis and root-cause analysis for identified gaps should be in place as part of a districts' needs assessment and application for title funding. Additionally, the equity composite score data, indicating the workforce strength could be analyzed with each school's performance designations (A-F Ratings or Federal Accountability Designations) to examine the relationships between the workforce strength and student performance.

Stakeholder buy-in. The Arkansas Department of Education should also consider initiatives underway in other states, like Missouri and Maine, to create equity labs as a way to involve stakeholders in understanding the challenges of providing all students the access to excellent teachers. The labs serve as a forum to inform stakeholders about existing education inequities, an opportunity to examine data and identify causes for equity gaps, a strategy to develop solutions to address inequities, and a framework for feedback loops to monitor progress on the work. This could serve as a model for Arkansas to move the equity work from the state to the local level and encourage districts to take ownership of the educator workforce equity work.

Implications

The ESSA will implement changes to the amount of Title II, Part A funding districts receive and change the ways in which funding can be spent. Training and technical assistance to Implement Changes to Title II, Part A funding under the ESSA will be critical to ensure LEAs are prepared to change current practice and to make better-informed decisions in the future. A key change under the ESSA will be the requirement that states calculate and report (at the student level) on the rate of disproportionality of student access to “effective” teachers. ESSA requires states to define “ineffective” teachers, to determine if disproportionalities exist, and to publicly report the steps the state will take to address inequities (S. 1177, 2015; USDE, 2016). States will need policies that encourage equitable distribution of experienced, qualified, educators with proven track records of performance in high-need schools and discourage high concentrations of novice, unprepared educators (Kini & Podolksy, 2016).

Because of these changes, the Arkansas Department of Education will need to provide training and support to school districts, especially for those schools that have existing rates of disproportionality in their current workforce, those who will see reduced or increased funding in federal funds, and those with low student achievement. Arkansas should be seeking ways to most effectively leverage Title II, Part A funds and identify changes needed in the overall system to ensure sustained improvement. While it is reasonable to assert that schools with more money have greater access to resources and flexibility to improve the quality of its educator workforce and meet students’ needs, the money itself will not be the solution (Baker, 2016). Even if sufficient money was made available to substantially address teacher salaries and slow the rate of turnover, it might

not result in substantial increases in student achievement if the result is that poor-performing teachers stay and prevent the hiring of stronger talent (Hanushek, 1994), making the case that money must be strategically spent to address unique school needs. Money that is well spent can have positive outcomes to improve the quality of the educator workforce in any school. These changes will require the SEA to work closely with LEAs to ensure that data drive the decisions and are targeted to implement strategies that will address current and future workforce disparities.

Promising strategies include recruitment of high school students through programs like Teacher Cadet, financial incentives through scholarships and loan forgiveness, meaningful mentoring to support novice educators, and opportunities for teacher leadership to recognize career contributions (Sutcher et al., 2016). The ESSA allows states to be more directive in requiring districts to use Title II, Part A funds if the data show that their poor and minority students are served at disproportionate rates by ineffective, inexperienced or teachers teaching out-of-field, requiring states to describe how they will support state-level strategies to increase student achievement, improve the effectiveness of educators, and ensure equitable access to effective educators (S. 1177, 2015). ESSA emphasizes ‘evidence-based’ requirements for the use of Title II, Part A funds if used for professional development or class-size reduction (S. 1177, 2015; USDE, 2016). This means that districts can only continue to fund positions in order to reduce classes to a size that is supported by evidence as being effective. Any expenditure for professional development must be for ongoing and ‘evidence-based’ effective training.

Policies that build an experienced educator workforce that continually supports and develops its teachers while simultaneously reducing the rate of turnover need to be

implemented in Arkansas. As Arkansas works to develop and implement its ESSA plan, investments in building an excellent educator workforce and providing equitable access to excellent educators for *all* students will pay long-term dividends.

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ISSN 1364-4505. DOI UNSPECIFIED.

Appendix A:

Title II, Part A Allocations for Hi Poverty/Hi Minority Schools

High Poverty/High Minority Districts					3 Year Average Allocation
	Title II-A Funds			3 Year Total	
	13-14	14-15	15-16	Total	
1	\$ 74,092.87	\$ 73,581.51	\$ 74,003.31	\$ 221,677.69	\$ 73,892.56
2	\$ 224,875.79	\$ 198,843.20	\$ 188,769.18	\$ 612,488.17	\$ 204,162.72
3	\$ 83,505.43	\$ 82,038.20	\$ 82,218.60	\$ 247,762.23	\$ 82,587.41
4	\$ 184,229.69	\$ 199,597.65	\$ 204,411.34	\$ 588,238.68	\$ 196,079.56
5	\$ 53,080.24	\$ 52,105.93	\$ 52,441.68	\$ 157,627.85	\$ 52,542.62
6	\$ 105,519.28	\$ 103,933.23	\$ 104,448.73	\$ 313,901.24	\$ 104,633.75
7	\$ 84,027.02	\$ 82,546.82	\$ 82,599.94	\$ 249,173.78	\$ 83,057.93
8	\$ 170,355.88	\$ 159,646.50	\$ 163,140.55	\$ 493,142.93	\$ 164,380.98
9	\$ 128,088.40	\$ 126,929.03	\$ 128,946.27	\$ 383,963.70	\$ 127,987.90
10	\$ 77,198.54	\$ 75,513.00	\$ 75,927.31	\$ 228,638.85	\$ 76,212.95
11	\$ 253,571.93	\$ 250,442.92	\$ 253,219.16	\$ 757,234.01	\$ 252,411.34
12	\$ 305,518.73	\$ 295,675.76	\$ 297,251.78	\$ 898,446.27	\$ 299,482.09
13	\$ 579,722.46	\$ 569,025.46	\$ 578,853.00	\$ 1,727,600.92	\$ 575,866.97
14	\$ 113,425.25	\$ 111,687.72	\$ 113,054.31	\$ 338,167.28	\$ 112,722.43
15	\$ 299,007.48	\$ 174,214.83	\$ 171,659.11	\$ 644,881.42	\$ 214,960.47
16	\$ 158,990.27	\$ 156,414.94	\$ 157,691.24	\$ 473,096.45	\$ 157,698.82
17	\$ 271,908.66	\$ 266,428.36	\$ 271,439.11	\$ 809,776.13	\$ 269,925.38
18	\$ 241,315.33	\$ 236,725.84	\$ 242,189.50	\$ 720,230.67	\$ 240,076.89
19	\$ 12,282.60	\$ 186,115.92	\$ 216,765.56	\$ 415,164.08	\$ 138,388.03
20	\$ 77,055.02	\$ 76,303.75	\$ 76,525.64	\$ 229,884.41	\$ 76,628.14
21	\$ 139,771.36	\$ 136,446.90	\$ 138,466.41	\$ 414,684.67	\$ 138,228.22
22	\$ 177,788.14	\$ 161,883.99	\$ 158,313.55	\$ 497,985.68	\$ 165,995.23
23	\$ 1,126,341.45	\$ 1,052,202.84	\$ 1,036,341.22	\$ 3,214,885.51	\$ 1,071,628.50
24	\$ 108,453.43	\$ 83,096.99	\$ 89,081.57	\$ 280,631.99	\$ 93,544.00
25	\$ 38,047.42	\$ 37,583.90	\$ 37,511.17	\$ 113,142.49	\$ 37,714.16
26	\$ 496,023.79	\$ 465,404.29	\$ 449,807.84	\$ 1,411,235.92	\$ 470,411.97
27	\$ 144,121.06	\$ 141,068.04	\$ 142,659.16	\$ 427,848.26	\$ 142,616.09
28	\$ 402,624.63	\$ 373,317.46	\$ 368,974.57	\$ 1,144,916.66	\$ 381,638.89
29	\$ 747,855.21	\$ 692,373.56	\$ 664,829.41	\$ 2,105,058.18	\$ 701,686.06
30	\$ 611.82	\$ 9,332.30	\$ 9,480.16	\$ 19,424.28	\$ 6,474.76
31	\$ 329,082.83	\$ 333,497.47	\$ 320,857.81	\$ 983,438.11	\$ 327,812.70
32	\$ 210,795.35	\$ 205,694.80	\$ 205,870.76	\$ 622,360.91	\$ 207,453.64
33	\$ 407,922.03	\$ 400,955.13	\$ 403,578.68	\$ 1,212,455.84	\$ 404,151.95
34	\$ 36,684.46	\$ 36,996.33	\$ 36,743.13	\$ 110,423.92	\$ 36,807.97
35	\$ 300,835.68	\$ 297,962.38	\$ 298,465.19	\$ 897,263.25	\$ 299,087.75
36	\$ 163,402.60	\$ 158,263.19	\$ 159,895.54	\$ 481,561.33	\$ 160,520.44
37	\$ 345,363.86	\$ 333,844.60	\$ 405,733.47	\$ 1,084,941.93	\$ 361,647.31
Totals	\$ 8,673,495.99	\$ 8,397,694.74	\$ 8,462,164.96	\$ 25,533,355.69	\$ 8,511,118.56

Appendix B:

Letter of Support



Arkansas Department of Education

Transforming Arkansas to lead the nation in student-focused education

Johnny Key
Commissioner

September 19, 2016

To Whom It May Concern:

**State Board
of Education**

The Arkansas Department of Education's Office of Federal Programs will supply data needed for this research study. The data for this study is available in the Department's statewide information system and in data archives.

Mireya Reith
*Fayetteville
Chair*

The following information can be provided to Mrs. Pfeffer to conduct her data analysis. The school and district level Title II-A data is available from the Arkansas Public School Computer Network for the 2014-15 and 2015-16 school years; however, line item function data from the 2013-2014 school year were not included in the three-year collection. Data from the 2013-14 school specific functions were tracked according to a spreadsheet that will also be made available for this study.

Dr. Jay Barth
*Little Rock
Vice Chair*

Joe Black
Newport

Susan Chambers
Bella Vista

For the identified schools, functions will be broken out for each year on the following criteria using SOF 6756:

Charisse Dean
Little Rock

Dr. Fitz Hill
Little Rock

Class Size Reduction function 2210
Recruitment and Retention function 2572
Professional Development function 2213
Instructional Facilitators

Ouida Newton
Poyen

R. Brett Williamson
El Dorado

Function 2294 – Math
Function 2295 – Science
Function 2297 – Literacy

Diane Zook
Melbourne

Transfer from SOF 6756
Total Funds Available

The district line can be added to each building so that transfer and total funds available will be listed for each LEA.

Rick Green, Annette Pearson and Amy Thomas will be available to answer questions as they arise regarding data collection and analysis.

Four Capitol Mall
Little Rock, AR
72201-1019
(501) 682-4475
ArkansasEd.gov

Bobby Lester
Director of Federal Programs

*An Equal
Opportunity
Employer*

Appendix C

Figure C1

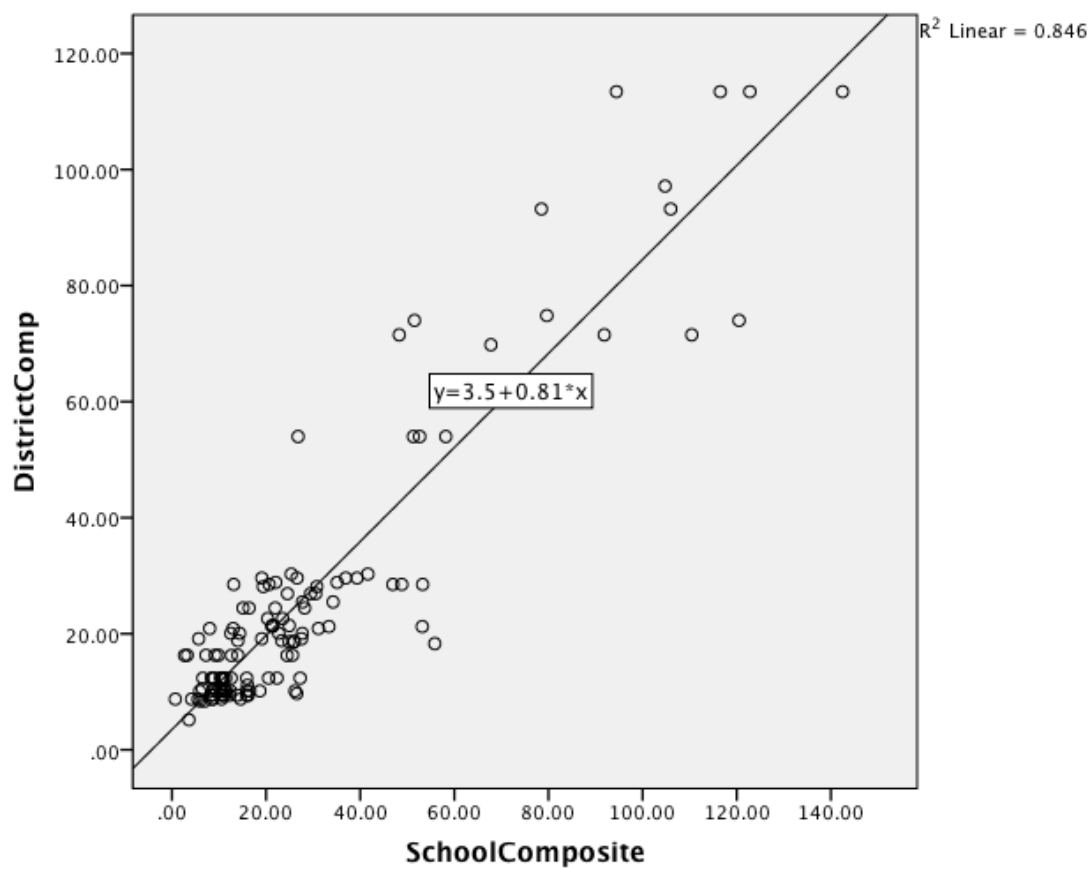
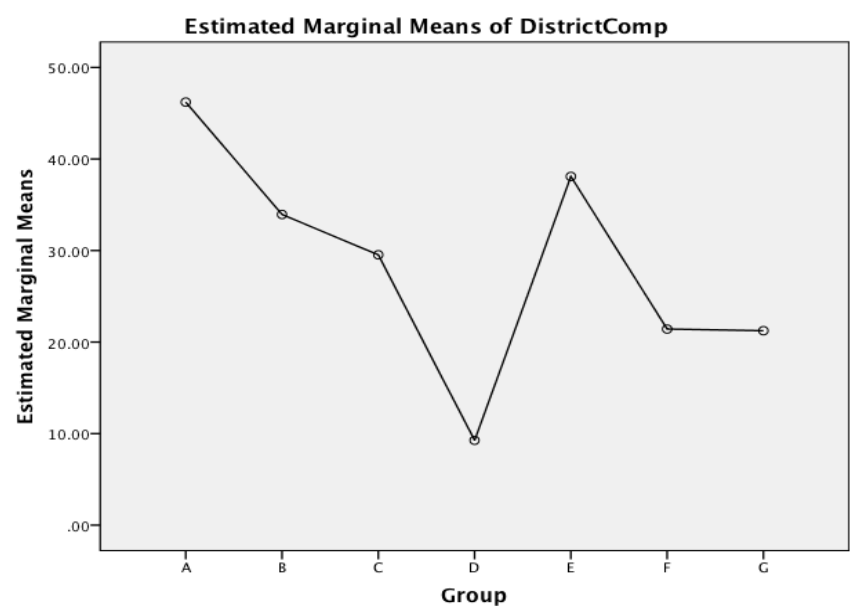


Figure C2:



Appendix D

APPLICATION FOR REVIEW OF HUMAN PARTICIPANTS RESEARCH

Submit to Jack Tucci, Ph.D., College of Business, Rothwell 445 or email (preferred) as an attachment to jtucci@atu.edu

Principal Investigator(s): I acknowledge that this represents an accurate and complete description of my research.

Ivy Lynn Pfeffer	lpfeffer@atu.edu	October 4, 2016
Name of Primary PI	Email	Date
N/A		
Additional Researchers' Names		
Advanced Leadership Studies	870-378-7098	
Department and Office Number	Telephone	

The Collaborative Institutional Training Initiative (CITI) is an online training module teaching research methods. Researchers must complete the CITI training course prior to beginning their project. Please print the confirmation page at the end of the training and include it with IRB application. The CITI training course can be found here: www.citiprogram.org

Adviser (complete if PI is a student): I agree to provide the proper surveillance of this project to ensure that the rights and welfare of the human participants are properly protected.

Dr. John Freeman	jfreeman@atu.edu	October 4, 2016
Name of Adviser	Email	Date
Department of Advanced Leadership Studies	CLL Annex (51 Lake Point Rd.) Russellville, AR 72802	(479) 356-2001
Adviser's Department	Adviser's Office Number	Telephone

Arkansas's Excellent Educator Workforce and Title II-A Funding

PLEASE NOTE: All applications should be typewritten and edited prior to submission for review. If sufficient space is not provided below for a complete description of the proposed project, please use additional pages as necessary.

IRB Approval Number: Pfeffer_102116 PK 10-21-17
Date

