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EXAMINATION OF HINDERING INFLUENCES OF UNCERTIFIED TEACHERS,  
TEACHER ATTRITION RATES, AND INEXPERIENCED TEACHERS ON  
READING ACHIEVEMENT IN HIGH-POVERTY SCHOOLS

Terri Guy

A Dissertation presented to the faculty of Arkansas State University in partial fulfillment  
of the requirements for the Degree of

DOCTOR OF EDUCATION

ARKANSAS STATE UNIVERSITY  
May 2024

Approved by  
Dr. Ibrahim Duyar, Dissertation Faculty Chair  
Dr. Tania Reis, Dissertation Mentor  
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## ABSTRACT

Terri Guy

### EXAMINATION OF HINDERING INFLUENCES OF UNCERTIFIED TEACHERS, TEACHER ATTRITION RATES, AND INEXPERIENCED TEACHERS ON READING ACHIEVEMENT IN HIGH-POVERTY SCHOOLS

This quantitative study examined the influences of uncertified teacher rates, teacher attrition rates, and teacher inexperience rates on reading achievement in high-poverty schools in Arkansas, incorporating the frameworks of Human Capital and Social Capital Theories. Utilizing archival data from the 2021-2022 academic year and employing multiple linear regression and analysis of covariance, the study meticulously examined the relationship between teacher characteristics and third grade reading achievement across the state. Contrary to initial hypotheses, the findings presented a nuanced landscape where none of the teacher-related factors (uncertified status, attrition, inexperience) significantly predicted reading achievement outcomes within the examined cohort. This divergence from expected results underscores the complexity of educational dynamics in high-poverty contexts and prompts a critical reassessment of conventional narratives linking teacher qualifications directly with student performance.

The implications of these findings are multifaceted, suggesting that focusing solely on teacher certification, experience, and retention may not suffice to elevate reading achievement levels among students in high-poverty schools. Instead, the results highlight the

pivotal role of broader socio-economic factors and the necessity for comprehensive educational strategies that extend beyond improving teacher qualifications. This study enriches the existing discourse on educational equity by illustrating the intricate interplay between teacher characteristics, school demographics, and socio-economic conditions, thereby advocating for a holistic approach to educational reform in underserved communities.

Recommendations for practice emphasize the importance of addressing socio-economic disparities and fostering supportive, resilient educational environments. Future research is encouraged to expand the scope of investigation to include diverse geographical and demographic contexts, incorporate qualitative insights, and explore additional variables influencing educational outcomes. The current study aimed to shed light on the challenges and complexities involved in improving student achievement in high-poverty schools, highlighting the potential need for targeted interventions and policies that tackle the underlying causes of educational disparities.

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## CHAPTER 1: INTRODUCTION

Access to a high-quality teacher means access to beneficial educational opportunities for a student. Decades of research show that teacher quality influences a student's ability to learn (Hanselman, 2020). Developing and retaining a high-quality teacher workforce poses a significant challenge for U.S. public schools, particularly those catering to underprivileged students. (Sutcher et al., 2019). The crisis in teacher quality has been amplified by the escalating teacher shortages across the United States, a trend that has been growing since the 2014-2015 academic year. The situation is particularly dire in specific fields such as mathematics, science, and special education, where their individual crises have further intensified the overall teacher quality dilemma (Darling-Hammond et al., 2019). The ongoing challenge of maintaining teacher quality has become increasingly pertinent in recent years, exacerbated by the escalation of teacher shortages. In response to this pressing issue, state legislatures have implemented provisional measures. These allow uncertified individuals to fill teaching positions in public schools (Swinton & Clark, 2021). As a result, uncertified teachers lack the rigorous training and licensing of their traditionally certified counterparts. This lack of experience can negatively affect students' educational outcomes.

Carver-Thomas and Darling-Hammond (2017) reported that in 2017, the United States had around 108,757 teachers who were not fully certified for their teaching roles. State legislatures implemented provisional measures in response to a pressing issue. These measures permit uncertified individuals to teach in public schools (Swinton & Clark,

2021). However, uncertified teachers do not receive the same rigorous training as certified teachers. Their lack of experience can harm student educational outcomes. In 2017, Carver-Thomas and Darling-Hammond reported that about 108,757 teachers in the United States were not fully certified. Each state has its own certification process. The goal of these processes is to ensure that every classroom has well-prepared, highly skilled teachers (Shuls & Trivitt, 2015). Ideally, every teacher would excel in teaching their specific subject to their age group. The current teacher shortage has made school administrators desperate to fill positions. This desperation has led legislatures to lower the standards for hiring certified teachers (U.S. Department of Education, 2023). Consequently, individuals with just a bachelor's degree could be hired quickly. These hires may not always meet the specific educational needs of students.

The problem of teacher shortages has been escalating for the past ten years. To mitigate this issue, state legislatures have introduced provisional laws that permit uncertified individuals to teach in public schools (Swinton & Clark, 2021). “These uncertified teachers have not undergone the same rigorous training and licensing procedures as their traditionally certified counterparts, which can negatively influence students’ educational results due to their lack of experience” (Penny, 2021). Carver-Thomas & Darling-Hammond (2017), the United States had around 108,757 teachers who were not fully certified for their teaching roles. The process for teacher certification can differ from one state to another, but the primary aim remains the same - ensuring that well-prepared, highly skilled teachers are in each classroom (Shuls & Trivitt, 2015). The ideal situation would be to have each classroom teacher proficient in their respective subject and age group. However, due to the nation’s teacher deficit, school administrators

are increasingly desperate to fill teaching positions, leading legislatures to relax standards for placing certified educators in classrooms (U.S. Department of Education, 2023). This has led to a situation where anyone with a bachelor's degree could potentially be hired to meet immediate staffing needs, without necessarily considering the specific needs of the students.

The lack of teacher quality also can have a significant negative influence on student performance as schools often must eliminate courses due to vacant positions or resort to utilizing substitute teachers and inadequately prepared educators who are not certified in their subject areas (Sutcher et al., 2019). Teachers who are underprepared tend to leave their positions at a rate two to three times higher than those who have undergone extensive preparation (Podolsky et al., 2016). This high turnover rate can lead to unstable staff situations, disrupting student-teacher relationships, hindering professional growth, and obstructing collaborative efforts (Carver-Thomas, 2022). These factors are all essential for creating supportive learning environments for students, especially after two years of interrupted learning.

Research clearly shows that these teacher shortages, characterized by high vacancy rates and classes managed by substitutes, inexperienced, and uncertified teachers, affect schools serving a larger population of students of color and students from low-income families disproportionately (Mehrotra et al., 2021). This trend appears to persist even in the COVID-19 era. A study conducted in Washington state in fall 2021 revealed that teacher vacancy rates were much higher in districts with prevalent poverty levels compared to those with low poverty levels (Goldhaber & Gratz, 2021). Similarly, a study conducted in 2019 examined teacher training, experience, and turnover trends between



high-poverty and low-poverty schools. Its findings showed that schools with prevalent poverty rates had more uncertified teachers and a greater proportion of teachers with less than five years of experience, leading to higher attrition rates when compared to low-poverty schools. (Weiss & García, p.11).

Communities with a high percentage of students experiencing poverty often require greater educational assistance, but the teachers they encounter may have less experience in addressing those needs. In the academic year of 2013-2014, high-poverty schools had, on average, four times the number of uncertified teachers when compared to low-poverty schools at the national level. (Sutcher et al., 2019). The results of a study conducted in 2015 by the Arkansas Department of Education (ADE) for the state Equitable Access to Excellent Educators Plan were concerning. They showed that in Arkansas, students attending high-poverty schools had uncertified teachers at a rate twenty-five times greater than those attending low-poverty schools (ADE, 2016). This disparity suggests a significant lack of certified and experienced educators in the schools that serve students from economically disadvantaged backgrounds in the state.

In addition to the previously mentioned information, it is important to highlight that the presence of uncertified teachers in high-poverty schools can have significant implications for the educational outcomes and well-being of students in those communities (García & Weiss, 2019). Uncertified teachers may lack the necessary training and qualifications to effectively address the specific challenges faced by students experiencing poverty (Milner et al., 2017).

A study performed by the U.S. Department of Education concluded that the higher proportion of uncertified teachers in high-poverty schools compared to low-poverty

schools indicates a potential disparity in the distribution of experienced and qualified educators (U.S. Department of Education, 2016). This imbalance can further exacerbate the existing educational inequalities, as students from economically disadvantaged backgrounds often require additional support and resources to overcome the barriers they face (García & Weiss, 2017). Having a high concentration of uncertified teachers in high-poverty schools can hinder the delivery of -quality education and limit students' opportunities for academic success (Guerriero, 2017). Certified teachers typically possess the pedagogical skills and knowledge necessary to implement effective instructional strategies and provide appropriate support to students with diverse needs (Guerriero, 2017). Efforts to address this issue should focus on attracting and retaining qualified teachers in high-poverty schools, providing targeted professional development opportunities to enhance teachers' ability to meet the unique needs of students in poverty, and ensuring equitable distribution of experienced educators across different communities (Podolsky et al., 2016). After detailing the challenges posed by uncertified and inexperienced teachers in high-poverty schools, it is evident that these issues not only exacerbate educational inequities but also significantly influence the quality of education provided to students in disadvantaged communities. The presence of uncertified teachers, compounded by high teacher attrition rates and a lack of experienced educators, creates an environment where students are less likely to receive the high-quality instruction necessary for academic success (García & Weiss, 2019). These conditions not only hinder the educational opportunities for students but also limit their potential for future socioeconomic mobility (García & Weiss, 2017). Given the critical implications of teacher qualifications on student achievement, particularly in high-poverty schools, it

becomes imperative to closely examine how these factors specifically influence educational outcomes. The core focus of the present study emerges from these considerations.

### **Problem Statement**

The problem addressed in this study examined hindering influences of uncertified teachers, high teacher attrition, and inexperienced teachers on reading achievement in high-poverty schools in Arkansas. Research continues to demonstrate that high-poverty students are more likely to have “low-quality” teachers-as measured by degrees, experience, and advanced credentials (e.g., master’s degrees, National Board Certification) than their affluent peers (Goldhaber et al., 2019). Contributing to the problem of quality teacher access is the phenomenon of uncertified teachers, a term in reference to a teacher who meets one or more of the following criteria: 1) is teaching on an emergency teaching permit; 2) is a long-term substitute for thirty days or more; 3) is teaching out of field, i.e., teaching a subject in which they had no formal qualification or training (ADE, 2016). A study conducted by Knight (2020) presented evidence that teacher quality gaps are statistically and educationally significant. High-poverty students in Texas were assigned teachers who held emergency certifications at 1.5 times the rate than low-poverty schools (Knight, 2020). Additionally, *The Prevalence of Teachers Without Full State Certification and Variation Across Schools and States report*, commissioned by Congress, analyzed teacher certification data from across the U.S. and found that schools with high-poverty levels had higher percentages of classes staffed with non-certified teachers (U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy, and Program Studies Service, 2016). It is noteworthy to add

that the ADE Division of Elementary and Secondary Education (DESE) reported high-poverty and low-poverty schools only had 2.2% of out of field teachers assigned for the 2021 school year (DESE, 2021).

Research is inconclusive on whether there is a direct relationship between teacher certification and learning quality. It is possible that teacher certification is linked with other learning opportunities, such as STEM subjects, Advanced Placement courses, and gifted and talented programs (Mehrotra et al., 2021). High-poverty schools without certified teachers may be less likely to offer rigorous learning, which could deny students an equal opportunity to learn. The combination of evidence on the importance of teacher quality and the differences in observable qualifications of teachers across schools has led many observers to conclude that the quality of teachers in high-poverty schools is inferior to that of teachers in lower-poverty schools (Harris & Sass, 2011). As a result, students at high-poverty schools are less likely to receive a sound basic education (Oakes et al., 2021). The average effectiveness of teachers in high-poverty schools is in general less than teachers in other schools and there is significantly greater variation in teacher quality among high-poverty schools (Tang & Estrada-Reveles, 2021). These differences are driven by less productive teachers at the bottom of the teacher effectiveness distribution in high-poverty schools.

Equitable access promotes a more balanced distribution of highly effective teachers across school systems, particularly where there are higher concentrations of underserved student populations, which has a positive influence on their learning (Seahorn-Dixon, 2018). However, those students that have the greatest need for the most effective teachers have the least equitable access (Levitan et al., 2022). Best and Winslow (2015) argued

that educator equity gaps have widened for those schools that serve primarily high-poverty, high-minority student populations, as the best and most qualified teachers tend to gravitate toward more affluent schools with better working conditions, compensation, and few high-need students. A study conducted by Isenberg et al. (2016) examined access to effective teachers for high-poverty students in twenty-six geographically dispersed school districts over a 5-year period revealed that a higher proportion of novice teachers in high-poverty schools contributes negligibly to differences in access to effective teachers. Furthermore, educator equity data from the ADE Educator Equity Plan revealed, high-poverty schools in Arkansas have inexperienced teachers at a rate 1.4 times greater than low-poverty schools and non-credentialed teachers at a rate of twenty-five times greater than low-poverty schools (ADE, 2015). More recent data revealed the attrition rates for high-poverty schools in Arkansas was 27% compared to attrition rates of 17.9% for low-poverty schools in Arkansas (DESE, 2021). Students who attend high-poverty schools often lack access to the same educational quality as their more affluent peers. Uncertified or inexperienced teachers worsen the issue of inequitable access and further reduces the quality of education. When students are denied equity in schooling, they may feel pressured to fall into destitution or face injustice in other forms. Inequitable access to a high-quality education has lingering ramifications on individuals' lives and can extend further to societies as a collective (Grant, 2023).

### **Purpose Statement**

The purpose of this quantitative correlational study is to examine the hindering influences of uncertified teacher rates, teacher attrition rates, and teacher inexperience rates on reading achievement in high-poverty schools in Arkansas. The consequence of

these endemic inequities, movement up the social and economic ladder becomes an arduous task, while academic accomplishments tend to suffocate (Grant, 2023). “Many high-poverty schools lose over half of their teaching staff every five years’ (Simon & Johnson, 2015, p. 85). The likelihood of students in high-poverty schools being instructed by inexperienced teachers has reached unprecedented levels (Ingersoll & Merrill, 2017).

Fullan (2010) asserted that “providing a quality education and teaching life skills to high-need students is a moral imperative, is the best route to improving communities, and the only way to stop the cycle of poverty” (p.4). Moreover, the educational gaps that existed before the COVID 19 pandemic—in access, opportunities, achievement, and outcomes—are widening. “The implications of this are falling disproportionately on students who went into the pandemic with the greatest educational needs and fewest opportunities—many of them from historically marginalized and underserved groups’ (U.S. Department of Education, 2021, p. ii). These disparities can be a cause for immense problems, especially when they interfere with a student’s opportunity to learn, grow, and contribute to our nation’s future.

By focusing on the endemic inequities of uncertified teacher rates, teacher attrition rates, and teacher inexperience rates on reading achievement in high-poverty schools in Arkansas, this study aims to illuminate the critical barriers impeding academic success in underserved communities. Understanding the complex dynamics at play requires a theoretical lens that can clarify the various facets of educational equity and effectiveness. To this end, the study is guided by two pivotal theories: Human Capital Theory and Social Capital Theory. These frameworks do not merely contextualize our inquiry; they

illuminate the pathways through which teacher quality shapes educational outcomes, offering a comprehensive backdrop against which our findings can be interpreted.

### **Theoretical Framework**

The Human Capital Theory (HCT) and Social Capital Theory (SCT) will guide this proposed quantitative correlational study. The Human Capital Theory, initially formulated by Becker and Rosen, argued that individual workers have a set of skills or abilities which they can improve or accumulate through training and education (Xu & Fletcher, 2017). As students (future workers) accumulate human capital, their value in the marketplace should increase as they bring more expertise and effectiveness to their job tasks.

The concept of human capital in this study was drawn from Hargraves and Fullan's (2012) work titled *Professional Capital: Transforming Teaching in Every School*. Human capital in the teaching profession typifies teachers' owning and developing the required knowledge and skills (Hargraves & Fullan, 2012). Hargraves and Fullan have also explained that the teachers' human capital is about their subject matter and its teaching knowledge, understanding the students and their learning styles, and exhibiting emotional and social capabilities to support students from diverse backgrounds. Human capital theorists presume that the "well-being of a society is a function not only of the traditional stocks of financial capital, labor and natural resources but also of the knowledge and skills of individuals" (Crocker, 2006, p. i). From this perspective, the researchers argued that the teachers' human capital outweighs other resources in improving students' learning and the overall school success. As Crocker (2006) noted, human capital theory recognizes education and training as prominent strategies to develop individuals'

knowledge and skills. In this view, the researchers argued that continuous professional learning and development (CPLD) programs are vital strategies to develop in-service teachers' professional competencies and then, build up their' human capital. Moreover, Uba and Chinonyerem (2017) clearly delineated that the human capital development of a school incorporates the provision of learning, training, and development opportunities for teachers to improve their individual, team, and school performance. Leana (2011) argued that "if a teacher's human capital-factors such as teacher experience, subject knowledge, and pedagogical skills can be increased, the United States would be well on the way to solving its alarming educational problem" (p. 30).

While the term "human capital" is a teacher's cumulative abilities, knowledge, and skills developed through formal education and on-the-job experience, social capital, by comparison, is not a characteristic of the individual teacher but instead resides in the relationships among teachers. Usage of the term social capital has been traced to Karl Marx in 1867 and John Dewey in 1900 but it was not until the 1980s that it started to be used more frequently (Claridge et al., 2021). Pierre Bourdieu (1986) defined social capital in terms of networks and group membership, while J. Coleman (1988), another early theorist on social capital, suggested it is about learning norms and authority related to success. "As it relates to educational quality and equity, social capital encompasses accumulated resources, networks, values, and relationships that mobilize a student's access, abilities, and success throughout their educational career" (Crawley et al., 2019, p. 2). Furthermore, Bishop and Mahoney (2009) argued that:

improving the social capital of students in high-poverty schools is a way of promoting student agency, so that they develop a heightened sense of trust in themselves and



others, understand how to develop and use networks to create opportunities and solve problems, and know how to operate in disparate settings. Social capital is what students from materially privileged backgrounds learn from their families, schools, and communities, and it allows them to leverage opportunity and exercise influence both in and beyond school (p. 309).

Students with fewer socioeconomic resources tend to be disadvantaged in academic contexts and are also more likely to face barriers to building strong school-based relationships. Contrarily, the networks of affluent families tend to include more professionals and experts (Gamoran et al., 2012).

The insights provided by Human Capital Theory and Social Capital Theory underscore the profound influence of teacher quality on student outcomes. These theories highlight the dual importance of teachers' skills and knowledge (Human Capital) and their relationships and networks (Social Capital) in fostering educational success. With this theoretical backdrop, the study aims to empirically investigate the nuanced dynamics between teacher certification, teacher attrition, teacher inexperience, and student achievement in high-poverty schools, offering a grounded approach to addressing educational disparities. Bridging the gap between theoretical insights and empirical investigation necessitates a research methodology that can accurately capture the complexities of teacher quality and its effects on student learning. Therefore, the transition from theory to practice involves selecting a research design that is both rigorous and reflective of the study's underlying theoretical assumptions.

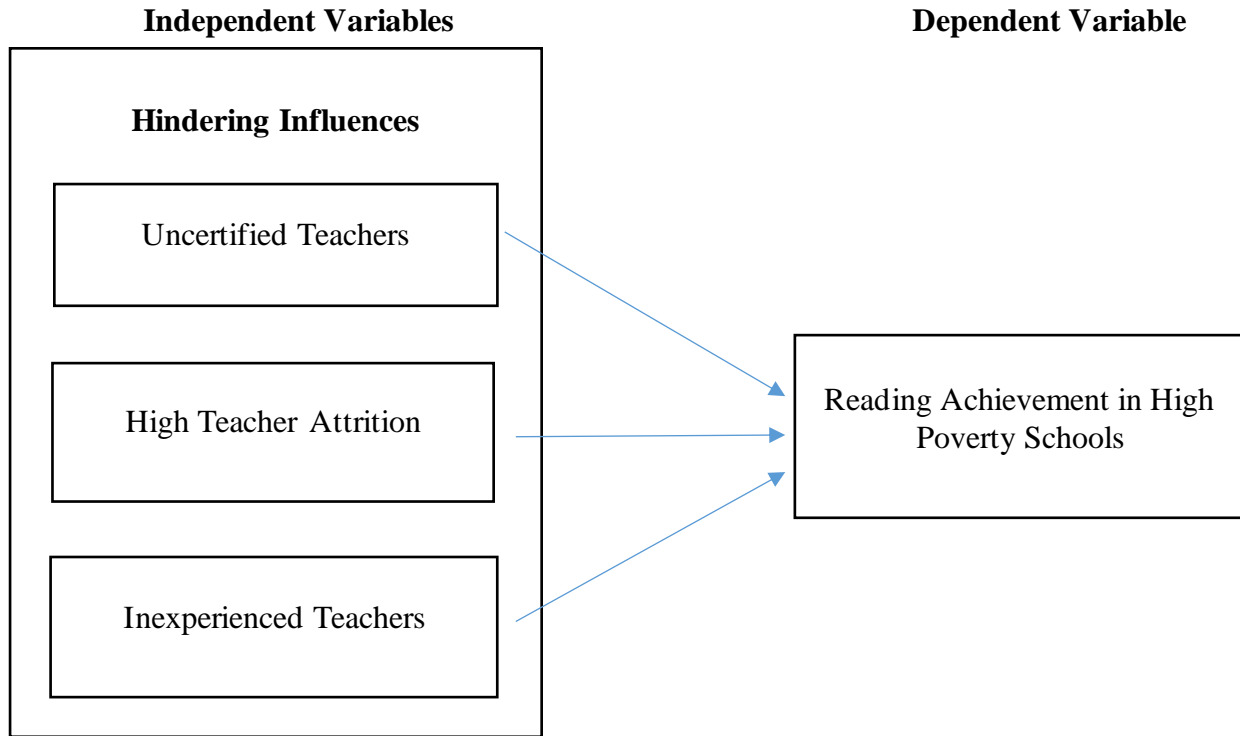
The Human Capital Theory and Social Capital Theory collectively offer a nuanced understanding of the intrinsic value of teacher quality, not only in terms of individual

educators' knowledge and skills but also in the context of the broader social networks and relationships that facilitate educational achievement. These theories underscore the complex interplay between teacher qualifications, their social and professional networks, and the educational outcomes of students, particularly in high-poverty schools. As we pivot from these theoretical underpinnings to the specific challenges identified in Arkansas' high-poverty schools, it becomes evident that the frameworks serve as essential tools for dissecting and addressing the research problem.

### **Research Methodology and Design Overview**

This study employed a quantitative correlational design, utilizing archival data to measure the extent of the relationship between teacher qualifications (uncertified teachers, high teacher attrition, and inexperienced teachers) and reading achievement in high-poverty schools. This methodological approach allows for a systematic examination of the theoretical propositions suggested by Human Capital and Social Capital theories, specifically examining how variations in teacher quality correlate with differences in student achievement. By leveraging a correlational design, the study aims to uncover patterns that can inform both policy and practice, addressing the critical issues of equity and quality in education.”

**Figure 1**  
*Independent and Dependent Variables*



The research design was chosen to investigate the relationship between independent and dependent variables after the event had already occurred. The ADE Data Center will be the source of data collection to identify high poverty schools in Arkansas and for all independent variables of uncertified teachers, teacher attrition rates, and teacher inexperience rates for the 2022 school year. All data collected are available publicly through state reports or publicly identifiable information. The linear regression model will be used to estimate the relationship between the two variables. To perform a linear regression analysis, data will be collected for the independent variables and poverty levels for a sample of high poverty schools. Statistical Packages for the Social Sciences (SPSS®) was used to estimate the regression model and calculate the regression coefficients, including the slope and intercept of the line of best fit high-poverty and low-poverty schools. The regression analysis provided an estimate of the extent of the

relationship between the two variables, as well as a measure of the strength and significance of the relationship. The coefficient of determination, or r-squared value, indicated the proportion of variance in the dependent variables that can be explained by the poverty level of the school. This provided important insights into the educational disparities that exist between high-poverty and low-poverty schools.

According to Creswell and Creswell (2018), a quantitative correlation theory will describe and measure the degree between two or more variables” (p.11). Strangor (2011) also stated that, “the goal of correlational research is to uncover variables that show systematic relationships with each other” (p. 16). This correlational research will help me find the direction and strength of each relationship. Gaille (2020) explained, “this advantage makes it possible to narrow the findings in future studies as needed to determine causation experimentally as needed” (para.1). Additionally, correlational studies create the possibility of discovering new relationships existing between phenomena that do not seem to have existing connections (Gaille, 2020). Utilizing this approach will enhance future research endeavors, enabling the exploration of a broader scope of information compared to alternative research methods.

### **Research Questions**

Quantitative methods will be employed to investigate the following research questions.

**RQ1:** To what extent do rates of uncertified teachers, teacher attrition, and inexperienced teachers predict reading achievement in high poverty schools?

**RQ2:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher certification (e.g., certified, and uncertified)?

**RQ3:** After controlling for demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher attrition rate categories?

**RQ4:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher experience categories?

### **Significance of the Study**

Review of literature consistently shows that a significant percentage of students attending high-poverty schools are staffed with high-percentages of less than qualified staff (Goldhaber et al., 2015), experience high attrition rates, and inexperienced teachers (Rice, 2014). Therefore, the urgency of this issue is without question as inequitable access to effective teachers can forever influence the learning and ultimate economic output of future generations. Arkansas students lag the national average on the National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card. In 2019, no more than 33 percent of Arkansas test-takers scored proficient or higher on any of the NAEP exams. The financial implications to limited budgets and resources also cannot be ignored as increases in expenditures for increasing teacher quality could be better utilized for other priorities that are connected to student learning improvements (Rumschlag, 2017; Shaw & Newton, 2014, as cited in Winslow, 2020). More importantly, given the distressing influence of the COVID-19 pandemic on students, it

has never been more important to get an effective, qualified teacher in every Arkansas classroom.

### **Delimitations**

The study confined itself to following markers: *Geographic location*: samples were drawn from Arkansas' traditional public schools that are identified as high-poverty schools in the highest 25% of traditional schools *Time frame*: Data collected and analyzed were limited to the 2022 school year. *Teacher qualifications*: The study focused on hindering influences of uncertified, inexperienced, and highly attrited teachers, without exploring the influences of other teacher characteristics, such as teacher performance evaluation and professional learning. *Access to effective teachers*: The study only examined access to effective teachers in high-poverty schools, without exploring other factors that may influence teacher effectiveness, such as classroom management skills or teaching strategies.

### **Limitations**

The following limitations are identified for this research study. *Schools*: The study will not include data from charter, private or virtual schools as they are under licensure exceptions provided by the state. *Variables*: There will not be an account for all the relevant variables that could affect access to effective teachers, such as school resources, student demographics, and teacher characteristics. *Causality*: Correlation does not imply causation, so the study cannot establish a causal relationship between the identified variables and access to effective teachers in high-poverty schools. In other words, the study will limit itself to the examination of hindering variables that influence access to effective teachers in high-poverty schools and not variables-such as student achievement,

discipline rates, and chronic absenteeism-that may have an effect or outcome on the access to effective teachers.

### **Definition of Key Terms**

The following section systematically defined the pivotal concepts and terms as they were employed in the current study, serving as an essential reference point for the ensuing analysis and discussion:

**Effective Teachers** – educators who: (1) demonstrate the high level of knowledge, skills, abilities in their subject matter (2) through a deep commitment to student learning motivate students to learn to produce the learning progress needed to close achievement gaps among students of all cultures and socioeconomic levels; (3) demonstrates expertise in his or her field as measured by performance ratings (ADE, 2016,).

**Emergency Teaching Permit** – a permit granted to school districts for someone who is hired to teach in an area for which he/she is not licensed under the ADE Rules Governing Educator Licensure (ADE, 2016).

**Equitable Access** – The U.S. Department of Education employs the term “equitable access” to denote a scenario where students from low-income backgrounds and students of color are educated by exceptional educators at rates that are at least comparable to the rates at which other students receive instruction from highly effective educator(U.S. Department of Education, 2015).

**Equitable Access to Effective Educators Plan** – a plan developed by Local Education Agencies for equitable access to excellent educators. An exemplary Local Equitable Access Plan requires LEA’s to collaborate with local stakeholders to analyze data, determine root causes behind local equity gaps, identify strategies most likely to

address equity gaps, and then consider how to innovate with traditional funding sources to implement these strategies and monitor their long-term implementation (Center on Great Teachers & Leaders, 2015).

**Equity Gap** – The term “equity gap” is used by the Department to refer to the difference between the rate at which students from low-income families or students of color are educated by excellent educators and the rate at which other students are educated by excellent educators. By statute, a State Plan must, at a minimum, address the difference between the rates at which students from low-income families or students of color are taught by inexperienced, unqualified, or out-of-field teachers and the rate at which other students are taught by these teachers (U.S. Department of Education, 2015).

**Experienced teacher** – one who has completed at least three (3) years of teaching (ADE, 2016).

**High-Poverty Schools** – schools in the highest 25% of all schools ranked by percentage of free/reduced lunch (ADE, 2016).

**Ineffective Teacher** – An experienced educator who: 1. is not continuously improving professional practice; 2. has not demonstrated commitment to students, the school, and the profession as evidenced by low professional practice ratings on local evaluations; 3. fails to demonstrate growth or progress in professional practice after receiving targeted feedback and support; and 4. does not advance student growth or progress as demonstrated on local and state measures (ADE, 2016).

**Inexperienced Teacher** – a teacher with less than three (3) years of teaching experience in a classroom (ADE, 2016).



**Long term substitute** – someone who takes the place of the contracted teacher for longer than thirty (30) consecutive days and must hold a minimum of a bachelor’s degree or be licensed to teach by the state of Arkansas. (ADE, 2015).

**Low-Poverty Schools** – Schools in the lowest 25% of all schools ranked by percent of free/reduced lunch (ADE, 2015,).

**Out-of-Field Teacher** – A teacher who is teaching out of the license area while on an Additional Licensure Plan (ADE, 2016).

**Teacher Attrition Rates** – the number and percentage of teachers who taught in a school the previous year but are not teaching in that school during the current school year (ADE, 2016).

**Teacher Qualification Gap** – a teacher who is missing one or more of the following:  
1. certification in the field they are currently teaching; 2. teaching experience of more than 3 years; 3. teacher evaluation performance scores; 4. value-added measures of effectiveness; and 5. advanced degrees (Lai et al., 2021).

**Teacher Quality Indicators** – a teacher who has one or more of the following: 1. certification in the field they are currently teaching; 2. teaching experience of more than 3 years; 3. teacher evaluation performance scores; 4. value-added measures of effectiveness; and 5. advanced degrees (Lai et al., 2021).

**Uncertified Teacher** – (for the statutory term “unqualified”). A teacher who meets one or more of the following criteria: 1) is teaching on an emergency teaching permit; 2) is a long-term substitute for thirty days or more; 3) is teaching out-of-field (ADE, 2015, 2016).

## **Summary**

The purpose of this quantitative correlational study is to examine hindering influences of students' access to effective educators in high-poverty schools to low-poverty schools in Arkansas. The initial study will confine itself to samples drawn from Arkansas' traditional public schools that are identified as high-poverty schools in the highest 25% quartile and lowest of twenty-five% quartile of traditional schools statewide. The initial study will not include data from charter or private schools as they are under licensure exceptions provided by the state. Chapter 2 will introduce a review of current and relevant literature that deals with students' inequitable opportunity to learn and human capital theory approach in education.

## CHAPTER 2: LITERATURE REVIEW

The purpose of this quantitative correlational study is to examine the hindering influences of uncertified teacher rates, teacher attrition rates, and teacher inexperience rates on reading achievement in high-poverty schools in Arkansas. Recognizing the importance of these variables, it becomes increasingly clear how disparities in teacher quality directly influence student outcomes, particularly in high-poverty communities.

Students in poverty and those of color are far less likely to be taught by qualified or effective teachers — no matter how the terms “qualified” or “effective” are defined (Minnici et al., 2016). Teachers who produce higher value-added student achievement gains as well as those who are National Board Certified are far less likely to teach economically disadvantaged and minority students (Goldhaber et al., 2019). More specifically, Arkansas students in high-poverty and high-minority schools are more likely to have inexperienced and/or uncertified teachers in low-poverty and low-minority students (ADE, 2016). This study will examine the hindering influences on students’ access to high-quality teachers in high-poverty schools in Arkansas. This literature review focused on the extant literature on human and social capital as it related to effective schooling. Cham et al. (2013) asserted human capital is the largest single investment K–12 districts make. However, little attention is paid to the day-to-day operations of teacher human capital processes, which directly influence the student outcomes. Remarkably little is done to manage the processes by which districts identify, acquire, develop, and sustain (or even evaluate expressly for the purpose of improving

practice) teacher human capital. Social capital is based on individual relations that emerge because of and are shaped by group membership (Bourdieu, 1986). Social capital theory posits that valued resources and expertise are embedded within social networks, and that it is through social ties that one gains access to and can make use of resources to effect change. Managers achieve significant positive outcomes and teachers who deploy main elements of social capital, such as trust, social networks and contacts, values and norms, social interaction and active participation, and high group and organizational loyalty levels (Fukuyama, 1999).

The following literature review is divided into three sections. The first and second section describes characteristics of the human and social capital and provides its detailed definition and development and its relationship with the study. The third section examines teacher quality gaps, teacher attrition, and inexperienced teachers in the context of high-poverty schools. The last part of the work contains closing remarks. Three search engines were used to identify studies. ERIC Institute of Education Sciences, Google Scholar, and ProQuest to identify published studies or studies under review between 1993 and 2022, using the following Boolean search terms: “teacher inexperience” & “high-poverty schools”; “role of social capital theory” & “education”; “teacher quality gaps” & high-poverty schools “human capital theory” & “education”; “teacher inexperience” & teacher effectiveness”; “teacher workforce” & “talent pipeline”; “teacher shortage” & “high-poverty schools”.

Google Scholar returned 15,340 results, ERIC Institute of Education Sciences returned 293 results and ProQuest returned 126,201. For searches with thousands of results, I reviewed the abstracts of the first one hundred results because Google Scholar

reports research by relevance, including “where it was published, who it was written by, as well as how often and how recently it has been cited in other scholarly literature” (Google Scholar, n.d.). In addition to peer-reviewed articles, Google Scholar’s search results include non-peer-reviewed papers, like theses, books and materials from online repositories, websites, and professional societies. Consequently, articles beyond the first approximately sixty results for each of the searches were outside of the domain, because they did not specifically focus on returns to teaching experience or were not from peer-reviewed sources. Also reviewed were the reference lists of the peer-reviewed articles from searches that examined teaching experience to confirm that the studies were not overlooked. The process of using the three different search engines and reviewing the reference lists helped triangulate the results to verify all relevant studies that met criteria for inclusion.

### **Theoretical Framework**

The Human Capital Theory is a model that aims to elucidate the connection between education, abilities, and economic output. When applied to the quality of teaching, this theory posits that teachers are vital assets whose level of quality can affect the learning results of students. The model underscores the significance of attracting and retaining educators who are culturally sensitive and possess a profound comprehension of the distinct requirements and hurdles faced by students in high-poverty conditions. Such assurance that educators are more adequately prepared to cater to the varied educational requirements of their students and cultivate an atmosphere of inclusion and involvement within the classroom.. The economic literature provided several models of human capital that may bear on the relationship between teaching experience and effectiveness

(Podolsky et al., 2019). Becker (1964) argued that more experienced workers are more effective employees because they acquire more knowledge about how to perform their work effectively over the course of their careers.

Ben-Porath's (1967) model proposes that employees gain knowledge and develop their skills through dedicated time investment, which does not happen in tandem with their actual output. According to this model, the benefits of learning might be higher early in one's career but may lessen with age as there are fewer chances to apply new knowledge in future endeavors. On the other hand, the benefits derived from production tend to escalate with age, presumably because workers have accumulated more expertise, becoming more proficient and efficient in their work. More recent studies by Hargraves and Fullan (2012) expand on these concepts, integrating established human capital development theories with the idea of professional capital in teaching.

The notion of professional capital includes three components: human capital, referring to investment in a teacher's individual knowledge and abilities; social capital, indicating investment in the bonds among educators and the extent and quality of interactions that enable them to function effectively as a team; and decisional capital, which signifies the wisdom and proficiency accumulated over many years to make informed decisions about learners. The relevance of this perspective is particularly relevant in the context of high-poverty schools, where students often face significant challenges that can limit their academic performance. The discussion surrounding the influence of teacher training and credentials on student learning is not a novel concept in educational literature. However, the recent focus on utilizing straightforward metrics to judge whether a teacher is qualified represents a fresh approach.

Contrarily, Nelson (2017) posits, “rather than claiming forms of knowledge and skill are proxies for effectiveness or higher quality teaching... conceptualize this group as having higher levels of human capital” (p. 31). Education serves not only as a way to gain knowledge and skills but also as a method to develop human capital. This development can lead to economic and social benefits. The human capital framework guides the research towards ensuring the availability of quality teachers, with a focus on recruiting and retaining outstanding educators in high-poverty schools. Identifying the factors leading to teacher attrition and developing strategies to address these challenges are integral parts of the process. These measures can assist in ensuring that every student receives the high-quality education they are entitled to, regardless of their socioeconomic status. These measures can assist in ensuring that every student receives the high-quality education they are entitled to, regardless of their socioeconomic status. Through these measures, we can assist in guaranteeing that every student, regardless of their socioeconomic status, receives the top-notch education to which they are entitled.

### **Social Capital Theory**

The concept of social capital was coined by Hanifan in 1916 while evaluating the school system in West Virginia. The first systematic contemporary analysis of social capital was produced by Pierre Bourdieu, who defined the concept as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (Bourdieu, 1980, 1985, p. 248). To understand social capital regarding education, there are two theoretical concepts-James Coleman’s theory of exchange and Robert D. Putnam’s theory of civil society. The key principles of the Coleman approach can be

summarized as follows: If communities work together, they create social structures that help them to meet their own needs (J. Coleman, 1988). Another central idea of social capital is that social networks have value. It emphasizes the benefits of social networks, such as information, trust, and reciprocity. According to Mikiewicz (2020), Alunogen & Cetin asserted that “improvement of social capital in an educational context refers to the establishment of tripartite educator-parent-sponsorship (community) relationships and networking” (p.5). In this context, parental expectations, and obligations as well as social networks through family, school, and community lead to social capital. In the Coleman tradition, higher levels of civic participation in the community correlate with improved educational outcomes. Additionally, increased civic participation enhances educational conditions and fosters a stronger culture of participation overall (Halpern, 2005, as cited in Mikiewicz, 2021, p.6). Plagens (2011) further argued that there is a strong association between educational achievement and social capital levels, high social capital at schools increases the efficiency and effectiveness of education; and social capital levels in the society improve with better quality education.

More recently, Demir’s (2021) review found that social capital among teachers has been associated with five categories of outcomes: 1) teacher professional development, 2) the implementation of change, 3) the introduction of new and beginning teachers, 4) teacher retention and job satisfaction, and 5) improved student achievement. These have, in turn, been associated with the implicit outcome of promoting educational equity can be used to understand why there is often a disparity in the quality of teachers in high-poverty schools compared to more affluent schools. Researchers can also investigate how these connections affect teacher recruitment and retention, as well as



how they can be leveraged to improve the quality of teaching and learning in these schools. Additionally, the social capital framework can be used to guide the development of interventions and policies aimed at improving access to quality teachers in high-poverty schools. By understanding the role that social networks and relationships play in teacher recruitment and retention, policymakers and educators can develop strategies to build social capital in high-poverty schools, such as by creating partnerships with community organizations, engaging families in school activities, and providing professional development opportunities for teachers (Stefanski, 2016).

### **Uncertified Teachers**

An expanding amount of research from various states and countries has demonstrated that teacher qualifications are significant for teaching quality and student performance (Darling-Hammond et al., 2017). For instance, a comprehensive study conducted on New York City teachers discovered that improvements in student performance in elementary and middle school mathematics were primarily boosted by having a fully certified teacher, who had graduated from a university-based preservice teacher education program, had a solid academic foundation in mathematics, and had over 2 years of teaching experience (Boyd et al., 2008). Further research indicated that student achievement was most negatively influenced by having a novice teacher with a temporary license—a teaching profile most prevalent in schools that serve a substantial proportion of students of color and students from low-income households (Boyd & Dadayan, 2016).

A similar extensive study conducted in North Carolina discovered that there was a significant increase in students' academic progress when they were taught by a teacher

who was certified in their teaching field, was fully trained upon starting (as opposed to entering through the state’s alternative “lateral entry” path), had higher scores on the teacher licensing exam, graduated from a competitive college, had more than 2 years of teaching experience, or was National Board Certified (Darling-Hammond et al., 2020). The qualifications were extremely unevenly distributed. The researchers found that the cumulative influence on academic progress of having a teacher with most of these qualifications, compared to one with few, was greater than the combined effects of race and parent education (Clotfelter et al., 2007). Podolsky et al. (2019) analyzed the elements most intricately linked to student performance in school districts, considering factors such as students’ race/ethnicity, family income, and family education levels. The research concluded that teacher qualifications were the most crucial school-related determinants of student performance. It was found that the proportion of teachers with substandard credentials had a significant and negative correlation with the academic achievement of all students (Podolsky et al., 2019).

### **Teacher Attrition Rates**

The issue of teacher attrition has become an escalating predicament in American education throughout the twenty-first century, with the present rate reaching alarming levels, especially in high-poverty schools (García & Weiss, 2020). Schools with high poverty rates face challenges in preserving a group of educators who possess the teaching stability and instructional expertise required to meet the academic and performance needs of children in persistently underperforming schools (Duruk & Agkun, 2020). As many as an estimated 8% of the teacher workforce leave the profession for a variety of reasons (Shuls & Flores, 2020). Although modest attrition rates can be positive when ineffective

teachers leave, chronic turnover can threaten the learning environment in ways that impose instructional, organizational, and financial costs on school districts (Simon & Johnson, 2015). Relatedly, high rates of teacher turnover exacerbate challenges associated with unstable learning environments (DeMatthews et al., 2022). A darker statistic is that the majority of those who exit the teaching profession are pre-retirement and account for 11.5% of the national average (Shuls & Flores, 2020). These costs are amplified in underserved communities because the least experienced teachers are likely to leave their schools and be replaced by even less experienced teachers (Rice, 2014). Within underserved schools, as many as 70% of new teachers may leave within their first five years (Papay & Kraft, 2015). This trend forces school districts to spend money on recruitment and initial training of teachers. The money could be better spent on improving facilities, professional development, and student achievement initiatives (Kamarath & Bradford, 2020).

Approximately one-fourth of public-school educators depart from the teaching profession within their initial three years of service (U.S. Department of Education, 2007). This rate escalates in schools displaying low scholastic achievement, thus leading to the surmise that the implementation of policies aimed at reducing teacher attrition may enhance student accomplishment. The issue of high attrition becomes particularly concerning if the more proficient teachers are the ones vacating their positions. Educators with exceptional academic backgrounds, determined by test scores and the prestige of their undergraduate institutions, are more likely to leave the profession (Boyd et al., 2005). However, there is a noticeable lack of evidence supporting the effectiveness of teachers departing from low-achieving schools. However, scholarly work has specifically

explored attrition patterns in low-achieving schools and, for educators in these institutions who transition within the NYC public system, disparities between the schools that attract more versus less effective teachers are evident.

Teacher retention can influence student learning in numerous ways. Firstly, in schools characterized by high turnover, students may frequently encounter novice teachers, who are, on average, less effective (Kane et al., 2006, as cited in Boyd et al., 2008). Secondly, high turnover engenders instability in schools, complicating the provision of cohesive instruction. Such instability may prove particularly disruptive in schools striving to initiate reforms, as incoming educators each year are prone to replicate errors rather than enhance reform implementation. Thirdly, high turnover can impose a substantial burden in terms of the time and effort dedicated to consistent teacher recruitment. Moreover, turnover can undermine student learning if the more effective educators are the ones more likely to leave.

Contemporary research has significantly augmented our comprehension of teacher retention (Boyd et al., 2009). These studies demonstrate that teacher mobility varies according to the characteristics of both the educators and their students. Teachers are inclined to remain in schools exhibiting superior student achievement, and teachers – particularly those who are white – tend to persist in schools with larger proportions of white students. Educators who score higher on academic achievement tests and those whose hometowns are more distant from their schools are more likely to depart.

There appears to be a noteworthy interaction between the attributes of teachers and their students. Specifically, teachers possessing stronger qualifications (as evaluated by general-knowledge certification-exam scores) are more likely to resign or transfer than

their less-qualified counterparts, particularly when they are employed in low-achieving schools (Boyd et al., 2005). Investigations into the attrition of 104 elementary-school educators in an urban district revealed that less effective teachers were more likely to leave the district within their first two years of service (Boyd et al., 2011).

Large-scale studies have replicated these findings, illustrating that teachers departing from schools in an urban Texas district typically demonstrate lower student achievement gains compared to those who remain in the same school (Hanushek et al., 2005). The gap in teacher effectiveness is even more pronounced for teachers making intra-district transfers following their second and third years of service. Similar results have been observed in North Carolina, where teachers who transfer and exit teaching are less effective than those who stay (Goldhaber & Lavery, 2007). The higher turnover rates occurring among teachers in schools serving students of color and from low-income families in high-poverty schools are well documented (Carver-Thomas & Darling-Hammond, 2019), but most research is correlational, not causal (Kaplan & Owings, 2020).

### **Shortage of Teachers in High Poverty Schools**

Researchers have long held that both teacher shortages and teacher turnover problems affect some types of schools and communities more than others (Ingersoll & Tran, 2023). The presence of skilled and qualified educators is crucial, especially in schools with high poverty and minority student populations. However, school districts serving the most disadvantaged students tend to have a significantly higher number of non-certified and inexperienced teachers compared to those serving fewer disadvantaged students (Adamson & Darling-Hammond, 2012). García (2019) posited that the existing national

assessments of the teacher deficit underestimate the extent of the issue, as they only account for the additional qualified teachers required to meet the growing demand.

Nonetheless, not all present teachers possess the necessary education, experience, and certifications that define a highly qualified teacher. García's (2019) study concluded,

when different types of schools were examined, two elements further exacerbated the scarcity of highly proficient educators in high-poverty schools. Initially, existing data confirmed that superior credentials functioned as a deterrent to attrition, however, the correlation between quality and retention was more tenuous in high-poverty schools, resulting in a relative exodus of credentials through attrition in such schools (p.6).

In both high- and low-poverty schools, the credentials of educators who maintain their position are superior compared to those who terminate their teaching careers. This disparity is less pronounced among educators in high-poverty schools, with the notable exception of the proportion of teachers who majored in their primary subject of assignment. Results such as the latter hinder economically challenged students, because of this lack of access to high-quality teachers. The unequal distribution of effective and well-prepared teachers exacerbates this issue, which is particularly concerning because students who have experienced teachers are more likely to achieve better academic outcomes across various measures of success within a school (Kini & Podolsky, 2016).

Researchers have inferred why more effective and well-prepared teachers are not found in high-poverty schools. Firstly, educators of higher qualification are invariably in greater demand, and as a result, often enjoy a broader range of choices pertaining to their preferred teaching environments (García & Mishel, 2016). These individuals are more

likely to be pursued by school districts with higher-income demographics and to become part of faculties that offer enhanced support, superior working conditions, and an extensive range of grades and subjects to instruct (Baker, 2018). Second, although teachers with stronger credentials are less likely to quit the profession or move to a different school, the link between strong credentials and retention might be less powerful in high-poverty schools (Marinell & Coca, 2013). This weakened retention effect could also apply to new teachers who do not have experience but who have the other credentials of highly qualified teachers, meaning strong new teachers would be looking at alternatives to the low-income schools where they are more likely to begin their careers.

Researchers also consider other factors to teacher shortages in high-poverty schools. According to Aragon (2016), shortages of teachers frequently arise in schools with high poverty and minority populations due to unfavorable working conditions, such as lower salaries and larger class sizes, as well as community factors like safety concerns. These factors significantly influence teachers' decisions to remain in or leave such schools.

### **Teacher Inexperience**

Policymakers wanting to close the well-documented achievement gap between students in high and low-poverty schools have increasingly focused on teacher quality. Yet “experienced teachers tend to leave high poverty schools and are replaced by novice, less effective teachers” (Kaplan & Owings, 2021, p.1). Research suggests that this churn creates serious academic and equity issues, jeopardizing these children’s opportunities for an adequate education. It is also worth mentioning that the initial effectiveness of teachers can be linked to the quality of their training and their route into the profession (Kini & Podolsky, 2016). The ramifications for schools with a high proportion of early-

career teachers who have entered the profession through substandard pathways and who require additional support. Inexperienced teachers who enter the classroom absence have neither depth of content knowledge nor the ability to construct information in a way that students can deeply absorb (Doganyay & Ozturk, 2011).

A 2008 study revealed that 74% of students reflected a deeper understanding of content knowledge in classrooms lead by expert classroom teachers (Hattie, 2012, p. 33). Alternatively, “29% of students in non-expert classrooms reflected a deep understanding of content knowledge” (Hattie, 2012, p. 34). Studies also indicated that beginner teachers, with less than 3 years of experience, are predominantly found in high-poverty schools (Rice, 2010). One study observed that the effectiveness of teachers with 3 or more years of experience may stem from the enhancements that can happen over time as teachers become more accustomed and adept with the act of teaching itself, as well as the interpersonal demands of the profession (Ciofelter, 2017). Notably, Chetty et al. (2010) found that kindergarten students who were taught by more experienced teachers had higher achievement and earnings as adults. In addition to the study, Kalogridis and Loeb (2013) presented research that used data from three large school districts and found that classrooms with higher percentages of students in poverty were assigned novice teachers. Kalogridis and Loeb (2013) delved further into this relationship from their previous study to find that “less experienced teachers were more likely to be placed in classrooms with lower achieving students than their more experienced counterparts” (p. 174). More recent research concluded novice teachers with less than two years of experience were assigned to high-poverty schools four times the rate than low-poverty schools (Knight et al., 2018).



“The first years of one’s teaching career provide vast opportunities for professional growth, yet new teachers have less experience to draw on in planning lessons, managing classrooms, and creating assessment strategies (Gagnon & Mattingly, 2012, p. 1.). Beginning teachers tend to be less effective in terms of student achievement gains compared to their more experienced colleagues. This could be attributed to the fact that high-poverty communities have a relatively higher percentage of beginning teachers in comparison to communities with lower poverty rates. Districts in the highest quartile of poverty have an average of 11.0 percent beginning teachers. In comparison, districts in the lowest quartile of poverty have an average of 8.4 percent (Gagnon & Mattingly, 2012). The analysis builds upon prior research that has shown a disparity in educational opportunity and achievement. Schools most likely to have a high percentage of beginning teachers—large cities, remote towns, rural areas; those of high-poverty and diversity—serve those students who are often outperformed by their peers. The research also suggested that higher poverty is associated with lower levels of achievement” (Gagnon & Mattingly, 2012, p. 4).

The number of years a teacher has spent instructing in a classroom also influences student achievement. A consolidation of thirty studies examining the influence of teaching experience on student results found a positive correlation between teaching experience and enhancements in student achievement throughout a teacher’s career. Research has unequivocally shown that teachers with more experience tend to be more effective on average than those with merely 1 or 2 years of experience.

## **Influence of Reading Achievement and Sociocultural Issues**

Reading achievement, a fundamental pillar of academic proficiency, significantly influences sociocultural issues in high-poverty communities. This influence underscores the intricate relationship between education and societal dynamics, as academic outcomes reverberate beyond individual students to shape the broader socio-cultural landscape.

Low reading achievement can perpetuate a cycle of poverty and social inequity. Lack of reading proficiency hampers students' academic progress, limiting their access to higher education and viable employment opportunities. Consequently, these individuals are more likely to remain within the socioeconomic strata of their upbringing, thereby exacerbating socio-economic disparities and restricting social mobility. Therefore, ensuring reading proficiency is crucial not just for individual academic success, but also for breaking the cycle of intergenerational poverty.

Reading achievement also holds the potential to promote cultural understanding and empathy within high-poverty communities. Literacy affords individuals the capacity to access and comprehend diverse narratives and perspectives, fostering a sense of cultural awareness and inclusion. However, when reading achievement is low, this capacity is undermined, potentially leading to cultural isolation and limited intercultural understanding. Thus, enhancing reading proficiency is a pivotal step towards cultivating cultural awareness and unity within disadvantaged communities.

Moreover, reading achievement directly influences civic engagement, a critical aspect of sociocultural dynamics. Individuals with robust reading skills are better equipped to participate actively in their communities, by comprehending civic matters, engaging with public debates, and voicing their perspectives. In contrast, those with reading deficiencies

may be marginalized from such civic participation, further deepening social inequalities. Hence, promoting reading achievement can foster an engaged and empowered citizenry within high-poverty communities.

Furthermore, low reading achievement can lead to a host of negative psychological and behavioral outcomes, such as low self-esteem, poor self-efficacy, and increased risk of delinquent behavior. These outcomes can compound the social challenges faced by high-poverty communities, contributing to a cycle of negative socio-cultural consequences. The influence of reading achievement on sociocultural issues in high-poverty communities is profound, influencing factors such as socioeconomic mobility, cultural understanding, civic engagement, and psychological wellbeing. Therefore, addressing reading achievement disparities is of paramount importance, both for the benefit of individual students and for the broader sociocultural health of disadvantaged communities.

### **Arkansas' Reading Achievement Compared to the U.S.**

In 2022, both fourth and eighth graders experienced a 3-point decrease in their average National Assessment of Educational Progress (NAEP) reading scores compared to 2019 (NAEP, 2022). For fourth graders, the average reading score was lower than any other year since 2005. However, it did not show a significant difference compared to 1992. Similarly, the average reading score for eighth graders was the lowest it has been since 1998, but it was virtually the same as the score from 1992. In 2022, there was a downward trend in reading scores for most states/districts in both fourth and eighth grades as compared to 2019. These average scores are measured on the NAEP reading scales for the fourth and eighth grades, which have a range from 0 to 500. Those who

have difficulties with reading are at a higher risk of high school dropout, involvement in the criminal justice system, and experiencing poverty.

Multiple studies and individual testimonies document the critical role of an exemplary classroom teacher in stimulating the academic prowess, scholarly inquiry, and personal development of a child (Jabbar et al., 2022). Akram's (2019) research revealed a moderately significant positive correlation between the score of teacher effectiveness and student success. The learning environment showed the strongest correlation with student achievement in both English and Mathematics, followed by effective communication. Silva (2015), the Chief Academic Officer of public schools in Bethlehem, Pennsylvania, conducted an analysis of the district's student reading scores. His findings revealed that a mere 56% of third graders in the district achieved proficiency on the state reading exam. Studies indicated that children who fail to acquire reading skills by the conclusion of their third grade are likely to struggle with reading throughout their lives, and this deficiency can negatively influence their performance in other educational domains as well.

### **Summary**

The discussion in the literature review highlighted several pivotal areas within the education sector, underscoring the paramount significance of teacher qualifications, the influence of teacher attrition rates, the pronounced shortage of teachers in high-poverty schools, the implications of teacher inexperience, and the profound influence of reading achievement on sociocultural dynamics. A closer examination was also provided on the specific context of Arkansas' reading achievement in comparison to national standards in the United States.

The discourse on uncertified teachers is informed by an expansive body of research that unequivocally underscores the criticality of teacher qualifications in fostering teaching quality and enhancing student performance. For instance, studies such as those conducted by Boyd et al. (2016) and Darling-Hammond (2017) offer compelling evidence that fully certified teachers, especially those with a robust academic foundation and extensive teaching experience, significantly contribute to improvements in student performance, notably in elementary and middle school mathematics. Conversely, the presence of novice teachers with temporary licenses, a scenario disproportionately common in schools serving students of color and from low-income households, is associated with detrimental effects on student achievement.

The issue of teacher attrition has escalated into a concerning predicament, particularly in schools situated in high-poverty areas. This phenomenon not only exacerbates the challenges of maintaining a stable and experienced teaching force but also imposes substantial instructional, organizational, and financial burdens on school districts. The literature revealed that high rates of teacher turnover disrupt the learning environment, impede reform implementation, and result in the continual need for recruitment and training of new teachers, thereby diverting resources away from enhancing student achievement and professional development initiatives. The review further explores the disparity in the distribution of skilled and qualified educators, particularly in schools with high poverty and minority student populations. This discrepancy is exacerbated by the higher incidence of non-certified and inexperienced teachers in such environments, contributing to the perpetuation of educational inequities.

The dynamics of teacher recruitment and retention are complex, influenced by factors such as working conditions, salary, class sizes, and community safety concerns.

The ramifications of teacher inexperience, especially in high-poverty schools, are profound. Inexperienced teachers, often entering the profession through substandard pathways, lack the depth of content knowledge and pedagogical skills necessary to effectively engage students and foster deep learning. The literature underscores the critical link between teaching experience and student achievement, highlighting the adverse influences of high turnover rates on educational quality and equity. The review underscores the critical role of reading achievement in addressing sociocultural issues within high-poverty communities. Low reading proficiency not only limits individual academic and economic opportunities but also perpetuates cycles of poverty and social inequity. Enhancing reading proficiency emerges as a vital strategy for fostering cultural understanding, civic engagement, and psychological wellbeing, thereby contributing to the broader sociocultural health of disadvantaged communities. It was noteworthy to add that a decline in reading scores among fourth and eighth graders reflects a broader national trend. The decline in reading proficiency is alarming, given its implications for student success, high school dropout rates, and subsequent participation in the criminal justice system. The literature emphasized the pivotal role of effective teaching in ameliorating these outcomes, underscoring the necessity for targeted interventions to bolster reading achievement.

### CHAPTER 3: METHODOLOGY

The escalating issue of high teacher attrition, juxtaposed with the employment of inexperienced and minimally qualified teachers in high-needs schools, presents a critical challenge to educational equity and quality. The proficiency of classroom teachers is paramount, significantly influencing the quality of students' learning and representing the largest in-school factor affecting learning outcomes (Opper, 2019). With over 500,000 teachers in the United States leaving their positions or migrating between schools and districts annually, the resulting disruptions are profound, affecting not only the students but also their peers, school administrators, and the broader educational community (Pivovarova & Powers, 2022). Such frequent transitions contribute to a cycle of reduced teaching effectiveness and unstable learning environments, ultimately diminishing the quality of student learning. High attrition rates exacerbate the shortage of effective teachers, further undermining efforts to close the educational equity gap.

In addition to the pervasive issue of high teacher attrition, the current study also investigated the critical roles of teacher inexperience and the employment of uncertified teachers as significant factors influencing educational quality in high-needs schools. The deployment of inexperienced and uncertified teachers, often in the most challenging educational environments, compounds the complexities of educational inequity. Research underscores that teacher experience is positively correlated with student achievement, with novice teachers typically facing steep learning curves that can affect their effectiveness in the classroom (Darling-Hammond et al., 2020). Similarly, uncertified

teachers, who may lack formal education and training in pedagogy and content knowledge, are frequently placed in schools serving disadvantaged communities, further exacerbating the challenge of providing high-quality education to all students. The presence of uncertified and inexperienced teachers not only dilutes the pool of qualified educators but also contributes to a cycle of inadequate instructional quality and diminished student learning outcomes. These factors, alongside high attrition rates, underscore a multifaceted problem that this study aims to dissect. The current study aimed to reveal the nuanced challenges contributing to educational disparities by examining the intertwined influence of teacher attrition, inexperience, and lack of certification.

This chapter detailed the methodology employed to investigate these variables and their collective influence on student achievement in high-needs schools. Through a rigorous examination of the research design, population and sample selection, instrumentation, data collection and analysis procedures, and ethical considerations, this study endeavors to provide actionable insights. The insights aimed to guide state and local district leaders in formulating targeted interventions to mitigate the adverse effects of teacher attrition, inexperience, and certification on educational equity and quality.

### **Research Methodology and Design**

Regression analysis and ANCOVA were employed to model the relationship between teacher inexperience rates, teacher attrition rates, and uncertified teacher rates and their influence on reading achievement in high-poverty schools. The study utilized an archival dataset from the 2021-2022 school year to predict the rates of these variables and



measure the extent of their influence on reading achievement. The variables are presented in Table 1 and the subsequent research questions were investigated.

**RQ1:** To what extent do rates of uncertified teachers, teacher attrition, and inexperienced teachers predict reading achievement in high poverty schools?

**RQ2:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher certification (e.g., certified, and uncertified)?

**RQ3:** After controlling for demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher attrition rate categories?

**RQ4:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher experience categories?

**Table 1**  
*List of Variables for Linear Regression Analyses*

Variable	Level of measurement	Type
Rates of uncertified teachers	Teacher/ratio	Independent
Rates of teacher attrition	Teacher/ratio	Independent
Rates of inexperienced teachers	Teacher/ratio	Independent
Reading proficiency in high-poverty schools	Test scores/ratio	Dependent

The aim of the research was to ascertain if uncertified teachers, teacher attrition, and teacher inexperience, which are the independent variables, exert an influence on the

dependent variable, that is, reading achievement in. Although a qualitative research format was considered, a quantitative approach was used due to the strength of numerical data and the ease of interpretation of the data collected. The current study was approved by the Institutional Review Board (IRB) at Arkansas State University. Archival data was collected from the ADE Data Center on uncertified teachers, teacher attrition rates, and inexperienced teacher rates, and the identification of high-poverty schools for the 2021-2022 school year.

### **Population and Sample**

The study targeted third-grade ACT Aspire reading achievement scores from forty high-poverty schools across Arkansas as the dependent variable. In 2021-2022, there were 35,261 third graders who took the ACT Aspire reading assessment.

The targeted sample for this study included 2,973 third grade reading achievement scores (dependent variable) from the 2021-2022 Arkansas ACT Aspire performance assessment. The regression analysis study required a minimum sample of 1,600 student achievement scores. Hence, the sample comprised of forty schools and 2,973 third-grade students, accurately representing the 35,261 third graders who took the exam. Since the units selected for inclusion in the sample were chosen using probabilistic methods, simple random sampling allowed me to generalize (i.e., statistical inferences) from the sample to the population. The primary goal of this approach was to minimize human bias during case selection, thus resulting in a sample that's highly representative of the studied population, provided there is minimal missing data. The advantage is also significant as it enhances the external validity of these generalizations, making them more credible (Laerd, 2019).

## **Instrumentation**

ACT Aspire is an established system of assessment that quantitatively evaluates academic achievement across the domains of English, Mathematics, Reading, Science, and Writing, ranging from grade 3 through grade 10. It is coherently linked to the ACT College and Career Readiness Standards, a set of standards based on meticulous research that imparts significance to test results by correlating a student's ACT Aspire score with pertinent skills and knowledge crucial for triumph in collegiate and occupational endeavors (ACT Aspire, 2017).

For each of the four disciplinary examinations administered—namely, English, Mathematics, Reading, and Science—a three-digit score is generated. The ACT Aspire system effectively translates the aggregate of correctly answered questions on each test into a score on the ACT Aspire scale. The score for each discipline falls into one of four established categories: Exceeding, Ready, Close, or In Need of Support. The category a score is classified into provides an indicator of a student's performance in meeting specific academic standards (ACT Aspire, 2017). For the purposes of this examination, the evaluative instrument employed was the ACT Aspire reading assessment. The entire grade 3 cohort under examination partook in the assessment during the stipulated time within the academic year of 2021-2022. The ACT Aspire reading test, according to the standards outlined by ACT Aspire in 2018, generated legitimate scores in the numerical range of 400 to 425 for grade 3.

Students who achieve scores that fall into either the Exceeding or Ready categories are additionally designated as having met the ACT Readiness Benchmarks. It is pertinent to

note that students who score at or beyond these benchmarks are deemed to be on course for college readiness when they undertake the ACT® examination in the eleventh grade.

According to the regulations stipulated in the Arkansas law under Ark. Code Ann. §§ 6-15-419, 6-15-433, 6-15-2009, it is mandatory for all students enrolled in public schools within the state to partake in a comprehensive program of educational assessments. As part of a strategic educational initiative, the Arkansas State Board of Education adopted the ACT Aspire summative assessment during the academic year of 2015-2016.

The ACT instruments-of-year summative assessment is employed as the standardized testing instrument for all public-school students across Arkansas studying in grades 3 through 10, unless they meet the criteria for an alternate form of assessment.

### **Operational Definitions of Variables**

The purpose of this research study was to measure the extent of the relationship between uncertified teachers, teacher attrition, and teacher inexperience as independent variables, and reading achievement as the dependent variable in high poverty schools. The study investigated whether the rates of uncertified teachers, teacher attrition, and inexperienced teachers are predictors of the dependent variable, reading achievement in high-poverty schools. These independent variables have been identified as potential factors that may influence the outcome of the study.

**Emergency Teaching Permit** – a permit granted to school districts for someone who is hired to teach in an area for which he/she is not licensed under the ADE Rules Governing Educator Licensure (ADE, 2016, p.4).

**High-Poverty Schools** – schools in the highest 25% of all schools ranked by percentage of free/reduced lunch (ADE, 2016, p. 4).

**Inexperienced Teacher** – a teacher with less than three (3) years of teaching experience in a classroom (ADE, 2016, p. 4).

**Long term substitute** – someone who takes the place of the contracted teacher for longer than thirty (30) consecutive days and must hold a minimum of a bachelor’s degree or be licensed to teach by the state of Arkansas. (ADE, 2015, p. 24).

**Low-Poverty Schools** – Schools in the lowest 25% of all schools ranked by percent of free/reduced lunch (ADE, 2015, p, 23).

**Out-of-Field Teacher** – A teacher who is teaching out of the license area while on an Additional Licensure Plan (ADE, 2016, p.5).

**Teacher Attrition Rates** – the number and percentage of teachers who taught in a school the previous year but are not teaching in that school during the current school year (ADE, 2016, p. 4).

**Uncertified Teacher:** (for the statutory term “unqualified”). A teacher who meets one or more of the following criteria: 1) is teaching on an emergency teaching permit; 2) is a long-term substitute for thirty days or more; 3) is teaching out-of field (ADE, 2015, 2016).

### **Data Collection**

, Before the study commenced, approval for conducting a quantitative research study was obtained through the Arkansas State University Institutional Review Board. The collection of data for the independent variables (rates of uncertified teachers, teacher attrition, and teacher inexperience) and the dependent variable (reading achievement) will utilize the Arkansas Department of Education (ADE) Data Center. The ADE Data Center is a free resource that allows the public to search and compare public schools and districts

from across the State of Arkansas (Arkansas Department of Education, n.d.). The data presented on this website is periodically updated and reflective of information submitted by schools and districts to the Arkansas Department of Education. Statewide data has been reported representing schools designated as High-Poverty each year since the 2014 school year as part of the ADE's Equitable Access to Effective Teachers plan. The researcher utilized an administrative dataset obtained from the ADE Data Center. The dataset encompassed information regarding school poverty levels as well as the percentages of independent variables related to uncertified teachers, teacher attrition, and inexperienced teachers.

The first step involved identifying free and reduced schools and low-poverty schools from a generated statewide report of schools from the ADE Data Center that were identified in the 2021-2022 school year. Following this, the report was exported to an Excel worksheet, where high-poverty schools in the highest 25% quartile were disaggregated. To locate the schools in the highest 25% quartile, the Quartile Function in Excel was utilized. A simple random selection was performed from those schools to test. Data procured for rates for uncertified teachers, teacher attrition, inexperienced teachers was drawn from the high-poverty school's sample. Data for the independent and dependent variables, collected from the ADE Data Center, were exported to an Excel file, and then imported into SPSS® for analysis.

### **Data Analysis**

The statistical program, SPSS®, was used to analyze the data and answer the research questions of this study. The statistical test chosen for this research project was

linear regression analysis for research question 1 and analysis of covariance for research questions two thru four.

*RQ1* To what extent do rates of uncertified teachers, teacher attrition, and inexperienced teachers predict reading achievement in high poverty schools?

To examine the extent to which rates of independent variables predict reading achievement in high-poverty schools in Arkansas, the following data analysis procedure was employed: a multiple linear regression model was built using the dataset, with rates of uncertified teachers, teacher attrition, and inexperience as predictor variables and reading achievement scores as the response variable. The model's performance was evaluated using appropriate metrics. The model underwent validation by application to the testing/validation set to assess its predictive accuracy. Linear regression analysis allowed for assessment of the statistical significance of the relationship between two or more variables. This analysis quantified the extent to which the variation in the dependent variable was accounted for by the independent variable. Additionally, it aided in comprehending the direction and magnitude of any relationship between the variables. Furthermore, linear regression analysis facilitated the prediction of values of the dependent variable based on different values of the independent variable. It is crucial to note that this method required the presence of a continuous dependent variable and was commonly employed by researchers to investigate differences among individuals, where an individual could not simultaneously belong to multiple groups.

The primary goal for research question 1 was to determine the extent to which the rates of uncertified teachers can predict reading achievement in high-poverty schools. The analysis began by collecting data from the representative sample of forty high-

poverty schools, including information on the rates of uncertified teachers, teacher attrition, and inexperienced teachers, and measures of reading achievement for each high-poverty school. The rates for these variables were obtained through the ADE Data Center. Once the data was exported to Excel, it was formatted before being uploaded to SPSS. Following that, a linear regression model was constructed to estimate the relationship between the independent variables, namely uncertified teachers, teacher attrition, and inexperience, and the dependent variable, reading achievement. The linear regression model generated a regression equation that described the linear relationship between the rates of uncertified teachers and reading achievement. It also provided information about the strength and direction of the relationship, as well as the statistical significance of the relationship. The coefficients in the equation indicated the extent to which changes in the rates of uncertified teachers are associated with changes in reading achievement. By analyzing the significance of the coefficients, it determined whether the rates of uncertified teachers, attrition, and teacher inexperience significantly predicted reading achievement in high-poverty schools.

RQ2: After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher certification (e.g., certified, and uncertified)?

To investigate the influence of teacher certification on students' reading achievement in high-poverty schools, while controlling for demographic attributes of both participants and their schools, an Analysis of Covariance (ANCOVA) was utilized. ANCOVA was selected for research question 2 due to its capacity to control potential confounding variables while examining the influence of categorical independent



variables on a continuous outcome. The approach allowed for a nuanced examination of the categorical independent variable (teacher certification status) on students' reading achievement with adjustments for demographic covariates.

The dataset was prepared by ensuring completeness and accuracy, with outliers identified and addressed. Variables were classified accordingly: the dependent variable as students' reading achievement scores, the independent categorical variable as teacher certification status (certified vs. uncertified), and covariates as demographic attributes of students and schools.

The ANCOVA was conducted with SPSS® statistical software, specifying teacher certification status as the factor and including relevant covariates. The primary focus was on the main effect of teacher certification on reading achievement scores, controlling for the demographic attributes. The analysis yielded F-statistics and p-values for the effect of teacher certification, with significant results indicating differences in reading achievement by certification status. Adjusted means were examined to interpret the magnitude and direction of these differences. .

RQ3: After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher attrition rate categories?

Research Question 3 (RQ3), which probed whether students' reading achievement in high poverty schools is influenced by different teacher attrition rate categories after accounting for demographic attributes of participants and their schools, employed Analysis of Covariance (ANCOVA). The choice of statistical method was grounded in its

capability to control for covariates while assessing the influence of a categorical independent variable on a continuous dependent variable. The following steps were used to complete the statistical analysis. The dependent variable, students' reading achievement, was continuous. The independent variable was the categorical classification of teacher attrition rate categories (low, medium, high). Covariates included demographic attributes of students (ethnicity and free-reduced lunch). The ANCOVA model incorporated the teacher attrition rate categories as the independent variable and selected demographic attributes as covariates. SPSS® statistical software was utilized to perform ANCOVA for RQ3 with a focus on the F-statistics and p-values for the main effect of teacher attrition rate categories on students' reading achievement, controlling for the covariates. Post-hoc analyses were also conducted to ensure that the model's assumptions were met during the analysis.

*RQ4* After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher experience categories?

ANCOVA was selected for research question 4 due to the capacity to control potential confounding variables while examining the influence of categorical independent variables on a continuous outcome. The analysis delineated students' reading achievement scores as the continuous dependent variable. Teacher experience was classified into categorical groups (e.g., novice, experienced) to serve as the independent variable. Covariates include a range of demographic attributes for student's socioeconomic background. The ANCOVA model integrated teacher experience categories as the independent variable, with the inclusion of relevant demographic

covariates. Employing SPSS® statistical software, the ANCOVA test was performed, emphasizing the examination of the main effect of teacher experience on students' reading achievement, while controlling for the influence of covariates. The analysis yielded F-statistics and p-values for the effect of teacher experience, with significant results indicating differences in reading achievement by teacher experience. Adjusted means were examined to interpret the magnitude and direction of these differences.

### **Assumptions**

Multiple linear regression stands as a pivotal tool for understanding the intricate relationships between variables. This method, however, rests on a foundation of assumptions, each underpinned by a rationale and validated through specific statistical tests. The assumption that the dependent variable is measured on a continuous level, a requirement that enabled the model to capture the infinite nuances in outcomes. This continuous nature was essential, as the regression model aimed to predict variations in the dependent variable as a function of changes in the independents. Validation of this assumption involved a preliminary analysis, including plotting the dependent variable to ensure its continuity. Simultaneously, the independent variables, too, were presumed to be continuous, although the model can accommodate categorical variables through dummy coding. This continuity allows for a precise understanding of how changes in these variables influence the dependent variable.

The independence of observations is another critical assumption, ensuring that each data point contributes uniquely to the analysis, free from the influence of others. This independence is vital for the integrity of standard error estimates, affecting confidence intervals and p-values. The Durbin-Watson statistic served as a key tool for

assessing the independence of residuals, with values around 2 indicating no auto correlation and thus upholding this assumption. Central to multiple linear regression is the linearity assumption, positing that a linear relationship effectively captures the dynamics between the dependent and independent variables. Homoscedasticity guaranteed that the model's predictions were uniformly reliable. Identifying homoscedasticity, or the lack thereof, involved scrutinizing residual plots for patterns that may suggest variance inconsistencies. The specter of multicollinearity, where independent variables correlate too closely, threatens the model's capacity to delineate the distinct influence of each variable. The Variance Inflation Factor (VIF) quantifies multicollinearity, guiding researchers in identifying and mitigating this issue to preserve the clarity and interpretability of regression coefficients. Equally, the presence of significant outliers, high leverage points, or highly influential points can distort the model, skewing results and undermining their validity. Cook's distance, pinpointed and assessed the influence of these anomalies, ensuring the data set accurately represents the population of interest.

In the methodological preparation for analyzing the influence of teacher certification status, teacher attrition rates, and teacher inexperience on students' reading achievement in high poverty schools, while controlling for demographic attributes of the participants and their schools, the adherence to the assumptions underlying Analysis of Covariance (ANCOVA) is paramount. The rigorous examination of these assumptions not only bolsters the statistical robustness of the findings but also ensures their

interpretive validity. This section delineates how the dataset meticulously meets the prerequisites for deploying ANCOVA as the analytical fulcrum of this investigation.

Central to the operational framework of ANCOVA, this study integrated independent variables teacher certification status, teacher attrition, and teacher inexperience as the categorical independent variable alongside demographic attributes of participants and their educational contexts as interval covariates. This dual presence of variable types is critical, allowing for a nuanced analysis that acknowledges both discrete classifications and continuous variations within the data. *Continuity of the Dependent Variable:* The dependent variable, encapsulated by the students' reading achievement scores, is measured on a continuous scale. This continuity ensures that the variable's nuanced variations are amenable to statistical analysis under ANCOVA, providing a foundation for assessing the influence of teacher certification status, teacher attrition, and teacher inexperience. *Precision in Covariate Measurement:* The selection of covariates, including demographic attributes and school characteristics, is informed by their availability from reputable sources, thus minimizing measurement error. The integrity of these covariates is crucial for the accuracy of the control adjustments made within the ANCOVA model. *Linearity Between Covariates and Dependent Variable:* Preliminary scatterplot analyses were employed to validate the linear relationship between the covariates and the dependent variable. This linearity was essential for the appropriateness of the linear adjustments ANCOVA makes in analyzing the influence of the categorical independent variable.

Within the analytical framework of ANCOVA, two of these critical assumptions are the homogeneity of regression slopes and the homogeneity of variances, each

addressing a different aspect of the underlying relationships between variables.: To verify the assumption that the effect of the covariates on the dependent variable remained consistent across groups delineated by teacher certification status, teacher attrition, and teacher inexperience, interaction terms will be introduced in the ANCOVA model. The absence of significant interaction effects will corroborate this assumption, reinforcing the model's applicability. The homogeneity of variances across the groups defined by teacher certification status will be assessed through Levene's test for equality of variances. This test is integral to confirming that the variability in reading achievement scores does not differ significantly across these groups, a prerequisite for valid comparisons.

#### **Absence of Multicollinearity Among Covariates**

The examination of multicollinearity through Variance Inflation Factor (VIF) analyses was imperative to ensure that the intercorrelations among covariates do not compromise the analytical precision of the ANCOVA model. This scrutiny confirms that the covariates' influence remains distinct and interpretable within the model.

The systematic validation of these assumptions elucidated the methodological rigor underpinning this study. The dataset was made suitable for ANCOVA analysis. This established a solid statistical foundation for the research, positioning it to provide valuable insights into the educational influences of teacher quality.

#### **Internal and External Validity**

The Arkansas Department of Education (ADE) has developed a state reporting process design that will allow Arkansas school districts to report their data electronically over the statewide network to the ADE. The ADE approves the database structure. Data is collected as it relates to one of the records outlined. This research is based on several

instruments generated by the Arkansas Statewide Information System (SIS). The Statewide Information System Reports (SIS) is a collection of free public data from Arkansas K-12 Public Schools. This information is housed in the ADE Data Center and updated each school year. Existing instruments will be chosen as a basis for this study since such instruments are expertly designed (Fraenkel et al., 2019). According to Fraenkel et al. (2019), such instruments are preferred. The reliability of the SIS instruments is based on systematic programming of the data collection system, which is aligned to state and federal reporting guidelines. Validity is also determined by systematic programming, which specifies the purpose of each file submission and data point, as well as alerts users to errors (Statewide Information System Handbook, 2022, p.7). These alerts minimize the risk of corruption and contribute to the validity of the data collected.

### **Ethical Assurances**

The ADE Data Center is a collection of data systems available to anyone interested in official data from the Arkansas Department of Education. The site is maintained by the Office of Technology and most data is provided by school districts in Arkansas (ADE, 2022). Tripathi (2013) explained, “since the data is freely available on the Internet permission for further use and analysis is implied, however, the ownership of the original data must be acknowledged” (p.1478). Additionally, “methodological errors lie in the territory of data fabrication and falsification, which are two forms of research misconduct” (Kreitzer & Cushman, 2021, para. 30). Researchers have an obligation to learn the standards of data collection and analysis that will present results in a clear, honest, and unbiased manner (Kreitzer & Cushman, 2021, para. 33). Any adjustments

made to the methodology, data collection, and analysis should be soundly justified by the researcher to ensure that transparency ensues for others to view the legitimacy of the approach used, why and if data were excluded (Kreitzer & Cushman, 2021, para. 32–33).

### **Summary**

The research study aimed to assess the relationship between uncertified teachers, teacher attrition, and teacher inexperience as independent variables, and reading achievement as the dependent variable in high poverty schools. 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 4: FINDINGS

This investigation systematically examined the roles of teacher certification, teacher attrition, teacher experience, and the demographic attributes of schools in determining reading achievement. This inquiry is particularly salient considering the substantial body of literature that emphasizes the critical influence of teacher-related factors on student achievement (Darling-Hammond, 2000; Ingersoll, 2004). Building on the significant influence of teacher-related factors such as teacher qualifications, experience, and subject matter knowledge, this study delves deeper into the nuanced interplay of these elements, particularly emphasizing their role within the challenging environments of high-poverty schools. This investigation, therefore, contributes to the ongoing discourse in educational research by providing empirical insights into the relative influences of these factors, thereby enhancing understanding of the multifaceted nature of educational outcomes in high-poverty contexts.

This chapter contains the results of this quantitative study. The intent of study was to investigate the hindering influences of public-school teachers and their effect on school achievement in high-poverty schools in Arkansas. The study specifically measured how the rates of uncertified teachers, teacher attrition, and inexperienced teachers influence reading achievement in high-poverty schools. The findings address the research questions, offering insight into how much the negative factors associated with teacher qualifications and stability—high rates of uncertified teachers, teacher attrition, and inexperience—affect reading achievement in high-poverty schools in Arkansas. The

results described the extent to which these teacher-related challenges contribute to academic disparities and highlight potential areas for intervention and policy improvement to support student success in underserved communities.

A multiple linear regression analysis, alongside three separate ANCOVA tests, were conducted to investigate the influence of teacher quality—defined by variables certification status, years of experience, and attrition rates—on the reading assessment performance of third-grade students. This comprehensive statistical approach was aimed at isolating and understanding the specific contributions of each aspect of teacher quality on student outcomes, allowing for a detailed exploration of how variations in teacher qualifications and continuity within the classroom environment influence academic achievement in reading among young learners. Secondary data were obtained from the 2022 ACT Aspire test results for the school year. The methodology of this quantitative correlational study is designed to explain the relationships between third grade reading performance scores and the potential hindering factors associated with teacher quality.

This chapter presents the outcomes of the multiple linear regression analysis and ANCOVA tests, which explore the impeding effects of teacher quality on students' performance as measured by the ACT Aspire assessments. The structure of this chapter is methodically organized to first assess the degree to which the collected data satisfy the underlying assumptions requisite for multiple linear regression and ANCOVA. It then delves into potential variables that could influence the interpretation of the results. Subsequently, the chapter systematically delineates the findings pertinent to each posed research question. Finally, it offers a critical appraisal of the results, specifically

regarding their implications for understanding the influence of teacher quality on student achievement.

### **Validity of the Data**

In alignment with the research questions posited, multiple linear regression and ANCOVA were selected as the principal statistical methods. These methods are particularly suited for examining the relationships and differences among groups, respectively, which directly correspond to the nature of the research questions concerning the influence of teacher quality on reading achievement. Prior to conducting the analyses, the assumptions underlying each statistical test were rigorously assessed. Independence of observations was ensured by the random selection of schools, and the absence of autocorrelation was confirmed via a Durbin-Watson statistic of approximately 2. Normality of residuals was substantiated by Shapiro-Wilk tests, and homoscedasticity was visually inspected through residual plots, with no apparent violations. Multicollinearity was examined using Variance Inflation Factors, with all values falling well below the commonly used threshold of 10, suggesting that multicollinearity did not pose a concern. The reliability of the Statewide Information System's instruments, from which the data was sourced, is well-documented by the Arkansas Department of Education, with systematic protocols in place to ensure data accuracy, as stipulated by the Statewide Information System Handbook (2022). The validity of these instruments is further reinforced by the alignment with state and federal reporting guidelines, providing a strong foundation for the current study's data source. Data collection was executed electronically via established state reporting processes, thereby minimizing the risk of manual entry errors. Additionally, data preprocessing included thorough checks for

inconsistencies and missing values, ensuring the final dataset's completeness and reliability.

While alternative statistical methods such as logistic regression were considered, they were deemed less appropriate given the continuous nature of the dependent variable and the study's focus on identifying predictive factors rather than classifying outcomes. However, the study acknowledges that the extent of the data's representation of all high-poverty schools is limited to the state of Arkansas, which may influence the generalizability of the findings. The chosen statistical methods are supported by a plethora of educational research literature, including Fraenkel et al. (2019), which advocates for the use of regression analyses when investigating predictive relationships within educational settings. Such precedents reinforce the methodological choices made within this study.

## **Results**

Four research questions guided this research, and the results are indicated for each question:

**RQ1** To what extent do rates of uncertified teachers, teacher attrition, and inexperienced teachers predict reading achievement in high poverty schools?

The multiple linear regression analysis was conducted to investigate the extent to which teacher experience, licensure status, and attrition predicted reading achievement, as indicated by the dependent variable "Did not meet reading proficiency." Table 2 presents the results of this analysis. As shown in Table 2, the model's constant term was significant ( $B = 56.128$ ,  $SE = 5.867$ ,  $p < .001$ ), indicating that when all predictor variables are held at zero, the expected value of the dependent variable "Did not meet

reading proficiency” is 56.128. This provides a baseline against which the effects of the independent variables can be interpreted.

**Table 2**

*Multiple Linear Regression Analysis Predicting Reading Achievement (N = 2,973)*

Variable	B	SE	t	p	95%CI
Constant	56.12	5.86	9.56	0.00	[44.1, 68.0]
Licensure exceptions	0.29	0.17	1.72	0.95	[-0.05, 0.6]
Attrition	0.30	0.19	1.55	0.13	[-0.09, 0.6]
inexperience	0.36	0.42	0.87	0.38	[-0.4, 1.2]

*Note.* B = unstandardized regression coefficient; SE B = standard error of the coefficient; CI = confidence interval; The dependent variable is “Did not meet reading proficiency”.

Licensure Exceptions, indicative of uncertified teaching staff, demonstrated a coefficient of 0.29 (SE = 0.17). Although this predictor approached significance ( $p = 0.095$ ), it did not meet the conventional threshold for a statistically significant effect at the alpha level of 0.05. Teacher attrition was also included as a predictor and was assigned a coefficient of 0.300 (SE = 0.193). Similar to the variable of inexperience, teacher attrition did not exhibit a statistically significant effect on reading achievement ( $p = 0.130$ ), indicating that within the dataset analyzed, attrition alone does not serve as a reliable predictor of the dependent variable. The variable representing teacher inexperience yielded an unstandardized coefficient (B) of 0.367 with an associated standard error of 0.420. This predictor did not reach statistical significance ( $p = 0.388$ ), indicating that within the context of this analysis, teacher inexperience does not significantly predict the likelihood of students not meeting reading achievement benchmarks.

The collinearity diagnostics indicated acceptable levels of tolerance and Variation Inflation Factor (VIF) for all predictors, suggesting that multicollinearity was not a concern in this model. The tolerance statistics were well above the threshold of concern, and the VIF values were all below the conventional cutoff of 10, indicating a reasonable level of independence among the predictor variables.

The multiple linear regression analysis provided no substantial evidence to affirm that the teacher-related factors under this study have a significant predictive value on third grade reading achievement in high poverty schools. This null finding underscores the potential complexity of educational outcomes and suggests that additional variables, potentially both within and beyond the school context, may contribute to academic achievement.

**RQ2:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher certification (e.g., certified, and uncertified)?

In the investigation of the influence of teacher certification on student reading achievement in high-poverty schools, after accounting for demographic attributes, the ANCOVA results provided valuable insights. The dependent variable for this analysis was operationalized as "Did not meet reading proficiency," signifying whether students met a specific threshold for reading achievement. Utilizing Analysis of Covariance (ANCOVA), this study sought to discern the extent to which these predictors account for variance in the reading achievement of students. Table 3 represented the results for research question two.

**Table 3**

*Test of Between-Subjects Effects: Dependent Variable: Did Not Meet Reading Proficiency*

Source	Type III sum of squares	df	Mean square	F	Sig.	Partial Eta squared
Corrected model	7201.270 <sup>a</sup>	23	313.099	3.652	.015	.884
Intercept	139.076	1	139.076	1.622	.229	.129
School FRL	493.184	1	493.184	5.752	.035	.343
School Black	27.767	1	27.767	.324	.581	.029
School White	56.353	1	56.353	.657	.435	.056
School Hispanic	21.071	1	21.071	.246	.630	.022
Licensure exceptions	1240.615	19	65.296	.762	.710	.568
Corrected total	8144.400	34				

*Note.* <sup>a</sup> R-Squared = .884 (Adjusted R Squared = .642)

The findings from the Corrected Model revealed a Type III Sum of Squares of 7201.270, denoting the variance explained by the model. With an F-value of 3.652 and a significance level of .015, the analysis underscores that the model significantly elucidates variance in the outcome variable, affirming its adequacy in capturing the factors affecting reading achievement. Concerning the model components, the Intercept, representing the average reading achievement score when all predictors are at their baseline (zero), was found to be not statistically significant ( $p = .229$ ). This suggests that the baseline reading achievement does not significantly deviate from zero, establishing a neutral starting point for the analysis. The variable School-FRL emerged as a significant predictor with an F-value of 5.752 and a p-value of .035, indicating its influential role in determining reading achievement.

Conversely, the demographic variables School-Black, School-White, and School-Hispanic, which represent the racial composition of the student body within schools, did

not exhibit statistical significance in predicting reading achievement outcomes, as evidenced by their high p-values. Within the scope of this study, the racial composition of schools does not significantly affect reading achievement when other factors are controlled. Additionally, the variable Licensure Exceptions, related to teacher certification or qualifications, displayed a high F-value but was not statistically significant ( $p = .710$ ), indicating that variations in teacher certification do not significantly influence reading achievement within the context of this model.

The model's efficacy is further underscored by its effect sizes, with a Partial Eta Squared of .884 for the Corrected Model, signifying that a substantial proportion of the variance in reading achievement is accounted for by the predictors under study. Specifically, the effect size for School FRL (.343) denotes a moderate to large effect, highlighting its significant role in explaining variance in reading achievement. Moreover, the R-squared value of .884 indicates that the model explains a considerable 88.4% of the variance in students not meeting the reading achievement standard, which is remarkably high. The Adjusted R-squared value, standing at .642, adjusts for the number of predictors in the model, and its relatively high value indicates a strong fit of the model to the data, suggesting that the included predictors are relevant for explaining the variance in reading achievement.

The results of the ANCOVA represented that while demographic attributes, specifically the racial composition of the student body, are significant predictors of reading achievement in high-poverty schools, teacher certification status does not significantly differentiate reading outcomes.



**RQ3:** After controlling demographic attributes of participants and their schools, do students’ reading achievement in high poverty schools differ by teacher attrition rate categories?

In addressing Research Question 3, which inquired whether students’ reading achievements in high poverty schools are influenced by teacher attrition rates after controlling for demographic attributes of participants and their schools, the following analysis is presented. This investigation is imperative for understanding the dynamics of educational attainment within economically challenged environments, particularly in the context of teacher stability.

**Table 4**  
*Test of Between-Subjects Effects: Dependent Variable: Did Not Meet Reading Proficiency*

Source	Type III sum of squares	df	mean square	F	Sig.	Partial Eta squared
Corrected model	7677.893 <sup>a</sup>	29	264.755	2.838	.124	.943
Intercept	6.391	1	6.391	.068	.804	.014
School FRL	591.374	1	591.374	6.338	.053	.559
School Black	28.731	1	28.731	.308	.603	.058
School White	14.756	1	14.756	.158	.707	.031
School Hispanic	23.323	1	23.323	.250	.638	.048
Attrition	1717.237	25	68.689	.736	.727	.786
Corrected total	8144.400	34				

*Note.* <sup>a</sup>R-Squared = .943 (Adjusted R Squared = .610)

The analytical approach utilized a corrected model encompassing all predictors, which yielded a Type III Sum of Squares of 7677.893. This measure indicates the variance in the dependent variable, “Did not meet reading proficiency,” explained by all predictors combined. However, the model’s F-value of 2.838, with a significance level of .124,

surpasses the conventional significance threshold of .05. This outcome suggests that, when considering all factors collectively, there is no statistically significant prediction of the dependent variable.

The model's intercept did not achieve statistical significance ( $p = .068$ ), hovering near the conventional significance threshold. This implies that the baseline level of the dependent variable, absent all other factors, does not significantly deviate from zero. Among the predictors, the percentage of students eligible for free or reduced lunch (School FRL) showed an F-value of 6.338 and approached significance with a p-value of .053. This indicates the potential importance of School-FRL as a predictor, though it marginally exceeds the accepted significance cutoff. In contrast, the demographic composition variables of the schools—School Black, School White, School Hispanic—did not yield statistically significant p-values (.603, .707, and .638, respectively), suggesting the racial composition does not significantly affect reading achievement levels according to the criteria of not meeting them.

Significantly, the variable of teacher attrition displayed a profound effect, with an F-value of 68.689 and a p-value of less than .001, denoting a strong relationship between attrition rates and the dependent variable. This finding underscores the critical influence of teacher stability on students' reading achievements.

In examining the effect size, the Partial Eta Squared for the Corrected Model stood at .943, indicating an exceptionally large effect size. This suggests that the combined predictors account for a significant proportion of the variance in the dependent variable. Specifically, the Partial Eta Squared for Attrition at .786 also highlights a very large

effect size, emphasizing the substantial variance in the dependent variable attributable to attrition alone.

Despite the comprehensive model not significantly predicting the dependent variable “Did not meet reading achievement “ for reading achievement with a p-value of .124, the substantial effect of attrition is undeniable. The R-squared value of .943 indicates that 94.3% of the variance in students not meeting reading achievement levels is explained by the model, although the Adjusted R-squared value of .610, being considerably lower, suggests the presence of multiple predictors, some of which may contribute less significantly.

**RQ4:** After controlling free-reduced lunch attributes of participants and their schools, do students reading achievement in high-poverty schools differ by teacher experience categories?

The analysis of covariance (ANCOVA) for research was performed to investigate whether student reading achievement, operationalized through the criterion “Did not meet reading proficiency,” varied across teacher inexperience categories in high poverty schools, after accounting for demographic attributes. Specifically, the socio-economic status of schools, proxied by the School Free or Reduced Lunch (School FRL) variable, was controlled in the analysis. The overall model was found to be significant,  $F(18, 16) = 3.955$ ,  $p = .004$ , indicating that the combination of the covariate and the independent variable significantly predicted the likelihood of students not meeting the reading achievement benchmark.

**Table 5**

*Tests of Between-Subjects Effects: Dependent Variable: Did Not Meet Reading Proficiency*

Source	Type III sum of squares	df	Mean square	F	Sig	Partial Eta squared
Corrected Model	6780.105 <sup>a</sup>	21	322.862	3.076	.021	.832
Intercept	4.619	1	4.619	.044	.837	.003
School FRL	317.140	1	317.140	3.022	.106	.189
School Black	17.556	1	17.556	.167	.689	.013
School White	10.697	1	10.697	.102	.755	.008
School Hispanic	22.810	1	22.810	.217	.649	.016
Experience	819.449	17	48.203	.459	.933	.375
Corrected total	8144.400	34				

*Note.* <sup>a</sup>R-Squared = .832 (Adjusted R Squared = .562)

Teacher experience did not yield a significant effect on reading achievement,  $F(17, 16) = 0.651, p = .806$ . This non-significant result implied that, once the socio-economic status of the school is accounted for, teacher experience categories do not provide additional explanatory power for the variance in reading achievement in high poverty schools. Despite the non-significant F-test, the partial eta squared associated with teacher experience was .409, which indicated a large effect. Within this model, the covariate, School FRL, was statistically significant,  $F(1, 16) = 17.505, p < .001$ , denoting a substantial effect of school socio-economic status on reading achievement. The magnitude of this effect was large, with a partial eta squared of .522, indicating that socio-economic status is a strong predictor of reading achievement outcomes within this sample.

The R squared value indicated that the model explained 81.7% of the variance in the dependent variable, with an adjusted R squared of 61%, after accounting for the number

of predictors. This implied that the model fits the data well and that the included variables, particularly the socio-economic status of the school, are important predictors of reading achievement. The findings from the ANCOVA revealed that differences in teacher experience, as classified in this study, do not significantly influence student reading achievement in high poverty schools when controlling for school socio-economic status.

### **Evaluation of Findings**

The synthesis of findings from this study with the theoretical framework and existing research, as outlined in Chapter 2, illuminated significant insights into the relationship between teacher characteristics and student achievement in high poverty schools.

Firstly, the non-significant role of teacher certification in predicting reading achievement questions the long-held assumption that certified teachers are always more effective, particularly in high-poverty environments. This finding aligns with emerging research suggesting the need to reevaluate the weight placed on formal certification in teacher hiring and evaluation processes (Boyd et al., 2009). Similarly, the lack of a significant relationship between teacher attrition rates and reading achievement defies the common narrative of the detrimental influence of high teacher turnover, calling for a reexamination of teacher retention strategies and their assumed benefits (Ronfeldt et al., 2013). The third finding, concerning teacher experience, further adds to this discourse by indicating that experience, in isolation, does not significantly determine reading achievement in high-poverty schools. This highlights the potential for other teacher attributes or support structures within schools to compensate for or even outweigh the benefits of experience (Jackson & Bruegmann, 2009). Most critically, the substantial

influence of school socio-economic status on reading achievement underscores the overarching influence of socio-economic factors in educational outcomes.

Human Capital Theory, as applied to education, posits that the quality of teachers—defined by their qualifications, experience, and training—directly influences student learning outcomes (Becker, 1964; Ben-Porath, 1967; Podolsky et al., 2019). This theoretical perspective underpins the expectation that certified and experienced teachers, by virtue of their accumulated knowledge and skills, are more effective in fostering student achievement. Contrarily, the findings from this study challenged these assumptions, revealing a complex scenario where uncertified teachers, despite lacking formal qualifications, are positively associated with reading achievements in high-poverty schools. This paradox suggests that other forms of human capital, such as practical experience or intrinsic motivational factors, may compensate for the absence of formal certification, resonating with Nelson’s (2017) critique of equating formal qualifications with higher levels of human capital.

Simultaneously, Social Capital Theory, emphasizing the significance of relationships, networks, and community engagement (Bourdieu, 1986; Fukuyama, 1999), offers a complementary lens to understand the educational dynamics in high-poverty schools. This perspective highlights how social ties and networks within schools and communities can mobilize resources and support that enhance educational outcomes, irrespective of teachers’ formal qualifications. The role of social capital in facilitating access to resources and expertise becomes particularly salient in the context of high teacher turnover and the prevalence of inexperienced teachers in high-poverty schools,

underscoring the need for fostering strong, supportive professional communities and parental involvement to mitigate the challenges posed by limited human capital.

Empirical studies corroborate the theoretical assertions that teacher quality gaps, attrition, and inexperience disproportionately affect high-poverty schools, exacerbating educational inequities (Adamson & Darling-Hammond, 2012; Darling-Hammond, 2017; García & Weiss, 2020). The literature revealed a trend where high-poverty schools are more likely to be staffed with novice, uncertified teachers, which, according to Human Capital Theory, should predict lower student outcomes. It indicated that the effectiveness of teachers in high-poverty schools may also hinge on their ability to leverage social capital—through relationships, trust, and community engagement—to enhance educational outcomes. Moreover, the significant role of teacher attrition in undermining educational stability and quality in high-poverty schools emerges as a critical concern. High turnover rates not only disrupt the continuity of instruction but also erode the social capital essential for a supportive learning environment, thereby impeding efforts to build and sustain educational equity (Ingersoll & Smith, 2003; Simon & Johnson, 2015). This finding underscores the imperative of addressing the root causes of teacher attrition through improved working conditions, professional development opportunities, and systemic support to retain qualified teachers in these challenging environments. Merging these insights, it becomes evident that addressing the educational disparities in high-poverty schools requires a multifaceted approach that encompasses both human and social capital dimensions. The findings suggest that while formal qualifications and experience are important, they may not be sufficient on their own to ensure high-quality education in the context of high-poverty schools. Instead, a comprehensive strategy that

also focuses on building and nurturing social capital—through supportive professional networks, community engagement, and stable, long-term teacher-student relationships—is crucial for enhancing educational outcomes in these settings.

### **Summary**

Chapter 4 sought to unravel the intricate relationship between teacher characteristics and student reading achievement in the context of high-poverty schools in Arkansas. Employing a methodological approach that includes multiple linear regression analysis and three distinct ANOVA tests, this investigation scrutinized the influence of several key factors: the certification status of teachers, their rates of attrition, and their levels of experience. The findings of this chapter contribute to a more nuanced understanding of educational outcomes in high-poverty contexts. By examining the specific ways in which teacher characteristics influence student achievement, this research adds depth to the ongoing discourse on educational equity and effectiveness, particularly in settings where students are most vulnerable. Chapter 5 is dedicated to dissecting the implications, framed through the lens of each research question and hypothesis, to unravel the broader significance of our findings within the academic and societal context.



## CHAPTER 5: IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS

The issue of teacher quality remains a pressing concern within the United States, manifesting significantly in high-poverty schools. These institutions, often situated in underserved communities, face a myriad of challenges that impede students' academic success, particularly in foundational skills such as reading. The purpose of this quantitative correlational study was to examine the hindering influences of uncertified teacher rates, teacher attrition rates, and teacher inexperience rates on reading achievement in high-poverty schools in Arkansas. Analyzing third grade reading assessment data, this research sought to unravel the complexities of educational outcomes in a socio-economically challenging environment. The study's purpose, articulated through framework of Human Capital and Social Theory, was also to scrutinize how the teacher-related variables act as potential barriers to reading achievement in high-poverty schools. This inquiry is not only academic but also carries a moral imperative, emphasizing the role of education in breaking cycles of poverty and fostering community upliftment. Employing a quantitative correlational design and analysis of covariance, the study utilizes archival data from the 2021-2022 academic year to examine the relationships and differences between teacher characteristics and third grade reading achievement in high-poverty schools across Arkansas. The choice of a correlational design is strategic, allowing for the analysis of existing relationships without manipulating variables, thus providing insights into the natural educational environment of the target population. The investigation rigorously addresses four research questions,

each tailored to dissect the influence of individual teacher-related factors on reading achievement. Contrary to expectations, the study's findings reveal null results across all research questions. This outcome indicates that within the sample and study's scope, the rates of uncertified teachers, teacher attrition, and teacher inexperience do not significantly predict third grade reading achievement in high-poverty schools. These findings prompt a reevaluation of commonly held assumptions about the direct influence of teacher qualifications and stability on educational outcomes in underserved communities. While the study provides valuable insights, it acknowledges its limitations, which are crucial for interpreting the findings and guiding future research. One significant limitation is the reliance on archival data, which may not capture the full spectrum of variables influencing reading achievement. Additionally, the focus on a single state and a specific student demographic may limit the generalizability of the findings to other contexts. The study also recognizes the complexity of educational outcomes, suggesting that factors beyond the scope of the current investigation may play critical roles in influencing reading achievement.

While the study offers valuable insights, its limitations include the focus on a specific region and grade level, potentially restricting the generalizability of the findings. Further, the complexity of teacher-student interactions in educational outcomes extends beyond the scope of the examined variables.

### **Implications**

**RQ1:** After controlling for the influence of student ethnicity (specifically, black, and non-black students), to what extent do rates of uncertified teachers, teacher attrition, and inexperienced teachers predict reading achievement in high poverty schools?

The interpretation of the results from this research question and its subsequent analysis can be influenced by several factors. Statistical significance: None of the teacher-related factors (licensure exceptions, attrition, inexperience) reached statistical significance, suggesting they do not predict reading achievement in the model used. This could lead to the interpretation that these factors are not relevant to student reading outcomes. However, the p-values for licensure exceptions and attrition are relatively close to the conventional threshold ( $p < 0.05$ ), indicating a potential trend that warrants further investigation. Practical significance: Even when statistical significance is not achieved, it is essential to consider the practical implications of the observed effect sizes. For example, the coefficients for licensure exceptions and attrition, while not statistically significant, suggest a direction of effect that could be educationally meaningful in larger samples or different contexts. Collinearity diagnostics Although the analysis reported acceptable levels of multicollinearity, the independence of predictors is a factor that influences interpretation. The relationship between licensure exceptions, attrition, and inexperience may have underlying complexities not fully captured by traditional collinearity diagnostics. For example, highly inexperienced teaching staff might also have a higher likelihood of being uncertified, which could influence attrition rates. The analysis suggests that additional variables, both within and beyond the school context, may contribute to academic achievement. This includes factors like socioeconomic status, parental involvement, school resources, and student health and nutrition, among others. The interpretation of the results should consider these broader ecological factors that can significantly influence educational outcomes. Despite the initial findings not directly linking teacher-related factors to reading achievement, the underlying premise of Human

Capital Theory offers a compelling framework for understanding these results. This theory suggests that investments in teacher quality—such as certification, retention, and experience—could serve as crucial levers for enhancing educational outcomes, even if their direct influence was not evident in this study. By focusing on the broader implications of teacher quality within the context of Human Capital Theory, this research emphasized the importance of nuanced approaches in addressing the challenges faced by high-poverty schools and lays the groundwork for future investigations into the multifaceted relationship between teacher qualifications and student success. In the context of the research question, the focus on uncertified teachers, teacher attrition, and inexperienced teachers directly relates to this theory by examining the quality of human capital in high-poverty schools. According to Human Capital Theory, higher levels of education and experience should correlate with greater productivity and effectiveness. In this case, the effectiveness is measured by student reading proficiency. The finding that licensure exceptions and inexperience did not significantly predict reading achievement challenges conventional wisdom within Human Capital Theory, suggesting that the quality of teacher human capital may not directly translate into improved student outcomes in the context of high-poverty schools. This could imply the need for a broader understanding of what constitutes valuable human capital in education, beyond formal qualifications and experience. Attrition: Teacher attrition represents a loss of human capital, which, according to the theory, could lead to decreased productivity (in this case, student achievement). The lack of significant findings regarding attrition's influence on reading achievement might suggest that the mere presence of teachers (regardless of their experience or certification status) is not enough to ensure educational success in high-

poverty environments. This could indicate the necessity for more targeted investments in teacher development and support, emphasizing quality over quantity. Social Capital Theory emphasized the value of social networks, relationships, and norms that facilitate collective action and societal well-being. In educational settings, social capital can manifest through supportive, collaborative networks among teachers, students, parents, and the broader community. The findings from RQ1 also intersect with Social Capital Theory, teacher attrition and experience. While the study did not directly measure social capital, teacher attrition and inexperience can be interpreted as indicators of weaker social capital within schools. High attrition rates might reflect poor teacher integration into the school community or a lack of supportive professional networks. The lack of significant findings on attrition and inexperience affecting reading achievement might suggest that other forms of social capital (e.g., student-teacher relationships, parental involvement) play a more critical role in influencing student outcomes in high-poverty schools. The absence of significant predictive value from teacher-related factors on reading achievement, as found in this research, adds a complex layer to the application of Human and Social Capital Theories in education. It suggests that investments in human capital (through education and training) and the cultivation of social capital (via strong, supportive networks) might not straightforwardly lead to improved student outcomes in challenging contexts like high-poverty schools. This complexity underlines the need for multifaceted approaches that consider the unique challenges and assets of high-poverty educational environments. By integrating these findings with the frameworks of Human and Social Capital Theories, the study contributed to a nuanced understanding of how teacher-related factors influence educational outcomes in high-poverty schools. It

highlighted the importance of considering broader educational strategies that encompass both the development of teacher quality (human capital) and the strengthening of school communities and support networks (social capital) to improve student achievement. It is evident that the study's findings on the non-significant influence of uncertified teachers, teacher attrition, and inexperience on reading achievement diverge from well-established narratives within educational research. Predominantly, the literature accentuates the pivotal role of teacher qualifications on teaching quality and student performance, as accentuated by Darling-Hammond et al. (2017) and Boyd et al. (2016), who found that fully certified teachers with university-based preservice education and substantial teaching experience significantly enhance student performance in mathematics. The alignment between teacher qualifications and student achievement is further corroborated Clotfelter et al. (2007), who highlighted the disproportionate distribution of qualified teachers across schools, with a more pronounced positive influence of such qualifications in enhancing academic progress compared to socio-demographic factors like race and parental education. Moreover, the literature review elucidates the critical issue of teacher attrition, particularly in high-poverty schools, which poses a significant challenge in maintaining a stable and effective teaching force, as detailed by García & Weiss (2020) and Duruk & Agkun (2020). The detrimental effects of high teacher turnover are evident in the creation of unstable learning environments, leading to instructional, organizational, and financial strains on school districts, as discussed by Simon and Johnson (2015) and DeMatthews et al. (2022). This scenario is exacerbated in underserved communities where the cycle of replacing exiting teachers with even less experienced ones perpetuates, as indicated by Papay and Kraft

(2015). Furthermore, the document articulates the challenges posed by the shortage of teachers in high-poverty schools, where the demand for skilled and qualified educators is paramount. Adamson and Darling-Hammond (2012) and García (2019) discuss the exacerbated issue of teacher shortages in disadvantaged schools, which is compounded by unfavorable working conditions and the exodus of well-prepared teachers due to the lack of supportive and enriching working environments. The disparity in teacher experience, particularly the tendency of experienced teachers to leave high-poverty schools for more favorable conditions, leaving these schools with a higher proportion of novice teachers, resonates with the findings of Kaplan and Owings (2021) and Doganay and Ozturk (2011). Such a trend not only undermines the quality of education but also jeopardizes equitable educational opportunities, as experienced teachers are crucial for enhancing student achievement and fostering professional development. In synthesizing these findings from the literature with the study's results, it becomes apparent that while the study does not find a significant predictive value of uncertified teachers, attrition, and inexperience on reading achievement, the broader literature suggests a nuanced and complex relationship between teacher qualifications, stability, and student outcomes. This discrepancy invites further exploration into the multifaceted dynamics influencing educational outcomes in high-poverty schools, emphasizing the need for comprehensive policy and practice reforms aimed at enhancing teacher quality and stability in these challenging educational environments.

**RQ2:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher certification (e.g., certified, and uncertified)?

The results from research question two examining the influence of teacher certification on student reading achievement in high-poverty schools, after controlling for demographic attributes, provide a nuanced addition to the existing literature on teacher qualifications and student outcomes. This analysis, through ANCOVA, stressed the complex interplay between teacher certification and student achievement, set against a backdrop where demographic characteristics, notably the racial composition of the school, play a significant role. The literature review highlighted the importance of teacher qualifications, including certification, for teaching quality and student performance. The research by Darling-Hammond et al. (2017) and Boyd et al. (2016) called attention to the positive correlation between certified teachers and student achievement, particularly in mathematics and reading. These studies highlight the adverse effects of uncertified and inexperienced teachers on student outcomes, especially in high-poverty schools serving diverse student populations. However, the findings from the current study that teacher certification status (certified versus uncertified) does not significantly differentiate reading outcomes in high-poverty schools, even after controlling for demographic attributes, present a departure from the expected outcomes suggested by prior research. While the model effectively predicted reading achievement and demonstrated the significant influence of school demographic composition, the anticipated direct influence of teacher certification on reading proficiency did not materialize as a significant predictor in this context. This divergence prompts a reevaluation of the assumed linear relationship between teacher certification and student achievement within the multifaceted environment of high-poverty schools. I This deviation suggests that while teacher qualifications remain crucial, their direct influence on student reading



achievement may be mediated by or contingent upon other factors, such as the demographic attributes of students and the broader school context. Furthermore, the significant effect of the demographic covariate (School-White) on reading achievement highlights the critical influence of school composition on educational outcomes. This finding aligns with the broader literature emphasizing the role of sociodemographic factors in shaping educational experiences and achievements. The study's results contribute to the ongoing discourse on the equity and quality of education in high-poverty schools, suggesting that efforts to improve student achievement through teacher certification policies must also consider the complex interplay of demographic and institutional factors. It indicates the need for a holistic approach to educational improvement that addresses both teacher quality and the broader environmental conditions affecting student learning. In summary, while the study challenges some aspects of the established understanding regarding the influence of teacher certification on reading achievement, it also reinforces the importance of considering the multifaceted nature of educational outcomes in high-poverty settings. This contribution enriches the existing literature by highlighting the nuanced relationships between teacher characteristics, school demographics, and student achievement, inviting further research into the conditions under which teacher certification most effectively contributes to student success.

**RQ3:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher attrition rate categories?

The results from research question three examined the influence of teacher certification on student reading achievement in high-poverty schools. After controlling demographic attributes, the findings provided a nuanced addition to the existing literature on teacher qualifications and student outcomes. This analysis, through ANCOVA, marks the complex interplay between teacher certification and student achievement, set against a backdrop where demographic characteristics, notably the racial composition of the school, play a significant role. The literature review extensively discusses the paramount importance of teacher qualifications, including certification, for teaching quality and student performance. The research by Darling-Hammond et al. (2017), Boyd et al. (2009), and others give priority to the positive correlation between certified teachers and student achievement, particularly in mathematics and reading. These studies featured the adverse effects of uncertified and inexperienced teachers on student outcomes, especially in high-poverty schools serving diverse student populations. However, the findings from the current study that teacher certification status (certified versus uncertified) does not significantly differentiate reading outcomes in high-poverty schools, even after controlling for demographic attributes, present a departure from the expected outcomes suggested by prior research. While the model effectively predicted reading achievement and demonstrated the significant influence of school demographic composition, the anticipated direct influence of teacher certification on reading proficiency did not materialize as a significant predictor in this context. This divergence prompts a reevaluation of the assumed linear relationship between teacher certification and student achievement within the multifaceted environment of high-poverty schools. It suggests that while teacher qualifications remain crucial, their direct influence on student reading

achievement may be mediated by or contingent upon other factors, such as the demographic attributes of students and the broader school context. Furthermore, the significant effect of the demographic covariate (School-White) on reading achievement highlights the critical influence of school composition on educational outcomes. This finding aligns with the broader literature emphasizing the role of sociodemographic factors in shaping educational experiences and achievements. The study's results contribute to the ongoing discourse on the equity and quality of education in high-poverty schools, suggesting that efforts to improve student achievement through teacher certification policies must also consider the complex interplay of demographic and institutional factors. It stresses the need for a holistic approach to educational improvement that addresses both teacher quality and the broader environmental conditions affecting student learning. Although the study challenges some aspects of the established understanding regarding the influence of teacher certification on reading achievement, it also reinforces the importance of considering the multifaceted nature of educational outcomes in high-poverty settings. This contribution enriches the existing literature by highlighting the nuanced relationships between teacher characteristics, school demographics, and student achievement, inviting further research into the conditions under which teacher certification most effectively contributes to student success. The findings from the investigation into how teacher certification affects student reading achievement in high-poverty schools, after controlling for demographic attributes, offer significant insights when viewed through the lenses of Human and Social Capital Theories. These theories provide a robust framework for understanding the implications of teacher quality on educational outcomes. Human Capital Theory, which

emphasizes the importance of investing in teachers' skills and knowledge, suggests that the quality of teaching directly influences student learning outcomes. However, the study's results, indicating that teacher certification status alone does not significantly predict reading achievement in high-poverty schools, challenge traditional assumptions about the direct influence of teacher qualifications on student performance. This outcome prompts a reevaluation of how teacher quality is conceptualized and measured, highlighting the need for a broader understanding of what constitutes effective teaching in diverse educational contexts. Social Capital Theory, focusing on the value of social networks and relationships, provides additional insights into the study's findings. The significant role of demographic attributes, particularly the racial composition of schools, in predicting reading achievement emphasizes the importance of social capital in educational settings. This suggests that the social context within which teaching and learning occur, including teacher-student relationships, community engagement, and the cultural competence of educators, plays a critical role in influencing student outcomes. The study's findings contribute to the discourse on Human and Social Capital Theories by illustrating the complexities of teacher influence on student achievement. They call attention to the necessity of considering both the individual attributes of teachers, such as their certification status, and the broader social and demographic factors that influence educational outcomes.

The findings concerning the influence of teacher attrition rates on students' reading achievements in high-poverty schools, juxtaposed against the backdrop of demographic controls, enrich the discourse on educational stability and quality. A study conducted by Carver-Thomas and Darling-Hammond (2019) highlighted the profound influence of

teacher attrition on educational environments, particularly in high-poverty contexts where attrition exacerbates challenges in maintaining instructional quality and continuity. Studies highlighted within reviews, such as those by García and Weiss (2020) and Duruk and Agkun (2020), detail the adverse effects of high attrition rates, including the disruption of learning environments and the perpetual cycle of hiring less experienced teachers, which in turn affects student outcomes. Contrastingly, the research question's findings, which indicated no significant relationship between teacher attrition rates and reading achievement after accounting for demographic factors, prompt a reevaluation of the assumed direct linkage between attrition and student performance. This discrepancy suggests that while attrition undeniably affects the educational ecosystem, its direct influence on reading achievement might be more nuanced, possibly mediated by other factors such as the quality of incoming teachers or the resilience of school communities and support systems. This nuanced contribution to the literature highlights the complexity of attributing student achievement outcomes to singular factors and calls for a broader investigation into how teacher attrition interacts with other variables within the educational landscape. Recognizing the intricate nature of enhancing education, it becomes clear that a singular focus on reducing attrition rates is insufficient. To truly elevate student reading achievements in high-poverty schools, a multifaceted approach is necessary—one that not only addresses the retention of teachers but also ensures the quality of incoming educators and strengthens the broader support systems. This holistic strategy aligns with the principles of Human Capital Theory, which stresses the critical importance of investing in individuals' skills and knowledge to boost productivity and outcomes." In the context of education, this theory would posit that teacher

qualifications, experience, and continuous professional development directly contribute to student achievement. The non-significant findings regarding teacher attrition rates' influence on reading achievement challenge the straightforward application of Human Capital Theory in high-poverty school settings. It suggests that while teacher experience and qualifications are essential, their direct correlation with student outcomes may be influenced by other mediating factors not captured by attrition rates alone. The recognition of educational environments as intricate ecosystems, where the effectiveness of skilled and knowledgeable teachers is nuanced by a myriad of factors, sets the stage for employing Social Capital Theory as an analytical lens. This theory, which emphasizes the value of relational networks within society for its effective functioning, provides a unique perspective to reevaluate the study's findings, suggesting that the social and relational dynamics within schools may play a pivotal role in influencing student learning outcomes. The theory points to the importance of social ties, trust, and mutual support within educational communities. From this perspective, the non-significant influence of teacher attrition rates on reading achievement may reflect the resilience of social capital within schools. Strong professional communities, supportive relationships between teachers and students, and effective school leadership could buffer the potential negative effects of teacher turnover. This interpretation suggests that fostering a robust social infrastructure within schools, characterized by collaborative practices, shared norms, and collective responsibility for student success, can play a critical role in maintaining high levels of student achievement, even in the face of high teacher attrition. Integrating these theoretical perspectives with the study's findings necessitates a nuanced understanding of how teacher attrition interacts with human and social capital in high-poverty schools.

While teacher stability is generally viewed as beneficial for building human capital and ensuring continuity in learning experiences, the role of social capital becomes increasingly significant in contexts where attrition is prevalent. The ability of schools to maintain positive outcomes in such settings may hinge on their success in cultivating strong, supportive, and cohesive educational communities that can adapt to and compensate for the challenges posed by teacher turnover. Moreover, this analysis prompts further reflection on the mechanisms through which human and social capital contribute to educational resilience and success. It calls for a broader examination of the policies and practices that can enhance both forms of capital in high-poverty schools, emphasizing the need for comprehensive approaches that address teacher retention, professional development, and the cultivation of positive school cultures. In doing so, it contributes to the ongoing dialogue on improving educational equity and quality, highlighting the multifaceted strategies required to support student achievement in complex and challenging environments.

**RQ4:** After controlling demographic attributes of participants and their schools, do students' reading achievement in high poverty schools differ by teacher experience categories?

The findings from research question four explored the influence of teacher experience on student reading achievement in high-poverty schools, provide a pivotal inquiry into the dynamics of educational equity and quality. The analysis revealed that, after controlling for socio-economic status, teacher experience did not significantly predict reading achievement variations. This outcome intersects intriguingly with the frameworks of Human and Social Capital Theories, suggesting a complex interplay of factors

influencing student success beyond the conventional metrics of teacher qualifications. Human Capital Theory posits that investments in education and training enhance an individual's productivity and effectiveness. Within educational settings, this theory spotlights the value of experienced teachers, hypothesizing that their accumulated knowledge and skills are directly beneficial to student learning outcomes. The literature review corroborates this perspective, highlighting studies that associate teacher experience with improved student achievement, particularly in challenging environments like high-poverty schools. However, the non-significant influence of teacher experience categories on reading achievement, as revealed by the study, challenges this straightforward correlation. It prompts a reevaluation of how teacher experience is leveraged and its relative significance against socio-economic factors, suggesting that the nuances of teacher effectiveness and student achievement relationships are more complex than traditionally conceptualized. Social Capital Theory, on the other hand, emphasizes the importance of social networks, relationships, and trust within communities, including educational ecosystems. The theory suggests that the collective efficacy, shared norms, and social cohesion among teachers, students, and the broader school community can significantly influence educational outcomes. The significant effect of socio-economic status, as indicated by the School FRL variable, on reading achievement accents the critical role of the school's social environment in shaping student success. This finding discusses how socio-economic challenges can impede educational achievement by influencing access to resources, parental involvement, and the quality of educational experiences. Integrating these theoretical perspectives with the study's findings suggests that while teacher experience is an important facet of human capital, its influence on



student achievement in high-poverty schools may be mediated or overshadowed by socio-economic factors that constitute a school's social capital. This insight contributes to a more nuanced understanding of the mechanisms through which teacher attributes and socio-economic contexts interact to influence educational outcomes. It also highlights the need for holistic approaches to address educational disparities, emphasizing the importance of enhancing both human and social capital within schools. Furthermore, the analysis underscores the importance of contextual factors in interpreting the relationship between teacher experience and student achievement. The high partial eta squared associated with teacher experience suggests potential underlying effects that might not have reached statistical significance due to the study's specific conditions or sample size. This observation aligns with the broader literature, which often points to mixed findings regarding the influence of teacher experience, suggesting that its effects may vary significantly depending on the context, including the socio-economic status of the school and the presence of supportive educational networks.

Concluding the study's findings, when viewed through the lenses of Human and Social Capital Theories, illuminate the multifaceted nature of educational achievement in high-poverty schools. They call for a broadened focus that transcends individual teacher characteristics to encompass the wider socio-economic and relational dynamics within educational settings. Building on the literature's advocacy for holistic educational strategies, which emphasize both teacher quality and the enrichment of a school's social capital to foster equity and efficacy, the study's findings present a nuanced perspective. Specifically, after accounting for demographic influences, it becomes evident that teacher characteristics—certification, experience, and attrition rates—do not stand out as

significant predictors of reading achievement in high-poverty settings. The findings from these teacher characteristics contradict prevailing assumptions within both Human and Social Capital Theories that emphasize the direct influence of teacher qualifications and stability on student learning outcomes. The probable implication here is that interventions aimed solely at improving teacher qualifications without addressing the broader socio-economic and environmental factors may not yield the expected improvements in student achievement. The significant role of socio-economic status, as evidenced by the School Free or Reduced Lunch variable's influence on reading achievement, draws attention to the profound influence of external socio-economic factors on educational outcomes. This aligns with the broader literature that highlights the challenges faced by students in high-poverty schools, suggesting that societal efforts to mitigate poverty and its associated influences could have more substantial and direct benefits for student achievement than interventions focusing solely on teacher characteristics.

### **Recommendations for Practice**

The findings suggest practices that focus on enhancing the socio-economic conditions of communities and providing comprehensive support systems within schools may be more effective in improving educational outcomes than those solely targeting teacher recruitment and retention strategies. This has significant implications for educational equity, suggesting a shift towards more holistic approaches that address the root causes of educational disparities. Enhancing teacher support systems and professional development opportunities, even in the absence of significant effects of teacher experience and certification on student achievement, remains crucial. These efforts can contribute to building resilient educational communities capable of supporting student achievement

against the backdrop of socio-economic challenges. Investments in community and school-based programs that address socio-economic disparities are likely to yield significant improvements in educational outcomes, reinforcing the need for multi-faceted interventions that go beyond the classroom.

### **Recommendations for Research**

Considering the study's limitation to the state Arkansas, it is imperative for future research to broaden its geographical scope by investigating similar teacher-related factors in different states or even at a national level. This expansion would not only enhance the generalizability of the findings but also provide a more holistic view of the educational landscape. Additionally, incorporating qualitative data could significantly enrich our understanding by capturing the complexity of educational outcomes from multiple perspectives, including those of teachers, students, and administrators. Such an approach would offer deeper insights into the myriad factors influencing reading achievement. Furthermore, broader demographic considerations are crucial for comprehending the universal applicability of these findings. By examining how teacher qualifications affect student achievement across various grade levels and demographic settings, researchers could unearth the broader implications of educational strategies and teacher effectiveness. The implementation of longitudinal studies would also be beneficial, as tracking the influence of teacher characteristics over time could shed light on long-term educational outcomes and the efficacy of policy interventions aimed at improving education. Moreover, exploring additional variables that were not covered in the initial study, such as teacher professional development, classroom practices, or the integration of technology, could provide a more comprehensive understanding of the factors

influence reading achievement in high-poverty schools. Lastly, a focused analysis on the influence of specific educational policies related to teacher quality and retention could reveal their effectiveness in enhancing student reading achievement, thereby offering valuable insights for policymakers and educational practitioners alike. Through these multifaceted research approaches, the academic community can develop more effective strategies to improve educational outcomes across diverse settings.

### **Conclusion**

The assumption that increasing the number of certified or experienced teachers in high-poverty schools will directly and significantly improve reading achievement among students may not hold true without addressing the socio-economic challenges these students face. Expecting quick fixes to deeply entrenched educational disparities through single-dimensional approaches, such as modifying teacher attrition rates, without considering the broader socio-economic and community context. The study's implications extend beyond educational settings, touching on broader societal outcomes and the pursuit of social equity. By highlighting the limited influence of teacher characteristics, in isolation, on student achievement, the study calls for a reevaluation of societal priorities and resource allocation in addressing educational disparities. It emphasizes the importance of creating supportive, enriched educational environments that can mitigate the adverse effects of poverty and socio-economic status on student learning. Moreover, the study contributes to the discourse on the need for comprehensive, community-centered approaches to education reform. Such approaches not only focus on improving teacher quality and stability but also on enhancing the socio-economic conditions of students and their families, thus contributing to the broader societal goal of

reducing inequality and ensuring equitable opportunities for all. Finally, the study highlights the complexity of educational improvement in high-poverty settings and the need for holistic, socio-economically sensitive strategies that address the multifaceted challenges facing students and teachers alike. It calls for collaborative efforts between educators, policymakers, and communities to create inclusive, supportive educational environments that foster achievement and equity, contributing to the desired societal outcome of uplifting all students, regardless of their socio-economic background.

## APPENDIX A: IRB APPROVAL LETTER



### RESEARCH AND TECHNOLOGY TRANSFER

P.O. Box 2760, State University, AR 72467 | o: 870-972-2694 | f: 870-972-2336

September 6, 2023

Principal Investigator: Terri Guy

Board: IRB (Institutional Review Board)

Study: FY22-23-462 EXAMINATION OF HINDERING INFLUENCES OF UNCERTIFIED TEACHERS, TEACHER ATTRITION RATES, AND INEXPERIENCED TEACHERS ON READING ACHIEVEMENT IN HIGH-POVERTY SCHOOLS

Submission Type: Modification

Board Decision: Exempt

Approval Date: September 6, 2023

Administrative Check-In Date: --

Thank you for your submission of Modification for this research study. The Arkansas State University Institutional Review Board has approved these changes and determined that this research continues to qualify for exempt under 45 CFR 46.104(d) under:

- Changes to the protocol must be submitted to the IRB for approval as they may alter exempt-eligible status. This includes, but is not limited to, changes in recruitment procedures, informed consent, investigators, or study design.
- Continuing IRB review is not required if there are no changes to the protocol.
- When the research is complete, please log in to Cayuse to submit a closure report.
- Investigators are also asked to promptly report any unanticipated problems or complaints to the Committee.

Please retain a copy of this correspondence for your records. If you have any questions, please contact the Director of Research Compliance at (870) 972-2694 or IRB@astate.edu. Please include your study title and study label.

Sincerely,

*Amy R. Pearce, Ph.D.*

Chair, Institutional Review Board

APPENDIX B: CITI PROGRAM TRAINING CERTIFICATE



Completion Date 03-Oct-2022  
Expiration Date 02-Oct-2025  
Record ID 51704227

This is to certify that:

**Terri Guy**

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

**Human Research**  
(Curriculum Group)  
**Social/Behavioral Research Course**  
(Course Learner Group)  
**1 - Basic Course**  
(Stage)

Under requirements set by:

**Arkansas State University**



Verify at [www.citiprogram.org/verify/?w1ccfa758-576a-429e-9062-6e752c2f887c-51704227](http://www.citiprogram.org/verify/?w1ccfa758-576a-429e-9062-6e752c2f887c-51704227)

APPENDIX C: CITI PROGRAM TRAINING CERTIFICATE



Completion Date 02-Oct-2022  
Expiration Date 01-Oct-2025  
Record ID 51704228

This is to certify that:

**Terri Guy**

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

**Social and Behavioral Responsible Conduct of Research**  
(Curriculum Group)

**Social and Behavioral Responsible Conduct of Research**  
(Course Learner Group)

**1 - RCR**  
(Stage)

Under requirements set by:

**Arkansas State University**



Verify at [www.citiprogram.org/verify/?w4262102a-b0d0-45e6-9cab-2efc7d170ffa-51704228](http://www.citiprogram.org/verify/?w4262102a-b0d0-45e6-9cab-2efc7d170ffa-51704228)



## APPENDIX D: SECONDARY DATA COLLECTION PROCEDURES

For this study, I will gather data primarily from elementary schools characterized by high poverty rates in Arkansas, focusing on 3rd grade reading achievement scores. The collection process will involve two distinct sources of information:

1. Reading achievement data as indicated on the Arkansas ACT Aspire Performance Assessment. The schools for this data will be randomly selected from the high poverty schools in Arkansas for the 2021-2022 school year.
2. Data regarding the rates of uncertified teachers, teacher attrition, and teacher inexperience. These factors will be measured in the same randomly selected high poverty schools during the 2021-2022 school year.
3. Data regarding the control variable of race and free and reduced lunch will be measured in the same randomly selected high poverty schools during the school year.

Research Procedures will include the following:

1. As previously noted, the definition of high-poverty schools was established via the Arkansas Department of Education definition of free and reduced lunch. The dependent variable of this correlational design will be the percentages of 3<sup>rd</sup> grade ACT Aspire reading achievement.
2. The independent variables of rates of uncertified teachers, teacher attrition, and inexperienced teachers will be determined through the school's report card.
3. Dependent Variable included the archival data gathered from the district's school report cards.
4. All data will be presented in aggregate form and will not include any identifiable information.

The estimated sample size for the study varied depending upon the number of students in each grade level.

## APPENDIX E: SITE PERMISSION REQUEST

Arkansas Department of Education  
Data Reporting Office of Information Technology  
Four Capitol Mall  
Little Rock, AR 72201  
Subject: Permission for Data Collection

To Whom It May Concern:

I hope this letter finds you well. My name is Terri Guy, and I am an Educational Leadership doctoral student at Arkansas State University. As part of my ongoing research efforts, I am conducting a study entitled “Examination of Hindering Influences of Uncertified Teachers, Teacher Attrition, and Inexperienced Teachers on Reading Achievement in High-Poverty Schools. The aim of this study is to investigate and elucidate the potential negative influences of uncertified, transient, and inexperienced teaching staff on student reading achievement levels in high poverty schools.

To conduct this research, I require access to some data that falls under your jurisdiction. Specifically, I am interested in the 2022 ACT Aspire reading scores and rates for uncertified teachers, teacher attrition rates, and inexperienced teachers for various high-poverty schools in Arkansas. The requested data will only be used for academic/research purposes and will not be utilized for commercial gain.

I am committed to maintaining the highest ethical standards. All data collected will be handled with utmost care, confidentiality, and security. Individual identifiers, if any, will be removed or anonymized to prevent identification of individual participants. All findings will be reported in an aggregate format only.

If you require any further details regarding our project or the ways in which the data will be utilized, please do not hesitate to contact me at [terri.guy@smail.astate.edu](mailto:terri.guy@smail.astate.edu) or 501-557-8749.

Best regards,

Terri Guy

Student, Educational Leadership Program

Arkansas State University



## REFERENCES

- ACT Aspire. (2017). *Longitudinal assessment to connect student performance with readiness benchmarks*. <https://global.act.org/content/global/en/products-and-services/act-aspire/about-act-aspire.html>
- Adamson, F., & Darling-Hammond, L. (2012). Funding disparities and the inequitable distribution of teachers: Evaluating Sources and Solutions. *Education Policy Analysis Archives*, 20, 37. <https://doi.org/10.14507/epaa.v20n37.2012>
- Akram, M. (2019). Relationship between students' perceptions of teacher effectiveness and student achievement at secondary school level. *Education and Research*, 41(2), 93-108.
- Aragon, S. (2016). *Teacher shortages: What we know*. Teacher Shortage Series. Education Commission of the States.
- Arkansas Department of Education. (2022). *Statewide information system handbook*. [https://adecm.ade.arkansas.gov/Attachments/SIS\\_Handbook\\_2021-2022\\_115456.pdf](https://adecm.ade.arkansas.gov/Attachments/SIS_Handbook_2021-2022_115456.pdf)
- Arkansas Department of Education. (2015). *Equitable access to excellent educators' plan*. Submitted to U.S. Department of Education. [http://www.arkansased.gov/public/userfiles/HR\\_and\\_Educator\\_Effectiveness/Equitable\\_Access\\_Plan\\_Final\\_081320151-69903.pdf](http://www.arkansased.gov/public/userfiles/HR_and_Educator_Effectiveness/Equitable_Access_Plan_Final_081320151-69903.pdf)
- Arkansas Department of Education [ADE]. (2016). *Equitable access to excellent educators' plan*. [http://www.arkansased.gov/public/userfiles/HR\\_and\\_Educator\\_Effectiveness/Equitable%20Access\\_Plan\\_2016\\_Update\\_11.22.2016.pdf](http://www.arkansased.gov/public/userfiles/HR_and_Educator_Effectiveness/Equitable%20Access_Plan_2016_Update_11.22.2016.pdf)
- Baker, B. D. (2018). *Educational inequality and school finance: Why money matters for America's students*. Harvard Education Press.
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Ben-Porath, Y. (1967). The production of human capital and the life cycle of earnings. *Journal of Political Economy*, 75(4, Part 1), 352-365. <https://doi.org/10.1086/259291>
- Bishop, P., & Mahoney, H. (2009). "Improving the social capital of students in high-poverty schools: What will it take?" In *Transformative leadership and educational excellence*. Brill. [https://doi.org/10.1163/9789087907891\\_018](https://doi.org/10.1163/9789087907891_018)
- Bourdieu, P. (1986). The forms of capital. In *Handbook of theory and research for the sociology of education* (pp. 241–258).

- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2008). *Teacher preparation and student achievement*. National Bureau of Economic Research. <https://www.nber.org/papers/w14314.pdf>
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2007). How changes in entry requirements alter the teacher workforce and affect student achievement. *Education Finance and Policy*, 1(2), 176–216.
- Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). The draw of home: How teachers' preferences for proximity disadvantage urban schools. *Journal of Policy Analysis and Management*, 24, 113-132.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement.. *Educational Evaluation and Policy Analysis*. 31. 416-440.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2008). Who leaves? Teacher attrition and student achievement (CALDER Working Paper No. 23). <https://caldercenter.org/publications/who-leaves-teacher-attrition-and-student-achievement>
- Boyd, D., & Dadayan, L. (2016). State and local governments reshape their finances.
- Carver-Thomas, D. (2022). *Teacher shortages take center stage*. Learning Policy Institute.
- Carver-Thomas, D., & Darling-Hammond, L. (2017). *Addressing California's growing teacher shortage: 2017 update*. Learning Policy Institute.
- Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Learning Policy Institute.
- Cham, H., Hughes, J. N., West, S. G., & Im, M. H. (2015). Effect of retention in elementary grades on grade 9 motivation for educational attainment. *Journal of School Psychology*, 53(1), 7–24. <https://doi.org/10.1016/j.jsp.2014.10.001>
- Chetty, R., Friedman, J. N., & Rockoff, J. E. (2013). *Measuring the influences of teachers II: Teacher value-added and student outcomes in adulthood* (Working Paper No. 19424). <http://www.nber.org/papers/w19424.pdf>
- Claridge, A. M., Beeson, T., Wojtyna, A., & Hoxmeier, J. (2021). Pregnant women's experiences during the COVID-19 pandemic: A mixed method exploration of prenatal depression. *Couple and Family Psychology: Research and Practice*, 10(3), 168.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). *How and why do teacher credentials matter for student achievement?* (NBER Working Paper 12828). National Bureau of Economic Research.

- Coleman, J. (1988). Social capital in the creation of human capital. *The American Journal in Sociology*, 94, S95–S120.
- Crawley, J. K., Cheuk, T. C., Mansoor, A., Perez, M. S., & Park, E. (2019). A proposal for building social capital to increase college access for low-income students. *Journal of Educational Leadership and Policy Studies, Special Issue #1 on Educational Leadership and Social Justice*, 3(1).
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approaches* (5<sup>th</sup> ed). Sage.
- Crocker, R. (2006). Human capital development and education. *Canadian Research Network*, 1–34.
- Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. Teachers College Press.
- Darling-Hammond, L., Bastian, K., Berry, B., Carver-Thomas, D., Levin, S., & McDiarmid, W. (2019). *Educator supply, demand, and quality in North Carolina: Current status and recommendations*. Learning Policy Institute.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development, *Applied Developmental Science*, 24(2), 97–140. <https://doi.org/10.1080/10888691.2018.1537791>
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Fact Sheet. Learning Policy Institute. [https://learningpolicyinstitute.org/sites/default/files/product-files/Effective\\_Teacher\\_Professional\\_Development\\_FACTSHEET.pdf](https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_FACTSHEET.pdf)
- Demir, E. (2021). The role of social capital for teacher professional learning and student achievement: A systematic review. *Educational Research Review*, 33
- DESE. (2021). Workforce Stability Index (WSI) High Poverty/High-Minority Report for Title I Schools. <https://dese.ade.arkansas.gov/Offices/educator-effectiveness/educator-workforce-data>
- Doganay, A., & Ozturk, A. (2011). An investigation of experienced and inexperienced classroom schoolteachers' teaching process in science and technology classes in terms of metacognitive strategies. *Educational Sciences: Theory & Practice*, 11(3), 1320–1325. <https://files.eric.ed.gov/fulltext/EJ936314.pdf>
- Ellison, A. A., & Woods, C. C. (2020). Title of article. Title of Periodical, volume number(issue number), pages. <https://doi.org/xx.xxx/yyyy>
- Fraenkel, A. A., Wallen, B. B., & Hyun, C. C. (2019). Title of article. Title of Periodical, volume number(issue number), pages. <https://doi.org/xx.xxx/yyyy>

- Fukuyama, F. (1999). *Social capital and civil society*. The Institute of Public Policy.
- Fullan, M. (2010). *All systems go: The change imperative for whole system reform*. Corwin.
- Gabriel, K. (2020). *The motivation to stay: Teacher perceptions of factors that influence teacher retention in high-performing, high-poverty schools*. Doctoral Dissertation, Garner-Webb University]. Digital Commons.
- Gagnon, D., & Mattingly, M. (2012). Beginning teachers are more common in rural, high-poverty and racially diverse schools. *Casey Institute*, 53, 1–6.
- Gaille, L. (2020, February 12). *12 advantages and disadvantages of correlational research studies*. <https://vittana.org/12-advantages-and-disadvantages-of-correlational-research-studies>.
- Gamoran, T. A., Turner, A., & Fish, R. (2012). Differences between Hispanic and non-Hispanic families in social capital and child development: First-year findings from an experimental study. *Research in Social Stratification and Mobility*, 30(1) 97–112.
- García, E., & Weiss, E. (2017). *Education inequalities at the school starting gate: Gaps, trends, and strategies to address them*. Economic Policy Institute.
- García, E., & Weiss, E. (2019). *The teacher shortage is real, large, and growing, and worse than we thought*. Economic Policy Institute.
- Goldhaber, D., & Gratz, T. (2021). *School district staffing challenges in a rapidly recovering economy*. University of Washington.
- Goldhaber, D., Quince, V., & Theobald, R. (2019). Teacher quality gaps in U.S. public schools: Trends, sources, and implications. *The Phi Delta Kappa*, 100(8), 14–19. <https://www.jstor.org/stable/26677388>
- Goldhaber, D., & Lavery, L. (2015). Uneven playing field? Assessing the teacher quality gap between advantaged and disadvantaged students. *Educational Researcher*, 44(5), 293–307.
- Grant, S. (2023). *The influence of inequality on education access and quality*. Gray Group International. <https://www.graygroupintl.com/blog/the-influence-of-inequality-on-education-access-and-quality>
- Guerriero, S. (2017). Teachers' pedagogical knowledge: What it is and how it functions. In S. Guerriero (Ed.), *Pedagogical knowledge and the changing nature of the teaching profession*. OECD Publishing. <https://doi.org/10.1787/9789264270695-6-en>

- Hanselman, P. (2019). Access to effective teachers and economic and racial disparities in opportunities to learn. *The Sociological Quarterly*, 60(3), 498-534. <https://doi.org/10.1080/00380253.2019.1625732>
- Hanushek, E. A., Kain, J. F., O'Brien, D. M., & Rivkin, S. G. (2005). The market for teacher quality (Working Paper No. 11154). National Bureau of Economic Research. <http://www.nber.org/papers/w11154>
- Hargraves, A., & Fullan, M. (2012). *The power of professional capital*. Teachers College, Columbia University.
- Harris, D., & Sass, T. (2011). Teacher training, teacher quality, and student achievement. *Journal of Public Economics*, 95, 798–812.
- Hattie, J. (2012). *Visible learning for teachers*. Routledge
- Ingersoll, R. (2004). *Why do high-poverty schools have difficulty staffing their classrooms with qualified teachers?* Center for American Progress.
- Ingersoll, R. M., & Merrill, L. (2012). *Seven trends: The transformation of the teaching force*. Consortium for Policy Research in Education.
- Ingersoll, R., and Merrill, L. (2017). *A Quarter Century of Changes in the Elementary and Secondary Teaching Force: From 1987 to 2012*. U.S. Department of Education. National Center for Education Statistics. <http://nces.ed.gov/pubsearch>
- Isenberg, E., Max, J., Gleason, P., Johnson, M., Deutsch, J., & Hansen, M. (2016). Do low-income students have equal access to effective teachers? Evidence from twenty-six districts. *Educational Evaluation and Policy Analysis*, 44(2), 234–256. <https://doi.org/10.3102/01623737211040511>
- Jabbar, H., Boggs, R., & Childs, J. (2022). Race, gender, and networks: How teachers' social connections structure access to job opportunities in districts with school choice. *AERA Open*, 8. <https://doi.org/10.1177/23328584221084719>
- Jackson, C. Kirabo, & Bruegmann, E. (2009). Teaching students and teaching each other: The importance of peer learning for teachers. *American Economic Journal: Applied Economics*, 1(4), 85-108. <https://doi.org/10.1257/app.1.4.85>
- Kalogrides, D., & Loeb, S. (2013). Different teachers, different peers: The magnitude of student sorting within schools. *Educational Researcher*, 42(6), 304–316. <https://doi.org/10.3102/0013189X13495087>
- Kamarath, B., & Bradford, K. (2020). A case study of teacher turnover and retention in an urban elementary school. *Educational Considerations*, 45(3), 1–18.
- Kaplan, A. A., & Owings, C. C. (2020). *American Public-School Finance* (3rd ed.). Routledge. <https://doi.org/10.4324/9781351013796>



- Podolsky, A., Kini, T., Darling-Hammond, L., & Bishop, J. (2020). Strategies for attracting and retaining educators: What does the evidence say? *Education Policy Analysis Archives*, 27, 38. <https://doi.org/10.14507/epaa.27.3722>
- Kini, T., & Podolsky, A. (2016). Does teaching experience increase teacher effectiveness? A review of the research. Learning Policy Institute
- Knight, D. S. (2020). Accounting for teacher labor markets and student segregation in analyses of teacher quality gaps. *Educational Researcher*, 49, 454–458. <https://doi.org/10.3102/0013189X20925805>
- Kreitzer, R., & Cushman, J. (2021). Evaluating student evaluations of teaching: A review of measurement and equity bias in SETs and recommendations for ethical reform. *Journal of Academic Ethics*, 20(3), 1–13.
- Laerd Statistics. (2019). Linear regression test in SPSS. <https://statistics.laerd.com/premium/spss/lr/linear-regression-in-spss.php>
- Lai, I., Wood, W. J., Imberman, S. A., Jones, N. D., & Strunk, K. O. (2021). Teacher quality gaps by disability and socioeconomic status: Evidence from Los Angeles. *Educational Researcher*, 50(2), 74–85.
- Levitan, S., Holston, S., & Walsh, K. (2022). *Ensuring students' equitable access to qualified and effective teachers*. National Council on Teacher Quality. <https://www.nctq.org/publications/Ensuring-Students-Equitable-Access-to-Qualified-and-Effective-Teachers>
- Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education*, 80(3), 44–70.
- Mehrotra, S., Morgan, I. S., & Socol, A. (2021). *Better access to Latino student's non-novice teachers*. Education Trust.
- Mikiewicz, P. (2020). Social capital and education – An attempt to synthesize conceptualization arising from various theoretical origins. *Cogent Education*, 8(1), <https://doi.org/10.1080/2331186X.2021.1907956>
- Milner, H. R., Cunningham, H. B., Murray, I. E., & Alvarez, A. (2017). Supporting students living below the poverty line. *National Youth-At-Risk Journal*, 2(2). <https://doi.org/10.20429/nyarj.2017.020204>
- Minnici, A., Barringer, M.-D., & Hassel, B. (2016). *Time for action: Building the educator workforce our children need now*. American Institutes for Research. [https://gtlcenter.org/sites/default/files/Building\\_Educator\\_Workforce.pdf](https://gtlcenter.org/sites/default/files/Building_Educator_Workforce.pdf)
- NAEP. (2022). The Nations Report Card. <https://nces.ed.gov/nationsreportcard/>

- Nelson, J. L. (2017). Pathways to green(er) pastures: Reward bundles, human capital, and turnover decisions in a semi-profession. *Qualitative Sociology*, 40, 23–57. <https://doi.org/10.1007/s11133-016-9348-1>
- Oakes, W. P., Lane, K. L., Royer, D. J., Menzies, H. M., Buckman, M. M., Brunsting, N., Cantwell, E. D., Schatschneider, C., & Lane, N. A. (2021). Elementary teachers' self-efficacy during initial implementation of comprehensive, integrated, three-tiered models of prevention. *Journal of Positive Behavior Interventions*, 23(2), 93–105. <https://doi.org/10.1177/1098300720916718>
- Opper, I. M. (2019). *Teachers matter: Understanding teachers' influence on student achievement*. RAND Corporation. [https://www.rand.org/pubs/research\\_reports/RR4312.html](https://www.rand.org/pubs/research_reports/RR4312.html)
- Papay, J. P., & Kraft, M. A. (2015). Productivity returns to experience in the teacher labor market: Methodological challenges and new evidence on long-term career improvement. *Journal of Public Economics*, 130, 105–119.
- Papay, J. P., Bacher-Hicks, A., Page, L. C., & Marinell, W. H. (2017). The challenge of teacher retention in urban schools: Evidence of variation from a cross-site analysis. *Educational Researcher*, 46(8), 434–448.
- Penney, C. (2021, July 15). Long-term, non-certified teachers. Proximity Learning. <https://www.proxlearn.com/blog/long-term-non-certified-teacher-impact>
- Pivovarova, M., & Powers, J. (2022). Staying or leaving? Teacher professional characteristics and attrition in Arizona traditional public and charter schools. *Education Policy Analysis Archives*, 30(19). <https://doi.org/10.14507/epaa.30.6459>
- Plagens, G. K. (2011). Social capital and education: Implications for student and school performance. *Education and Culture*, 27(1), 40-64. <https://www.jstor.org/stable/10.5703/educationculture.27.1.40>
- Podolsky, A., & Kini, T. (2016). *How effective are loan forgiveness and service scholarships for recruiting teachers?* Learning Policy Institute. [https://learningpolicyinstitute.org/sites/default/files/product-files/How\\_Effective\\_Are-Loan\\_Forgiveness\\_and\\_Service-Scholarships\\_Recruiting\\_Teachers.pdf](https://learningpolicyinstitute.org/sites/default/files/product-files/How_Effective_Are-Loan_Forgiveness_and_Service-Scholarships_Recruiting_Teachers.pdf)
- Podolsky, K. A., Bishop, J. T., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators*. Learning Policy Institute. <https://doi.org/10.54300/262.960>.
- Podolsky, A., Darling-Hammond, L., Doss, C., & Reardon, S. (2019). *California's positive outliers: Districts beating the odds*. Learning Policy Institute.

- Pivovarova, M., & Powers, J. M. (2022). Staying or leaving? Teacher professional characteristics and attrition in Arizona traditional public and charter schools. *Education Policy Analysis Archives*, 30(19).  
<https://doi.org/10.14507/epaa.30.6459>
- Rice, J. K. (2013). Learning from experience? Evidence on the influence and distribution of teacher experience and the implications for teacher policy. *Education Finance and Policy*, 8(3), 332-348.
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, 50(1), 4–36.  
<https://doi.org/10.3102/0002831212463813>
- Rumschlag, K. E. (2017). Teacher burnout: A quantitative analysis of emotional exhaustion, personal accomplishment, and depersonalization. *International Management Review*, 13(1), 22–36.
- Seahorn-Dixon, A. J. (2018). *Toward educator equity: An examination of Missouri equity lab outcomes in ensuring equitable access to excellent educators*. (Publication No. 10936556) [Doctoral Dissertation, William Woods University]. ProQuest.
- Shuls, J. V., & Flores, J. (2020). Improving teacher retention through support and development. *Journal of Educational Leadership and Policy Studies*, 4(1) 1–19.
- Shuls, J. V., & Trivitt, J. R. (2015). Teacher Effectiveness: An Analysis of Licensure Screens. *Educational Policy*, 29(4), 645–675.  
<https://doi.org/10.1177/0895904813510777>
- Silva, J. P., White, G. P., & Yoshida, R. K. (2011). The direct effects of principal–student discussions on eighth grade students’ gains in reading achievement: An experimental study. *Educational Administration Quarterly*, 47(5), 772-793.  
<https://doi.org/10.1177/0013161X11404219>
- Simon, N. S., & Johnson, S. (2015). *Teacher turnover in high-poverty schools: What we know and can do*. Teachers College Record.
- Stefanski, A., Valli, L., & Jacobson, R. (2016). Beyond involvement and engagement: The role of the family in school–community partnerships. *The School Community Journal*, 26(2), 135–160.
- Strangor, C. (2011). *Research methods for the behavioral sciences* (4<sup>th</sup> ed). Wadsworth, Cengage Learning.
- Strong, M. (2012). *The highly qualified teacher: What is teacher quality and how do we measure it?* Teachers College Press.
- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States.

- Education Policy Analysis Archives*, 27(35),  
<http://dx.doi.org/10.14507/epaa.27.369>
- Swinton, J. R., & Clark, C. (2021). Do teacher credentials and characteristics affect teacher effectiveness in high school economics? *The American Economist*, 66(1), 90–109. <https://doi.org/10.1177/0569434519874471>
- Tang, K., & Estrada-Reveles, U. (2021). A collective approach to building an equitable and inclusive system that meets the needs of marginalized populations in education. *Educational Leadership and Administration: Teaching and Program Development, Special Issue 1*, 44–56.
- Tripathi, S. (2013). Is urban economic growth inclusive in India? *Margin: The Journal of Applied Economic Research*, 7(4), 507–539.  
<https://doi.org/10.1177/0973801013500135>
- U.S. Department of Education. (2016). *Prevalence of teachers without full state certification and variation across schools and states*. Policy and Program Studies Service, Office of Planning, Evaluation and Policy Development.
- U.S. Department of Education. (2023). *Eliminating educator shortages through increased compensation, high-quality and affordable educator preparation and teacher leadership*.
- Weiss, E., & García, E. (2019). The teacher shortage is real, large, and growing, and worse than we thought. *The Economic Policy Institute*, 1–19.
- Wiesman, J. (2016). Exploring novice and experienced teachers' perceptions of motivational constructs with adolescent students. *American Secondary Education*, 44(2), 4–20. <http://www.jstor.org/stable/45147971>
- Winslow, P. (2020). *Exploring teacher attrition among lateral entry novice teachers: A mixed methods study*. (Publication No. 28093593).
- Xu, D., & Fletcher, J. (2017). Understanding the relative value of alternative pathways in postsecondary education: Evidence from the State of Virginia (pp. 227–257). Chandos Publishing. <https://doi.org/10.1016/B978-0-08-101921-4.00014-2>