Increasing the Supply of Effective Teachers in High-Poverty Schools in a Heterogeneous School District: Facilitators and Constraints

By Leigh K. Kennedy

B.S. in Social Policy, June 2000, Northwestern University
M.S. in Elementary Education, June 2001, Northwestern University

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Dissertation directed by

Iris C. Rotberg
Research Professor of Education Policy

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

The Graduate School of Education and Human Development of the George Washington University certifies that Leigh K. Kennedy has passed the final examination for the degree of Doctor of Education as of December 9, 2013. This is the final and approved form of the dissertation.

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Leigh K. Kennedy

Dissertation Research Committee:

Iris C. Rotberg, Research Professor of Education Policy, Dissertation Director

Colin Green, Associate Professor of Curriculum and Pedagogy, Committee Member

Sharon A. Dannels, Associate Professor of Educational Research, Committee Member

Dedication

To my parents, for setting down the roots that make our family tree stand tall.

To my husband, for providing the sturdy branches on which I land.

And to my daughters, for inspiring me to fly high.

Acknowledgments

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Abstract of the Dissertation

Increasing the Supply of Effective Teachers in High-Poverty Schools
in a Heterogeneous School District: Facilitators and Constraints

The purpose of this study was to clarify the ways that a district used its teacher staffing and professional development policies to increase the supply of effective teachers in high-poverty schools, to determine the efficacy of these policies in the view of district administrators and teachers, and to identify the facilitators and constraints to accomplishing the district's goal. The study was conducted in a socioeconomically heterogeneous district that had instituted signing bonuses, performance incentives, and enhanced professional development in an effort to improve teacher quality in its high-poverty schools. The conceptual framework guiding this study was a model of the human capital system in schools, which illustrates that increasing the supply of effective teachers in high-poverty schools is achieved by targeting recruitment to those schools, allocating teachers to the placements where they are most needed, evaluating effectiveness and providing professional development, and retaining effective teachers. Qualitative data were collected primarily in the form of interviews with district administrators, principals, and teachers in three high-poverty and three low-poverty schools.

Results indicated that recruiting and allocating teachers to high-poverty schools were not difficult in the current economy. Results also showed that the lack of vacancies in the district was primarily due to principals' reluctance to remove marginally effective teachers, the satisfaction of teachers in low-poverty schools, and the economy overall. The lack of vacancies inhibited teacher transfers within the district. District and school-based participants held differing viewpoints about the impact of the district's

performance incentive policies on teacher retention: administrators reported that the policies had reduced teacher turnover in high-poverty schools, whereas teachers reported that turnover remained high in some schools and that the incentives were not the reason for the decreased overall turnover. School-based participants also reported that the teacher leaders and coaches were appreciated and played a key role in improving the skills of teachers in high-poverty schools. The results highlighted the role of the job market, both in teachers' recruitment and retention decisions and in the evaluation of district policies. They also underscored the limitations of value-added measures of teacher effectiveness and the policies based on them.

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CHAPTER 1:

INTRODUCTION

Purpose and Research Questions

The purposes of this study were to clarify the ways that a district's teacher recruitment, allocation, retention, and professional development policies are targeted toward the goal of increasing the supply of effective teachers in elementary schools serving low-income families; to determine the efficacy of these policies in the view of district administrators and teachers; and to identify the facilitators and constraints to accomplishing the district's goal. The study was sited in a socioeconomically heterogeneous district that had explicitly stated a goal of equalizing the quality of teaching given to students in its high-poverty schools to that of students in its highest-achieving low-poverty schools, providing an opportunity to explore the implementation of simultaneous policies that address this equity concern.

The study context was that of a socioeconomically heterogeneous district's efforts to increase the supply of effective teachers in its high-poverty elementary schools. Five research questions addressed different aspects of this effort from the perspective of district administrators, principals, and teachers:

1. In what ways are teacher recruitment policies targeted to meet the recruitment needs in high-poverty elementary schools?
2. In what ways are allocation policies for newly recruited teachers and experienced teachers targeted to increase the supply of effective teachers in high-poverty elementary schools?

3. In what ways are teacher retention policies targeted to increase the supply of effective teachers in high-poverty elementary schools?
4. In what ways are professional development policies targeted to increase the supply of effective teachers in high-poverty elementary schools, particularly in helping novice teachers adjust to the realities of teaching in high-poverty environments and in strengthening the skills of current teachers in high-poverty schools?
5. What are the facilitators and constraints, both internal and external, in achieving these goals?

Context of the Problem: Policy Background

The basic problem is that the neediest students are generally taught by the least effective teachers (Darling-Hammond, 2000; DeLuca, Takano, & Hinshaw, 2009; Feng, 2010; Fuller, 1998; Sanders & Rivers, 1996). The No Child Left Behind Act of 2001 (NCLB) attempted to address this problem by creating a policy with the goal of ensuring a "highly qualified teacher" in every classroom by the year 2014. The policy defined a "highly qualified teacher" as one who held a bachelor's or master's degree, was certified to teach in his or her subject area or currently enrolled in an alternative route to licensure program, and who passed a teacher certification exam (typically the PRAXIS II) in her subject area. No Child Left Behind was thus a federal mandate that attempted to hold all states to a common minimum standard for teacher quality. This law was a federal response to the widely different standards held by states during the mid 1990s. For example, high-standards states like Wisconsin required prospective teachers to hold degrees in their field of teaching plus advanced coursework in education theory and

practice, participate in a semester-long student teaching internship, and pass rigorous licensing exams, whereas states like Louisiana had required none of these to obtain a teaching license (Darling-Hammond, 1997).

Progress has been made in the last decade in meeting the demands of NCLB. Although no state has met the goal of having 100% of its teachers meet the highly qualified definition, states report that the vast majority of their classes are taught by highly qualified teachers, as defined by NCLB. Data from the Consolidated State Performance Report indicated that 92.2% of core academic classes in elementary and secondary schools were taught by highly qualified teachers during the 2005-2006 school year (U.S. Department of Education, 2007), and a national survey the following year found that 94% of teachers met their state's highly qualified teachers definition (U.S. Department of Education, 2009a).

There are two important caveats to this reported progress. First, each state differs in its data collection and verification processes, so these self-reported data may be inflated. As then-Secretary of Education Margaret Spellings wrote to chief state school officers: "We are concerned that the highly qualified teachers [sic] data we receive from States are not always as accurate as they should be. The Department expects States to improve their data collection processes so that accurate highly qualified teachers [sic] data can be reported both to the Department and to parents, as required by law" (U.S. Department of Education, 2007, para. 5). Second, states' highly qualified teachers are inequitably distributed: the percentage of core academic classes taught by highly qualified teachers is consistently lower in high-poverty schools than in low-poverty schools (U.S. Department of Education, 2007).

The Obama administration's education improvement plan builds on NCLB by focusing on improving both teacher quality and teacher distribution. For example, states competing for Race to the Top funds were asked to "ensure the equitable distribution of teachers and principals by developing a plan, informed by reviews of prior actions and data, to ensure that students in high-poverty and/or high-minority schools . . . have equitable access to highly effective teachers and principals . . . and are not served by ineffective teachers and principals at higher rates than other students" (U.S. Department of Education, 2009b, p. 9). In working to comply with federal and state policies regarding teacher qualifications, states and districts must create their own policies to improve overall teacher effectiveness and strengthen the allocation of highly qualified teachers to the most disadvantaged schools.

The heterogeneous district in this study is actively working to increase the supply of effective teachers in schools serving high-poverty families. The district began a teacher staffing reform program in the 2006-2007 school year called Project RADAR.[1] This program selects targeted schools based on high percentages of student poverty, persistently low student test scores, and high teacher turnover rates. It lowers student-teacher ratios in those schools. It also includes recruitment bonuses for teachers willing to accept positions in targeted schools, as well as performance pay bonuses. In addition to Project RADAR, the district was also a participant in a wholly separate national project that paid bonuses to effective teachers in low-poverty schools who were willing to accept transfers to high-poverty schools. The presence of these and other concurrent teacher staffing policies underscores the appropriateness of this district as a site to study a

[1] Project RADAR is a pseudonym. It stands for Recruitment, Allocation, Development, and Retention, the four elements in the conceptual framework for this study.

heterogeneous district's attempts to ensure that it has and keeps effective teachers in high-poverty schools.

Problem of Practice: Addressing Inequity in Teacher Quality

To create and implement policies on recruiting, retaining, and developing effective teachers, a district must first determine what measure(s) it will use as a proxy for teacher effectiveness. There are three related but distinct ways that researchers and policymakers measure teacher quality: inputs, outputs, and processes (Goe, Bell, & Little, 2008). Some researchers use *input* measures such as years of experience, PRAXIS II test scores, highest degree attained, or National Board Certification as the proxy for teacher quality (Darling-Hammond, 2000; DeLuca et al., 2009; Feng, 2010; Goldhaber & Anthony, 2004). Other researchers prefer to use *output* measures such as graduation rates or student achievement data to define teacher quality (see, for example, discussions of the Tennessee Value-Added Assessment System in Ballou, Sanders, & Wright, 2004; Sanders & Rivers, 1996). This sort of measurement forms the basis for much policymaking, as many local, state, and federal education policymakers see improving test scores as the "bottom line." Finally, teachers and teacher educators tend to view teacher quality as a measure of *processes* more than inputs or outputs. In this type of measurement, effective teaching is a set of behaviors and dispositions: the planning, implementation, and critical reflection on strong lessons that meet the needs of students (Darling-Hammond & Baratz-Snowden, 2007; Haberman & Post, 1998). Each of these proxies for teacher effectiveness has its merits and drawbacks, and no one measurement adequately encompasses the definition of an "effective teacher." This study used the participating district's definition of "effective teachers," which appeared to be based upon

teacher evaluation scores that rely heavily on value-added measures of teachers' effect on student achievement. This district's definition of "effective teachers," as well as the ways teacher effectiveness is measured and utilized in staffing decisions, was clarified by the administrator interviews in this study.

Regardless of the teacher effectiveness measure used, many districts are seeking to increase the supply of effective teachers in schools serving high-poverty families. The problem is particularly salient in heterogeneous districts where effective teachers in high-poverty schools likely have assignments in less challenging schools available to them. Heterogeneous districts face challenges in recruitment, allocation, retention, and professional development in increasing the supply of effective teachers in high-poverty schools, as described in the sections that follow.

Recruitment Challenges

Although for the most part there are ample teacher candidates, teacher shortages have existed for decades in schools located in high-poverty and rural areas (Ingersoll, 1999). During the 1990s and early 2000s, school administrators were often forced to staff these positions with underqualified teachers, such as teachers without a teaching degree or teachers with an academic major in a field other than the one in which they were teaching. School systems serving the highest percentage of poor students were most likely to employ secondary teachers in out-of-field positions (Ingersoll, 2001, 2002). No Child Left Behind has largely stopped the practice of out-of-field teaching, but some districts still struggle to recruit qualified teachers into hard-to-staff subjects and disadvantaged schools.

One way that policymakers have tried to address the teacher shortage is by making it easier to become teachers, thereby increasing the supply of novice teachers in the hiring pool. Two main strategies are used to accomplish this goal: alternative certification programs and university partnerships. Alternative certification programs provide recent college graduates with emergency teaching certificates, enabling them to begin their teaching careers while taking master's level coursework at night, and many such programs have successfully recruited career-changers and others who might not have had the desire or means to enroll in a full-time teaching program (Natriello & Zumwalt, 1993; Podgursky, Watson, Ehlert, Walker, & Foster, 2000). University-district partnership programs enable school systems and universities to collaborate to ensure that there is a match between the graduates of teacher preparation programs and the needs of the districts near them (see, for example, Newman, 2009; O'Neal, Ringler, & Lys, 2009). University-district partnerships have proven very effective at increasing the supply of qualified teachers for some hard-to-staff schools (see Andrews, Miller, Evans, & Smith, 2003; Clewell & Villegas, 2001; Hill & Gillette, 2005).

Each recruitment strategy has its disadvantages. The primary criticism of alternative certification programs is that the teachers are underprepared because they have not had a student teaching experience prior to being hired and therefore are not as good as first-year teachers who received university coursework and participated in a supervised teaching internship before becoming the teacher of record (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Darling-Hammond, Holtzman, Gatlin, & Vasquez-Heilig, 2005; Hopkins, 2009), but other studies refute these claims (Decker, Mayer, & Glazerman, 2004; Raymond, Fletcher, & Luque, 2001). The main problem with

university-district partnerships is that they are not feasible unless there is a high-caliber teaching university geographically close to a high-needs school district, which is not always the case.

Allocation Challenges

District administrators supplement the recruitment strategies for novice teachers with others aimed at assigning effective experienced teachers into positions at high-poverty schools. Allocating experienced teachers to high-poverty schools is often a difficult task. When choosing to transfer, experienced teachers tend to transfer out of challenging teaching assignments in low-income schools in favor of teaching in more affluent environments (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Ingersoll & Rossi, 1995; McCabe, 2008; Thornton, Perreault, & Jennings, 2008).

The primary strategy used to address this challenge is to provide additional monetary incentives such as alternative pay structures, bonuses, student loan forgiveness, low-interest home loans, or graduate school tuition benefits for experienced teachers willing to teach in hard-to-staff schools. These incentives have been successful in some places such as Chattanooga, Tennessee (Benton, 2004) and North Carolina (Clotfelter, Glennie, Ladd, & Vigdor, 2006), but unsuccessful in others (Archer, 2003). In practice, not all districts have the funding available to provide monetary incentives to help find qualified applicants for hard-to-staff positions. For example, the successful North Carolina program profiled in Clotfelter, Glennie, et al.'s (2006) study ended after only a few years because its external funding source ran dry. Allocating effective teachers into hard-to-staff schools and positions remains a challenge facing school districts, although

perhaps not as large a challenge as retaining those teachers once they have been hired, as discussed below.

Retention Challenges

Districts face two primary challenges when attempting to retain effective teachers in high-needs schools: the attrition of novice teachers and the mobility of experienced teachers. Put another way, new teachers often leave the profession, and experienced teachers often transfer out of high-needs schools into less challenging teaching environments (Darling-Hammond, 1997; Hanushek, Kain, & Rivkin, 2004; Ingersoll, 2002; Ingersoll, Han, & Bobbitt, 1995; Ingersoll & Merrill, 2010; Ingersoll & Rossi, 1995; Loeb, Darling-Hammond, & Luczak, 2005; McCabe, 2008; National Council for Teaching and America's Future, 2003).

The National Center for Education Statistics' Schools and Staffing Survey and Teacher Follow-Up Survey point to a revolving door in the field of education. Although there are some teacher shortages in hard-to-staff subjects, the problem is more that new teachers (i.e., those with less than 5 years in the classroom) are leaving the profession at rates of up to 50% (Darling-Hammond, 1997; Ingersoll, 2002). Teacher turnover rates are much higher in public schools that serve large populations of high-poverty families than in their low-poverty counterparts (Hanushek et al., 2004; Ingersoll & Merrill, 2010; Ingersoll & Rossi, 1995; Loeb et al., 2005; National Council for Teaching and America's Future, 2003). Although these attrition numbers may be inflated because the studies do not consider the impact of teachers who leave the classroom in favor of other nonteaching roles in education (Cochran-Smith, 2004), there is consensus that novice teacher attrition remains a serious challenge for districts with high-poverty schools.

Increasing the retention of new teachers has proven to be a challenge for school systems, particularly those that serve low-income populations. Among chief reasons for leaving, novice teachers report low salaries and undesirable working conditions, such as lack of support from administrators, class size, student discipline problems, lack of resources, and high levels of stress (Guarino, Santibanez, Daley, & Brewer, 2004; Hamilton, Berends, & Stecher, 2005; Ingersoll, 1999; Thornton et al., 2008; Woods & Weasmer, 2005). School districts face budgetary and human resource constraints that make it difficult to address these reasons for dissatisfaction.

The problem of novice teacher attrition from high-needs schools is compounded by the problem of experienced teacher mobility. Districts experience a high degree of teacher mobility; in the 1990s the majority of newly hired teachers were actually teachers who had moved into the area or who were transferring from another local school (Ingersoll et al., 1995). Furthermore, many effective teachers transfer out of more challenging teaching assignments in disadvantaged schools to teach in a more affluent school (Boyd et al., 2009; McCabe, 2008; Thornton et al., 2008; Watson, 2001).

There are nuances in research on teacher mobility that are of particular interest to those studying high-poverty schools; most notably, the experiences of teachers of color may not mirror those of their white counterparts in regard to teacher mobility. Research indicates that minority teachers are more likely to work in high-poverty schools and less likely to leave these schools than their white colleagues (Achinstein, Ogawa, Sexton, & Freitas, 2010; Hanushek et al., 2004). Although minority teachers who leave their schools report the same reasons for their dissatisfaction as teachers in general, they also complain of low expectations toward students of color and a lack of support for culturally relevant

instructional practices (Achinstein, Ogawa, Johnson, & Freitas, 2009). Furthermore, minority teachers are more likely than white teachers to consider themselves agents of change, underscoring their commitment to teaching in high-poverty schools in spite of the challenges inherent in teaching in these environments (Achinstein et al., 2010; Lewis, 2006; Su, 1997). This commitment is profound: unlike their white counterparts, minority teachers who leave their schools tend to transfer to another high-poverty school (Achinstein et al., 2010). These findings suggest that the issue of teacher retention in high-poverty schools has a cultural component that is not inconsequential to policymakers seeking to address this challenge.

Professional Development Challenges

When districts cannot recruit or reallocate effective teachers into high-poverty schools, one strategy they may employ is to provide professional development for current teachers to strengthen their skills. Pedagogical content knowledge, or teachers' proficiency in both the subjects they teach and in pedagogy to impart this knowledge to their students, is an important part of professional development efforts (Shulman, 1987). In recent years, educational researchers and theorists have added a technological component to the sets of knowledge that effective teachers should develop, resulting in an emphasis on creating professional development experiences that increase teachers' technological, pedagogical, and content knowledge and that provide them with additional instructional strategies and tools for the classroom (Mishra & Koehler, 2006).

District-based teacher professional development is also given to help novice teachers adapt to the challenging realities of teaching in high-poverty schools. Teachers come into the profession with preconceived notions about what teaching is and what

teachers do, usually based upon their own educational experiences (Haberman, 1995). These preconceptions present a problem when the realities of teaching in high-poverty schools turn out to be very different. Teachers in high-poverty schools are asked to teach to fixed standards when their students arrive with severe deficits in knowledge and skills; teach one set curriculum when their classroom includes English language learners and children from diverse cultures; give meaningful homework to students who lack parental supervision; communicate with families in spite of language or cultural barriers; maintain control when there is a lack of school discipline; and work in a place with insufficient instructional resources, dilapidated facilities, and/or inexperienced school administrators and staff (Haberman, 1995).

This incongruence leads to teacher dissatisfaction by negatively affecting both teachers' morale (Abrams, 2004; Hamilton et al., 2005) and teachers' efficacy (Firestone et al., 2002). One way that districts can address teacher dissatisfaction is by providing professional development opportunities that help them adapt to these challenges and become effective teachers in spite of them. In disadvantaged schools, this often means teaching educators how to diagnose the needs of students performing far below grade level, seek strategies to address these needs, and find the necessary supports to reach students who have previously been unsuccessful (Darling-Hammond & Baratz-Snowden, 2007). It also means providing teachers with context-specific training in multiculturalism (Delpit, 1995; Dilg, 1999; Nieto, 1999; Paley, 2000) and differentiated instruction (Tomlinson, 2001). Failure to adequately address factors leading to teacher dissatisfaction in high-poverty schools can result in burnout (Haberman, 1995; Rosenholtz, 1989).

Problem of Research

Although many studies address the issues of teacher recruitment, allocation, retention, and professional development, few studies bring these topics together to study a comprehensive district-based strategy to increase the supply of effective teachers in schools serving high-poverty families. Moreover, few studies address any of these issues in the context of a heterogeneous district, wherein teachers presumably have easy opportunities to transfer to a teaching assignment in a lower-poverty school. This study therefore contributes to the literature by analyzing one heterogeneous school district's strategy to address these issues, with the goal of assuring an equitable distribution of effective teachers across schools.

Another problem with the existing literature is that it is founded upon studies conducted in response to outdated federal education policy. Currently, most states have complied with the basic regulations outlined in NCLB and are now focused on modifying their accountability policies to match the requirements of Race to the Top to secure additional federal funding. Districts are considering new programs to secure federal funding through School Improvement Grants or the Teacher Incentive Fund. Put simply, the policy context has shifted, and existing research has not yet caught up. This study was conducted at the cusp of this new era in education policy, providing early insight into the issue of attracting and retaining effective teachers in high-poverty schools within this new policy context.

Overview of Conceptual Framework

At its core, this study examined a serious equity concern in education: the equal distribution of effective teachers between affluent and poor children. The philosophical

underpinnings for this topic are found in the scholarship on social justice. Social justice in education is based upon the notion that "educational leaders have a social and moral obligation to foster equitable school practices, processes, and outcomes for learners of different racial, socioeconomic, gender, cultural, disability, and sexual orientations backgrounds" (Jean-Marie, Normore, & Brooks, 2009, p. 4). The fact that poor children are generally taught by the least effective and/or least qualified teachers is at odds with the philosophical position toward social justice, and it is this incongruence that led to the study's research questions.

The conceptual framework that guided this study was adapted from a study of one North Carolina school district conducted by researchers at Harvard University. In this study, Fullerton (2009) argued that a district's efforts to address inequity in teacher distribution can be informed by a theoretical model of the human capital system. [2] The adapted model is illustrated in Figure 1 below.

The human capital system in school districts is a continual process of recruiting teachers, allocating them to appropriate teaching placements, developing their skills and evaluating their effectiveness, then retaining those who prove effective and dismissing those who do not. This framework provided guidance to this study by clarifying the relationships between the different processes involved in increasing the supply of effective teachers in high-poverty schools and by providing a conceptual map that was specific to the goals and related to the policy initiatives of heterogeneous school districts attempting to increase the supply of effective teachers in high-poverty schools.

[2] This model was adapted from "A Model for Examining the Human Capital System," a conceptual framework employed by Dr. Jon Fullerton of the Center for Education Policy Research at Harvard University in a study of the Charlotte-Mecklenburg Schools. Dr. Fullerton's original model used slightly different terminology and included a loop back to recruitment, indicating that unsuccessful teacher retention efforts require the process to start over.

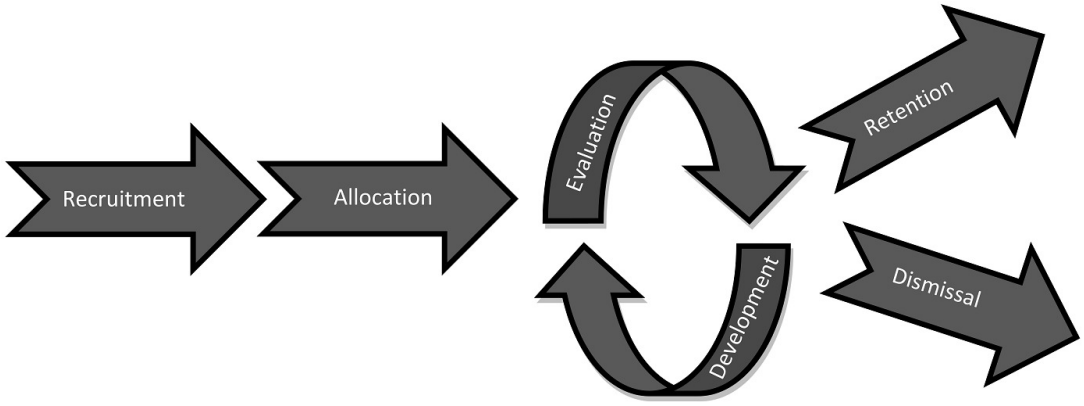

Figure 1. The human capital system in schools. This flow chart illustrates the process that underlies the district's attempts to increase the supply of effective teachers in high-poverty schools.

This study built upon the study from which its conceptual framework was taken. Fullerton (2009) used descriptive statistics to answer questions about how a district's teachers were recruited, how they were allocated to classrooms, how their teaching skills were measured and developed over time, and which teachers remained in the classroom and district. One of the main findings of the study was that in spite of the district's stated goal of equalizing teacher quality across the district, experienced and higher-credentialed teachers were inequitably concentrated in the lowest-poverty schools. Because it was a descriptive statistical study, it did not investigate why the inequity in teacher distribution persisted, and it was devoid of teachers' and administrators' voices and perspectives. This study built upon Fullerton's study by giving teachers and administrators a voice in answering questions about the effectiveness of their district's policy initiatives that support the goal of increasing the supply of effective teachers in high-poverty schools, as well as facilitators and constraints to accomplishing this goal.

Significance of Study

This research was designed to provide information for district-level policymakers seeking to respond to the issue of inequity in teacher distribution. Many districts across the United States house both affluent schools and high-poverty schools, and research has shown that the students in the highest-poverty schools frequently have the least-effective teachers (Darling-Hammond, 2000; DeLuca et al., 2009; Fuller, 1998; Sanders & Rivers, 1996). The needs in high-poverty schools are great; rather than focus on education problems one by one, as researchers do, district leaders are forced to address multiple issues and implement multiple policies at the same time. This study acknowledged this contextual reality and was designed to contribute to an understanding of the ways that concurrent and complementary teacher staffing policies help a heterogeneous district meet its goal of ensuring effective teachers in high-poverty schools.

This study was of particular interest to the study district itself, illuminating the successes and shortcomings of its own policies toward the goal of ensuring that effective teachers are matched with the neediest students. Although this study was not intended to be an evaluation of any particular program or set of policies, the results informed the district about its progress in meeting the equity goals set out by its own strategic plans. To the extent that the research showed that the district's policies were not adequately addressing the issues of recruiting and retaining effective teachers in high-poverty schools, it provided the district with an opportunity to review and revise these policies. Conversely, to the extent that the results indicated that the policies were succeeding, it provided information to help administrators advocate for maintaining these policies and sustaining the programs that support them.

This study contributed to a growing literature base on the topic of teacher quality in high-poverty schools. Many districts are working to improve the quality of teaching provided to students in high-poverty schools, and these districts' efforts are the topic of much current education research. By examining the impact of concurrent policies in recruitment, allocation, retention, and professional development on ensuring an adequate supply of effective teachers in high-poverty schools, I approached the teacher quality topic with a broad lens so that the interplay between policies that address multiple teacher staffing issues at the same time could be illuminated. This broad lens contributed to the research conversation by providing administrators' and teachers' perspectives on the facilitators and constraints to increasing the supply of effective teachers in high-poverty schools. When combined with other studies on this topic, this study helped present a more complete picture of districts' efforts to improve the quality of teaching provided to children in high-poverty schools.

Overview of Methodology

To research this topic, I conducted a qualitative interview study of a large district in the southeastern United States that includes both affluent and high-poverty schools. This district was purposefully chosen due to its current focus on increasing the supply of effective teachers in schools serving large populations of students from low-income families. Although several other districts in the country were also experimenting with teacher staffing policies to improve teacher quality in high-poverty schools, this particular district was selected because its Project RADAR policies addressed each of the four domains of this study's conceptual framework: recruitment, allocation, professional development, and retention.

I answered the research questions by interviewing district administrators, principals, and teachers and by collecting and analyzing documentation of the district's efforts. Purposeful sampling was used to select four district-level administrators whose position or area of expertise enabled them to best answer the research questions. Documents describing any policies or programs mentioned by these district personnel were solicited. Three high-poverty and three low-poverty elementary schools were chosen using a stratified sampling method. The high-poverty schools were selected from among the schools targeted for Project RADAR, and the low-poverty schools were selected from among schools with less than 40% of their students eligible for free and reduced lunch. Selecting school participants in this way ensured that both teachers who were eligible for the recruitment and performance incentives and teachers who opted not to take advantage of these incentives would be included in the study, to provide balanced and informed answers to the study's research questions. Within the schools chosen, the principal and five teachers were purposefully selected to be interviewed. Both novice teachers and experienced teachers were included in the sample, with preference given to teachers who were eligible for the district's staffing incentives. All interviews were semistructured, using an interview protocol that included primary questions, follow-ups, and probes.

The interview and documents were analyzed using attribute and structural coding (Saldaña, 2009), followed by descriptive and pattern coding (Miles & Huberman, 1994). The Atlas.ti program was used to help organize and sort the data, and analysis matrices and networks were created to help ensure that the data were interpreted reliably and that they were adequately answering the research questions. The results are presented in both

narrative and graphic formats to demonstrate the richness and trustworthiness of the data. More details about this study's methodology are found in chapter 3.

Limitations

Like all research studies, this study had several methodological delimitations and limitations. The study was delimited by the narrow inclusion of participants dictated by the research methodology. First, the study population included district administrators, principals, and teachers from only one school district, and therefore the results are not generalizable beyond this unique population. Second, the study was delimited by the selection of study participants from within the population; the research included interviews with a sample of respondents from low-poverty and high-poverty schools. Last, the sample taken from this population was narrowed further by teachers' and principals' willingness to participate in a research study.

This study was limited in that it was not able to determine any causal relationships between the study variables due to the absence of random assignment in school districts' staffing procedures. Furthermore, the implications of qualitative interview study findings are limited in scope. It is not prudent to use such limited data to make broad generalizations to the population at large, and this study did not purport to do so. It will be up to the reader to determine the similarities between this study context and others, and to ascertain whether any of the study implications might apply elsewhere.

Potential Subjectivity

In research with a constructivist epistemology, such as this study, the issue of subjectivity is complex. Subjectivity in qualitative research is unavoidable because it is

built into the paradigm: a qualitative researcher's intent is to uncover and interpret the subjective experience of the participants within their social context. This type of research therefore introduces the potential for double bias: the subjective interpretations of the study participants and those of the researcher conducting the study. Qualitative researchers address this issue by taking steps to ensure that the participants' viewpoints are accurately captured in the research and by increasing the transparency of the analytic process in an effort to acknowledge the researcher's bias and allow it to be challenged. In this study, I closely followed established procedures for developing interview protocols and for coding and analyzing qualitative data (Miles & Huberman, 1994; Saldaña, 2009), used audio taping and exact transcriptions to ensure participants' words and thoughts were captured accurately, and consulted with the dissertation committee members to enhance and strengthen preliminary study findings.

An important aspect of qualitative researchers' efforts to acknowledge subjectivity is to honestly and transparently explore their personal relationship to the study topic and the ways that this relationship may have influenced the study questions and hypotheses (Merriam, 1998). Doing so reveals the lens through which the researchers construct their interpretations of the data. I am a former urban elementary and middle-school teacher and a university-based supervisor of student teaching interns in an urban district and therefore hold my own hypotheses about what works well in high-poverty schools.

With respect to teacher recruitment and allocation, my experience in universities and schools aligns with the research that suggests that the majority of newly hired teachers in high-poverty schools also tend to be new to the profession. Although teachers

do transfer schools within a district, the trend is for teachers to seek a less-challenging assignment. I therefore hypothesized that a heterogeneous district would find it unusual for effective teachers in low-poverty schools to willingly transfer to high-poverty schools.

With respect to teacher retention, my experience suggests that a district's emphasis on improving the teaching environment in high-poverty schools is very related to teachers' willingness to stay in these classroom assignments. Among the student teachers that I supervised while working for a teacher preparation program were several who switched schools after their first year of teaching. These teachers were working in a homogeneous high-poverty district; they switched schools not to make changes in their student population, but to seek a more supportive teaching environment. Their experience underscores the point that the teaching environment matters greatly in teachers' willingness to remain in their classroom assignments. I hypothesized that the study district's most effective retention policies for high-poverty schools would be the ones that address the challenges teachers face and make these schools more appealing places to work.

With respect to teacher professional development, I believe that the best professional development programs are designed specifically for the participants' goals and teaching context. When I was a first- and second-year teacher in an inner-city district, I participated in a university-based induction and mentoring program specifically for teachers in disadvantaged schools, which proved to be the most valuable professional development I ever received as a teacher. As such, I value induction and mentoring programs that focus specifically on the context of teaching in high-poverty schools, and I expect that to the extent that such programs exist in the district under study, they would

be an important aspect of a district's comprehensive teacher professional development plan.

Although personal experience in the topic under study can sometimes lead to a lack of research objectivity, it also alerts the researcher to nuances in the topic that might otherwise have been missed and provides an informed perspective that enriches the research questions and data analysis. I used my personal experience to increase the pertinence and validity of the interview protocol. Furthermore, I made every effort to examine my hypotheses and emerging findings through periodic evaluation of the relationship between the findings and the human capital model used as the conceptual framework for this study. In selecting the human capital model as the conceptual framework for this study, I sought to add teachers' and administrators' voices and perspectives to the understanding of the processes illustrated in that framework. Doing so required that I have enough self-awareness to feel confident that my interpretations of the participants' viewpoints were true to the context and not unduly colored by my own opinions. At times in the data analysis, it became evident that different groups of participants disagreed with one another. This disagreement provided a particularly good opportunity to examine my interpretations because I had to set aside any value judgments I might have and thoroughly explore the perspectives of each side so that I could understand how the context led to these different understandings of the same phenomenon. In the end my subjectivity proved to be an asset because it allowed me to hold multiple viewpoints at the same time and then come to an understanding of the situation using an outsider's lens that was broader than that held by any one participant.

Overview of Dissertation

This dissertation is organized into five chapters. This first chapter presented a foundation for the study. It identified the challenges that school districts face when attempting to recruit, allocate, retain, and provide professional development to teachers serving disadvantaged student populations. It described the purposes of the study: to clarify the ways that a district's teacher recruitment, allocation, retention, and professional development policies are targeted toward the goal of increasing the supply of effective teachers in elementary schools serving low-income families; to determine the efficacy of these policies in the view of district administrators and teachers; and to identify the facilitators and barriers to accomplishing the district's goal. It then delineated the research questions, introduced the conceptual framework of the study, and outlined the significance of the study to key stakeholders. Finally, it provided an overview of the study methodology and its limitations.

The remainder of this study is organized into four chapters, followed by a reference list and appendices. The second chapter provides an overview of the conceptual framework and the relevant literature on teacher quality, recruitment, allocation, retention, and professional development, organized by the research questions. Chapter 3 describes the methodology used, including the paradigm of inquiry, study design, population and sample, procedures for data collection and analysis, efforts to promote quality, and ethical considerations. The fourth chapter presents the findings for each of the research questions. Chapter 5 includes interpretations of the study findings, conclusions, and implications for policy and further research.

CHAPTER 2:

LITERATURE REVIEW

This chapter describes the conceptual framework and presents a review of the literature relevant to this study. The review of existing literature begins with a description of the context, highlighting evidence of the shortage of effective teachers in high-poverty schools. It then presents literature relevant to the four topics in the conceptual framework: (a) teacher recruitment, (b) allocation of teachers, (c) teacher retention, and (d) teacher professional development. Because these topics are broad and the related literature vast, this literature review is limited to a discussion of these topics as they relate to the goal of increasing the supply of effective teachers in high-poverty schools. Within each topic, this review presents literature on the background and on the facilitators and constraints that districts face when attempting a policy response to the issue.

In searching for literature for this review, I primarily utilized education databases (e.g., ERIC, ArticlesPlus) and placed an emphasis on peer-reviewed journal sources (e.g., *American Educational Research Journal, Educational Researcher,* and *Education and Urban Society*) and on reports from respected education policy institutes (e.g., the National Center for Analysis of Longitudinal Data in Education Research [CALDER], the Consortium for Policy Research in Education [CPRE], and the National Bureau of Economic Research [NBER]). Because the policy context for this study began with the push for highly qualified teachers in the No Child Left Behind (NCLB) Act of 2001, preference was given to studies in the past 12 years. The search also included periodicals such as *Phi Delta Kappan* and *Education Week*, especially because they could provide related news stories on the study district.

In determining which studies warranted inclusion in this literature review, I looked at several types of literature and evaluated each piece both on its own merits and on its contribution to the discussion of my dissertation topic. I gave preference to empirical studies; that is, studies with research questions related to my topic that followed the scientific method and that employed established research methods for collecting, analyzing, and presenting the data. I did not have a preference for either quantitative or qualitative studies, and both are represented in the sections that follow. I evaluated the quality of quantitative studies by looking at sample size and representativeness, construct validity, appropriateness of the data analysis, and whether the conclusions were justified given the findings. I evaluated the trustworthiness of qualitative studies by the richness of data presented in the findings. In addition to empirical studies, I also included journal articles, meta-analyses, and literature reviews that could provide succinct overviews of related topics or that provided the historical context for a topic's evolution in the literature. I evaluated the merits of this sort of literature by following the trail they laid out, often seeking the original sources mentioned in them. Finally, this literature review also contains a few newspaper articles that highlight interesting and relevant programs and policies, which were included when empirical studies of these programs and policies were unavailable.

Methodological Concerns in Existing Research

The existing research on the topics in this dissertation includes a variety of methodologies, each with its own set of limitations. The quantitative studies presented in this review primarily used either longitudinal databases of student achievement and teacher information (e.g., Beteille, Kalogrides, & Loeb, 2009; Boyd et al., 2009;

Clotfelter, Ladd, & Vigdor, 2007, 2010) or survey data (e.g., Abrams, 2004; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Donaldson, 2008; Ingersoll, 2002; Petty, Fitchett, & O'Connor, 2012). Some survey studies had low response rates and/or data disaggregation techniques that bring their validity into question. Abrams (2004), for example, utilized a national survey with a response rate of only 35% and then disaggregated the data further to compare Florida to other states. Because the sampling plan of the national survey may not have taken this disaggregation into account, the study's results should be interpreted cautiously.

Studies using large sets of quantitative data, such as the national Schools and Staffing Survey or the longitudinal databases in states such as North Carolina and Tennessee, may have missed nuances in the data that occur from the individual contexts of districts and schools. Clotfelter, Ladd, Vigdor, and Wheeler (2006), for example, ranked the schools in North Carolina by free and reduced lunch rate and placed them into quartiles, with the lowest quartile being used to define the "highest-poverty schools." Because quartiles are relative measures, they obscure the absolute poverty threshold. The authors did not discuss the actual distribution of poverty across the schools in the state, so it was difficult to know whether this definition of "highest-poverty" accurately reflected all schools with large populations of students under the poverty line or whether it might have underestimated the inequity in teacher quality distribution across school poverty levels. The problem of using quantitative data in a way that obscures the context was also evident in a study by Pedulla et al. (2003), which used a national quantitative data set to compare states with high-stakes accountability policies for schools and students. These comparisons are only as strong as the comparability of each state's student assessments.

It is likely that some states' tests are harder than others, thereby weakening comparisons about the corresponding accountability policies. Furthermore, due to the time and expense of longitudinal and/or large-scale education research, these data sets are not compiled very often and therefore many studies using them base their conclusions on outdated data. The Schools and Staffing Survey was last conducted in 2007-2008, prior to the Race to the Top initiative and other priorities in the current political context.

Moreover, all quantitative studies that deal with teacher quality are limited because even the most sophisticated statistical models fail to adequately incorporate all of the variables that go into measuring teachers' impact on student learning. The use of value-added measures of teacher effectiveness has been called into question because the reliability of teachers' scores is low across methodological approaches. For example, Papay (2011) found that teachers' value-added scores differed depending on which of three tests were administered, underscoring the idea that value-added teacher assessments are only as strong as the appropriateness of the student assessment being used. Briggs and Domingue (2011) re-examined teacher and student data from the Los Angeles Unified School District using a statistical value-added model less prone to bias than the one originally used by the district and found that the new model yielded very different results of teachers' performance. These results have serious implications for teachers, who may be subject to sanctions for underperformance even though the district was using an inadequate measurement tool. Studies that use value-added measures of teacher effectiveness to draw conclusions about policy implications should therefore be viewed with caution (e.g., Beteille et al., 2009; Goldhaber, Gross, & Player, 2009; Jackson,

2010). As Bryk et al. (2010) wrote, "A lack of good measures of teacher quality poses a general problem for both research and school practice" (p. 201).

The qualitative studies in this literature review are primarily case studies (e.g., Achinstein et al., 2009; Costigan, 2005; DeArmond, Gross, & Goldhaber, 2010; Sisk-Hilton, 2009; Whitford & Smith, 2010). Like all case studies, the results they present are so inexorably linked to their contexts that generalizations to the field of education as a whole are inappropriate. For example, Sisk-Hilton's (2009) case study of a collaborative inquiry group of teachers concluded that the professional development was successful in improving teachers' science instruction and provided interesting conclusions about the tensions teachers struggle with as this sort of professional development is implemented, but had the same study been conducted with a different group of teachers with different dispositions and skills, the level of success and the specific tensions may not have been the same.

Other qualitative studies did not contain adequate descriptions of their analytical frameworks or data analysis plans to enable the reader to judge their validity. For instance, in the Scheurich (1998) study of excellent schools with minority student populations, the researcher derived a theoretical model from his experience researching such schools over time without describing the process he used to arrive at his conclusions. The study read like a combination of multiple case study and grounded theory research, but neither those nor any other specific methodology was mentioned.

Finally, some of the qualitative studies presented in this literature review obscure the role of the researcher with that of a leader or project director (e.g., Fry, 2010; McDuffie, 2009). McDuffie (2009) was a participant in the collaborative inquiry team she researched. Although the author reflected that her "equal and complementary status"

on the learning team was a benefit to the study, her stake in having the project succeed limited her objectivity as a researcher (p. 65). In other studies, such as those of Sparks and Hirsch (1997) and Achinstein et al. (2009), the relationship between the researchers and the case study was unclear. Vignettes and interview data were presented without a clear description of the research design and the researcher's role.

The dual role of researcher and leader was also true in the program descriptions and evaluations (e.g., Kennedy & Shiel, 2010; Martin & Taylor, 2009), some of which would not qualify as empirical research. It is also worth noting that not all of the program evaluations presented in this literature review were equal in methodological validity or rigor. Chesley (2010), for example, presented a superintendent's viewpoint on the value of the university partnership with his district without including much substantiation for his claims. Gebhard and Willet (2008) provided evidence of one partnership's success in the form of an example vignette that was compelling but left questions about how representative it was of the program as a whole. In spite of the methodological problems in much of the program evaluation literature on university-district partnerships, studies such as these were included in this review alongside more empirical research to show the strength of the consensus[3] that these programs are valued by multiple stakeholders and play a role in teacher recruitment. Although the success of innovative programs is worthy of attention and much can be learned from them, it is also important to remember that educational programs are rarely studied with a comparison group that would enable the reader to attribute student gains to the program itself.

[3] This consensus raises a concern about publication bias. Peer-reviewed journals do not often publish program evaluations, so the available literature on university-district partnerships may not have undergone the level of academic scrutiny of the other topics presented in this chapter. Furthermore, because programs are unlikely to pursue publication when evaluation results are not favorable, the available literature may be skewed toward the positive.

All studies have methodological issues and limitations. Those with egregious methodological problems were not included in this literature review at all, but the inclusion of a study does not indicate that it should be accepted at face value. The aforementioned methodological concerns should be kept in mind while reading the sections that follow. The studies included in this chapter, in spite of their limitations, add to the understanding of the research base on the study's conceptual framework, policy context, and research questions.

Conceptual Framework

A district's efforts to address inequity in teacher distribution can be informed by a theoretical model of the human capital system. This human capital system in school districts is a continual process of recruiting teachers, allocating them to appropriate teaching placements, developing their skills and evaluating their effectiveness, and retaining those who prove effective (Fullerton, 2009). This process, illustrated earlier in Figure 1, forms the conceptual framework for this study. The purpose of this study was to delineate the ways that these strategies were combined by one district to improve teacher quality for high-poverty schools and the facilitators and constraints to doing so.

The concept of teacher recruitment refers to the strategies that districts use to hire the best available teachers for open teaching positions. Teacher recruitment studies use survey data to identify hard-to-staff teaching positions and describe the recruitment efforts and incentives given to teachers who accept these positions. Some of these studies focus on particular subject-area shortages, such as those in secondary science, mathematics, special education, or English as a second language (e.g., Cavallo, Ferreira, & Roberts, 2005), whereas others focus on geographic characteristics such as schools in

rural areas or those serving urban and disadvantaged neighborhoods (e.g., Clewell & Villegas, 2001; Thompson & Smith, 2005). This study falls more in the second category, focusing on the issue of recruiting the best available teachers for the neediest students in a heterogeneous district.

The concept of teacher allocation refers to the policies and practices that districts use to place recruited teachers into positions in high-poverty schools. Teacher allocation literature is often a subset of the recruitment and retention literature mentioned above and may also be found within inquiries into teacher supply and teacher labor markets. Studies in these areas typically contrast the characteristics of teachers in high-poverty schools with those in low-poverty schools (Boyd, Lankford, Loeb, & Wyckoff, 2002; Clotfelter et al., 2007) and examine the efficacy of policies such as incentives or alternative pay structures on districts' ability to place and retain teachers in high-poverty schools (Clotfelter et al., 2010; Figlio, 2002; Hanushek, Kain, O'Brien, & Rivkin, 2005; Milanowski, 2007). This study focused specifically on a heterogeneous district's staffing policies targeted toward placing effective teachers in high-poverty schools.

The concept of teacher retention refers to the need to eliminate the "revolving door" of teachers entering and quickly leaving the profession. Studies in this area typically used data from the Schools and Staffing Survey and Teacher Follow-Up Survey conducted by the National Center for Education Statistics (NCES) to illuminate the characteristics of schools most affected by teacher attrition and the characteristics of teachers that leave or stay (Ingersoll, 1999, 2001, 2002). Other studies built on Ingersoll's work by analyzing the attrition and mobility of subgroups of teachers, such as teachers of color (Achinstein et al., 2009; Kearney, 2008) or teachers who began their careers

through alternative certification (Darling-Hammond et al., 2005). This study narrowed the broad topic to look specifically at the facilitators and barriers to retaining effective teachers in needy elementary schools within a heterogeneous district.

Although the topic of teacher professional development forms a large umbrella, this study focused specifically on the professional development opportunities provided to teachers in disadvantaged schools. In this study, professional development refers to the policies and programs that help teachers adapt and succeed in challenging teaching environments. An unsatisfactory teaching environment is the top reason for teachers' attrition out of high-poverty schools (Ingersoll, 2001); however, some high-poverty schools are appealing places to teach and do not experience high rates of attrition (Loeb et al., 2005; Scheurich, 1998). Moreover, even apart from issues of retention, teachers are more effective if they find the teaching environment appealing (Jackson, 2010). Some districts have begun to pair recruitment and retention incentives with professional development on adapting to the context of teaching in high-poverty schools so that teachers placed there will want to stay (Sawchuk, 2010). This study sought to clarify the use of professional development toward the goal of increasing the supply of effective teachers in high-poverty schools.

Context: The Shortage of Effective Teachers in High-Poverty Schools

In the 1980s and early 1990s, the education community spoke generally about "the teacher shortage," but by the late 1990s research by Ingersoll (1997) and others had revealed that there were not general teacher shortages, but rather shortages of qualified teachers for specific positions in specific places. The shortage of teachers in the United States is disproportionally centered in high-poverty areas and in hard-to-staff subjects

such as special education, science, and math. Drawing from multiple sources of localized and national survey data in his meta-analysis of teacher shortage studies, Howard (2003) found that the teacher shortage in California was so severe that 1 in 7 teachers were teaching on an emergency credential. The study revealed that teacher shortages were more pronounced in high-poverty districts, finding that more than 80% of high-poverty districts hired noncertified teachers to fill teaching vacancies. Although the policy context has changed since the data for that study were collected, and the highly qualified teacher provisions of NCLB have required districts to stop the practice of hiring unqualified teachers, a shortage of qualified teachers persists in high-poverty areas (Brackett, Mundry, Guckenburg, & Bourexis, 2008; Plattner, 2008). The teacher shortage persists in the southeastern United States, the region for this study. For example, the Southeast Center for Teaching Quality (2001) reported that North Carolina has a larger-than-average need for new teachers due to the large number of teachers nearing retirement age there. It estimated that the state would need close to 80,000 new teachers by the year 2010. By the time of this study, those overall staffing needs had largely been met. The only areas of teacher shortage in North Carolina at the time of this study were in special education at all levels, secondary science, and secondary mathematics (U.S. Department of Education, 2013).

There is significant overlap between the literature on the teacher shortage and the literature on teacher quality. This overlap is important to the context of this study because in heterogeneous districts the problem is not just one of attracting teachers overall but of attracting the *best* available teachers to teach the neediest student population. In a summary of research on the teacher labor market, Loeb and Reininger (2004) reported

that “there is a systematic sorting of the least qualified teachers into schools with the highest minority enrollments, largest low-income enrollments, and the most academically disadvantaged students” (p. 4). The authors also noted that much of the difference in teacher quality occurs within large districts. Research from Clotfelter, Ladd, et al. (2006) concurred, finding that the phenomenon of experienced teachers self-selecting into the lowest-poverty schools was most pronounced in large districts across the state of North Carolina. The researchers used a longitudinal data set from 1999 to 2004 that contained descriptive statistics on teacher and school characteristics across the state to examine how teacher qualifications varied across different school poverty levels and how these variations had changed over time. They found that teachers in the highest-poverty schools had disproportionately high numbers of novice teachers, teachers who attended noncompetitive undergraduate institutions, and alternatively licensed teachers, and a disproportionately low number of National Board Certified Teachers.

When education researchers speak of “teacher quality,” they generally employ measures such as teacher qualifications, years of experience, or effectiveness scores using value-added models. Research examining the correlation between teacher qualifications, such as teachers’ scores on state licensing exams and whether teachers hold a teaching certificate and/or a master’s degree in education, and student achievement is prevalent, but does not yield adequate answers about which teacher characteristics might consistently result in higher student test scores in high-poverty schools. Many studies found positive teacher effects on student achievement (e.g., Darling-Hammond, 2000; Greenwald, Hedges, & Laine, 1996; Goldhaber, 2002; Goldhaber & Brewer, 1996; Hanushek, Kain, & Rivkin, 2001; Nye, Konstantopoulos, & Hedges, 2004), but the

results fell short of causally linking particular teacher traits to increased student achievement. This lack of causality has led to the current consensus among researchers that teachers are the most important school-related factor related to student achievement,[4] but that we do not yet have an adequate proxy for measuring teacher effectiveness (Goldhaber & Hansen, 2010).

There is a body of research looking at the relationship between student achievement and teachers' years of experience. Findings in this area suggest that novice teachers are not as effective as their more experienced counterparts, although these differences disappear after the first 5 years of teaching (Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007; Clotfelter et al., 2007). Using a statewide data set from Texas to examine achievement gaps in four cohorts of students from 1999 to 2002, Hanushek and Rivkin (2008) found that students in high-needs schools were most likely to be taught by teachers with less than 5 years of teaching experience, and that having inexperienced teachers contributed to the widening of achievement gaps between groups of students during the elementary school years. Similarly, DeLuca, Takano, and Hinshaw's (2009) examination of the eight largest urban districts in Ohio found that teacher salaries were inversely correlated with the poverty level of the students. Because teacher salaries are generally a function of a teacher's years of experience and education level, this result shows that the neediest students continue to be taught by the newest and least qualified teachers.

[4] This oft-repeated phrase has its origin in the earliest studies of teacher value-added metrics. Sanders and Rivers (1996), for example, found that students of similar background and initial academic achievement had very different outcomes depending on the sequence of teachers to which they were assigned, and they concluded that the "teacher effect" was the most salient factor explaining students' performance.

The limitation of using qualifications and experience as proxies for teacher quality is that these measures are unable to truly isolate teacher effects from extraneous variables (in particular, students' background) because neither teachers nor students are randomly assigned to classrooms. To get away from this limitation, current research on teacher quality is trending toward the use of value-added models to measure and reward effective teaching. The use of statistical value-added models of teacher effectiveness was pioneered by the Tennessee Value-Added Assessment System, which used the measures to provide monetary rewards to teachers who scored well (Sanders & Rivers, 1996). Value-added models use students' prior achievement as a covariate, further strengthening the causal relationship between teachers' value-added scores and student achievement (Braun, 2005), and the models have been modified over the past several years to include stronger statistical controls for student background and test measurement error (Milanowski, 2011). Some of the research using value-added modeling has revealed that the variation in teacher quality is as great within districts as it is across them (Choi, 2010; Loeb & Reininger, 2004) and is larger within high-poverty schools than low-poverty schools (Nye et al., 2004). Furthermore, even when student background is statistically controlled for, teachers' value-added scores are negatively correlated with the proportion of their students who are English language learners (ELLs) and/or eligible for free and reduced lunch (Newton, Darling-Hammond, Haertel, & Thomas, 2010), indicating either that high-poverty schools continue to be staffed with less-effective teachers than their counterparts elsewhere or that teachers in high-poverty schools are disadvantaged in the value-added metric, or both. Research using value-added models has also illuminated that high-poverty schools are further disadvantaged by the marginal effects of teacher

characteristics; that is, the payoff to increases in teachers' level of experience is lower in high-poverty schools than low-poverty schools (Sass, Hannaway, Xu, Figlio, & Feng, 2010).

The research on value-added models in high-poverty schools is particularly salient because education policy is also heading in this direction: states competing for Race to the Top funding were required to link student test scores back to individual teachers and use these scores as a significant factor in evaluating teachers (U.S. Department of Education, 2009b). This part of Race to the Top represents a major change in federal education policy because it shifts the teacher quality discussion from one of teacher qualifications (i.e., the "highly qualified teacher" requirements in NCLB) to one of teachers' measureable impact on student achievement. The state involved in this study, North Carolina, was designated a recipient in Race to the Top and was allocated a substantial sum of federal stimulus money (U.S. Department of Education, 2010). Like the 11 other states that won a Race to the Top grant, the state is still implementing the reforms and programs in its grant proposal. The most current report on North Carolina's Race to the Top progress lauded its successes in revising the statewide teacher evaluation system to include value-added teacher effectiveness scores and to make these scores publicly available at the school and district levels (U.S. Department of Education, 2013).

Although federal education policy places great emphasis on value-added models, local education policymakers recognize that just as teaching involves a wide variety of approaches, so too must the measurement of teacher effectiveness. Value-added models provide important information about teachers' impact on student achievement, but they are often unstable from one year to another (Goldhaber & Hansen, 2010; Newton et al.,

2010) and lack validity for teachers in nontesting grades, teachers of students with disabilities, and teachers who work in collaborative teams (Holdheide, Browder, Warren, Buzick, & Jones, 2012; Valli, Croninger, & Walters, 2007). Staiger and Rockoff (2010) described value-added models as "noisy measures [that] can be thought of as having a reliability in the range of 30 to 50 percent" (p. 98). States' and districts' use of value-added models therefore typically comprise only a portion, not a majority, of a teacher's evaluation. The rest of the evaluation includes more traditional metrics (e.g., observation, portfolios) aimed at comparing a teacher's performance against a set of established professional standards. Just as value-added models have improved over time, the use of more advanced protocols for teacher observations and interrater reliability training for those who perform them have improved the reliability of non-test-score–based measures of teacher effectiveness, bringing them to greater correlations with value-added models (Graham, Milanowski, & Miller, 2012; Kane & Staiger, 2012; Sartain, Stoelinga, & Brown, 2011; Tyler, Taylor, Kane, & Wooton, 2010). A general consensus has emerged among education researchers that given the limitations of each metric used in evaluating and incentivizing teacher effectiveness, an approach that incorporates multiple measures is prudent.

The state and district in this study employed multiple measures of teacher effectiveness. North Carolina's revised statewide teacher evaluation system expanded its definition of an effective teacher to include one who rates proficient or better on the five standards for education professionals[5] *and* one whose students' growth meets

[5] The five standards of teacher professional competency in North Carolina's teacher evaluation system include demonstrating leadership, establishing a respectful environment for a diverse population of students, knowing the content, facilitating student learning, and reflecting on practice.

expectations. As a local education agency, the district in this study already met many of its state's teacher effectiveness goals in Race to the Top. It used advanced statistical models to determine a teacher's contribution to student learning and rewarded teachers based on these models. The district's goal of attracting and retaining teachers who have proven effective using these value-added metrics into high-poverty schools at the same rate as into its highest-achieving schools presented this opportunity for research.

Research Question 1: Recruitment for High-Poverty Schools

Background

Teachers have a preference for teaching in low-poverty schools, which are widely seen as a less challenging teaching environment. Watson's (2001) large scale, mixed-methods program evaluation of Children Achieving, a comprehensive school reform program in Philadelphia, indicated that Pennsylvania schools of teacher education were producing enough graduates to fill all of the teaching vacancies in the district, but that vacancies remained in high-poverty schools because teachers were unwilling to accept positions there. The National Council for Teaching and America's Future (2003) concurred using a national data set; that study found that the nation produces enough teachers to fill its demands each year but that teacher preferences are the cause of teacher recruitment problems in high-poverty schools.

An often-cited study by Boyd, Lankford, Loeb, and Wyckoff (2003) used data from New York State on teachers' hometown, college, and first teaching placement and created a statistical behavioral model to help clarify the geographical scope of the teacher labor market. The authors found that teachers strongly preferred to teach in schools geographically close to their hometown. The authors noted that their finding proves

problematic for several reasons. First, because most teachers are white women from nonurban areas, their preference exacerbates the shortage of teachers willing to accept positions in urban high-poverty schools. Second, given that the educational experiences of graduates from urban high-poverty high schools are often inferior to those of graduates from suburban schools, the study's finding indicates that the teachers willing to accept positions in urban high-poverty schools may be less qualified than their suburban counterparts. In a subsequent analysis using a different statistical model, the authors repeated their finding of the importance of geographic proximity and also found that teachers preferred to teach in schools with fewer poor students and, for white teachers, with fewer minority students (Boyd, Lankford, Loeb, & Wyckoff, 2013). Overcoming these preferences is the primary problem policymakers seek to address in teacher recruitment efforts for high-poverty schools.

Facilitators

Although there are some teacher transfers from neighboring districts or elsewhere, districts' recruitment focuses primarily on recent graduates from teacher preparation programs. Districts that have raised student achievement often recruit teachers from universities of higher status, even if these universities are geographically further from the school district (Rosenholtz, 1989). The prevalence of university-sponsored job fairs enables districts to tap into the graduate pools of teacher education programs and widen their net of potential applicants.

University-district partnerships are another strategy used by districts with high-poverty schools to increase the supply of qualified applicants. The literature highlights several models currently used to frame these partnerships. First, some universities and

districts have worked together to ensure a match between their graduates and the school system's staffing needs. In these programs, the university recruits and trains candidates for high-needs areas in the local school district. The students complete a student teaching assignment in the partner district and are then given preference in hiring upon their graduation. This model creates a pipeline of teachers beneficial to the district in increasing the supply of teachers in high-poverty schools. The literature on this sort of university-district partnership consists primarily of program evaluations that describe unique programs and rate them favorably in their ability to attract teaching candidates (e.g., Chesley, 2010; Gebhard & Willett, 2008; Hooks & Randolph, 2004). Moreover, there is some evidence that such partnerships play a role in improving the quality and retention of beginning teachers once they are recruited. Clewell and Villegas (2001), for example, conducted a program evaluation of a university-district partnership over the course of 6 years and found that the program's graduates were viewed by their principals to be more effective than the average novice and that the graduates remained in their initial teaching placement longer.

Second, some university-district partnerships take the form of professional development schools (PDSs). PDSs operate as a working laboratory, offering university-sponsored professional development for current teachers in exchange for those teachers' support of student teachers in their classrooms. Rather than spread their students across a large number of schools, universities participating in a PDS typically have a critical mass of student teachers at one school. This model is highly collaborative, which is a key component of effective professional development, and seeks to benefit the experienced teachers as much as the student teachers (Guskey, 1999). The available studies on PDSs

are primarily program evaluations, and most evaluated the PDS model positively (see, for example, Castle, Arends, & Rockwood, 2008; Fisher, Frey, & Farnan, 2004; Taymans, Tindle, Freund, Ortiz, & Harris, 2006). These evaluations generally reported that PDSs are staffed by very skilled teachers whose teaching leads to positive student achievement gains and that the student teachers in these schools have seen strong examples of best practices and learned excellent instructional techniques that they will carry with them into their eventual teaching assignment at another urban school. In this trickle-down method, districts participating in this sort of teacher preparation model can increase the supply of effective teachers at high-poverty schools.

Finally and most recently, several schools of education have partnered with nonprofit organizations to offer a residency model of teacher preparation. This model builds upon the PDS model, also having a critical mass of student teachers at each partnership school. In the residency model, students spend an entire year of student teaching at the partnership school and become deeply embedded in the teaching culture there, participating in every aspect of teachers' responsibilities and often having their university coursework on site. They are usually paid during the year of residency. Residency model partnerships between Boston Public Schools and the University of Massachusetts–Boston, between Chicago Public Schools and National Louis University, and between Denver Public Schools and the University of Denver have gained attention in recent years (Haycock & Crawford, 2008; Honawar, 2008; Sawchuk, 2009). The Academy for Urban School Leadership (the nonprofit group running Chicago's residency model) runs its own schools within Chicago Public Schools in order to retain control over

the quality of administrators and mentor teachers that is necessary for the model to be effective (Berry et al., 2008).

Reports from the programs indicate success in recruiting and retaining teachers for high-poverty schools (National Academy of Education, 2009). Independent empirical evaluations have begun to confirm these residencies' promise. For example, Papay, West, Fullerton, and Kane (2012) used databases from the Boston Teacher Residency and from the Boston Public Schools that included teacher characteristics, school assignments, and teacher value-added scores to track graduates of the residency and compare them to other novice teachers in the district. They found that the Boston Teacher Residency had produced a cadre of graduates who were more racially diverse, more likely to teach in a shortage area, and more likely to remain in their high-poverty school for at least 5 years than other novice entrants to the district. In another empirical study of a residency program, Jeffery and Polleck (2010) found that housing teacher preparation coursework on site at high-poverty schools benefited both the school site and the university students. Teachers in this case study explained that the partnership elevated the professional status of the teachers there, increasing teachers' sense of efficacy because their instruction was valued by academia; moreover, the student teachers were better prepared to succeed in high-poverty schools after having participated in positive and realistic theory-to-practice experiences.

All of the above models are "traditional" teacher preparation methods in the sense that they combine a student teaching experience with master's level coursework, and the student is not the teacher of record until earning the degree. In addition to the traditional path, alternative certification paths are more and more common in helping address the

recruitment needs of high-poverty school systems. In an alternative certification model, people are given an emergency teaching credential and become the teacher of record *while* taking master's level coursework to earn a teaching degree. In a journal article profiling promising pedagogies employed by teacher educators, Darling-Hammond and Baratz-Snowden (2007) noted that 15% of new teachers begin their careers through alternative programs. In some places these numbers are much higher: the Southeast Center for Teaching Quality (2001) highlighted the prevalence of alternative certification routes, finding that only 20% of North Carolina's new teachers were graduates of university-based teacher preparation programs. Alternative certification programs are widely seen as increasing the supply of effective teachers in high-poverty schools by making entry into the profession easier (Feistritzer, 1993; Jones & Sandidge, 1997; Kane, Rockoff, & Staiger, 2008; Podgursky et al., 2000).

There is copious literature evaluating the effectiveness of university-based alternative certification programs' efforts to recruit teachers for urban high-poverty schools, and most findings are positive. Many studies in this area focus on the recruitment of teachers with specific characteristics. Burbank, Bates, and Schrum (2009), for example, conducted an evaluation of an alternative certification program that recruits current paraprofessionals from high-poverty schools into the teaching profession. The data for the study were derived from questionnaires, journal responses, portfolio artifacts, and exit interviews, highlighting the program's success in attracting a special population into the field of teaching. Likewise, an investigative article in *Education Week* revealed that the New Teacher Project, a program focused on recruiting mid-career professionals into teaching careers, had a large positive impact on teacher recruitment in Baltimore

(Honawar, 2007). Other evaluative studies showed the positive impacts of programs for recruiting minority teachers into urban schools such as the TEAMS program in San Francisco (Nuñez & Fernandez, 2006) and the Pathways to Teaching Careers programs in various locations across the country (Clewell & Villegas, 2001; Hudson, 1998).

The largest-scale alternative certification program is Teach for America (TFA), a competitive program that recruits approximately 3,000 college graduates and places them in high-poverty schools across the country. Participants are given an emergency teaching credential and commit to teach in their school for 2 years. They take master's level coursework during this time, working toward a teaching degree should they decide to remain in the profession after their requirement is up. Teach for America is important because of its impact on both the quality and placement of teacher recruits: its competitive nature ensures that its participants are among the brightest of recent college graduates interested in entering the field of education, and it places these participants in high-poverty schools. In recent years TFA has strengthened its efforts to collaborate with higher education institutions and improve its in-service model of teacher education. Heineke, Carter, Desimone, and Cameron (2010), for example, found that TFA program directors and university-based clinical instructors were able to collaborate in ways that meaningfully improved in-service teachers' instructional skills. Other research on TFA shows that the effectiveness of TFA recruits is at least as strong as that of teachers prepared in other programs (Decker et al., 2004; Henry et al., 2010; Kane et al., 2008; Noell & Gansle, 2009). These examinations measured teacher effectiveness using teacher value-added models. Noell and Gansle (2009), for example, calculated value-added scores for two cohorts of TFA teachers and other novice teachers of grades 4 to 9 across

the state of Louisiana and found that TFA teachers' effectiveness scores were statistically positive and statistically significantly different from those of other novices. Findings such as these suggest that TFA remains a key player in the effort to increase the supply of effective teachers in high-poverty schools.

Constraints

Although the aforementioned facilitators to recruiting teachers for high-poverty schools have shown promise in some places, other districts are constrained from developing these pipelines. In a study of three urban school districts, Krei (1998) reported that the highest-poverty schools tended to have fewer partnerships with teacher preparation programs and therefore had a more limited applicant pool and were at a disadvantage in hiring. University-district partnerships require not only close geographic proximity between the high-poverty district and a high-caliber teaching university, but also mutual willingness and capacity to collaborate in the teacher education process. One important constraint to the establishment of effective university-district partnership programs is that struggling high-poverty schools often do not have a large enough cadre of effective teachers to support a cohort of student teachers in the ways required by the teacher preparation program. For example, Anderson and Stillman's (2010) study of two university-district partnerships in Illinois found that the student teachers in the programs were often placed with teachers whose practices lacked the planning, formative assessments, individualized and student-centered learning, and reflection that were advocated by the teacher preparation programs and as a result were ill prepared to be successful in high-poverty schools. The lack of effective teachers in high-poverty schools

thereby becomes a reinforcing loop, preventing partnerships from developing a pipeline that might increase the supply of effective teachers.

Districts with high-poverty schools are also often constrained in setting up PDSs by lack of human resources at the administration level. A PDS requires a stable and functioning partnership on two levels: the partnership between teacher preparation faculty and school staff, and an institutional partnership between the district and the university that supports the school-level work (National Council for Accreditation of Teacher Education, 2001). The average tenure for an urban district superintendent is only 3 years (Council of Great City Schools, 2008). Likewise, principals in high-poverty schools have high rates of turnover. Almost half of principals leave their school within the first 3 years; moreover, the rates of principal turnover are significantly higher in high-poverty schools than in low-poverty schools (Fuller & Young, 2009). With such high rates of leadership turnover, it is very difficult to establish and maintain a university-district partnership. Although there are myriad program descriptions in the literature, Neapolitan and Tunks's (2009) review of literature on PDSs showed a dearth of empirical evidence of the effectiveness of the model as a whole. The effectiveness of the PDS model in recruiting and retaining novice teachers in high-poverty schools remains unclear.

Although TFA is an effective teacher recruitment program, several studies have found that a large proportion of its graduates leave their classroom placements after the 2-year requirement (Darling-Hammond, 1994; Donaldson, 2008; Noell & Gansle, 2009). Donaldson (2008) conducted a survey on a census of three TFA cohorts, creating a database of over 2,000 TFA teachers that indicated their decision to stay or leave the classroom over the course of 6 years. She found that 39% of TFA members left the

profession immediately after their 2-year commitment. Her discrete time survival analysis of the longitudinal data set also revealed that of those who stayed in the profession, only 44% remained in their original high-poverty school in their third year of teaching, and that by the sixth year only 10% remained in their original school. The impact of this attrition is unclear because it is not known how many of these teachers transfer to other potentially equally high-poverty schools, how many switch to related careers in education, or how many leave the profession entirely. Regardless, when TFA teachers leave their classroom, it creates a teaching vacancy in a high-poverty school that needs to be filled, further exacerbating the "revolving door" in the teaching profession discussed below.

The attrition problems with TFA appear to be common among alternative certification routes into the teaching profession (Easley, 2006; Harris, Camp, & Adkison, 2003). Robertson and Singleton (2010) found that alternatively certified teachers were more likely to choose or be placed into high-poverty classrooms, but they also left these placements earlier than their traditionally certified counterparts. Research into the reasons for this attrition found that after their 2-year urban teaching requirement, alternatively certified teachers are pulled to the suburbs by a stronger investment in education by suburban families and by fewer standardized curricula that stifle creative teaching (Costigan, 2005). In this study, the only draw for teachers to remain in urban school systems was a sense of loyalty to the students they served.

One constraint to districts' using alternatively certified teachers to increase teacher recruitment in high-poverty schools is that the effectiveness of these teachers compared to their fully certified counterparts has been questioned. Research by Linda

Darling-Hammond has consistently found alternatively certified teachers to be underprepared in comparison to traditionally certified teachers. Her 1994 study of TFA participants found them to be poorly prepared in reading pedagogy, child learning theory, and behavior management techniques. Her quantitative study in 2000 found that student achievement and teachers' level of certification were positively correlated. The literature linking student achievement and teachers' level of certification overall is mixed, however: other studies found no significant difference between alternatively and fully certified teachers' impact on student achievement (Constantine et al., 2009; Hanushek et al., 2004; Kane et al., 2008). The conflicting data indicate to state and district policymakers that the value of entry requirements to the teaching profession is unclear.

Districts are further constrained by a lack of knowledge about which teacher preparation programs are effective. Research has shown that the variation within types of preparation programs is greater than the variation between them; in other words, there are both excellent and ineffective preparation programs regardless of the model used (Boyd et al., 2006). Ng (2003) noted that there is little consistency about what constitutes an alternative certification program; some are just quick ways of certifying teachers and others resemble master's programs. Some programs combine alternative certification with university-based support in the forms of mentorship (Gallegos, 1995) or support groups led by university faculty (Andrews et al., 2003). The lack of consistency in teacher preparation models means that there is no easy litmus test for districts seeking to improve the quality of recruits. There are innovations among competitive states in the Race to the Top initiative that have begun to link measures of teacher effectiveness back to the teacher's preparatory institution (U.S. Department of Education, 2009c), but these

data measures are in their infancy, and education researchers have warned against using backward-mapping of value-added models to judge the quality of teacher preparation programs. Floden (2012), for example, pointed out that teachers' value-added scores are affected by the teacher labor market in ways that make them an inappropriate metric for evaluating institutions of higher education. In spite of statistical innovations and federal policy, it remains very difficult for districts to predict which recruits will be effective in high-poverty schools.

Large urban high-poverty districts, in particular, are constrained by their own bureaucratic nature. Studies have shown that urban districts are far more likely than their suburban neighbors to hire teachers in the summertime, resulting in a missed opportunity on a pool of applicants who already accepted teaching placements elsewhere (Levin & Quinn, 2003; MacIver, 2006; Papa & Baxter, 2008). Papa and Baxter's (2008) survey of 184 principals across New York State revealed that urban principals also have much less hiring authority than their suburban counterparts, having to rely instead on a district human resources department fraught with red tape. It is likely that the urban-suburban differences in hiring practices are even more pronounced than those reported in this study because the survey sample did not include principals from the New York City Schools. Levin and Quinn's (2003) multiple case study of four hard-to-staff urban school districts found that the districts were constrained from early hiring of teachers by vacancy notification requirements, by teachers' union regulations regarding transfers, and by inaccurate forecasting of vacancies that made budgeting difficult. Kearney's (2008) survey study of teachers in one urban district found that streamlining the application process facilitated the district's goal of recruiting more minority teachers.

Some evidence indicates that the hiring techniques of urban high-poverty districts differ from those of their suburban counterparts in ways that negatively impact the quality of the teaching force. In a *Phi Delta Kappan* article on best practices in the hiring of teachers, Clement (2009) emphasized that districts hire better teachers when they use behavior-based interviewing techniques, but urban districts are less likely than suburban districts to require mock lessons as a part of the interview process (Papa & Baxter, 2008). The inclusion of teachers on hiring committees strengthens the quality of teachers hired (Wise, Darling-Hammond, & Berry, 1987) and correlates with teachers' commitment to their schools (Rosenholtz, 1989), but urban school teachers are usually hired either through district-level placement or upon recommendation of the principal. Moreover, when high-poverty districts do encourage the use of hiring committees to select teachers, there are large variations in the extent to which each school utilizes its committee, and equally large variations in the committee's consistency in articulating a clear vision for the type of teacher sought for the position (DeArmond et al., 2010).

Research Question 2: Allocating Teachers to High-Poverty Schools

Background

The allocation of teachers refers to the strategies that districts use to place teachers in high-poverty schools. Its background is in the literature on teacher supply and teacher labor markets. Studies in this area look at the availability and qualifications of teachers in high-poverty schools compared to their lower-poverty counterparts. They look at the characteristics of teachers employed by different types of schools and the means by which these teachers were assigned to their positions. They also look at the effectiveness

of different types of incentives in influencing the allocation of teachers to high-poverty schools.

The research on teacher supply has generally found that the least qualified teachers are placed in the highest-poverty schools. Studies by Ferguson (1998) and by Boyd et al. (2002) found that the lowest-achieving students and students of the lowest socioeconomic status were generally taught by the least-effective teachers within urban school systems. Some of this phenomenon may be due to teacher mobility: when teachers switch classroom assignments, whether within or across schools and districts, they tend to move toward higher-achieving and lower-poverty students (Ingersoll & May, 2012; Goldhaber et al., 2009).

Facilitators

Some districts have created incentive programs to help entice teachers to accept positions in high-poverty schools. Although results are mixed, incentive programs are sometimes effective. Incentive programs in Chattanooga and Baltimore were successful in reallocating teachers to eliminate differences in teacher qualifications between high-poverty and low-poverty schools (Benton, 2004; McConney, Ayres, Hansen, & Cuthbertson, 2003). Both of these programs involved multiple inducements: housing loan forgiveness, induction programs, tuition reimbursement, alternative certification program partnerships, stipends during orientation, and bonuses for veteran teachers who transfer to reconstitution-eligible schools. A study on the Governor's Teaching Fellowship, a California program that provided $20,000 signing bonuses for teachers willing to accept positions in high-poverty schools and remain there for at least 4 years, found that the program increased novice teachers' probability of teaching in a low-performing school by

28% (Steele, Murnane, & Willett, 2010). Petty et al. (2012) conducted a survey of teachers in high-needs schools across one southeastern state and found that money (e.g., signing bonuses, increased salary) was the most frequently mentioned facilitator to recruitment for high-poverty schools.

The Talent Transfer Initiative, a federally funded project that offered $20,000 bonuses to teachers with high value-added scores who agreed to transfer to a low-performing, high-poverty school and remain there for 2 years, also found that incentive programs are feasible facilitators to allocating proven-effective teachers to the positions where they are most needed (Glazerman et al., 2012). On average, the effective teachers in this project were more experienced, held more advanced degrees, and provided more mentoring than the teachers in the control group. One important finding in this study, however, was that the pool of effective teachers needed to be quite large for the incentive program to make a difference, as only 6% of eligible teachers ultimately transferred to a high-poverty school.[6]

School-level leadership is another facilitator of teachers' willingness to accept positions in high-poverty schools. Teachers' perception of the principal's effectiveness has been shown to heavily influence the self-sorting of teachers. For example, a statewide survey of master teachers in Arizona found that fears about having an unsupportive, uncaring, and ineffective principal were the most significant factor keeping these teachers from accepting a position in a high-poverty school (Amrein-Beardsley, 2007). In a larger study that included survey data from all teachers in North Carolina, Ladd (2011) found

[6] These findings should be interpreted cautiously. The report included no information on teacher retention after the 2 years of this program were over or on whether teachers remained as effective in their new, more challenging assignments as they were in their lower-poverty school. Both of these pieces of information are ultimately crucial in evaluating the success of a talent transfer program.

that teachers' perceptions of their working conditions were the most significant factor in their intention to leave their school, and that school leadership was the most salient aspect of their working conditions. These teachers' perceptions are not unfounded: effective principals, measured by value-added school effects on student achievement, are better able to dismiss ineffective teachers and to hire and retain effective teachers than their counterparts in less-effective schools (Beteille et al., 2009).

Human resource departments in large districts can also play a facilitation role in matching qualified teachers to vacant school positions. Factors that facilitate this support role are the presence of administrative policies increasing the authority of the human resource department within the hierarchy of the district; the hiring of dynamic leaders to head up the department and ensure strong performance by employees; the investment in upgraded technological resources; and the framing of the human resource department's role within the broader improvement goals for the district (Campbell, DeArmond, & Schumwinger, 2004).

Constraints

Novice teachers. Without incentives, beginning teachers are not attracted to at-risk schools (Painter, Haladyna, & Hurwitz, 2007). But incentives do not always work (Clotfelter, Glennie, et al., 2006; Fowler, 2003; Liu, Johnson, & Peske, 2004; Winter, & Melloy, 2005), and they are only one aspect of the placement that teachers look at when considering a teaching assignment. Teachers consider salary, school location, and community culture (Boyd et al., 2013; Winter, Ronau, & Muñoz, 2004). Research shows that they value the intrinsic rewards of the position (e.g., support from administrators, collaborative staff relationships, mentoring/induction) as strongly as student

characteristics or extrinsic incentives (Amrein-Beardsley, 2007; Young, Rinehart, & Heneman, 1993). Districts therefore must address multiple aspects of the teaching environment when seeking to entice teachers to high-poverty schools. Some of these aspects are challenging to address. First, research into the topic of teacher salaries has shown that the salary increase necessary to counteract the negative influence of student poverty level on teachers' willingness to accept a teaching assignment would be prohibitively large (Goldhaber, DeArmond, & DeBurgomaster, 2007). Next, creating a school culture of collaboration takes time, leadership, and resources that not all schools have at their disposal. Likewise, not all districts have the human or financial resources to create and maintain the sorts of induction programs that have proven effective in attracting and retaining teachers in high-poverty schools.

Experienced teacher transfers. Just as incentives do not always work in attracting novice teachers to high-poverty schools, they are often ineffective inducements for experienced teachers as well. Some National Board Certified Teachers in California gave up the $20,000 bonus the state offered for teaching in high-needs schools in order to transfer to more affluent ones. One such teacher commented to *Education Week*, "If you want to entice me to a low-performing school, then give me a strong administration, promise me staff that are going to work collegially, and a clean school, and an environment that we can all buy in to, from the principal to the custodian" (Archer, 2003, p. 52). This sentiment may explain why less than a third of the effective teachers eligible for the Talent Transfer Initiative even applied for it, and why only 6% actually transferred to a high-needs school (Glazerman et al., 2012).

Districts are also constrained by lack of knowledge about which experienced teachers are worthy of targeted incentive programs. Experience alone does not result in increased student achievement: Clotfelter et al.'s (2007) study, which used a large longitudinal data set in North Carolina containing both teacher and student information, found that teacher experience was only correlated with student achievement for the first 5 years of teaching and leveled off after that, indicating that the most experienced teachers may not be the best at raising student achievement. In order to determine teachers' effectiveness, many districts have begun to experiment with value-added teacher assessment models. Harris and Sass (2009) found that value-added teacher assessments were correlated with teachers' intelligence, instructional skill, and subject-matter knowledge. The positive correlation in their study between the objective value-added measures of teacher effectiveness and the subjective principal rating of teacher effectiveness lends support to the validity of value-added measures, although there is not yet adequate evidence that teachers with high value-added scores in a low-poverty environment are consistently or predictably able to retain those high scores after transferring to a more challenging teaching placement. Furthermore, whereas Goldhaber and Hansen's (2010) study of North Carolina found that value-added assessments were indeed a better predictor of student achievement than teachers' years of experience or qualifications, the researchers noted that value-added teacher assessments are only as strong as the student assessments. The myriad factors that go into a student's test performance therefore call into question the appropriateness of value-added models in incentivizing teacher transfers.

Research Question 3: Retaining Teachers in High-Poverty Schools

Background

The issue of teacher retention has been on the education research radar since the mid 1990s. Data from NCES's Schools and Staffing Survey and the subsequent Teacher Follow-Up Survey indicated that retention is an even larger problem for school districts than recruitment. The annual attrition rate for teachers in high-poverty schools is approximately 20% (NCES, 2005), and cumulatively the attrition rates of teachers in their first 5 years is 46% (National Council for Teaching and America's Future, 2003). These large data sets showed that most of the demand for new teachers is not driven by enrollment increases or retirees, but by a "revolving door" of teachers leaving the profession shortly after beginning (Ingersoll, 2002). This revolving door is worse in some schools than others. Recent research has revealed that although high-poverty schools experience more teacher attrition than low-poverty schools, there is also significant variation *among* high-poverty schools; that is, some high-poverty schools experience much higher rates of teacher turnover than others (DeAngelis & Presley, 2011).

Research on the impact of this revolving door is mixed. Some research points out that not all attrition is bad (e.g., Boyd et al., 2009; Hanushek & Rivkin, 2008, 2010). These studies found that teachers who left their high-poverty districts were often less effective than those who stayed, and they noted that if those vacancies could be filled with a more effective teacher then the district would have benefited from this sort of attrition. Other studies showed that the teachers who left high-poverty schools were more effective than those who stayed. For example, Clotfelter et al.'s (2007) study on the correlation between teachers' experience level and student achievement examined the

variable of attrition and found that the teachers who left were, on average, more effective than those who stayed. Although Hanushek and Rivkin's (2008) study found the opposite, the fact that teachers in that study who switched schools within a district were less effective than those who stayed illuminates a "pass-the-buck" problem within high-poverty districts. Most recently, Ronfeldt, Loeb, and Wyckoff (2013) found that teacher turnover negatively impacted achievement for not only those students receiving the new teacher, but also for the students of the teachers who stayed, suggesting that teacher turnover has a wide-reaching disruptive effect. The authors found the negative effects of turnover to be significantly more deleterious in lower-performing schools than in higher-performing schools.

A subset of the research on teacher attrition includes research on teacher burnout (or its opposite, more positive term, "teacher persistence"). Haberman (1995) wrote that "burnout is the occupational disease faced by all urban teachers" (p. 65). He blamed bureaucracy and argued that the best teachers protect themselves by learning to manipulate the bureaucracy in their favor. For example, they learn which policies can be safely ignored and which clerical demands can be delayed, how to manage the internal structure (e.g., befriend the janitor and like-minded teachers), and how to find an outside network of support. Much of the literature on burnout looks into the causes (Fry, 2010; Hewitt, 1993; Hong, 2010; Kaufhold, Alverez, & Arnold, 2006), prevention (Alschuler, 1980; Blase & Kirby, 1992; Schlichte, Yssel, & Merbler, 2005), or strategies to ameliorate feelings of burnout as they emerge (Cooley, 1995; Hoversten, 1992).

Research into the causes of teacher attrition and burnout has illuminated problems with teachers' work environments. National data from NCES's Teacher Follow-Up

Survey indicated that turnover could be reduced by improving the working conditions of teaching, specifically increased support from administrators, higher salaries, fewer student discipline issues, and greater faculty input into school decision-making (Ingersoll, 2002). The facilitators and constraints to addressing these concerns are discussed below.

Facilitators

Strong principal leadership and a welcoming faculty are the two most important school-related factors to an effective teacher's willingness to stay in her classroom placement (Kapadia & Coca, 2007; Berry & King, 2005). In their mixed-methods study of a large PDS in Georgia, Swars, Meyers, Mays, and Lack (2009) found that teachers reported strong principal leadership and positive relationships with colleagues as key reasons for their decision to remain teaching in a high-poverty school. Likewise, Boyd et al. (2011) and Ladd (2011) found that teachers' perception of principal effectiveness was the most salient factor in both novice and experienced teachers' retention decisions. Pogodzinski, Youngs, Frank, and Belman (2012) further examined the link between principal effectiveness and teacher retention in 11 districts across Michigan and Indiana, finding that novice teachers' perceptions of administrative climate (i.e., principal effectiveness defined by the actions and beliefs present in principal-teacher relationships) were predictive of their retention decisions.

Another factor in teachers' retention is the level of support they received as newcomers to the profession. Novice teachers are more likely to leave the profession if they begin their career in a high-poverty school (Hanushek et al., 2004); however, novice teachers who feel well supported in their initial placements are more likely to remain there. Smith and Ingersoll (2004) found that teachers with a comprehensive induction

program were more than twice as likely to stay in their schools as those without one. Research from Black, Neel, and Benson (2008) concurred, highlighting a university-district partnership in Georgia that coupled a teacher preparation PDS with an induction component for its recent graduates that had been hired. The induction program succeeded in reducing turnover and raised student achievement scores compared to a control group. It included online support, monthly meetings, and help in developing an individualized professional growth plan. Studies about the impact of mentoring on retention almost always show positive results (e.g., Fuller, 2003; Ingersoll, 2001; Kapadia & Coca, 2007; Kelley, 2004).

Research has illuminated that experienced teachers hold different priorities than their novice counterparts for improving the teaching environment enough to want to remain in their high-poverty school. Experienced teachers mentioned issues such as limited supervision duties, increased planning time, length of school day/year, and personal leave time (Painter et al., 2007). They also mentioned the issue of resources: teachers who were highly satisfied with the teaching environment at their high-poverty school reported adequate resources at their school, both in terms of instructional materials and in the form of support staff such as special educators, reading specialists, and English for students of other languages (ESOL) instructors to help them meet the needs of underachieving or exceptional students (Swars et al., 2009).

Retention bonuses are only effective if they are well publicized and if the programs earn significant buy-in from teachers. For instance, at its inception the Teacher Advancement Program (TAP) in California did not have an impact on teachers' employment decisions because eligible teachers did not know about it (Neuhaus, 2003).

In contrast, the Missouri Career Ladder program did increase retention of mid-career teachers (Booker & Glazerman, 2009). Participants reported to researchers that the program was popular because the professional development aspect of it was run largely by teachers themselves, increasing buy-in and encouraging camaraderie that helped increase teachers' sense of well-being.

When implemented fully and well advertised, some performance incentive programs have been shown to play a facilitating role in the effort to retain effective teachers in high-poverty schools. The ProComp program in the Denver Public Schools, for example, provides bonuses for teachers in its hard-to-staff schools who maintain high value-added scores. Since the program's implementation, the district has seen markedly improved retention rates among teachers in high-poverty schools (Wiley, Spindler, & Subert, 2010). Likewise, TAP, which includes a performance-based compensation component in combination with focused professional development, has been credited with increasing student achievement and teacher retention at hard-to-staff schools across Louisiana, South Carolina, and Texas (Almy & Tooley, 2012; National Institute for Excellence in Teaching, 2012). This program's success has been watched by many policymakers across the country: as of 2012, over 300 districts across the country were using TAP, many earning federal Teacher Incentive Fund grants to do so.

Constraints

Districts' efforts to retain effective teachers in high-poverty schools are constrained by the labor market: effective teachers have other, often better, employment options. In addition to remaining in their high-poverty school, teachers have the option to transfer to a different school, to seek employment in a charter or private school, or to

move to a suburban or lower-poverty district. The teaching environment in these other locations is often more positive than in a high-poverty school. In her interview-based study of urban school administrators across three different states, Krei (1998) found that experienced teachers' seniority-based transfer provisions were a huge detriment to retaining effective teachers in high-poverty schools: even if the principal had managed to recruit strong candidates to the high-poverty school, the most effective teachers were typically the ones who transferred elsewhere after only a year or two. The study also found that unsatisfactory teachers tended to remain in place until a transfer could be arranged, most often in exchange for another marginally effective teacher.

In studying the reasons for alternatively certified teachers' mobility decisions after their 2-year urban teaching requirement expired, Costigan (2005) found that urban teachers are "pulled" to the suburbs by fewer standardized curricula that stifle creative teaching. Teachers are "pulled" to remain in urban areas only by loyalty to the needy kids they serve. Other studies found that urban teachers were lured to lower-poverty school systems by a teaching environment less focused on standardized testing and high-stakes accountability pressures (Ingersoll & May, 2012; Tracy, 2005; Tye & O'Brien, 2002). These pulls present a constraint to districts' ability to solve teacher attrition problems: they represent a policy conundrum because creating flexibility in the curricula, standards, and accountability policies in urban school systems would directly conflict with the policies that tightened these requirements to address low student achievement.

Teachers who leave their schools most often cite dissatisfaction with their working conditions as the primary reason for leaving (Feng, 2010; Ingersoll, 2001, 2002). Recent research into the current source of this dissatisfaction among effective teachers in

high-poverty schools points to a school culture that devalues quality instruction, keeping ineffective teachers in place and not adequately rewarding effective teachers for their success. A TNTP (2012) survey of effective teachers who intended to leave their high-poverty schools revealed that 75% of these teachers would have stayed if the top reason for their dissatisfaction had been addressed. High-poverty schools in that study that were able to retain large percentages of their most effective teachers had principals who created a school culture centered around instruction and wherein the most effective teachers felt that their contributions were valued by their principal and colleagues.

Another challenge presented to districts trying to improve the teaching environment is lack of school discipline. A study of the Chicago Public Schools by Kapadia and Coca (2007) found that the largest school-based factor that negatively influences teachers' willingness to stay in their high-poverty classrooms is the number of students with discipline problems. Schools in high-poverty neighborhoods are much more likely than those in low-poverty neighborhoods to report problems with discipline (NCES, 2005), providing a disincentive for teachers to remain in their high-poverty schools. Teachers report that principals' lack of disciplinary leadership is a primary factor in their decision to leave their school (Harrell, Leavell, van Tassel, & McKee, 2004; Patterson, Roehrig, & Luft, 2003). Similarly, Feng (2010) and Sass, Seal, and Martin (2011) found that the best predictors of teachers' dissatisfaction were student behavior stressors and lack of social support from superiors; that is, teachers' job dissatisfaction could be statistically predicted by their reported inability to handle disruptive students and lack of support from their superiors in doing so.

Finally, the primary policy response to novice teacher attrition—mentoring—has its own set of implementation constraints. The type of mentoring shown to be most effective is not a model that all districts can emulate. Intensive contextual induction given in partnership with a local university is a much more effective model for delivering induction to novice teachers than a general induction program for all teachers in a large district (Kapadia & Coca, 2007). Frequent regularly scheduled contact between mentors and novice teachers is a necessary component of induction programs that reduce novice teacher attrition and increase student achievement (Fletcher, Strong, & Villar, 2008; Hallam, Chou, Hite, & Hite, 2012; Smith & Ingersoll, 2004). Researchers have begun to recognize that the mentoring relationship is most productive when the mentor is released from teaching so that her sole focus is on mentoring novice teachers (New Teacher Center, 2008; Wiebke & Bardin, 2009), but this model requires additional funds (to hire a teacher to fill the mentor's classroom vacancy as well as pay the mentor's salary) that may not be available in all districts. As a result, there are huge variances in the type, intensity, and quality of induction programs given to new teachers (Ingersoll & Kralik, 2004). Differences in districts' capacity to provide high-quality induction and mentoring to their novice teachers have resulted in great inequities across systems, with novices in high-poverty and hard-to-staff subjects being least likely to engage in the types of mentoring conversations that have been shown to improve novice teachers' efficacy (Kardos & Johnson, 2010).

Research Question 4: Professional Development in High-Poverty Schools

Background

Adjusting to high-poverty teaching environments. Induction programs for new teachers, discussed above, are one way that professional development can help increase the supply of effective teachers in high-poverty schools. Another thread of research on high-poverty schools looks at the impact of high-stakes accountability pressures on teachers and the ways that professional development can help teachers adjust to the realities of teaching in environments that include these pressures. Studies have shown that teachers' morale is negatively impacted by high-stakes accountability policies (Abrams, 2004; Foreman-Jackson, 2008; Hamilton et al., 2005). Teachers are often taught student-centered instructional techniques by their university-based master's degree programs, but once in a high-poverty classroom are constrained from using these techniques by a narrowed curriculum that focuses solely on tested subjects and encourages increased time spent on test preparation (Abrams, 2004; Pedulla et al., 2003; Nelson, Kennedy, Deuel, & Slavit, 2009). Rosenholtz (1989) noted that there are two common reactions to the discovery of this incongruence: teachers quickly either burn out and leave the profession or lose their innovative mindset and conform to the district's ineffective norms. Regarding the latter, she wrote:

> Lacking any framework into which [teachers] could place the punitive treatment they receive at the hands of districts and principals, they seem to embody in their own classrooms, ironically and yet unavoidably, precisely the same punitive values they initially abhor. As they discover the moral void at the heart of stuck schools they are shocked, astonished, transformed; but they tend to have nowhere to go with their vision of the void but straight into it, and in most of them go, losing themselves in what they initially feared and opposed. (p. 196)

Decades later, Rosenholtz's words still ring true. As a result of high-stakes accountability policies, teachers in high-poverty schools are more likely to decrease the amount of student-centered instructional techniques and increase the use of textbook-provided lesson plans and direct instruction (Firestone et al., 2002; Foreman-Jackson, 2008). In a study involving classroom observations and interviews of teachers from two different urban teacher preparation programs, Anderson and Stillman (2010) found that student teachers placed in high-poverty classrooms were often unable to apply the instructional techniques they were learning in their coursework, instead adopting the formulaic approach of their cooperating teachers. This qualitative study was particularly compelling because the participants, whose schools were across the country from one another, shared very similar experiences about their cooperating teachers' instruction in the context of high-stakes accountability pressures. Another recent interview-based study concurred, finding that mandated, scripted literacy curricula inhibited teachers' ability and willingness to implement new instructional strategies, even though the teachers believed that the new strategies would be effective (Dresser, 2012). Professional development is one way that districts can help teachers reconcile their personal pedagogies and preferred philosophies with the need to help their students achieve on high-stakes tests. Researchers have begun to document the importance of increasing teachers' satisfaction through professional development, considering teacher professional development as a policy response to teacher staffing problems and including it as its own category within analytical frameworks (Rice, Roellke, Sparks, & Kolbe, 2009).

Much of the research on helping teachers adjust to high-poverty teaching environments looks at specific pedagogical approaches for the types of students typically

found in those schools; specifically, research on differentiated instruction and multicultural education is abundant. Differentiated instruction is a teaching technique wherein teachers consider students' individual needs and design learning activities that meet these needs, in contrast to more traditional modes of delivery that involve one activity for the whole class regardless of children's differing skill levels and learning styles (Tomlinson, 2001). Research on differentiated instruction is especially applicable to high-poverty schools because teachers in these schools are most likely to teach children whose academic scores are significantly below grade level (Haberman, 1995). Studies have shown that many subgroups of students benefit from differentiated instructional techniques. One study showed a 52-point reduction in the achievement gap between affluent and disadvantaged students after teachers implemented a differentiated approach to their instruction (Beecher & Sweeny, 2008). Other research has highlighted specific differentiated instruction techniques or programs that had a positive impact on the academic performance of gifted students (Matthews & Farmer, 2008) or ELLs (Echevarria, Short, & Powers, 2006; McIntyre, Kyle, Chen, Muñoz, & Beldon, 2010). Research into the success of ELLs has shown that a hybrid model that combines differentiated instruction with elements of culturally responsive teaching (discussed below) is a particularly beneficial way to help close achievement gaps between ELL students and their linguistic-majority counterparts (Santamaria, 2009).

Multicultural education is a philosophy of teaching wherein teachers hold high expectations for all students; learn about and value students' diverse cultures and use this knowledge as the foundation for the curriculum; use teaching and assessment strategies that are responsive to students' cultural backgrounds; and develop strong relationships

with students, their families, and their communities (Delpit, 1995; Nieto, 1999). Different pedagogical theorists use slightly different terminologies for this philosophy, each focusing on different aspects of it. For example, Ladson-Billings (1994) advocated for "culturally relevant teaching" that helps students affirm their cultural identity while at the same time addressing their achievement. Gay (2002) later built upon Delpit's work, defining the characteristics of "culturally responsive teaching" as acknowledging cultural heritage as worthy; building bridges between home and school life; using a variety of teaching methods to connect to diverse learning styles; and incorporating multicultural information and materials in teaching.

Most of the empirical research that links multicultural education and differentiated instruction to improved student and school outcomes incorporates qualitative methodologies such as case study (e.g., Lipka & Mohatt, 1998), program description and evaluation (e.g., Boutelle, 2008; Lewis & Batts, 2005), or teacher action research (e.g., Grimes & Stevens, 2009; Kirkey, 2005; Moll, Amanti, Neff, & Gonzalez, 1992). In one of the few quantitative studies found for this review, Boykin and Bailey (2000) found a correlation between learning contexts that incorporated characteristics of African American children's cultural backgrounds and those students' performance on a set of school-related cognitive tasks, further supporting the link between multicultural education and student achievement.

Although there appears to be consensus among education theorists about the relevant components of multicultural education and the value of culturally relevant and differentiated instruction, research suggests that the implementation of these techniques has not yet become mainstream. For example, a recent survey found that state standards-

based accountability policies in Washington included expectations in line with multicultural education theory, but the subsequent district-level reforms had not provided adequate guidance and assistance to teachers on how to meet the educational needs of diverse student populations, and therefore the policy changes did not result in changed teacher behavior (Loeb, Knapp, & Elfers, 2008). Other studies found that in spite of teachers' professed knowledge of culturally relevant teaching practices, other issues such as time constraints, prescripted curricula, and lack of context-specific professional development on the topic presented barriers to teachers' implementation of differentiated or culturally responsive instructional strategies (Ayers, 2008; Moyo, 2009). Increasing the amount and quality of professional development on these topics is one way that districts can help teachers change their instructional practices in ways that will benefit diverse student populations (Beecher & Sweeny, 2008; McIntyre et al., 2010).

One strand of research has looked into the teaching of multicultural education in traditional teacher preparation schools and found it lacking. Ladson-Billings (1999) used vignettes of different teacher preparatory institutions to highlight the progress being made in teaching culturally responsive pedagogy, but concluded that there was much work left to do before these practices could be considered mainstream. Hollins (2004) noted that "prospective teachers are taught about culture, but not necessarily how to apply *knowledge of culture* in the teaching process" (p. 248). In a large survey-based study that included thousands of deans, principals, and teachers from across the United States, Levine (2006) found that only half of alumni from teacher preparation programs felt that their university did an adequate job preparing them to meet the needs of diverse student populations, underscoring the need for school-based professional development to help

teachers target their instructional techniques to the needs of their students. There are notable exceptions, however; for example, the urban teacher preparation program at the University of Wisconsin–Milwaukee requires teacher candidates to examine their preconceptions and experiences about ethnicity, gender, and social class and then use that knowledge to create culturally responsive lesson plans for their urban classrooms (Bales & Saffold, 2011).

Strengthening skills of current teachers. In addition to helping novice teachers adjust to high-poverty teaching environments, helping experienced teachers strengthen their skills is another way that school systems seek to increase the supply of effective teachers in high-poverty schools. Strengthening teachers' skills involves increasing three interrelated sets of knowledge: the content knowledge of the subjects being taught; the pedagogical knowledge (i.e., the techniques and best practices in teaching those subjects to children); and the technological knowledge that supports the pedagogy[7] (Mishra & Koehler, 2006). The research on teacher professional development focused on the three sets of knowledge primarily includes program evaluation studies that describe individual programs or partnerships. Although the professional development programs profiled in the literature vary widely in scope, topic, and delivery method, most studies in this area found that teachers do implement the techniques they learn in professional development programs focused on increasing technological, pedagogical, and content knowledge (e.g., Appleton, 2008; Bailey, 2010; Guzey & Roehrig, 2009; Khourey-Bowers & Fenk, 2009; Niess, van Zee, & Gillow-Wiles, 2010; Trautmann & MaKinster, 2010). Moreover,

[7] This three-pronged framework builds upon earlier work by Shulman (1987), which coined the term "pedagogical content knowledge," exploring the complex relationship between content knowledge and pedagogical knowledge. Mishra and Koehler's (2006) framework adds a technological knowledge component, acknowledging the vast increases in educational technology available to teachers today.

studies with a statistical component analyzing the relationship between this type of professional development and student test scores have shown a positive correlation (e.g., Heller, Shinohara, Miratrix, Hesketh, & Daehler, 2010; Kanter & Konstantopoulos, 2010; Rhoton & McLean, 2008).

Other research on professional development for experienced teachers in high-poverty schools focuses on the components of effective professional development programs in this context, and there is a growing consensus among education researchers and theorists about what these components entail (Garet, Porter, Desimone, Birman, & Yoon, 2001; Mouza, 2009; Porter, Garet, Desimone, & Birman, 2003). For decades, researchers have noted the need for effective professional development to be specific to the needs, goals, and context of the schools in which it is implemented (Hutson, 1979; Fogarty & Pete, 2010; Guskey, 2009; Kapadia & Coca, 2007; Kennedy & Shiel, 2010; Sparks & Hirsch, 1997). There is some indication in the literature that districts with high-poverty schools are indeed attempting to focus professional development on the specific needs of teachers in these schools. Haslam and Fabiano's (2001) mixed-methods study of teacher professional development in South Carolina, for example, found that teachers in high-poverty schools were more likely than their low-poverty school counterparts to be granted release time from teaching to participate in professional development in reading strategies. This finding suggests that districts acknowledge that many children in high-poverty schools arrive with reading deficits, and they strive to provide opportunities for teachers to obtain additional skills to meet these students' needs.

Researchers have also noted the importance of collaboration in teacher professional development (e.g., Bryk et al., 2010; Fogarty & Pete, 2010; Hutson, 1979;

Martin & Taylor, 2009; Slavit & Nelson, 2009; Smylie, 1995). Professional development that includes collaboration in the form of inquiry-based learning communities has proven effective at raising student achievement (Martin & Taylor, 2009; Scheurich, 1998). Teachers benefit from expert-guided peer-support groups that together work to learn, practice, and reflect on instructional strategies (Haberman, 1995; Nelson, Deuel, Slavit, & Kennedy, 2010; Sisk-Hilton, 2009). They also benefit from observing new instructional techniques being modeled by a master teacher (Kennedy & Shiel, 2010). Darling-Hammond and Baratz-Snowden (2007) wrote that "seeing practices modeled and analyzing how, when, and why they work are key. Teachers who learn to teach without guidance often learn merely to cope rather than to promote learning for all their students, and they can acquire bad habits that are hard to unlearn" (p. 8). Collaboration in high-poverty schools also plays a role in teacher retention by helping teachers avoid burnout (Lamb, Philipp, Jacobs, & Schappelle, 2009; Skrla & Scheurich, 2001).

Facilitators

There is a time lag between the professional development experience and teachers' successful implementation of new techniques. Giving teachers enough time to plan for implementation is important in helping them integrate newfound skills and materials into their teaching repertoire (Penuel, Fishman, Yamaguchi, & Gallagher, 2007). There is much trial and error when teachers attempt to implement new techniques learned through professional development (Guskey, 1999). Teachers often fail before they succeed, but they eventually buy into the changes after they have implemented them and seen success with their students (Mevarech, 1999). In some cases it takes several years to see a change in teachers' attitudes and practices as a result of professional

development (Lamb et al., 2009). Effective professional development is sustained long enough for teachers to go through this trial and error process until they find success.

Research has noted the importance of follow-up support to ensure that professional development is successfully implemented by teachers. Both Neuman and Cunningham (2009) and Race, Ho, and Bower (2002) found that the instructional techniques taught in professional development workshops were implemented with greater fidelity when they were accompanied by follow-up mentoring, co-teaching, and classroom visits by program staff. Mouza's (2009) case study showed that even after an intensive year-long professional development program, teachers' use of the instructional tools taught in the program leveled off once they were no longer active participants in the program.

Cooperation between district and schools is another important facilitator in providing effective professional development for teachers. Sparks and Hirsch (1997) conducted multiple case studies of socioeconomically heterogeneous districts around the country, such as the one examined in this study, and found that having professional development conducted at the school level, rather than as a whole district, was important in teachers' successful implementation of skills learned through professional development. The districts' role was to set overarching goals and then facilitate schools' development of context-specific goals and provide resources and support in achieving them. More recent research also supports the use of this collaborative model: Frey and Fisher's (2009) examination of one school's professional development practices found that the district's regularly scheduled teacher collaboration time facilitated teachers' meaningful discussions about student assessments, which helped teachers reflect on and

adjust their practice to meet students' needs. On a much broader scale, an evaluation of a federally funded professional development provision in the Elementary and Secondary Education Act, which included a survey of a nationally representative sample of teachers and professional development coordinators, revealed that one facilitator to effective professional development was having it planned at the district level with the input of teachers (Porter et al., 2003).

Constraints

Lack of time is often given as the primary challenge schools and districts face when attempting to implement professional development (Haslam & Fabiano, 2001). The time involved with strong professional development is more than just the in-service hours of the event itself. Time is needed to assess needs, design or select the best professional development opportunities to meet these needs, practice new skills, reflect on progress, and collaborate with peers (Abdal-Haqq, 1996). In the context of high-poverty schools, the total time required to participate fully in a comprehensive professional development program is often seen as a burden: a study of one such program in Chicago revealed that teachers often dropped out or failed to complete portions of the program, citing lack of time as the primary reason for these decisions (Race et al., 2002).

Research has shown focused, sustained professional development opportunities to be very effective (Kennedy & Shiel, 2010; Levine & Marcus, 2010; Porter et al., 2003); however, a focus on a singular goal is often lacking in districts with high-poverty schools. In some cases, players in the school reform process hold competing agendas, resulting in a misalignment between resources and priorities (Kennedy, 2009). In others, professional development funds are given directly to schools without linking that money to a

comprehensive district plan for improvement, and school leaders in turn fail to link professional development opportunities to any specific school improvement plans (Chicago Public Education Fund, 2002; Kennedy, 2009; Miles, Odden, Fermanich, & Archibald, 2005). The result is that teachers in high-poverty schools participate in professional development opportunities at will, on a broad variety of disjointed topics (Garet et al., 2001; Haslam & Fabiano, 2001; Porter et al., 2003). The needs are so urgent in high-poverty schools that school leaders are forced to address many issues at the same time, which works against professional development being viewed as a focused and comprehensive long-term effort in these schools.

Teachers are also constrained from receiving high-quality professional development by other factors that start at the state and district levels. State education policy usually requires a certain number of professional development credits for license renewal, but seldom stipulates the type of professional development activities permissible for these credits or requires that teachers' professional development be linked to districts' improvement efforts (Grossman & Hirsch, 2009). At the district level, administrators in charge of professional development often lack the sort of disposition that would make them amenable to reforming professional development in a meaningful way. Spillane (2000) found that administrators' attitudes toward teacher learning inhibited them from investing in reform-oriented professional development for teachers.

Other main reasons for districts' failure to implement best practices in teacher professional development include a tendency to support educational fads rather than focus on long-term goals (Fullan, 1995) and budgetary issues. Districts' capacity plays a large role in the type of professional development opportunities given to teachers (Porter

et al., 2003). Effective professional development is sometimes prohibitively expensive. In their study of how five urban districts financed their teacher professional development projects, Miles et al. (2005) found that almost half of the districts' professional development budget came from nonlocal sources such as federal Title I funds or money from grants. The implication of this budget issue is that it works against professional development being seen as an integral part of teachers' lives or of a district improvement plan. If the funding for these efforts is reliant on outside funders, it is an "add-on" activity that could easily be taken away should these funding sources run dry.

In the absence of strong district guidance in the selection of professional development opportunities, it falls to school leaders to ensure that professional development is aligned with the school's improvement plan and is given adequate time and resources. Unfortunately, high-poverty schools are the most likely to have inexperienced and/or underqualified principals (Clotfelter, Ladd, et al., 2006), and these principals may not possess the knowledge and disposition necessary to create the sort of school culture that will help turn around an underperforming school (Bryk et al., 2010). One Chicago-based case study showed that principals were generally reliable at rating teachers' effectiveness using established observation protocols, but often lacked the capacity to have the types of specific conversations about instruction that would lead to changes in teachers' behavior (Sartain et al., 2011). Because principals lack the knowledge and resources needed to be effective instructional leaders, it is rare for ineffective teachers to be successfully remediated through professional development. One recent large-scale study showed that 3 years after being labeled ineffective, teachers were still performing worse than the average first-year teacher (TNTP, 2012).

A collaborative approach has been touted as a key component of effective professional development by many researchers (e.g., Bryk et al., 2010; Fogarty & Pete, 2010; Gallagher, 2012; Hutson, 1979; Martin & Taylor, 2009; Sisk-Hilton, 2009), but it is not always easy for districts to create an environment where teachers' collaboration leads to student success. When schools do not have the resources to hire outside facilitators for professional development, the burden of creating collaborative learning groups is placed on teacher leaders (Nelson et al., 2010), but challenged schools may not have sufficient teacher leaders among their staff to support the level of professional dialogue needed for the collaboration to be worthwhile. One recent program evaluation found that teachers engaged in collaborative learning communities were unable to maintain a focus on student learning, instead spending the collaborative time on trust-building and building rapport within the group (Whitford & Smith, 2010). Furthermore, the same study identified tensions between principals and teachers' unions as a constraint to collaborative professional development: principals did not want to take away teachers' planning time in favor of the professional development, but the union required payment of stipends to teachers participating in collaborative work after school hours, thus hindering the sustainability of their project's efforts once external funding dried up.

As this chapter has indicated, there have been many studies on teacher recruitment, allocation, retention, or professional development in high-poverty schools, and some of these studies have documented various facilitators and constraints to districts' efforts to improve the supply of effective teachers in those schools; however, few qualitative studies have looked at a socioeconomically heterogeneous district's comprehensive strategy that addresses all four domains of the human capital system, and

none have done so in the current economic and education policy context. The next chapter outlines the methodology of the current study.

CHAPTER 3:

METHODOLOGY

This chapter explains the methodology of this study. It describes the research design, methods of data collection, and data analysis procedures that were used. It also addresses potential threats to validity and reliability, as well as ethical considerations required by studies using human participants.

Research Questions

The purposes of this study were to clarify the ways that a district's teacher recruitment, allocation, retention, and professional development policies are targeted toward the goal of increasing the supply of effective teachers in elementary schools serving low-income families; to determine the efficacy of these policies in the view of district administrators and teachers; and to identify the facilitators and barriers to accomplishing the district's goal. The study context was that of a socioeconomically heterogeneous district's efforts to increase the supply of effective teachers in its high-poverty elementary schools. Five research questions addressed different aspects of this effort from the perspective of district administrators, principals, and teachers:

1. In what ways are teacher recruitment policies targeted to meet the recruitment needs in high-poverty elementary schools?
2. In what ways are allocation policies for newly recruited teachers and experienced teachers targeted to increase the supply of effective teachers in high-poverty elementary schools?

3. In what ways are teacher retention policies targeted to increase the supply of effective teachers in high-poverty elementary schools?
4. In what ways are professional development policies targeted to increase the supply of effective teachers in high-poverty elementary schools, particularly in helping novice teachers adjust to the realities of teaching in high-poverty environments and in strengthening the skills of current teachers in high-poverty schools?
5. What are the facilitators and constraints, both internal and external, in achieving these goals?

Research Design

Qualitative research begins with an epistemological orientation or worldview that guides the researcher to study a context in depth and draw meaning from people's experiences. This study was guided by the social constructionist epistemology, which was introduced into the field of social science research by Berger and Luckmann (1966). Berger and Luckmann argued that knowledge and meaning in the social sciences are constructed through the institutionalization of norms, behaviors, and interactions between members of a social group within the specific context of that group. More recently, Burr (1995) defined four essential characteristics of the social constructionist epistemology: people holding this worldview believe that (a) conventional "taken-for-granted" knowledge should be critically examined; (b) our understanding of the world is historically and culturally specific; (c) knowledge is sustained by social processes; and (d) social action stems from society's constructed knowledge (pp. 2-3).

The epistemology of this study falls within the worldview of constructionism as defined by Crotty (2003), who explained that all knowledge is "constructed in and out of interaction between human beings and their world, and developed and transmitted within an essential social context" (p. 42). Within the worldview of constructionism falls the theoretical paradigm of interpretivism, wherein researchers discover this constructed reality by observing and questioning participants in their natural setting and using inductive reasoning to generate concepts, hypotheses, or theories about how and why a phenomenon occurs (Glesne, 1999; Merriam, 1998). As a researcher, I used an interpretivist lens in this study. I collected, combined, and inferred meaning from interview data from administrators and teachers to explain the factors that facilitate and constrain the district in increasing the supply of effective teachers in high-poverty elementary schools.

This research was a basic qualitative study of one district in the Southeast region of the United States. Merriam (1998) explained that researchers who employ qualitative studies seek to "discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved" (p. 11). In basic qualitative studies, there is no bounded system that would make them case studies, nor is the purpose to build theory as in grounded theory methodology; rather, the "focus of qualitative inquiries is on describing, understanding, and clarifying a human experience" (Polkinghorne, 2005, p. 137). Using a basic qualitative study design for this research project enabled me to gain a deeper understanding of the facilitators and constraints to increasing the supply of effective teachers in high-poverty schools by making sense of the perspectives of the teachers and administrators within the study district.

Study Population

The population under study was a large heterogeneous school district in North Carolina. It was purposefully chosen as the site for this study because of its alignment with the study topic: it is one of the few districts in the country actively working to improve equity in teacher distribution across schools within a district. The district's strategic plan included a specific goal to ensure that high-poverty schools would be staffed with teachers who had the same years of experience and degrees as their counterparts in the district's more affluent schools. To that end, the district participated in a federal project that provided large monetary incentives for effective teachers in low-poverty schools to transfer to high-poverty schools. It also created its own program that provided signing bonuses, performance incentives, and professional development to eligible teachers in high-poverty schools. The district's active engagement in creating and implementing policies to increase the numbers of effective teachers in high-poverty schools made this site an appropriate one to answer the research questions.

Study Sample

This study used a sample of elementary schools to present a picture of the district and combined data from these schools with data from district-level administrators. To address the impact of the district's policies geared at increasing the supply of effective teachers in high-poverty schools, the study used a stratified sample design (Patton, 1990) that included both the high-poverty schools that were the recipients of these policy efforts and the low-poverty schools that were not. For the purposes of this study, a high-poverty school was defined as one with greater than 75% of its student population eligible for free and reduced lunch; conversely, a low-poverty school was defined as one with less than

40% of its student population eligible for free and reduced lunch. These definitions were roughly consistent with those used in the literature on high-poverty and low-poverty schools. Many studies used 80% of the student population eligible for free and reduced lunch to define a high-poverty school (e.g., Clotfelter, Glennie, et al., 2006; Petty et al., 2012). In looking at a list of schools in the study district ranked by percentage of students eligible for free and reduced lunch, there were natural breaks at 75% and 40%, so I adjusted the typical definitions to meet the specific context of the study.

At the time of this study, 27 high-poverty elementary schools in the study district had been designated participants in an innovative district program whose intent was to equalize the distribution of effective teachers across the district, dubbed Project RADAR for the purposes of this study.[8] Eighteen elementary schools in the district met this study's definition of a low-poverty school. From within this stratified sample, I selected six school sites to participate in the study. The purpose of including only high-poverty schools that were participants in Project RADAR was to ensure that the schools in the study were actively involved with the district's efforts to reallocate administrators and teachers; therefore, teachers within the sample would have felt an impact from the district's staffing policies enough to help answer this study's research questions. Sampling from among school personnel who had first-hand experience with the district policies and who could attest to their impact helped strengthen the richness of data for this study.

This study incorporated 39 interviews of teachers and district administrators. I selected five teachers and the principal from each of three high-poverty and three low-

[8] Project RADAR is a pseudonym derived from the four domains of this study's theoretical framework: Recruitment, Allocation, Development and Retention.

poverty elementary schools within the district, as well as four district-level administrators[9]. Documents pertinent to the study's research questions were requested from the district to provide an additional data source.

I solicited permission from the principals of all high-poverty elementary schools selected for Project RADAR and from the principals of all low-poverty elementary schools. Understanding that school principals have many demands on their time, I solicited principals' participation using multiple means (e.g., letters, emails, phone calls) and allowed multiple means of response (e.g., mail or email) to make it simple and fast for principals to agree to participate in the study. Response rates for requests for interviews in qualitative studies are notoriously low, and this study was no exception. Of all the emails sent to the 27 high-poverty school principals and 18 low-poverty school principals eligible for this study, only two responded: one affirmatively and one negatively. Phone calls were the most effective means of soliciting principals' participation, but the response rate was still very low: only seven principals agreed to participate. Yin (2003) noted that when selecting candidates for inclusion in a qualitative study, it is important to consider how the characteristics of potential candidates will contribute to the research, such as whether candidates should be exemplars of the study phenomenon or present diverse and contrasting perspectives. To present a picture that included the district's variation in school attributes, the six participating schools differed in attributes such as size, neighborhood, ethnic makeup, student achievement, percentage of English language learners, years of principal experience, and years of inclusion in Project RADAR.

[9] At each school site and at the district office, I was prepared to add to the number of interviews if the data were not saturated. That ultimately proved to be unnecessary.

To increase the likelihood that teachers in the six chosen schools would agree to participate in the study, I visited the school site to introduce myself and recruit teachers to participate in the study, ensured confidentiality of both the school site and individuals within it, and agreed to schedule the interviews at the teachers' convenience. As described in the section below, in-person solicitation was by far the most effective method of teacher recruitment for this study. At every school, more teachers agreed to participate than were needed for this study, enabling the purposeful selection of five teachers at each site from a diverse list of potential participants.

Data Collection Methods

I began with collection and analysis of documents that described the district's policies and programs related to the research questions. In this study, the documents were expected to yield specific descriptions of some of the programs and policies that the district employed in its effort to increase the supply of effective teachers in high-poverty schools, as well as preliminary evaluations of their efficacy. Most of these documents were readily available via the district's website, such as its strategic plans and external evaluations of Project RADAR. These documents were gathered, named, and labeled with early descriptive categories to facilitate content analysis of the documents alongside other sources of data during the data analysis phase of the study.

I first interviewed principals and teachers at the three selected high-poverty schools. The principal provided a list of the teachers at the school and information about these teachers' years of experience (both cumulative and at that specific school), whether any teachers had recently transferred to the school from elsewhere, and which of the teachers they considered leaders in the school. All teachers at each school were then

invited to participate in the study, first by flier put in their mailboxes, then by email, and finally in person. Responses varied among the high-poverty schools. At one school, eight teachers indicated that they did not wish to be a part of the study, whereas there were no negative responses at another school. Only a small handful of teachers from each school responded to the recruitment emails, and those responses were all positive. The vast majority of study participants were recruited in person, and most teachers were agreeable to participating when asked.

Five teachers at each school were purposefully selected to participate in this study. Priority was given to novice teachers and teachers who recently transferred to each school because they were the most likely to have been the beneficiaries or targets of district-level recruitment, retention, and/or professional development policies aimed at increasing the supply of effective teachers in high-poverty schools. Among teachers that met these criteria, up to three participants were chosen. At least two teachers who did not meet the novice or recent transfer criteria were also selected to provide a balanced view of the policies' implementation at these high-poverty schools. Interviews, which lasted approximately 45 minutes, were conducted in person at each school site and digitally audio recorded. The resulting data from the school-level participants included the audio files of the interviews, the interview transcriptions, and any notes or memos taken during or immediately following each interview. The interviews for school-level personnel were semistructured. They probed for the specific recruitment, retention, and professional development policies eligible for teachers at that school and their impact on the teaching force, while also being open ended enough to allow teachers to describe other factors that might facilitate or constrain effective teachers from staying at their school. The interview

questions also asked specifically about the impact of Project RADAR on their recruitment and retention decisions, probing for participants' sense of the facilitators and constraints to this and other programs helping the district move toward its goal of increasing the supply of effective teachers in high-poverty schools. On the last day at each school site, I examined the notes taken during the interviews to ensure that I was comfortable with the level of data saturation and determine whether I needed to add additional participants to be able to answer the research questions. That proved unnecessary. There was a great deal of consistency and overlap in the stories and viewpoints the participants shared, lending confidence to the saturation of the data.

Next I interviewed principals and teachers at the three selected low-poverty schools. Again, the principal provided a teacher roster that included pertinent information about the teachers, and all teachers at each school were invited to participate in the study. As in the high-poverty schools, participants at low-poverty schools were recruited using a flier and email, followed by in-person invitations. Two teachers at one low-poverty school responded that they did not want to participate in the study; no teachers at the other two low-poverty schools responded negatively. Like their counterparts in high-poverty schools, most teachers in low-poverty schools did not respond to the recruitment email at all, but responded affirmatively when asked in person to participate.

As before, five teachers at each low-poverty school were purposefully selected. Priority was given to novice teachers because they would have been eligible for the incentives in Project RADAR but elected to teach elsewhere, an important perspective in answering the study's research questions. Teachers with more experience were also chosen because they were more likely to have seen the cumulative effect of the district's

staffing policies over time, providing a different perspective than their novice counterparts. Like the interviews in the high-poverty schools, those in low-poverty schools were conducted in person at each school site and were digitally audio recorded, lasting approximately 45 minutes and yielding data in the form of audio files, interview transcripts, and notes or memos taken during or immediately following each interview. As with interviews with teachers in high-poverty schools, these interviews were semi-structured, probing for specific recruitment, retention, and professional development policies eligible for teachers at that school and their impact on the teaching force, while also being open ended enough to allow teachers to describe other factors that might facilitate or constrain retention of effective teachers at their school. As I had done in the high-poverty schools, I reviewed my notes on the final day at each low-poverty school site to determine whether it would be prudent to add additional participants. Consistency in participants' responses suggested that the data were adequately saturated and I did not need to conduct additional interviews.

Finally, I interviewed key district personnel involved in decision-making on recruitment, retention, and professional development policies. Administrators were purposefully selected based on their expertise in the areas of human resources, accountability, and professional development. Expertise was determined by the potential participant holding a leadership or upper-level management role in the relevant departments at the district's central office. I conducted three interviews with four administrators, as two of the administrators chose to be interviewed together. One of the interviews was done in person at the district office and digitally recorded and transcribed. Due to administrators' busy schedules, the other two interviews were conducted via

telephone, and meticulous notes were taken during and immediately after these interviews to capture the administrators' words as accurately as possible. District-level personnel were asked questions about all five research questions to illuminate the district's policies and their efficacy in the view of administrators. The interview protocols for the district-level personnel were semistructured, providing a starting point to answer the research questions but not being so precisely preworded to preclude me from adding or subtracting follow-up questions and probes.

The interview protocols, which appear in Appendix C, included primary questions and follow-up questions. The primary questions were directly based upon the research questions and were read directly from the protocol. The follow-up questions asked about specific policies or programs not originally mentioned by the interviewee, allowing me to seek specific information about the impact of the district's recruitment, retention, and professional development policies. Although not explicitly written into the protocol, probing questions were also asked of the participants. Probing questions included prompts such as "Please tell me more about . . . " or "What do you mean by . . . ?" and allowed me to request greater clarification and explanation. The protocol was written such that the question categories did not have to follow a particular order, and the order varied from interview to interview. This flexibility was necessary because the study participants had limited time and may not have gotten to the questions at the end of the list. Varying the order of the questions ensured that all of the topics were addressed. Appendix A shows the data collection points and their sources for each research question.

The interview protocols were not externally validated prior to use in this study because they were specific to the district being studied; however, they were pilot tested

on a small group of teachers and administrators near my home university. This informal pilot test allowed me to practice using the semistructured questions and probes and solicit feedback on the clarity and word choice of the interview questions. The pilot test also helped improve content validity by providing a mechanism for feedback from content experts, specifically teachers and administrators similar to those I interviewed in this study. The pilot study included one novice, one mid-career, and one experienced teacher from a high-poverty school; one mid-career teacher from a low-poverty school; and one principal. I revised the interview protocols by rewording questions when my pilot study participants either told me the questions were unclear or answered in a way that indicated they had interpreted the question differently than I had intended. For example, the pilot study revealed that teachers' different definitions of "an effective teacher" led to confusion when answering questions that used this term. As a result, I revised the interview protocol so that it would be clear at the beginning of each interview that teachers were to use the district's definition of effective teaching in answering the rest of the questions.

Data Analysis Procedures

As soon as possible after each visit to the school site, I transcribed the digital files from the audio recordings and then uploaded them into Atlas.ti, version 7.0. Any research memos taken during and immediately following each interview were also uploaded to this program, attached to the corresponding transcript, and included as a part of the data analysis. Atlas.ti includes a space for memos alongside their corresponding transcription text to permit simultaneous and linked data analysis. Likewise, all document files and

web text were uploaded into Atlas.ti. All documents used in this study were provided in PDF format, enabling digital uploading, storage, and analysis.

Many types of coding were used to prepare the data for analysis. First, *attribute coding* (Saldaña, 2009) was used to tag each transcript with data about the school and participant so that codes could later be sorted by these attributes to determine differences between the responses of high-poverty school teachers and low-poverty school teachers, between novice teachers and experienced teachers, and so forth.

Next, *structural coding* (Saldaña, 2009) was used to group the data into large categories that corresponded with each research question. Six structural codes were applied: teacher effectiveness,[10] recruitment, allocation, retention, professional development, and progress. Structural coding enabled the codes to be grouped into "families" within the Atlas.ti program for ease of analysis.

Whereas the attribute and structural codes were predetermined by the research questions, the next rounds of codes were dictated by the specifics of the district context. These codes emerged from the data using the methods advocated by Miles and Huberman (1994), specifically, "chunking" the data into units of meaning and giving these units a label (p. 56). Text was recoded and recategorized when appropriate as the data became richer and the patterns clearer. The data were analyzed line by line and *descriptive codes* were assigned to each idea described by the participants. Finally, *pattern codes* were applied by organizing the descriptive codes and corresponding quotations into "networks" within Atlas.ti. Miles and Huberman (1994) explained that "pattern coding is

[10] Although teacher effectiveness was not one of the domains in the conceptual framework for this study, the interview protocols began with efforts to clarify the district's definition of teacher effectiveness because many subsequent questions referenced this term. Teacher effectiveness was included as a structural code to help organize participants' varied responses to these clarification questions.

a way of grouping those summaries into a smaller number of sets, themes, or constructs" (p. 69), as illustrated in Figure 2.

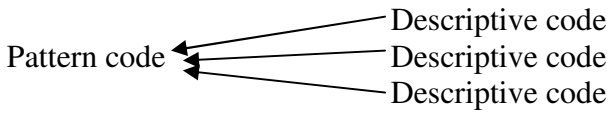

Figure 2. Illustration of descriptive and pattern coding (based on Saldaña, 2009, p. 153). The figure shows pattern codes being composed of a set of related descriptive codes.

An example of the relationship between descriptive and pattern codes in this study is shown in Table 1. RECFAC, an abbreviation for recruitment facilitators, was one header given to the descriptive codes to enable them to be categorized appropriately. For example, if I had not used the RECFAC header to indicate the broader topic being discussed, the code "bad job market elsewhere" may also have referred to retention and led to confusion in the data analysis because participants also discussed the job market when answering questions about retention. The RECFAC header enabled this code to be quickly and correctly assigned to the corresponding section during data analysis. The three RECFAC descriptive codes in Table 1 together comprise the pattern code REC: State-/National-Level Facilitators. A complete list of the codes used in this study is found in Appendix B.

Table 1
Example of Descriptive and Pattern Coding

Pattern code	Descriptive code
REC: State-/national-level facilitators	RECFAC – bad job market elsewhere
	RECFAC – loan forgiveness
	RECFAC – more jobs in NC than elsewhere

The use of the query tool, co-occurrences tool, and network manager in Atlas.ti allowed for exploration of the relationships between codes and for representation of these

relationships in code lists and charts. An example of a graphical representation is shown in Figure 3. As advocated by Saldaña (2009), manipulating the codes in this way allowed for the creation of assertion statements: "Use the Pattern Code as a stimulus to develop a statement that describes a major theme, pattern of action, a network of interrelationships, or a theoretical construct from the data" (p. 154). These assertion statements formed the basis for the findings of this study.

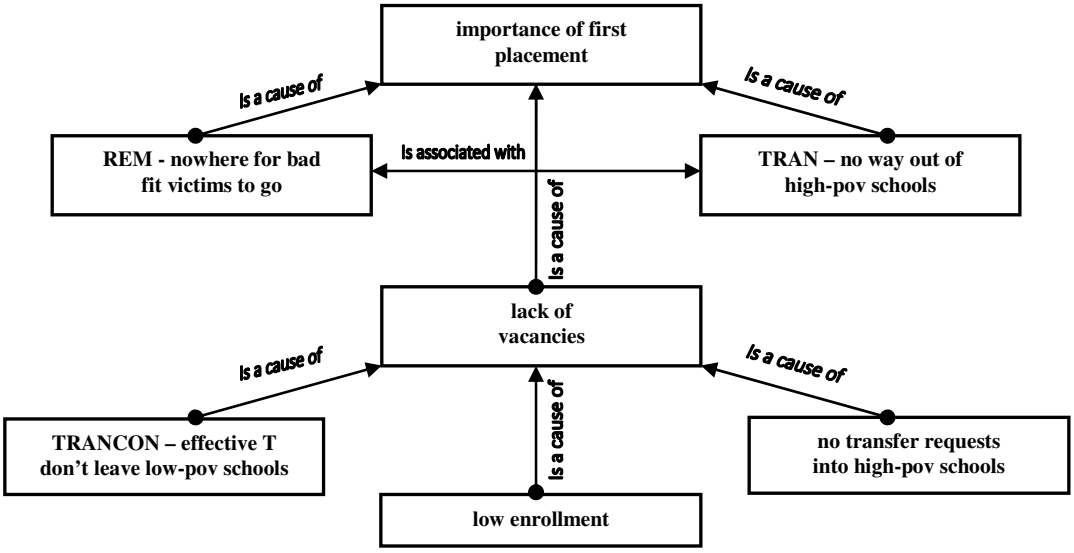

Figure 3. Example of network relationship in Atlas.ti. The boxes represent descriptive codes in this study and the lines represent explorations of the interrelationships between the codes.

During the process of coding the data, I intended to consider the context of each school site individually and perform a within-site analysis prior to collapsing the data into the district level. Eisenhardt (1989) advocated for this step because it "allows the unique patterns of each [site] to emerge" and gives investigators "a rich familiarity" with each site on its own that then facilitates cross-site comparison and contrast (p. 540). After

coding the data, however, it became apparent that the comparisons most relevant to answering the study's research questions were across, not within, the poverty level of the schools. Therefore, I used a modified version of this technique by analyzing the high-poverty school data separately from the low-poverty school data to discover the patterns that emerged unique to each population. I then collapsed the data from the six selected schools into one large data set that also included the data from the district-level administrators and documents.

In qualitative studies, the data collection and data analysis phases often occur simultaneously; moreover, most qualitative guidebooks (e.g., Miles & Huberman, 1994; Yin, 2003; Merriam, 1998, Glesne, 1999; Lofland & Lofland, 1995) warn researchers not to wait until the end of data collection to transcribe and code the data for fear of losing the ability to probe study participants for emerging concepts or add additional participants for new perspectives before the researcher leaves the study site. I conducted six separate visits to the study district with 1 week in between visits, enabling the transcription of the interviews from one school to be completed before entering the next. With such a tight timeline that backed up to the end of the school year, it was not possible to code the data until after the six visits were completed.

The goal of qualitative research is to present a clear picture of the phenomenon under study, particularly when the focus is an innovative program or an underresearched topic, so that it contributes to the general knowledge base in education and can later be combined with other data to create or test a theory. In this case, the data were expected to illuminate the strategies that the district was using to increase the supply of effective teachers in its high-poverty elementary schools, the extent to which it was succeeding at

this goal, and the factors that facilitated and constrained it in meeting this goal. The data are presented in chapter 4 using both descriptive prose and visual displays.

Quality Assessment in Qualitative Studies

Peshkin (1993) discussed the quality of qualitative studies in terms of their contributions to knowledge and the desirable outcomes they yield: description, interpretation, verification, and evaluation. Using Peshkin's terms, this study contributes to the field by providing interpretation: it clarified a district's staffing policies used to meet the goal of increasing the supply of effective teachers in high-poverty schools, and it provided insights into the efficacy of the district's staffing policies from the perspectives of administrators and teachers.

To assess the quality of a qualitative study, the reader needs assurances that the study's findings are trustworthy. Guba (1981) explained that trustworthiness in qualitative research has four components: credibility, transferability, dependability, and confirmability. *Credibility* refers to the extent to which the research presents an accurate picture of the study phenomenon within its context. This study increased its credibility through the use of established procedures in qualitative research. It used multiple sources and methods to arrive at findings and conclusions: interviews at the district level, interviews at the school level from two different types of schools (high-poverty and non–high-poverty), and document analysis.

Transferability refers to the extent to which the study findings can be applied to other contexts. It is a somewhat problematic idea because qualitative studies are usually so context-specific that they preclude generalization to other contexts. This study aligns with a popular stance among qualitative researchers that places the burden of

transferability on the consumer of the research rather than on the researcher, leaving it up to the reader to determine the similarities between the study context and other contexts and the extent to which the results would likely be transferable (Merriam, 1998). Extensive use of the participants' own words in presenting the findings of this study (while maintaining anonymity) demonstrated the richness of the data collected for this study and provided ample evidence for my conclusions, which provide the reader with the information needed to make informed decisions about transferability to other contexts.

Dependability is a synonym for the more positivist term reliability, which refers to the idea that the results should be the same were another researcher to repeat the study. To enable assessment of this study's dependability, I explicitly described my decision-making at each step of this study. A log of data analysis codes appears in Appendix B to provide further transparency into the data analysis process.

Finally, *confirmability* refers to the extent to which the results are based upon the experiences of the participants and account for any bias on the part of the researcher. To increase the confirmability of this study, I engaged in frequent dialogue with my committee members at my home university throughout the dissertation process, asking them to inspect my interview protocols, analysis matrices, and emergent findings for hidden bias. I used their feedback to hone and improve my interpretations of the data.

Human Participants and Ethical Considerations

The risks to the participants in this study were very minimal. There was the potential for embarrassment or reprimand if participants disclosed negative information about school or district policies and their anonymity could not be maintained. Every

effort was made to mitigate these risks. Potential participants were provided with sufficient information about the study to decide whether or not they wished to participate. Each participant read a consent form explaining the study's purpose, risks, and benefits (Appendix D). The participants' agreement to continue with the interview after reading the consent form indicated their consent to participate. This type of consent is known as "implied consent" and was approved by the Institutional Review Board of The George Washington University. It is a desirable form of consent because it generates no paper trail, further protecting participants' anonymity. Participants confirmed on the audio recordings that they had read the informed consent form. Once uploaded onto the computer, the digital files from the interviews were deleted from the recorder and all soft copies of documents that identified the schools or participants in the study were destroyed. Two digital copies of all data were maintained: one on my personal laptop and a back-up copy on my personal external hard drive. Both of these devices were password protected and kept in my home. No one had access to them other than me.

The study district's research office gave permission for the state of the study, North Carolina, to be revealed. The names of the district, schools, and individuals in this study will remain confidential. Data from the administrators' interviews were collapsed such that no quotes could be attributed to any specific administrative job title. Each participant was given an alphanumeric pseudonym to be used in the interview transcription. Care was taken to ensure that participants could not be personally identified by any extended quotes used in the dissertation text.

In addition to confidentiality concerns, participants in this study may also have been negatively impacted by the time taken away from their busy schedules by agreeing

to be interviewed. I addressed this concern by making sure that participants were informed about how long the interview would take and adhering to the agreed-upon time limit. I also lessened the impact of the loss of time by allowing as much flexibility as possible in scheduling the interviews at the participants' convenience.

Finally, there is the concern that qualitative researchers may not present their data in an ethical way. In this case the concern comes from the study district's policies for external researchers, which state that the district must receive a copy of the study's final report before a researcher is allowed to submit a study for publication. The district reserved the right to remove its name and any identifying features in the study, to require the researcher to attach a disclaimer provided by the district, or to require additional data verification measures. As an ethical researcher I have maintained high standards of professionalism and integrity, presenting my data faithfully regardless of whether they are favorable or unfavorable to the district's goals, acknowledging that doing so is taking a risk that my study will not reach a broad audience.

CHAPTER 4:

FINDINGS

This chapter presents the findings of one district's efforts to use its staffing and professional development policies to increase the supply of effective teachers in its high-poverty elementary schools. The findings are based on 39 interviews[11]: interviews with the five teachers and the principal at three high-poverty and three low-poverty elementary schools, and three interviews with district-level administrators.[12] The teacher participants were purposively chosen to represent a broad range of experience levels and perspectives: their experience level ranged from 3 months to 29 years, and they included teachers from every grade level and subject.[13] In selecting participants, the teachers' status as a novice, transfer, or experienced teacher at that school was considered so that the participant pool would be diverse enough in this aspect to adequately answer questions about teacher recruitment, allocation, and retention. In an effort to ensure anonymity, the names of the district, schools, titles, and participants are not reported, and all pronouns have been changed to "she."

The data for this study were analyzed in three layers, allowing me to look separately at the responses of participants from high-poverty schools, low-poverty schools, and the district office. Although I took careful notes about the context of each

[11] There were 40 participants in this study. A joint interview was conducted with two of the district-level administrators, resulting in the number of interviews being one less than the number of participants.

[12] Two of the administrator interviews were conducted over the phone. Quotes attributed to these administrators are based on meticulous notes taken during and immediately after the phone interview, rather than on an exact transcript.

[13] The study was conducted at elementary schools, serving children in kindergarten through fifth grade. Participants included general classroom teachers as well as special educators and teachers of English for speakers of other languages.

school site while I was collecting the data, I was careful in my presentation of the data to honor the confidentiality of the study participants by not connecting their words to one particular school site. Participants are identified by the poverty level of the school and/or their experience level, but details about the individual context of each participant's school were purposefully obscured in this chapter. The environment of the schools in this study varied, even within poverty levels. For example, one of the high-poverty schools gave a cheerful impression to outsiders, with lots of natural light streaming in through the windows, colorful hallways filled with students' work, and teachers who frequently left their doors open. In contrast, in another high-poverty school I encountered dimly lit hallways and closed classroom doors that were kept locked from the outside. The low-poverty schools were similarly diverse from one another. In analyzing the data I looked at the context of the participants' individual schools for evidence that the particular school assignment may have contributed to their perceptions, but my perceptions of the school environment (e.g., cheerfulness, friendliness to visitors, and level of observable parental involvement) were not as predictive of participants' responses as were the poverty level of that school and certain characteristics of the participants (e.g., level of experience, designation as a teacher leader); therefore, this chapter focuses on those characteristics in the presentation of the study's results.

This chapter presents the results of this study by research question. The results for Research Question 5, which asks about the facilitators and constraints to the district's efforts to increase the supply of effective teachers through its policies in the domains of recruitment, allocation, evaluation and development, and retention, are embedded in the discussion with the corresponding research question.

Research Question 1: Recruitment for High-Poverty Schools

RQ1. *In what ways are teacher recruitment policies targeted to meet the recruitment needs in high-poverty elementary schools?*

RQ5a. *What are the recruitment facilitators and constraints to achieving the district's goal of increasing the supply of effective teachers in its high-poverty schools?*

The interview transcripts for this question yielded data that were both rich and broad. The data for this question were the easiest to analyze of any of the questions in this study, primarily because each descriptive code fit neatly into a corresponding pattern code. The network on teacher recruitment yielded a clear visual image of the facilitators and constraints to the recruitment of effective teachers in high-poverty schools. The teachers had given broad, albeit predictable, answers about the school factors they found appealing and unappealing in their recruitment decisions, which made for easy categorization and analysis. The richest data for this question came from the inquiries about defining and measuring teacher effectiveness. Although different types of participants gave different answers, as discussed in the following section, most participants had strong opinions on the topic, and many expressed themselves with great passion, providing a deep look into how the district's emphasis on improving teacher quality was received by different stakeholders.

Targeting Recruitment to High-Poverty Schools

Finding 1-1. *The district did not have a universally understood definition of "an effective teacher." Regardless of the teacher quality metric used, it was a challenge for district administrators and principals to predict who among qualified applicants would*

be effective. Teacher hiring was primarily done at the school level, and principals used both official and unofficial channels to hire the most promising candidates.

The interview protocols for all participants began by asking how each participant defined teacher effectiveness and whether they believed their personal definition was consistent with that employed by the district. The question was included to acknowledge participants' experiences and beliefs about this broad topic while at the same time asking participants to put their personal definition aside and use the district's definition of teacher effectiveness when answering the rest of the questions that referenced this term. When asked what an effective teacher was, participants' answers were extremely varied. District officials offered teachers' value-added scores as a metric for measuring teacher effectiveness. Principals spoke in vaguer terms of "growing their students." Teachers gave myriad answers, including student-centered definitions, data-driven definitions, and instruction-centered definitions, as represented in Table 2. Other than referencing a general "student test scores" component and parroting a "rigor and relevance" refrain that they had heard in meetings, teachers could not state the district's definition of an effective teacher.

Table 2
Aspects of Teacher Effectiveness According to Teachers

Category	Aspects of teacher effectiveness
Data-driven aspects	**Student test scores**
	Statewide teacher evaluation system
	Student mastery of grade-level skills
	Continual assessment and data-driven instruction
	Teacher value-added scores
	School meeting improvement targets
Student-centered aspects	**Student success (broadly)**
	Meeting students' needs (broadly)
	Student engagement
	Outcomes other than test scores
	Parent/family/community involvement
	Students' later success
	Student preparedness for the next grade
Instruction-centered aspects	**Strong lesson plans**
	Collaboration with colleagues
	Differentiating instruction
	"Meeting the students where they are"
	Classroom management
	Content knowledge (TPACK)
	Using multiple teaching styles
Dispositional aspects	Being a lifelong learner
	Creativity and resourcefulness
	Leadership
	Relationship/rapport with students
	Willingness to "go the extra mile"
	Reflection
	Flexibility
	Having high expectations
	Having a competitive nature

Note. Aspects of teacher effectiveness are listed within each category in order of frequency. The four most common answers overall are in bold ($n > 7$ participants listing these factors). TPACK indicates technological, pedagogical, and content knowledge.

District administrators were able to provide a more official explanation of how the district viewed teacher effectiveness. One administrator stated,

> The district does not have a set definition of teacher effectiveness overall, but in regards to the performance-based compensation system, an effective teacher is defined as someone who is proficient or above on all five domains of the North

> Carolina Professional Teacher Evaluation System and has above-average value-added data scores.[14]

In spite of the value-added score playing an increasingly prominent role in teachers' evaluations, teachers were unaware of exactly what that score represented, and there was a general sentiment that teachers had little control over it. They wanted students to do well on the tests, but whether a student had shown a year's worth of growth on value-added statistical models was something that they felt had too many extraneous variables to be used as the definitive measure of their instructional quality. One participant described it this way:

> I can learn my content. I can control how I facilitate the content in the classroom. I can take on leadership. I can be culturally responsive. I can manage those things. But ultimately we put the kids on the court and we don't get the ball. We've taught them everything that they should know, but we don't get the ball.

In addition to feeling that their value-added score was outside the scope of their control, teachers in this study were not aware that the value-added metric included statistical controls for students' prior achievement. Teachers commented:

> You give me the hardest-knock kids to teach, they're not going to achieve all fours on the EOGs [end-of-grade tests] like the silver spoon kids over there.
>
> You're basing that on one test. That's the thing I don't like and don't think is fair. Base it on what I've done, how I've brought that child from Day 1 to Day 200.
>
> Why am I going to bust my tail and work as hard as I can with these students who are making growth but they're not scoring threes or fours on their EOGs because they came to me as a first grader or second grader, or two grade levels below in reading?

[14] The inadequacy of the available proxies for teacher effectiveness is acknowledged and discussed in chapter 2. When referring to "effective teachers," the study used the definition employed by the district in its staffing policies.

However, even beyond this misunderstanding, teachers' overall concerns were backed up by the validity and reliability problems in value-added methods, as described in chapter 2. District administrators pointed out that workshops were available to explain the value-added metric to teachers and help them understand the statistical controls that increase the validity of the score, but these workshops were voluntary and not well attended.

Regardless of the teacher effectiveness metric used, both district administrators and principals indicated that it was a very difficult task to know during the hiring process which teachers would prove to be effective. An administrator put it succinctly: "For new teachers, there are no effectiveness indicators. We don't know who will turn out to be effective and who won't." A high-poverty school principal was more forthcoming in describing this challenge:

> Here's the thing, I'm going to be real and stop being politically correct. It's a freaking shot in the dark, because anybody can come in here and sit in that chair and give a wonderful interview. I've had it happen, where people will sit in the interview and go through the interview with me and with the team, and the team loves them. They, everybody, most people that are trying to get a job are going to do everything they can to get that job, and so you're going to give me your best sitting in that chair. And you're going on them being able to spout off to you best practices, and most people trying to get a job here can do that. Most people who have done their research, have gone on our website and looked at our scores, all of that stuff, so everybody pretty much sounds the same. But it becomes this intuition kind of thing where you're literally asking questions and it sounds horrible, but trying to trip the person up to see if you really know what you're talking about and to see what kind of relationship you have with your administrator, with the people in your building. What kind of building, what kind of school was it? Was it a school that looks like ours? Because if you came from a school that was in a country club neighborhood, chances are you have no clue what it's like to work in a school like this and you won't last past a couple of weeks. I'm looking for someone else. Because teachers here, unless you are dedicated, burn out, and they burn out fast. So you know, how do you find that person? You pray.

In probing why predicting teacher effectiveness in recruits was such a challenge, another principal posited that the majority of new teacher candidates were average, not highly effective. To the extent that her thoughts are accurate, a constraint to teacher effectiveness may exist at the preparation level, before the candidate even enters the school system. The principal described it this way:

> I just don't think there are that many *truly*, truly highly effective teachers out there. I just don't, I mean really. I don't know why. I think part of it is the fact that some teachers are just innately good. I think some are trained to be good. . . . I think some of your worst schools have great teachers, and some of your best schools have ineffective teachers. I just don't think that there are thousands of them graduating from college every year.

The burden of selecting the most promising candidates in the absence of adequate predictive indicators fell primarily on the principals because teacher hiring in the district was done at the school level. The district targeted its recruitment efforts to high-poverty schools by providing assistance to these schools' principals in screening candidates' dispositions toward working in high-poverty classrooms. District policy required recruits to go through a prescreening process that included questions intended to gauge a teacher's likely success in high-poverty schools. The prescreening included a candidate survey and a panel interview with several principals. One principal described it this way:

> All the principals in the district are required to sign up for a certain day every month. You sign up for what day you want. . . . Usually we have three people that we do screenings with. [There is] a rubric we follow when we're asking the questions, and if they score at a certain level on the rubric, then they're considered someone eligible for a position in our district. Then as a principal, if I have a position open, I contact HR [human resources] to let me know who are some of the people that have passed the [screening], so I know who I can call.

The district's human resources department maintained an online repository of candidate resumes, survey results, and scores from the panel interview. Principals could

access this repository online and select from among teachers who had scored well on the prescreening to decide whom to interview further for any openings at their school. They reported that they found the prescreening very helpful in their efforts to hire effective teachers. One principal stated,

> The screening holds credibility. . . . I'll be honest with you. I don't think anyone would do well in an interview that wouldn't pass that screening because it's questions that we would be interested in, questions that we'd be asking too.

In addition to using the official channels in the hiring process, both teachers and principals in high-poverty schools reported principals using off-the-record wheeling and dealing in the effort to recruit the best candidates to their schools. When one principal had a strong candidate but couldn't offer her a position, she would frequently call other principals with known vacancies and advocate on the candidate's behalf. As two teachers described,

> I wasn't really recruited particularly for this school. I interviewed elsewhere and thought I was going to have a job there, but then the teacher decided not to leave [laughs], so the position was no longer open. That principal called the principal here at the time and said, "Okay, I know someone," and I came and interviewed here.
>
> The assistant principal at the site where I did my student teaching is really close friends with the principal here. So she referred me here.

Supporting these teachers' claims, principals from high-poverty schools admitted to bypassing the online human resources repository and calling one another as a common practice in recruiting promising candidates to their schools. One said,

> I go by referrals. For example, if I know a school is losing teachers, I'll ask the principal, "Do you have any good teachers that you're losing?" Because sometimes the last hired teacher may be one of the best in the building.

Finding 1-2. *The district targeted its recruitment efforts to high-poverty schools by providing monetary incentives in the form of signing bonuses and performance incentives to fill hard-to-staff positions in high-poverty schools.*

Project RADAR[15] is a federally funded program in the district that provides recruitment and performance incentives, as well as increased professional development supports, to teachers in targeted high-poverty schools. There have been several different rounds of the program as grant funding has become available. This study took place near the end of the second round of Project RADAR. In the first round, elementary teachers in grades 3 to 5 were given a $5000 signing bonus for accepting a hard-to-staff position in a targeted high-poverty school, and up to $10,000 in additional performance bonuses were available for fifth-grade teachers who maintained high value-added scores once in those positions.[16] All teachers at the school were eligible for a $1500 bonus if the school met its academic growth targets. In the second round of Project RADAR, the incentive structure was changed so that different models could be studied to determine their relative impact on teacher retention and student growth. Some targeted schools in the second round received incentives identical to the first round, but with added incentives for teacher leaders. Others received identical signing bonuses and teacher leader incentives, but awards of 1% of the salary (with all teachers and staff members eligible for the bonus, regardless of the school meeting its growth target or not) instead of individual and schoolwide performance bonuses.

[15] Project RADAR is a pseudonym taken from the four domains of the theoretical framework for this study: Recruitment, Allocation, Development, and Retention.
[16] Value-added scores rely on students having at least 2 years of prior test data. Because testing begins in third grade, only the fifth graders have 2 years of prior test data, and therefore only fifth-grade teachers receive value-added scores.

In addition to the monetary bonuses, the district used Project RADAR to provide high-poverty schools with other targeted assistance, which was appealing to potential candidates for positions in these schools. Project RADAR schools were required to have smaller class sizes than their low-poverty counterparts and were provided with a coach from the district to provide professional development and assist with school improvement efforts. The work of these coaches was highly customized to each school site. Teachers in Project RADAR schools also received targeted professional development opportunities not given to teachers in low-poverty schools.

Finding 1-3. *The district utilized a variety of connections with institutions of higher education to aid in its recruitment of effective teachers for high-poverty schools.*

Several teachers and principals mentioned the district's presence at university-sponsored job fairs as one factor in its ability to hire well-prepared candidates. The district also utilized several partnerships with local universities to ensure that a cadre of novice teachers was acquainted with the district and prepared to serve in its high-needs schools. A district administrator described one such partnership, which focused on recruiting from historically black colleges and universities (HBCUs):

> Our alternatively certified teachers almost all end up in high-poverty schools. So knowing that, we've done a few things to help support that population of teachers. We recruit at HBCUs' alternative certification programs to help there be less of a cultural gap between the student population and the teaching force. We also provide specific extraprofessional development for working with students in poverty to the alternatively certified corps of teachers. This program has been hugely successful.

Another alternative certification program was housed jointly by the district and a local university. A different district administrator reported that this alternative

certification program was essential to the district's efforts to target its recruitment efforts to high-poverty schools:

> The district has an in-house alternative certification program. This allows the district to indoctrinate candidates as they are earning their license, not just making it easier to become a teacher in this district but also helping acclimate them in the process.

Consistent with the requirements of federal education programs such as Race to the Top, the district had begun to employ backward mapping of teachers' value-added scores to their institutions of higher education. Administrators reported that these data helped them better target their recruitment to high-poverty schools. For example, one local university's graduates were consistently producing math teachers with higher value-added scores than other universities, and the district targeted its secondary mathematics teacher recruitment to that school.

Recruitment Facilitators

Finding 1-4. *The largest facilitator to recruiting teachers to high-poverty schools was the overall economy, not any particular district policy or program.*

Participants at all levels mentioned that there was not a teacher shortage in the state at the moment. The primary facilitator to recruiting effective teachers was the fact that there was an ample pool of candidates from which to choose. There were more teacher candidates than positions. Teachers reported again and again that they accepted the first job offer that came their way and were grateful to have gotten a job at all. In response to the question about what attracted the teacher to the position, eight teachers mentioned "it was a job." When asked whether she considered high-poverty schools

when she was looking for her first placement, one novice teacher in a low-poverty school replied,

> Yes, and I would've accepted one! I went to a couple job fairs and talked to principals. I did an internship in a high-poverty school, and I would definitely teach in a high-poverty school. It would have a whole new set of challenges than this school, but I'm not opposed to it. . . . This school just beat them to the punch. I never really had the chance to sit down and weigh my options because I had this great opportunity and I grabbed it.

The lack of available positions in conjunction with an ample supply of candidates created competition through which the district could increase the supply of effective teachers by selecting only the most qualified and promising candidates. As one principal of a high-poverty school succinctly stated: "Recruitment is not the problem. Retention is."

Finding 1-5. *Teachers considered monetary incentives and many other factors when deciding whether to accept a position in a high-poverty school. Teachers in both high-poverty and low-poverty schools also mentioned proximity of the school to home and diversity of the student population as important factors.*

In addition to the job market concerns discussed above, many other factors facilitated teachers' acceptance of positions in high-poverty schools. These facilitating factors had various origins. Some, such as federal loan forgiveness, were national programs. Others, such as Project RADAR, were programs or policies initiated at the district level. The majority and most salient of the facilitating factors that motivated teachers to accept positions in high-poverty schools, however, were school and personal factors. Table 3 lists the most common factors teachers in high-poverty schools considered when they were seeking a job in this district.

Table 3
Facilitators Impacting Teachers' Motivation to Accept Positions in High-Poverty Schools

Category	Facilitators
State- and federal-level facilitators	**"It was a job" (bad economy)** Federal loan forgiveness program
District-level facilitators	Monetary incentives
School-level facilitators	**Proximity of the school to home** **Diversity of the student population** Perception of camaraderie/support among staff Perception of principal support Technological capacity Desired grade level Familiarity with the curriculum Perception of school climate The presence of a schoolwide discipline plan Facilities The presence of teachers' assistants
Teacher-level facilitators	Making a difference for a needy population Being a role model from the community Liking a challenge

Note. Recruitment facilitators are listed within each category in order of frequency. The most common responses are in bold. Most participants mentioned more than one factor impacting their motivation to accept a position at their school.

Most of the teachers in this study were hired before Project RADAR, and therefore this program would not have been applicable to their recruitment decisions. Of the nine teachers in this study hired after the inception of Project RADAR, three mentioned that its monetary incentives played a modest role in their considerations about where to seek or accept a teaching job. All three teachers knew that they wanted to teach in a Title I school, so the monetary incentives cannot be credited with drawing them to a higher-poverty school than they would otherwise have chosen; however, one teacher specifically sought out a fifth-grade position so that she would be eligible for the performance bonuses.

Although Table 3 includes only the responses of teachers in high-poverty schools, there was significant overlap between the responses of teachers in high-poverty and low-

poverty schools for two of the responses. First, one facilitating factor mentioned by both teachers in high-poverty and low-poverty schools was the school's proximity to the teacher's home. "Close to home" was coded for 12 out of the 30 teacher participants, with equal emphasis put on this facilitator from each group of teachers. The second most commonly mentioned facilitating factor was ethnic diversity in the student population. Regardless of the poverty level of the school, teachers at schools with many different ethnic groups represented in the student population mentioned that diversity was a drawing factor:

> I was really excited about the fact that there were so many cultures here in this school, and one of the things that the principal explained to me was that not only was the student population diverse but the faculty was as well, and the students were able to connect with the faculty since it was so diverse.

There were some notable differences in the facilitating factors mentioned by teachers in high-poverty schools contrasted with their counterparts in low-poverty schools that point to potential differences in the dispositions and personal motivations of teachers in the two groups, as displayed in Table 4.

Table 4
Contrasting Recruitment Facilitators for Teachers in High-Poverty and Low-Poverty Schools

Recruitment facilitator mentioned more frequently by high-poverty school teachers	Recruitment facilitators mentioned more frequently by low-poverty school teachers
Making a difference to a needy population	Children can attend school where Mom teaches Opportunity for professional growth

Teachers in high-poverty schools mentioned being attracted to their schools' neediness:

> Just the real needs of the students, I think, is what really attracted me, because here you're needed very, very much. And I think it's great.

They explained that making a difference for a needy population of students was part of what made teaching meaningful for them. As one teacher put it, “I purposefully looked for a Title I school because I really believe in working with these kids.” In stark contrast, no teachers in low-poverty schools mentioned the desire to make a difference or being a role model for their students as playing a role in their decisions about where to accept a teaching job. In fact, several teacher participants in low-poverty schools implicitly shied away from needy students by looking for a school with higher test scores. One teacher commented,

> Knowing that it had a strong base of academics, a strong base of testing scores, of going above and beyond for students, was my most important goal.

Conversely, teachers in low-poverty schools mentioned two factors more often than their counterparts in high-poverty schools. First, several teachers in low-poverty schools mentioned intentionally seeking a school where they would feel comfortable sending their own children, for the convenience of being able to have the child and the parent in the same building. Teachers who expressed this desire were hesitant to enroll their children in schools with low test scores, which led them away from high-poverty schools. Second, teachers in low-poverty schools mentioned opportunities for professional growth more often than their counterparts in high-poverty schools. One such teacher mentioned being asked in her interview what professional development books she’d read lately, which indicated to her that the school was a place where professional development was valued and emphasized. She had also interviewed at two high-poverty schools and was not asked that question by principals in those schools.

Another difference between teachers in high- and low-poverty schools was that although they each mentioned school climate as a facilitating factor to accepting a job at

their school, teachers in the two groups pointed to different appealing aspects of school climate. Teachers in low-poverty schools focused on the ways that teachers and students interacted with one another. One teacher in a low-poverty school remarked,

> I loved that it seemed very positive. I mean, from the minute you walked in—I'm sure you get that sense too—it's just very, very positive. I think positivity can do wonders for students. I think that, you know, I loved the way that they talked about tone of voice, and I think I flow with that anyway. I've never used a really loud or boisterous voice.

In contrast, teachers in high-poverty schools also mentioned aspects of school climate as important in their recruitment decisions, but they focused less on the relationships between teachers and students and more on the perceived friendliness and camaraderie among teachers at the schools. For example, one novice teacher explained,

> I really just liked the atmosphere of the school. It had, it made a good first impression on me. . . . When I came in to interview and I met a lot of the staff members, I met the principal, and they were just really, really nice.

Other notable factors facilitated the hiring process for high-poverty schools:

- Explanation of Project RADAR at the prescreening
- Early hire program
- A greater presence of high-poverty schools than low-poverty schools at job fairs
- Alternative certification program for co-teachers to become certified

Recruitment Constraints

Finding 1-6. *The largest constraint to recruiting effective teachers to high-poverty schools was the negative perceptions of the teaching environment in these schools.*

Low-poverty school teachers mentioned seven negative perceptions of high-poverty schools that steered them away from considering positions in those schools[17]:

- **Discipline problems**
- Lack of respect for teacher professionalism
- Expectations outside of school hours
- Testing and accountability pressures
- **Teacher stress**
- Lack of principal leadership
- Lack of support

Only one of these teachers had previously taught in a high-poverty school. The teachers' perceptions came from conversations with colleagues and friends across the district, from witnessing that some teachers in the district were required to participate in more professional development than others, and from the media.

Two of the three high-poverty school principals noted that candidates' negative perceptions about teaching in high-poverty schools presented the greatest obstacle in hiring effective teachers. They admitted that not all of the negative perceptions were unfounded, but they bristled at the misperception that there weren't good teachers in high-poverty schools. One principal explained,

> Many, many teachers don't want to work with the kinds of students that we have. They have a perception that working with kids from poverty is very difficult. And, I mean, it can be difficult. But their perception of high-poverty students is that they're ill-behaved and have all these problems, and they're hard to teach. And I mean, you know, sometimes those things are true, but the perception of schools like this is that it's not a good place to work. It's harder to work. And I think that probably is true, it's harder, it's a harder job at a Title I school. It's a

[17] Listed in order of frequency. Bolded factors were also mentioned by teachers in high-poverty schools as concerns they had when accepting their position.

> harder job to be an effective teacher at a Title I school than it is at a different kind of school. And I think the other thing now, particularly with the emphasis on accountability and scores, and especially now that they're including that as part of the new teacher evaluation process, whereas a new teacher or a teacher without several years of value-added data, the school's scores as a whole become part of your teacher evaluation! And if you're the art teacher, if you're the second-year kindergarten teacher, you know? I'm, my first response when I heard that was "Oh great, now people are *really* not going to want to come to schools with low student achievement" because it's one more element that says "you're not a good teacher." And that's another thing: People that don't want to come to schools that aren't performing well because the assumption is that all the teachers there are bad teachers. And that's not true.

Teachers supported the principals' assertions. Several teachers in low-poverty schools reported that they never wanted to teach in a high-poverty school because they perceived the teaching environment in those schools to be less desirable. When asked what factors led her away from high-poverty schools, one teacher replied,

> Really and truly just the stress. The, you know, wondering: Would I have that boost of morale, the support that I know that we have here, that everybody works cohesively together here? Could that happen somewhere else? I was unsure about how that looked. And knowing that some days you're dealing more with discipline more than teaching. I don't want to deal with that. Yes, we all deal with discipline, but is that worth not teaching? From hearing stories and things like that, they're dealing with discipline so much because they don't have the backing. To me teaching is more important than anything.

Some novice teachers in high-poverty schools would have preferred a placement in a low-poverty school but took the job because it was the best that was offered to them. These teachers expressed many reservations about accepting a job in a high-poverty school. One participant explained:

> The level of the students is definitely way more challenging than I originally expected, which scared the living daylights out of me, but it was a job and I was excited to get it. So I think what I was most nervous about was the behaviors and attitudes of the students toward teachers, because I know the respect level is different here than at a nonpoverty school. The behaviors are different. So I think that was the scariest thing to me. And I know the workload here is a *lot* higher. You just have way more varying degrees, you know. You have kids in fifth grade

> that are still reading at a kindergarten level and other kids that are reading up at middle school level, so I mean, coming in those were my biggest concerns, how to do it all.

Research Question 2: Allocating Teachers to High-Poverty Schools

RQ2. *In what ways are allocation policies for newly recruited teachers and experienced teachers targeted to increase the supply of effective teachers in high-poverty elementary schools?*

RQ5b. *What are the allocation facilitators and constraints to achieving the district's goal of increasing the supply of effective teachers in its high-poverty schools?*

Teacher allocation refers to the ways that teachers are assigned to their teaching positions after they have been recruited to the district. The majority of new teachers are selected at the school level, which means that in practice they are assigned as a part of the recruitment process, blending the domains of teacher recruitment and teacher allocation. For this reason, the domain of teacher allocation refers primarily to teachers' mobility; that is, teachers already in the system transferring or being reassigned to new schools.

Analyzing the data for this research question proved to be much more complex than the previous one. Whereas it was a straightforward task to categorize the factors making transferring easier and more difficult, it was more challenging to figure out the relationship between certain data points, yet doing so was crucial to fully answering the research question. Creating relationship maps, and returning to the transcripts to double-check these relationships as they emerged, helped increase confidence in the trustworthiness of the allocation findings. Figure 3 provides an example of one such relationship map.

Targeting Teacher Transfers into High-Poverty Schools

Finding 2-1. *The district had not targeted its teacher allocation policies to increase the supply of effective teachers in high-poverty schools. Teachers in low-poverty schools were largely unaware of the bonuses and other benefits they would receive if they transferred to a targeted high-poverty school.*

The district's staffing policies aimed at increasing the supply of effective teachers in high-poverty schools focused primarily on external recruitment efforts and did not include provisions intended to entice effective teachers to transfer from low-poverty schools to high-poverty schools. One administrator noted, "Project RADAR doesn't recruit transfers at all; it has to come from them." The lack of focus on transferring effective teachers from low-poverty schools into high-poverty schools related to concerns about poaching talent from one school to serve another, which was never the intent of the policy. A district administrator explained,

> We don't send notices telling teachers that they have high value-added data and therefore are eligible to receive the Project RADAR spot bonuses if they would decide to transfer. Doing so might anger the principals in their current schools, and we don't want to negatively impact any other schools through our Project RADAR policies. It is by self-selection only to help us achieve a balance.

However, if effective teachers in low-poverty schools desired to transfer to a high-poverty school to take advantage of the recruitment and performance incentives, they were permitted to do so.

In contrast to the district administrators' assertions that transferring teachers was not the focus of their incentive policies, one of the experienced teacher participants in low-poverty schools did report that she was "wined and dined" at the inception of Project

RADAR in a failed attempt to entice her to transfer to one of the selected high-poverty schools:

> Two years ago, they were recruiting high-efficiency teachers to go for Project RADAR schools. They were looking at our scores, how our kids did, and a couple of us got invited and wined and dined basically. . . . They'd won a funding project or something and we were taken over to the [fancy restaurant in town], and I was like "That's so nice!" And then I find out what schools it was and I was like NOPE! Nope nope nope, not gonna go.

According to another participant, National Board Certified Teachers (NBCTs) were also specifically informed of the program at its inception and offered an opportunity to transfer:

> I don't know what they called it, but they had where they paid teachers at high-poverty schools to teach at those schools. I'm a National Board Certified Teacher, so several years ago they called a bunch of NBCTs to a meeting to try to get us to, to put it out there like "we'd really like y'all to go to these schools." So I know it was out there.

The NBCTs in this study declined these offers and remained at their school.

Other than those two instances, teachers were informed of the district's incentive policies only in a broad sense and were not individually recruited or asked to consider a transfer. Teachers in non-Project RADAR schools did not know if their value-added score was high enough to qualify for the performance incentives, nor were the Project RADAR schools promoting themselves in such a way as to encourage transfers from within the district. Many of the teachers in low-poverty schools were largely unaware of the recruitment and performance incentives, assuming that because it was targeted toward other schools it didn't apply to them. "I know there are incentives, but I don't know what they are," was a common response of teachers in low-poverty schools.

Allocation Facilitators

Finding 2-2. *Only one participant in this study desired to transfer from a low-poverty school into a higher-poverty school; however, many participants in high-poverty schools reported a desire to change schools. Teachers seeking a transfer sought a less stressful position.*

The district had laid out a clear process for teachers who wished to transfer, as evidenced by strong consistency in teachers' and administrators' explanations of the transfer process. Teachers were expected to put their names on a transfer list, which then made them eligible to attend transfer fairs, contact principals, and interview for positions at other schools. When a teacher was offered a position at a new school, her current principal had to agree to release her before the transfer was complete. The current principal's consent was required so that she was notified of the intent to transfer in enough time to find a replacement before the start of the following school year.

Participants mentioned several factors that helped them be more successful in their attempts to transfer. Several principals and teachers at low-poverty schools mentioned that the best strategy for teachers seeking to transfer to their school was to "have an in"; that is, to already have social capital in the form of an established relationship with the principal at a target school, or to know one of the teachers at the target school and have that person advocate on your behalf to the principal. One of the teachers at a high-poverty school who desired to transfer to a lower-poverty school was using this strategy. She explained,

> We actually had three first-grade teachers last year, and the other first-grade teacher that was in this room over here, she actually works at that school now. So she talked to her principal, and her principal actually asked her, "Hey, how well do you know this person?" And she said, "Oh yeah, she was my teammate last

> year!" and she talked me up very highly. So I was like, "Oh, thank you so much!" and that is what caused her to send somebody over [to observe me]. So I'm hoping and crossing my fingers.

Likewise, principals reported that they strongly considered their current teachers' recommendations of colleagues to help select from among the many teachers on the transfer list. As one principal explained,

> I get a *lot* of resumes. I get so many resumes that, I mean, my email box gets filled up on a daily basis.

Principals said that they considered more strongly the candidates that their current teachers had recommended over unknown candidates who sent resumes. One principal mentioned that candidates recommended by current teachers were particularly valuable because the current teacher could offer insights that the principal might not be able to gauge in an interview:

> I'd even start by saying "Do you know her? What do you think? Would this be a good fit?" That kind of thing.

Five of the teacher participants credited "having an in" with how they arrived at their current teaching position. Two of the five—one high-poverty teacher and one low-poverty teacher—were hired at the school where they did their student teaching. Two others had children that attended the school and had been actively involved in the school PTA and were able to use those connections to secure a teaching position when a vacancy opened at the school. Only one of the five teachers who mentioned "having an in" as a facilitator in the recruitment process was at a high-poverty school.

Teachers who desired to transfer reported considering various factors in seeking a new placement. There were teachers in both high-poverty and low-poverty schools who

desired a new position entirely, such as a curriculum facilitator or reading specialist position. Other factors varied across school socioeconomic level, as illustrated in Table 5.

Table 5
Factors Desired in a New Placement by Teachers in High- and Low-Poverty Schools

Factors desired by high-poverty school teachers who desired to transfer	Factors desired by low-poverty school teachers who desired to transfer
A less stressful teaching placement	A different position
A different position	Higher-needs student population
Increased classroom autonomy	
Greater administrative support	
Bigger bonuses	
A desired community or location	

Teachers who desired to transfer most frequently reported that they would be seeking a new position (e.g., subject-area specialist, curriculum facilitator) or a less-stressful teaching placement (i.e., a position in a low-poverty school). They also said that they would be looking for increased classroom autonomy. One teacher seeking a new position explained,

> We have so many people coming in here to observe us and what they want to see in each lesson is one very specific objective being taught. So if they come in during math time, if your schedule says it's math time, then whoever is coming into your classroom they want to see math, and they want a very specific one singular objective being taught and everything related to that objective. And my brain doesn't think like that and I don't think like that. I'm much more into making connections and making thematic units and having my day go in a way that would make the most sense to me in terms of my students making those connections. I prefer doing a unit, doing projects, and not so much these very specific singular objectives.

District administrators reported that it was easy to transfer in this district, and they reported that teachers switching schools within the district was common. It is likely that much of the mobility in the district was between high-poverty schools. One teacher in this study desired to transfer from one high-poverty school to another high-poverty

school. She said that she would be seeking an upper grades position at a higher-performing Project RADAR school so that she would be eligible to receive the performance bonus, indicating that the district's monetary incentive policies played a facilitating role in some teachers' mobility decisions.

Allocation Constraints

Finding 2-3. *Teacher mobility in this district was extremely limited, due primarily to lack of vacancies. Teachers who wanted to transfer had nowhere to go and remained in their first placements. The process of remediation and eventual removal of ineffective teachers was seen as overly lengthy and burdensome, so ineffective teachers also remained in their placements. Several district policies unintentionally played a role in inhibiting teacher transfers.*

The lack of vacancies in this district could be traced to several sources. First, the realities at the school level were that the removal of ineffective teachers in high-poverty schools was rare. When asked whether removing ineffective teachers was easy or hard to do, participants explained that it depended on the experience level of the ineffective teacher. The removal of novice teachers who were not working out was relatively simple: without having achieved career status, the teacher's contract may simply not be renewed the following year. However, principals seemed reluctant to give up on a novice teacher so fast. One principal explained,

> In December, which is really early in somebody's career, you have to decide as a principal, "Am I going to ask this person to come back this year or not?" And for me, being who I am and in the job that I am, I feel like people deserve a chance. And I have had these situations, and I have had people where I think "Wow, she's got a couple of kids in that class that would give anybody a run for their money," or "She's trying really hard; I think next year with a few changes maybe I'll see some growth." So I tend to say, "Have the person come back next year" and I

> make adjustments in the grade level or the level of support or whatever I think. But the longer you keep a person the more impossible it is to remove them.

If the teacher is a career status teacher, principals must establish due process for removal. The principals universally reported that without assistant principals, they did not have time to engage in this process and would avoid it whenever possible. Due process required principals to go through extensive efforts to counsel and remediate the teacher prior to dismissal, including an immense paperwork burden. One principal explained,

> The process is a lot of work, a *lot* of documentation. Unless that person is literally taking children and hanging them upside down by their toes or doing something ridiculous, you've got to prove it. You've got to prove your case. And it is, as an administrator, that is the hard part about my job. I've got to be sure that my perception of what they're doing is the correct perception. So it's a lot of documentation, a lot of going back, a lot of providing support and help. You've got to be able to prove that you didn't just leave them hanging, you've got to provide that support and that training and all that, and that it's still not working. It takes some time. You have to go through making sure that you've talked to this person several times. You've addressed with them whatever the issue is and given them the resources they need in order to hopefully show that growth. You've got to document all that.

Knowing how burdensome the process would be, the principals in this study expressed reluctance to even begin it. Instead, principals attempted to "counsel out" their least effective teachers. One principal explained,

> The best you can do is hope that you can make them transfer, or move them, or quit. And that sounds bad, I know it does, but I apply the pressure.

All principals reported that removing teachers due to ineffectiveness was rare. No principal admitted to retaining teachers they knew to be truly ineffective, but several teachers in high-poverty schools said that some of their coworkers were not effective teachers. "There are ineffective teachers at this school who hide behind the poverty level of the students," one teacher expressed. Principals' reluctance to begin the process

resulted in ineffective teachers remaining in their positions for many years before they were removed or counseled out, which contributed to the lack of vacancies in the district.

The second reason for the lack of vacancies in the district was that teachers in low-poverty schools were overwhelmingly satisfied with their jobs and did not leave these positions. One very experienced teacher who had started her career in a high-poverty school and was able to transfer to a low-poverty school called her current placement "utopia." Likewise, a fifth-year teacher in a low-poverty school said that she planned to stay there for the duration of her career, if possible. "It would be an honor to stay in this school. I would love to and have no desire to go anywhere else," she said. This satisfaction meant that open teaching slots in low-poverty schools were rare and usually due to the teacher leaving the system entirely, not due to the teacher transferring elsewhere. As one teacher put it,

> We retain teachers well here. We lose teachers if they move or if they retire, but I can't even name a teacher who left the school just to be at another school in the area for any reason.

Third, budget constraints and decreasing enrollment meant that schools across the board were losing teaching positions, decreasing the number of available teaching slots in all schools across the district. Teachers in the district were routinely laid off (the district called this "surplussed" in a nod to its efforts to transfer these teachers to a different school rather than fire them) at the end of the school year if the projected enrollment at their school went down.[18] One teacher reported,

[18] Teachers were generally surplussed on a "last in, first out" basis; that is, teachers were retained in order of seniority at the school.

> Now I do know this coming year, the new budget's come out and based on our numbers, we may actually lose two or three teachers, I've been told. We don't have enough students to warrant having as many teachers as we have now.

Another teacher had watched teacher mobility in the district decrease over time. She blamed the budget for the lack of vacancies, saying,

> There's not a lot of room to move around anymore. But I feel like that's more due to budget cuts. It's not necessarily that people don't want to transfer anymore, or that they made the process any more difficult. It's just that there's nowhere to go.

One unintended consequence of the lack of mobility in the district was that it might contribute to burnout in mid-career teachers. A district human resources administrator noted that even the teachers best suited and most effective in high-poverty schools could only stay in those schools for about 10 years before they started experiencing feelings of burnout and wanted to move to a less stressful position: "Few teachers can deal with the higher demands for an entire career," she remarked. Unfortunately, in a labor market without mobility, there were few positions open for them to move into, which could speed those teachers' leaving the profession entirely.

In addition to the overall lack of vacancies, the participants in this study also revealed other factors that constrained the district from using its teacher allocation policies to increase the supply of effective teachers in high-poverty schools. Teachers discussed seven main factors that made transfer from school to school difficult in this district[19]:

- The transfer list/fair was ineffective.
- The transfer period was inadequate.
- The district places surplussed teachers before others could transfer.

[19] Listed in order of frequency.

- Principals had to agree to release a teacher before she could transfer.
- Teachers could not transfer in their fourth year (year before career status).
- Some principals viewed transfers as a red flag in hiring.
- There was a lack of school-specific Project RADAR data.

The district had a set period in which teachers could transfer. A longer period was given to high-poverty schools in the hopes of giving them an advantage in hiring the best-qualified transfer candidates. Both high-poverty and low-poverty school principals reported that they felt the transfer period was inadequate. Because many teachers did not give much notice about leaving, principals often did not know of their vacancies in time to meet the transfer deadlines imposed by the district's transfer period.

In order to be eligible to transfer, teachers put their name on a transfer list at the district. This list was made public to principals: it informed principals which of their teachers wanted to leave and provided them with a list of candidates to consider if they had vacancies. Teachers explained that the transfer list was essentially meaningless because so few teachers were actually able to transfer. As one put it,

> I know a couple of teachers here have been on the transfer list for *years* and they're still here. Like last year I remember people joking about them putting themselves on a transfer list because we knew nobody was going to transfer. There were no openings.

One teacher reported that one of her colleagues had put her name on the transfer list for 8 years without being able to find a new position.

An unintended consequence of the transfer list was that it strained the relationship between a teacher and her principal, which could negatively impact the teacher's morale and negatively impact her effectiveness at her current school. Teachers had to weigh their

desire to transfer against the discomfort of their principal knowing they were looking elsewhere. One teacher explained,

> In this school, I would think it would almost be uncomfortable because we're a small school and if you were doing that, everybody would know. We're like more of a family here, so I don't think it would be kept private at all if you did something like that. I made the comment at one time and I said, "Well, maybe I should look at going to a school closer to my house so this other teacher could stay" and my principal was like, "What? You'd leave us?!?" and I was like, "I'm not leaving *you;* I just don't want this other teacher who's lower on the ladder to lose her job, and if I could get a job closer to my house, that's fine, you know?" She couldn't believe I would consider leaving.

In addition to the transfer list, the district had a transfer fair each year with an explicit purpose of facilitating teacher transfers. This transfer fair was universally seen by teachers and principals as "a joke." Many of the teachers in this study had attended the fair, but none found their teaching positions through this event. Project RADAR schools had a strong presence at the transfer fair, but the high-poverty school principals reported that having to go to the fair was seen as a worthless chore because the candidates they spoke with at these events rarely ended up at their schools. One principal said, "We kind of all joke about having the transfer fair each year that the principals have to go to where the teachers go around. We ask each other, 'Why are we doing this?'" The perception was that the majority of the teachers attending the transfer fair were looking to transfer *out* of high-poverty schools, not into them.

Two principal-related factors inhibited teacher mobility in the district. The first was that principals had to agree to release a teacher before her transfer request was approved. The principals in this study said that they would not prevent a teacher from transferring if she had been offered a position at another school. "Why would you want someone who doesn't want to be here?" one principal quipped. But both principals and

teachers reported hearing of teachers who had been prevented from transferring because a principal refused to release them. The second principal-related factor inhibiting teacher mobility was that some principals viewed transfer applicants as a red flag. They were concerned that a teacher who was unsuccessful at her previous school might be equally unsuccessful at a new school. One principal noted,

> If you've been transferring from year to year, from school to school, then something is wrong with you as an individual and I want to know what that is. Why are you going from school to school?

Another district policy that constrained teacher mobility was that teachers could not transfer in their fourth year, the final year in their probationary period before they achieved career status. Teachers reported that the rationale for this policy was that the district wanted consistency in the person doing the teacher's evaluations in the years leading up to making the career status decision. Included in this study's participants, however, was a fourth-year teacher who desired to transfer but could not because of this policy. Interestingly, she was a teacher at a low-poverty school with a background in community development who wanted to transfer to a more disadvantaged school to make a greater difference in her community.

The district policy most reported by both teachers and principals as inhibiting teacher transfers was that of placing surplus teachers before others were permitted to transfer. The superintendent of the district had been insistent in her desire to "keep everyone in the family." Participants revealed several unintended consequences of this policy. Teachers explained that given the limited vacancies overall, the surplus teacher policy played a large role in their inability to transfer out of their school. One teacher who desired to transfer out of her high-poverty school described it this way:

> It's extremely difficult to transfer. If you're already at a well-performing school, you don't want to leave. Usually most people only leave if they're retiring, and so they're difficult to get into, those. It's hard to get out of a school like this and a lot of us are just happy to have a position. And then, like we're losing positions next year so the schools that lose positions, then the people who have to leave, they get bumped to the top of the transfer list. So they will be placed first.

Principals were not given any choices about which surplus teachers they received, and they universally reported their dissatisfaction with this aspect of the policy, arguing that it undermined their responsibility to improve teacher quality through hiring decisions. One principal complained,

> I just worry about [the surplus teacher policy] because it just doesn't seem like it keeps a level of excellence. If you want to keep everyone in the house, or just keep everyone in a job, then there isn't really the motivation to do well in some ways, for some people.

Principals had no way of knowing whether the surplus teachers they received would be more, equal, or less effective than those they would have hired on their own. To extend their argument, if an effective teacher from a low-poverty school wanted to transfer to a high-poverty school, she would not be able to do so until after surplus teachers had been placed, resulting in a potentially ineffective surplus teacher being placed in a school she might not desire while the proven-effective teacher who wanted that slot would be inhibited from being chosen.

Principals were so dissatisfied with the surplus teacher policy that they often gamed the system and found ways around it. The primary gaming strategy principals used was to ask they knew would be retiring to wait to submit their retirement paperwork until after the district had already placed its surplus teachers, which then enabled the principal to hire whomever she wanted. One principal said that this strategy had worked out well for her:

> The times that I've hired, like this past summer I had to hire four or five new teachers, but the positions didn't open up until after we were out of school. And see, they're working on surplus now [in April]. So if you can hold out and ask your people who are moving away or doing something different next year, "Can you wait and submit your resignation form at the *end* of the school year, not right now?" so they don't really know that you're out there.

Project RADAR had little to no impact on teacher transfers, and that was not necessarily its intent. That said, the district's incentive policies had the potential of encouraging effective teachers to transfer into its target schools to receive the monetary and support benefits it provided. According to the study participants, one factor inhibiting teachers from taking advantage of the incentives was that they did not have enough school-specific information about schools in Project RADAR to help them make that choice. Whereas they could access the reports that showed the program's success, the results were not disaggregated in such a way that teachers could use them as an enticement to any one school, nor did the schools advertise or promote themselves as appealing places to work. One teacher desiring to transfer from one high-poverty school to another high-poverty school called for the district to offer these data to help teachers make educated choices about transferring, saying,

> I haven't been here long enough, and I haven't done my research extensively enough to see how Project RADAR has worked. Like where a school has been, Project RADAR came in, and where did it go? And to be honest I haven't done that because I don't know where to look for it. You know, I see all the great things, all the professional development, but I don't know where the research is. Because I have tried. I want to see it, you know, this school *here* before, then Project RADAR, then this school *here*. I haven't been able to find that. And that is something I, again, would think would be available, you know, kind of at my fingertips and my disposal.

All of the teachers in low-poverty schools said that the monetary incentives in Project RADAR were not enough to make them consider leaving their school. When

asked whether there was anything the district could do that might entice them to seriously consider transferring to a high-poverty school, teachers in low-poverty schools mentioned needing assurances of an environment more similar to their current one. In particular, they wanted guarantees of

- Respect for teacher professionalism
- A dynamic and supportive principal
- Planning time that would not be replaced with other meetings
- A collegial and supportive staff
- Increased pay, including payment for required hours outside of school time

Research Question 3: Retaining Teachers in High-Poverty Schools

RQ3. *In what ways are teacher retention policies targeted to increase the supply of effective teachers in high-poverty elementary schools?*

RQ5c. *What are the retention facilitators and constraints to the district achieving its goal of increasing the supply of effective teachers in high-poverty schools?*

The descriptive and pattern codes for this question were analyzed using the co-occurrences tool in Atlas.ti to ensure that the data for one participant type were not being confounded with the data for another. Because this research question yielded the greatest number of conflicting codes (i.e., the same code being used as a facilitator and a constraint), it was necessary to look closely at which groups and subgroups of participants held differing viewpoints and determine the extent to which their responses may have been a reflection of the context of their work. In addition to code conflicts, the data for this question also had many code overlaps, where two or more different codes were assigned to the same text. In some cases, the creation of charts helped bring clarity

to the interrelationship between these overlapping codes. In others, the data needed to be recoded for clarity. Finally, some of the descriptive codes needed to be further defined during the analysis process for this research question; for example, the in vivo code "a good fit" had been used often enough to indicate its importance, but at first it was unclear exactly what this term meant. Returning to the transcripts to ascertain which participants were using this term, and in what context, increased confidence in the findings based on it.

Targeting Retention in High-Poverty Schools

Finding 3-1. *Providing performance bonuses for teachers in tested grades who had high value-added data was the district's primary tool in the effort to retain good teachers in high-poverty schools.*

The teacher workforce has long been a revolving door wherein teachers enter the profession and leave it within the first 5 years of teaching (Ingersoll, 2002). The revolving door is most pronounced in high-poverty schools (National Center for Education Statistics, 2005). In a socioeconomically heterogeneous district such as the one in this study, the disproportionate number of teachers leaving high-poverty schools exacerbated inequity in teacher quality across different schools within the district. One of Project RADAR's primary goals was to address and decrease this inequity, equalizing teacher retention rates across the district. The intent of the performance bonuses in Project RADAR was to reward teachers who raised student achievement in high-poverty schools so that they would be more inclined to remain in their school.

The district specifically targeted its hardest-to-staff, highest-poverty schools in its incentive policies. The principals in this study agreed that in the current economy, no

school was truly "hard to staff" in the sense that it was hard to find teachers to accept open positions. They explained that the "hard to staff" designation was a synonym for "low-achieving students and high teacher turnover." District administrators reported that turnover in the district overall was generally about 10%. One of the principals of a high-poverty school reported that her school's designation as a "hard to staff" school was warranted: in the past year she had lost 5 of her 18 classroom teachers, a turnover rate of close to 30%. This school's teacher attrition rate was more than double the state average of 12% (North Carolina Department of Public Instruction, 2012).

Retention Facilitators

Finding 3-2. *Participants mentioned many factors that played a role in their retention decisions. They credited camaraderie among the staff with being the primary facilitator to retaining teachers in high-poverty schools.*

Teachers reported myriad factors influencing their satisfaction and retention decisions. Table 6 presents the factors mentioned by teachers in high-poverty schools as being most salient in their retention decisions. Some of these factors were related to either district-based or school-based policy efforts. Project RADAR was one of several district-initiated policies influencing teachers' retention decisions. Likewise, factors such as salary, assignment of support personnel, and scheduling of teachers' collaboration and planning time were amenable to district policy decisions. Other factors reported as having an influence on teachers' retention decisions appeared to be based more on an individual teacher's preferences, experience, skills, and motivations.

Table 6
Factors Playing a Role in Teachers' Retention Decisions in High-Poverty Schools

Category	Factors influencing teachers' decision to stay in a high-poverty school
School characteristics	Class size School location Test scores Support personnel (e.g., teachers' assistants, social workers) Availability of technology School changes (e.g., magnet school focus shifting, principal turnover)
Principal leadership	**Perception of principal support** Positive/negative reinforcement Amount/quality of teacher-based decision-making Equal treatment of teachers
School climate and teacher morale	**Conflict or camaraderie with colleagues** Student behavior management Amount of time required outside of school hours Micromanagement, test-based accountability Perceived effectiveness of colleagues Degree to which teachers were seen as professionals Amount of planning time Tested grades vs. non-tested grades
Individual preferences or dispositions	Fear of the unknown if they decide to transfer Making a difference for a needy population Familiarity with school environment Professional growth opportunities The hassle of transferring Familiarity/satisfaction with curriculum Teaching in a desired/undesired grade level Achieving/maintaining career status
Economic factors	Budget shortfalls, availability of positions Salary scale compared to other districts Performance incentives Job market outside of education ("bad economy")
Student and family factors	**Connection with students ("love the kids")** Level of parental involvement/support Connection with families Ease/difficulty of motivating students

Note. Listed within each category in order of frequency. The three most common responses across categories are in bold. There were not notable differences between subcategories of respondents (e.g., novice vs. experienced teachers, white teachers vs. teachers of color, etc.) for any of the factors mentioned.

Teachers in high-poverty schools credited camaraderie with other teachers at their school as the primary factor in retaining them. Eight of the 15 high-poverty school

teachers said that the main reason they stayed at their school was their positive relationships with their colleagues. As one teacher in a high-poverty school explained,

> The other teachers at my grade level that I work with are just wonderful teachers. We collaborate, we work together, they're great people, they're hardworking, they care about the kids. The school as a whole, I would say, teachers really care about each other. Some say it's a big family.

Notably, "camaraderie" was also the most frequent answer among teachers in low-poverty schools, indicating that it plays a strong role in teacher retention in general, not just in high-poverty schools. Likewise, principals also recognized the importance of camaraderie: "They tell me time and again that they stay for each other," one high-poverty school principal remarked. She went on to note the reinforcing relationship between camaraderie and teacher retention: it takes time to develop camaraderie, so increasing teacher retention positively impacts teachers' ability to develop strong relationships with their colleagues, which in turn makes them more likely to stay.

Finding 3-3. *Principals and teachers explained that "a good fit" between a teacher and a school—resulting from a teacher's particular combination of personal dispositions and instructional skills—played an important role in whether a teacher would be successful at that school and decide to stay. They denied that the performance incentives played a strong role in teacher retention. In contrast, administrators in this study reported that the performance incentives helped increase teacher retention in high-poverty schools.*

In probing teachers' motivations for staying or leaving, the participants frequently spoke of the notion of "a good fit" and how this factor played a large role in retention. "A good fit" was coded in the interviews of one principal, seven high-poverty school teachers, and five low-poverty school teachers, representing over a third of the school-

based participants in the study. It was mentioned by both white teachers and teachers of color, and by both novice and experienced teachers. Teachers believed that there was a right "fit" or match between the teacher and her school, and that some people were able to be successful in high-poverty schools while others were not. When it came to high-poverty schools, the "fit" comprised a combination of instructional skills (e.g., adeptness at culturally responsive teaching methods, behavior and classroom management, differentiated instruction) and personal disposition (e.g., resiliency, orientation toward social justice).

The teachers who were most satisfied in their high-poverty school pointed especially to the dispositional component; that is, there were aspects of their experiences or personalities that enabled them to overcome the challenging realities of teaching in high-poverty schools. One participant stressed that her desire to work with this population was the most important factor in her decision to remain at her high-poverty school. She explained,

> I went to Catholic school all my life. I never had an African American teacher until I got to 12th grade, and I thought, "That's horrible!" And I lived in an African American community! But in Catholic school, do you know many African American nuns? Very few teachers at the public school that was around us, that we lived near, was African American. So what? So I'm going to grow up, I'm going to be a teacher, and I'm going to work with African American children because who understands them any better than me? I grew up in the environment. I know that it comes from within whether you want to stay in it.

Other teachers' resiliency in the face of challenges seemed to be a primary component of their willingness to remain in their high-poverty school. When asked if there were factors about her high-poverty school that tempted her to leave, one teacher commented,

> No, because I think if I see something that I don't like, I try to fix it. I try to make it better, and so no. I'd say if I see something at our school that I would like to improve, I think "What can I do to improve it?" and it might be having a talk with a teacher, or it might be that I try to bring more ideas to a grade-level planning, or it might be that I go to the principal and say "This is going on; how can we fix it?" but I try to be more problem solving than run away.

Even in the context of high-stakes testing and accountability, teachers who were satisfied in their high-poverty schools were able to take the challenges in stride. One teacher explained,

> There's all kinds of things coming down. The bar is getting raised all the time, and students are expected to do more and more and more. And no matter how many times you say that a student is supposed to know this, if they don't know it, all you can do is your best. And if your best doesn't get it there, that's all you can do. We're not superheroes, even though some people think we should be or are. We just try our best and do whatever we can and, you know, try to take the kids as far as possible. We try to get them to that goal, but I personally try to take the stress on myself because I don't want to send it to them. Especially younger grades—I don't feel like they need that kind of pressure. They're still excited about learning and I like to see that, so I try not to internalize it too much because I don't want to push it on them and ruin the environment of just trying to soak up all they can.

These teachers recognized that they were choosing an environment that was undesirable to others, but it was the right fit for them because they felt great value in succeeding in an environment in which others have failed. As one teacher put it,

> There are some teachers who say "I want to teach" and then when they get in here, it's not a bed of roses like they thought it was going to be. And it's deterring. And then they leave, because this is not a bed of roses. I'm not going to sit here and sugarcoat it. There are no roses on this bed at all. But you have to make your own roses. So when they come in, they're limp. By the time they leave, you have to help them bloom. So it's just, that's the reward. It's not the money. The reward is seeing children grow, seeing them smile, and me being a fix to a problem that they probably thought couldn't be fixed.

The "fit" was mentioned by several teachers in low-poverty schools as well, particularly in the context of discussing why they would not consider transferring to a

high-poverty school. These teachers said that a higher-poverty school would not be a good match for them because they did not feel confident in their ability to succeed in that environment. As one teacher put it,

> And I think those people who get it deserve incentives. Because if I have behavior—from what I've experienced, the discipline problems and what I've heard in those low-income schools are so *difficult* there. And even though you have the smaller class size, if you've got even 18 children and they're just threatening each other, badmouthing each other, bullying—just some of the things I've heard happen, it's just, I don't know how you're going to be able to teach there. I don't think I would be an effective teacher there, personally. I wouldn't know how to handle it because I haven't experienced it myself.

Teachers at both high-poverty and low-poverty schools agreed that the teaching environment at the two types of schools was very different and that people who were successful at one may not be successful at the other. According to the teachers in this study, their placement being the right "fit" was a more important factor in their retention than the performance incentives, calling into question the potential impact of district policies that focus on extrinsic rather than intrinsic factors. One teacher from a low-poverty school remarked,

> The money doesn't make a difference to me because I feel like everybody's either cut out for one or the other. Like there's one that just fits you better. If your passion is to work with lower-income kids, or ESOL kids, or whatever special population it is, that's where you're going to go. I don't think a few thousand dollars is going to make that much of a difference.

Her counterpart in a high-poverty school concurred, saying,

> This school is a pretty tough place to work, I think. You've got to be a certain person. Every school's like that, though. You have to fit the school. You have to fit the clientele. And if you don't, you better find someplace else to go. I've seen some people in my short time here that are pretty good teachers, very nice people, they just don't belong *here*. And they've left or are in the process of leaving. And I mean, I guess I fit.

One low-poverty school principal illustrated the importance of "fit" through an anecdote:

> Our district one year had a teacher that was teacher of the year, and she was at a school that had very involved parents and a very low free and reduced lunch rate. I mean, it was considered like a premier school, and she was the teacher of the year for the entire district. She won a car for being teacher of the year! And she was recruited to a high-poverty school with a lack of parental involvement, lots of discipline problems, and she did not last the entire year there. In fact, some of us joked and said she drove her new car across to another district, which she did! So that's a question that I sometimes ask myself when I look at the teachers I have that are highly effective here. I sometimes wonder. I think they would be highly effective other places, but I can't say with 100% certainty.

In contrast with the data from the school-based participants, the district reported that its policies to increase the supply of effective teachers in high-poverty schools have been hugely successful. An administrator remarked,

> Project RADAR successfully redistributed effective teachers across the district. There are no longer any clusters of good teachers in some geographic areas while having a lack of good teachers in other geographic areas. There is now an equitable distribution of effective teachers across the whole system, and that is something that we are proud of.

District-level administrators pointed to the retention successes demonstrated in external evaluations. Among other positive results, the external evaluation studies found that teacher turnover in the Project RADAR schools overall decreased from 34% to 14% from Year 1 to Year 5 of the program. One administrator noted a discrepancy between this positive retention result and teachers' opinions revealed in focus groups and survey data and concluded that the teachers were not being honest about the importance of the money:

> Teachers have told us consistently in surveys and focus groups that it's not about the money, that they're there for the kids and they would teach in those schools even without the money. But I don't believe them because we've seen that in the schools that had bonuses and the funding source dried up and they no longer

> received them, the teachers transferred out of those schools. The data doesn't match teachers' words. I truly believe that the money does help retain teachers.

Retention Constraints

Finding 3-4. *When teachers were dissatisfied with their principal's leadership, it was generally not enough to make them leave; however, teachers' dissatisfaction with their principal's leadership combined with a perception of ineffective school-level discipline management became a primary factor in teachers' dissatisfaction and strongly influenced their retention decisions. The current behavior management programs in place may not be sufficient in counteracting the severity of student misbehavior seen in high-poverty schools.*

One of the study's hypotheses was that principal leadership would play a primary role in teachers' mobility and retention decisions, consistent with previous literature showing this to be the case (Berry & King, 2005; Kapadia & Coca, 2007; Swars et al., 2009). This study found that principal leadership plays a moderate, but not primary, role in teachers' retention decisions in this district. According to the data in this study, the concept of principal leadership was a combination of a principal's vision for the school and her ability to communicate this vision and inspire teachers to contribute to it, and a principal's support for her teachers in their daily work. Success in both of these areas was influential in teachers' satisfaction with their principal, and principal satisfaction was one factor influencing teachers' retention decisions.

Teachers in all three low-poverty schools in this study were overwhelmingly satisfied with their principals. One comment was typical of low-poverty teachers' responses:

> The principal has a huge impact on the faculty and what the morale is. I think if the faculty morale and the faculty's vision, and if the principal is leading towards that vision, we in turn transfer those expectations to our kids. . . . I really like our principal. I think she has really high expectations. I really like her vision.

Yet in spite of their satisfaction, most teachers in low-poverty schools felt that their principal's leadership was not the primary factor in retaining them. It did not trump camaraderie among the faculty as a primary retention facilitator. One teacher in a low-poverty school explained,

> [My principal] plays a role, but not the main role in me choosing to stay because I know that principals come and go. I mean, I like our principal and I liked the principal before her, but I don't know if she's going to be here next year. I don't know, I mean, the last principal, she was like "All right, peace out, I'm moving [out of state]!" So you just never know and you can't put a lot of emphasis on that.

The data from teachers in this study showed that principal leadership mattered in low-poverty school teachers' retention decisions only to the extent that it intersected with teacher morale. As one teacher put it,

> I think the community as a whole keeps the teachers here. The principal is the captain of the ship, we know that, but the ship runs pretty good sometimes without the captain. We know what's going on with it.

In contrast, teachers' perceptions of principal leadership in high-poverty schools was mixed. Some teachers reported strong satisfaction with their principal, one noting that she wanted to succeed in part to make her principal look good so that the principal would stay. Other teachers reported that their principal was ineffective. For example, one teacher complained,

> I wish she would confront and address some issues at our school that she just turns a blind eye to. I'm not quite sure why. I believe that there are some teachers that probably should be encouraged to leave. And I don't understand, given how many out-of-work teachers there are, how many really *good* out-of-work teachers

> there are, why we tolerate having teachers on this staff that for a host of reasons just don't pull their weight, year after year after year.

Like their colleagues who were more satisfied with their principal's leadership, teachers who felt their principal was ineffective did not believe it was bad enough to make them leave their school. One teacher said,

> Every school I've taught in there are aspects of the principal's leadership I've not been a fan of. At one school the principal was very argumentative and would engage teachers in arguments in front of students, and that was really upsetting to me and I didn't like it. But that would not have been a factor for me to leave.

Agreeing with teachers in low-poverty schools, teachers in high-poverty schools noted that principal turnover was very high and that they would likely have many different principals throughout their careers, so waiting out a bad principal was a logical strategy. One teacher pointed out,

> [Having a bad principal] really won't play any role because whether I stay or whether I go, there will eventually be a new administration. So I would rather have a new administration at a school where I'm established and know the faculty and the staff and the kids and take on a new administration from that perspective rather than start everything all over fresh. I'd rather trudge through it with staff and friends that I'm comfortable with that I can talk to rather than be out on a limb dealing with it.

They also noted that you never knew what you were going to get at a new school and that their dissatisfaction with a principal at the current school might be outweighed by other negative factors were they to transfer to a new position.

As illustrated in Figure 4, there was substantial overlap in the participants who cited dissatisfaction with the principal and dissatisfaction with other aspects of their teaching placement, leading to the assertion that principal leadership played a role, but not the largest role, in teachers' retention decisions. Three of the eight teachers in this study who intended to leave their school credited unmanaged discipline problems as the

primary cause of their desire to leave and mentioned principal leadership in the context of its intersection with student discipline. That is, teachers were dissatisfied with the principal's inability to assist them in controlling persistently violent or disruptive children. When asked why she intended to leave, one teacher expressed extreme frustration with her school's lack of support for dealing with persistently disruptive students, describing it this way:

> The behavior needs in this class are very extreme. I have, I don't know how to describe it in a short way. . . . In the last 11 years, my strength has been classroom management, and I have been given on my class roster, on purpose, the high-energy children, the children with parents going through a divorce, the children that tend to go on and off medications. That's always been my niche, my favorite thing, something I've been good at. So I was thinking, "Oh, I'm going to this school; I can handle that!" But it's so extreme that the things I've had to deal with in the past don't even compare. I'm having to call the office and literally stick my head out the door and call for someone to help me when I have children that are flipping furniture, throwing shoes, slamming doors, and that was not the case at my past school. Having a supportive team, to having the administration, to having the parent volunteers, to having the assistants . . . all of those pieces from the past do not exist. So not only is my student population harder, my resources are less.

The data indicated that only when a lack of principal leadership was combined with other factors did it influence a teacher's dissatisfaction enough so she would strongly consider leaving.

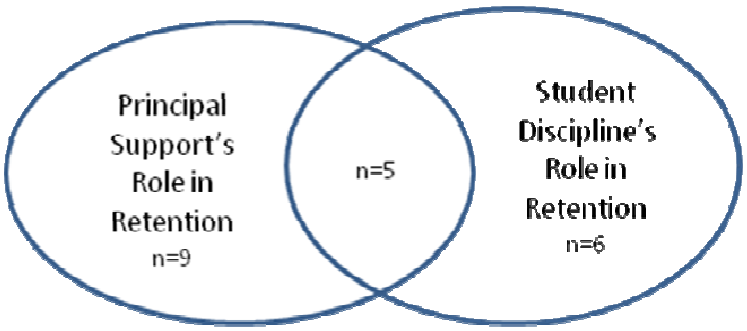

Figure 4. Overlap between principal support and student discipline as retention factors. The majority of teachers mentioning dissatisfaction with the principal as a primary reason they would consider leaving mentioned it in the context of unmanaged student discipline problems.

One of the most pronounced differences in the responses of teachers in high-poverty schools compared to their low-poverty school counterparts was in regards to the role of student misbehavior and school discipline in their retention decisions. Teachers in low-poverty schools did not mention school discipline at all when asked about the primary factors influencing their decision to stay or go. It was as if this issue was not on their minds at all one way or the other. In stark contrast, teachers in high-poverty schools reported that how student misbehavior was managed at the school level was a primary factor influencing their decision to stay or leave. Most of the schools in this study were utilizing the Positive Behavior Intervention and Support (PBIS) program for schoolwide discipline; however, the schools appeared to vary in their implementation of the program. Some teachers reported strong dissatisfaction with the program, saying that it overemphasized positive reinforcement at the expense of having systems in place to deal with severe student misbehavior. One of the high-poverty school teachers who intended to leave her school the following year described the program in this way:

> It is a PBIS school, and we have schoolwide rules. . . . There's the things that students memorize and they know what it means, there are the behavior bucks, that is implemented across the grade levels. They do save up their bucks and there are quarterly rewards, and the kids really like them. So that part of it is implemented. This is the only PBIS school I've ever been in, so I don't know if there is supposed to be a consequence piece. Maybe I just have a false expectation. I would like there to be a "if you're not showing respect, if you're not doing these things, if you're not earning bucks, *then what?*" Yes, I want the focus to be on the positive and I want them to have the rewards, but so what? What if they don't? There's nothing clear. There's nothing in writing that I know of. There's no follow-through for if you're not.

Finding 3-5. *According to the teachers in this study, performance incentives had a very limited effect on teacher retention in their high-poverty schools because so few teachers were eligible for the large performance bonus. More broadly, there was a*

dichotomy between the attention and incentives given to teachers in the tested grades in contrast with their counterparts in kindergarten through second grade. This differential treatment led to significant resentment on both sides and was cited as a reason for teachers' dissatisfaction and desire to leave their high-poverty school.

Although all teachers in Project RADAR schools receive a modest bonus if the school meets its academic growth targets, only the fifth-grade teachers at the elementary school level are eligible for the large performance bonuses. The inequity in rewards is due to the value-added algorithm requiring 2 years of prior testing data, not because fifth-grade positions are inherently any harder to staff than any other grade in a high-poverty school. By design, this limits the utility of performance incentives based on value-added data as a retention tool for teachers in elementary schools. Two fifth-grade teachers in high-poverty schools were interviewed for this study. One intended to transfer to a different high-poverty school and teach in upper grades so that she would continue to be eligible for the performance incentives. The other was very satisfied in her school and said that the performance incentives played no role in retaining her. She had been at the school for over a decade and, having so much invested over such a long time, had no desire to leave.

In asking about some teachers being eligible for the incentives while others were not, teachers in high-poverty schools revealed a dichotomy less between those who received incentives and those who did not, but rather between teachers in tested grades and teachers in the lower elementary grades. Great pressure was put on the teachers in the upper grades to raise student test scores. Upper elementary teachers believed that the biggest constraint to raising test scores was students coming to them below grade level in

reading and math, and they blamed the lower elementary teachers for not having prepared their students well enough. One upper elementary teacher said that the "K-2 divide" was one of the primary factors making her consider leaving. She explained,

> My kids come in severely underprepared, which makes my job 10 times harder. I still have a job to do. I have high expectations for myself, for my students. I have a certain expectation of where I want my kids to be. . . . When they start so far below, . . . I know that if they were given the right instruction and the right reinforcement earlier, it would not be this difficult for this child. When I see that they're frustrated and they're so far behind because they didn't get that reinforcement and that instruction in the early grades, that they probably will not graduate or get very far in school because the gaps are so significant, that bothers me.

The divide was a two-way street. The teachers in the lower elementary grades also harbored resentment toward the teachers in the upper grades. One argued,

> They wrote the grant just for the teachers who are teaching in the testing grades. And personally I feel that's unfair, because what I'm doing, if I don't do it well, y'all can't get anything done anyway. I'm laying the foundation for what y'all are going to do later.

Another teacher explained,

> There's a disconnect between some of the staff members and it's causing anxiety amongst the staff, and then that's being mirrored in our student scores. Our students' scores are not going up because there's this big disconnect. There's a big disconnect between K-2 teachers and 3-5 teachers. We should be working together to get our kids to continue growing. But then, like 3-5 gets all the resources. They get everything that they ask for, and then K-2 teachers are like, "Can we at least have a reading tutor or something? Please?"

Neither differential treatment nor resentment between K-2 teachers and 3-5 teachers was mentioned by anyone in a low-poverty school, but these issues were mentioned by eight out of the 15 teachers in high-poverty schools. The dichotomy was an unintended and counterproductive consequence of test-based accountability pressures,

which are greatest in high-poverty schools. In contrast, teachers in schools without those pressures frequently mentioned how well their staff worked together.

Research Question 4: Professional Development in High-Poverty Schools

RQ4. *In what ways are professional development policies targeted to increase the supply of effective teachers in high-poverty elementary schools, particularly in helping teachers adjust to teaching in high-poverty environments and in strengthening the skills of current teachers in high-poverty schools?*

RQ5d. *What are the professional development facilitators and constraints to achieving the district's goal of increasing the supply of effective teachers in its high-poverty schools?*

In the human capital system in schools, the third domain is that of evaluating teacher effectiveness and providing professional development. Put simply, one way of increasing the supply of effective teachers is to use professional development to improve the effectiveness of the teachers you already have. This section focuses on professional development as it relates to that goal, particularly emphasizing how novice teachers are helped in the adjustment process and how experienced teachers continue to hone their instructional skills.

As with Research Question 1, the data for this question were both rich and broad. Teachers had clear and concise answers to questions about the aspects of professional development that they found helpful and unhelpful in improving their teaching skills. Those answers were predictable and lacked depth, and they yielded many different codes that were easily categorized as facilitators or constraints. On the other hand, when it came to data on the district's targeted professional development policies in high-poverty

schools (i.e., the teacher leaders and district coaches), there was such a strong skew toward the positive that it warranted further examination to ensure that an opposing viewpoint had not been omitted by mistake. The data in this section were perhaps the richest of the entire study, primarily because the teachers responded to questions about mentorship by providing stories and anecdotes that illustrated their viewpoints.

Targeting Professional Development to the Needs of High-Poverty Schools

Finding 4-1. *A comprehensive induction and mentoring program was provided to new teachers in the district to help them adjust to their schools.*

The district's novice teacher induction program included an assigned school-based mentor as well as quarterly support from a district supervisor. Teachers in both high- and low-poverty schools spoke highly of their assigned school-based mentor's support. Although the induction and mentoring given to novices in high-poverty schools was the same as that given to those in less challenging teaching placements, the school-based mentors were able to tailor the mentoring conversations to the specific needs of the novice. In low-poverty schools, the relationship between a novice teacher and her mentor was consistently pointed to as a professional development experience that improved the new teacher's instructional skills. In most cases, the mentor was a teacher in the same grade level such that the novice and mentor would have common planning times and ample opportunities to collaborate. One novice described her mentoring relationship this way:

> [My school-based and district-based mentors] helped me be organized and keep up with logs and things like that. And just knowing that I had support if I needed help and if I was scratching my head like, "What should I do next?," I knew I had support and somewhere to go for help. And if they didn't know, they would help me find it. You know, "I'm not sure but let's sit down and figure this out

> together." Knowing that, I didn't have to feel like I was going to flounder alone. If I was frustrated, they'd help me set up my classroom and things like that, or bouncing off station ideas and things like that. I didn't have to feel like I had to sit here for hours coming up with those things by myself. I had the support and the help of going, "Hey, we've got this resource, this resource. Why don't you try this? Why don't you try that?" And being able to use their seasoned and tenured experiences that they've had and given to me, which has been I think very helpful and successful. I didn't ever feel frustrated or alone in going about this.

In high-poverty schools, novices frequently relied on their mentor's advice for classroom management and other situation-specific needs. For example, one novice teacher with a persistently violent child in her classroom asked her mentor for help in devising a plan to deal with the student's outbursts.

> My district mentor was actually in here one day when that student was having a major outburst. And she was like, "Oh my gosh, I had no idea. What can I do for you? What can I do for you?" So she was very giving that way. Not necessarily in "Here's, you can try this, you can try this," but I was appreciative of that and needed that at that time. And [my school-based mentor] has helped me understand the level of needing to keep the other kids safe, because I'd never been in a situation where a kid would just pick up and throw things at other students. The first time it happened, I was like "get the student out." But she instructed me "get the other students out." So we practiced that. We practiced that and we called it Code Blue in this classroom. And the other students line up and they go out, they know where to go. So she helped me tremendously on that. But prior, I didn't know what to do! Get the student out! Aaaaak! You know?

The novice teacher admitted that she would never have come up with this system on her own and considered her mentor the single most influential factor in giving her the tools to succeed in this challenging classroom placement.

Finding 4-2. *The district provided teacher leaders and coaches to targeted high-poverty schools in an effort to support novice teachers and strengthen the skills of experienced teachers in high-poverty schools. Targeted high-poverty schools received mandatory professional development training on culturally relevant instruction and other topics of pertinence to teachers in high-poverty schools.*

The bulk of the district's professional development in the year of this study was mandatory and districtwide, focused on preparing teachers to implement the Common Core curriculum the following school year; however, the district targeted some of its professional development opportunities specifically to high-poverty schools by determining a focal area and providing mandatory workshops on that topic. For example, teachers in high-poverty schools were required to attend Reading Foundations training based on low standardized test scores in reading. Some teachers reported having received training in previous years on differentiated instruction, whereas others reported having received Sheltered Instruction Observation Protocol training in response to increasing numbers of English language learners in their student population. Although they did not always find these mandatory workshops helpful, teachers agreed that the topics were appropriate and that the mandatory workshops were well aligned with documented school needs.

In addition to the mandatory workshops, the schools in the second round of Project RADAR were also assigned a coach from the district to help the principals with school improvement efforts. The coaches took on different responsibilities and roles in each of the schools, tailored to the most pressing needs of that school. For example, in one of the high-poverty schools the coach was working exclusively with six purposefully chosen third-, fourth-, and fifth-grade teachers by doing observations, providing feedback, and providing professional development on using assessment data to improve instruction, whereas in a different high-poverty school the coach was concentrating on improving the productivity of the professional learning community meetings between grade-level teams and administrators at the school. Regardless of the differences in

approaches, the coaches were universally respected and appreciated by both principals and teachers in the high-poverty schools. For example, one teacher commented,

> Our Project RADAR coach has been fantastic. She has done a *lot* to support us and be there for us. She's pulled materials for us. She has sat down and planned with us. She has given us strategies and tools. She's come into the classroom and done observations to give us suggestions and feedback on what we can do to improve and resolve situations that arise. I mean, she's just, you name it, she's pretty much done it for us. She's always been here and she always makes a point to be here and come in and just see what's going on and help out in any way she can. All we've got to do is send her an email and she's right there for us, and that extra support is *excellent*. I think it makes a big difference.

In addition to the district coaches, five teacher leaders were selected at the high-poverty schools to assist the district-based coach and school curriculum facilitator with providing professional development to teachers. The faculty at these schools reported widespread agreement with the teachers selected, and they were very receptive to receiving information, mentoring, and professional development from their colleagues. The district's intent in creating the teacher leader positions was to further target professional development to high-poverty schools by acknowledging the most effective teachers in these schools, elevating their status, and using their knowledge to improve overall teacher quality. Although this policy falls under the domain of teacher professional development in the human capital system in schools, participants in this study revealed that the creation of teacher leaders also played a role in increasing teacher retention. One teacher leader reported feeling a personal responsibility to try to use this unofficial mentor role to decrease teacher turnover at her school. She expressed her pride in playing a role in two teachers' decisions to remain:

> The teacher next door is new this year, and I know she had a rough start but she's pretty, you know, gung ho with kids and education and seems to like this school, so, you know, that'll maybe be an addition to the core next year. It feels good, I'm

> not gonna lie, that someone on my hall might stick around. Because you know, I feel like I'm the cursed hall. I've got two rooms, three actually, I can't keep filled! But no, I mean, it feels good. Another, there's another teacher down the other hall who really gave serious thought to leaving mid-year and I think, I don't want to say that through my conversations, but through conversations with her both, you know, personal and professional from a few of us, she's staying.

Notably, none of the study participants who were teacher leaders was considering leaving her school. When asked why they decided to apply for the position, they reported feeling that being given this leadership role would re-engage and energize them in the years to come. Veteran teachers noted that it was a way for them to participate in the professional development at their school that acknowledged their experience and expertise. Others mentioned having applied with other trusted colleagues, hoping that the teacher leaders would become its own community of practice, a cadre of dedicated teachers who could support each other as they helped their school. These teachers' perspectives pointed to the teacher leader aspect of Project RADAR as playing a role in retention of experienced teachers in high-poverty schools, as well as in professional development for others at the school.

Professional Development Facilitators

Finding 4-3. *Teachers reported that collaboration with colleagues and their own resource finding were the two most important factors in improving their instructional skills. Teachers in high-poverty and low-poverty schools mentioned different facilitating factors to successful implementation of professional development: teachers in low-poverty schools emphasized the extent to which the new skill could be implemented right away, whereas teachers in high-poverty schools emphasized having a positive attitude toward professional development as being key to its implementation.*

Teachers strongly valued experiences other than formal professional development workshops. The top answer to the question "What helps you improve your instructional skills?" was "collaboration with colleagues." For example, one teacher shared,

> It's funny. When you get a group of teachers together, especially all on one grade level, they will talk about what they're teaching. They'll say "Well, I'm trying this" and "Ooh, this was an idea I did that worked out well." We're frantically writing down stuff, and "Oh, go to this website" or "Try this," so just having that time to share with one another would be great. Teachers are really good copycats and thieves, and we'll take anything from anybody. So I think that to me is the best thing I can do to improve my instruction. And I know with my teammates, they've both taught all subjects, and so you know, if I was struggling with something in math and I could say to them, "Do you have an idea for this?" and they'd say "I did it like this" and I'm like "Oh, okay, I'll try it that way."

In addition to collaborating with fellow teachers, teachers in both high-poverty and low-poverty schools said that they improved their own instruction by taking the time to search for engaging lesson plans and teaching resources. One teacher remarked,

> There are so many teaching resources available on the Internet. It's just a matter of Googling and then going through that looooooong list of stuff you find and you're like "Oh, that's an awesome website!" Then whenever I find a website I always save it to my Favorites, and every month or so I'll copy all of my Favorites and send an email out to all of the teacher friends that I know could use the websites. And then I ask the same from peers around me, like if they're showing me a website or if they show me a piece of paper, I'll say, "Where did you get that from?" and they'll show me the website; that way I can add it to my list of resources.

This teacher reported that almost no in-school time was provided to find resources, and she often stayed up late at night to do this work. Another teacher reported that the resource finding had to be done at home because district firewalls prevented teachers from accessing many online materials. According to teachers in this study, resource finding was an essential component of their daily work and professional growth that was unrecognized or undervalued by the district.

In addition to time spent finding lesson resources and planning with colleagues, teachers also mentioned other experiences that helped them improve their skills: school-based mentors; university-based training and coursework (e.g., master's degree classes); the National Board Certification process; and observations with follow-up discussions by peers and/or curriculum facilitators.

In the interviews for this study, teachers were asked which aspects of the professional development they'd received in the past few years were most helpful in improving their instructional skills. The comparative numbers of responses of teachers in high-poverty schools and low-poverty schools are listed in Table 7. Not surprisingly, most teachers in this study expressed that the professional development needed to present them with new ideas they hadn't heard or tried before. If teachers felt that they already knew the information being presented, they often tuned it out. The format of the professional development and the extent to which the new skill could be implemented right away also played a role in whether teachers would implement what they learned in the professional development opportunity.

Table 7
Aspects of Strong Professional Development

	Responses of teachers (n)	
Aspect of professional development	High-poverty schools	Low-poverty schools
Provided new ideas	10	7
Could be implemented right away	3	6
Had an engaging and hands-on format	5	4
Was relevant to teachers' grade level and curriculum	4	4
Involved teacher choice and buy-in	3	2
Attendees had a positive attitude going in	4	0
Had a strong presenter	1	2
Was aligned with individual needs	3	0

There were two notable differences in the responses of teachers in the two types of schools in regards to the aspects of professional development that made the greatest difference in improving their instruction. Teachers in high-poverty schools mentioned having a positive attitude about the professional development and the professional development being aligned with individual needs as important factors in whether they would implement it. One teacher described the importance of attitude in instructional improvement this way:

> I think that the most effective teachers take the most out of those trainings. So I think that many ineffective teachers are irritated throughout the training. They don't want to learn anything new. And they'll continue to be ineffective because they don't have the desire to improve.

Given that almost all of the professional development given to teachers in high-poverty schools was mandatory and almost none of it targeted to teachers' individual professional goals or interests, these teacher preferences may limit the district's ability to improve teacher quality through the sorts of professional development currently being given.

Finding 4-4. *Low-poverty schools' curriculum facilitators can play an important role in helping improve teacher effectiveness at their schools. In high-poverty schools, participants pointed to the district-provided coach as a key player in improving teacher effectiveness at their school.*

Several teachers in one of the low-poverty schools credited the curriculum facilitator with being important in improving their instructional skills. This person sometimes taught model lessons for teachers to observe. She also provided the teachers with resources and materials that they didn't have time to search for themselves. For example, one teacher said,

> My CF [curriculum facilitator] is great. She's on top of all the latest research. And so she's constantly giving me articles, books to read, websites to look at. So I feel like even though I might not be going and seeking it out, I'm getting what I need. And if I do have a question about something, I can ask her and she'll get me a resource.

Although the curriculum facilitator's role in professional development was only mentioned in one of the schools and may be attributed to a particularly dynamic individual, curriculum facilitators were assigned to every school in the district. The example that this highly competent and knowledgeable curriculum facilitator provided illustrates that people in this position are potentially a powerful resource for improving teaching quality in schools if they are used to their full potential.

No teachers in high-poverty schools mentioned the curriculum facilitator as playing a role in improving their teaching skills; rather, teachers in high-poverty schools pointed to the district coaches as important players in the effort to improve teaching quality in their schools. As described above, the coaches sometimes offered support to individual teachers, but they also helped improve teacher quality by training the teacher leaders to be better sources of support for struggling teachers. One teacher explained,

> Our Project RADAR coach is in charge of the teacher leaders. They meet separate from the whole school meeting. She kind of gives them tips on how to be leaders, how to support people without negative words or putting people down, how to put positive spins on things, how to support people and give them that pat on the back, how to give constructive criticism. . . . The teacher leaders, they haven't been in my room for this yet, but I know that they do peer observations. So the coach meets with them and she leads them into those things. They report back, anonymously if necessary or with names, report things to the coach that they think need fixing or warrant a discussion.

Professional Development Constraints

Finding 4-5. *Teachers in all schools reported that lack of time was the most salient constraint to improving their instructional skills. There were notable differences*

in the responses of different groups of participants. Teachers in high-poverty schools reported that professional development being offered at inconvenient times was a constraint to their willingness to implement what they learned, whereas teachers in low-poverty schools were not required to attend as many trainings and were more satisfied with their professional development. Novice teachers were more likely to find the trainings helpful than their more experienced counterparts.

When asked about the factors that constrained them from improving their skills through professional development, teachers in high-poverty schools mentioned constraints regarding schedules, alignment with their needs, implementation, and clarity of the district's vision. These constraints are listed in Table 8. Most of all, teachers in high-poverty schools resented the schedule of the trainings targeted to their schools, which largely took place on Friday nights and weekends. Of the 15 high-poverty school teachers, eight mentioned inconvenient timing as a constraint to the professional development's success. One teacher complained,

> We had to do Reading Foundations training on Friday nights. We started at 3:00 and went until 8:00 at night. And then we had another, a professional teacher work day, which was allotted for us to just be in our class and getting ready right after the Christmas break, and we had to give that up to finish this training. We all actually, we were really upset about it because it was a Friday night! Who wants to go on Friday night?

Especially because they did not find the training particularly strong, the professional development was perceived by teachers as disrespectful to their personal time. In contrast, teachers in low-poverty schools did not have nearly as many required professional development workshops to attend and were much more satisfied with their professional development. "Inconvenient timing" and "having heard the information before" were coded for far fewer teachers in low-poverty schools.

Table 8
Constraints to Improving the Instructional Skills of Teachers in High-Poverty Schools Through Professional Development

Category	Constraint
Schedule/ timing	**Being offered at inconvenient times** Lack of time (e.g., not having time to reflect on practice and make improvements; all available professional development time during and after school being taken up by meetings)
Alignment with needs	**Not being targeted to individual needs** **Not being helpful (e.g., information not pertinent to the grade level taught)** A mismatch between the principal's priorities and the teachers' priorities (e.g., professional learning community time being used to disseminate information rather than collaborate)
Implementation	**Not having follow-up support after a workshop**
Clarity of vision	New programs, curricula, and materials not being sustained over time Different professional development opportunities presenting contradictory information
Funding	Lack of money (e.g., being denied permission to attend a training because of lack of funds)

Note. Listed within each category in order of frequency. The most commonly mentioned constraints overall are in bold.

Experienced teachers were more likely than novice or mid-career teachers to report that the workshops targeted to high-poverty schools were not helpful. In particular with the Reading Foundations training, the experienced teachers reported that they had heard the information before and that it was not aligned with their needs. Experienced teachers wanted professional development experiences that acknowledged their expertise and that were geared more toward leadership than reteaching pedagogical fundamentals. One teacher who would be retiring the following year passionately explained,

> You're at the end of your career. Come on! What do you do for us? What happens with us? It's always "Do something different, do something new." Well, to a lot of us it's not new and different! And then they get mad because we say "Oh, we used to do that!" We're getting ready to go to units. Okay, those of us who taught in the 80s taught units, okay? The Common Core—you look at the Common Core where it's saying you've got to do nouns and verbs and adjectives, okay, well that's how it was when we first started teaching! But everyone wants to get upset about it. "No, it's not that!" You weren't *born,* honey, how you going to tell me it's not that? You weren't here!

Teachers in all schools reported that the district offered many workshops to help them improve on skills they might need as an individual; however, teachers in high-poverty schools noted that there simply was not adequate time to take advantage of these resources. Teachers in high-poverty schools said they were "PD'd to death." Having to participate in so many mandatory trainings and meetings decreased their motivation to attend any additional voluntary professional development workshops, even though they were offered and generally viewed as meaningful and helpful activities. One teacher explained,

> I used to seek out workshops to go to but now I don't go to so many. We have a lot here. I think because we didn't meet our reading goals—we hugely missed our reading goals last year—we had to go to 30 hours of reading training this year, worthless training.

Teachers in all schools, but especially in high-poverty schools, reported that the mandatory professional development workshops and school improvement meetings[20] took away from the available time to do more valuable collaborative work with their colleagues. As one teacher put it,

> In addition to the weekly PLCs [professional learning communities] after school, we have to meet Monday, Tuesday, Wednesday during our specials time to review more data and plan activities and things like that. So it went from, you know, like a little bit of time that we had to meet, and I'm fine with the collaboration but it gets to the point at the end of the week where you can't stop and breathe. You're constantly doing stuff. And really in that 30-minute time, by the time we get them up and out the door to specials, and walk back and take half a second to just breathe and then come together and meet, it's only 15 minutes. So it's not effective, it's not useful. It hasn't helped. It's just made people stressed out.

[20] In contrast to the professional development workshops, the weekly professional learning community meetings were required at all elementary schools, not just high-poverty schools.

Teachers in both high-poverty and low-poverty schools reported that collaboration with their colleagues (e.g., common lesson planning between grade-level teams or subject teams) was the activity that most improved their teaching skills. Most teachers in low-poverty schools reported that they were given adequate collaboration time in the course of their work week. In contrast, most teachers in high-poverty schools felt that the amount of time spent attending mandatory workshops and meetings detracted from their ability to collaborate with their colleagues in ways that were specific to the needs of their classroom and that promoted individual growth. This finding suggests that requiring teachers in high-poverty schools to spend the entirety of their professional development time on schoolwide, rather than individualized, goals works against the larger goal of improving teacher quality through professional development.

Summary

A summary of the findings appears in Table 9. Chapter 5 discusses the findings in the context of the literature and provides conclusions and interpretations.

Table 9
Summary of Findings

Research question	Findings
1. In what ways are teacher recruitment policies targeted to meet the recruitment needs in high-poverty elementary schools?	1-1. The district did not have a universally understood definition of "an effective teacher." Regardless of the teacher quality metric used, it was a challenge for district administrators and principals to predict who among qualified applicants would be effective. Teacher hiring was primarily done at the school level, and principals used both official and unofficial channels to hire the most promising candidate. 1-2. The district targeted its recruitment efforts to high-poverty schools by providing monetary incentives in the form of signing bonuses and performance incentives to fill hard-to-staff positions in high-poverty schools. 1-3. The district utilized a variety of connections with institutions of higher education to aid in its recruitment of effective teachers for high-poverty schools.

Research question	Findings
	1-4. The largest facilitator to recruiting teachers to high-poverty schools was the overall economy, not any particular district policy or program. 1-5. Teachers considered monetary incentives and many other factors when deciding whether to accept a position in a high-poverty school. Teachers in both high-poverty and low-poverty schools also mentioned proximity of the school to home and diversity of the student population as important factors. 1-6. The largest constraint to recruiting effective teachers to high-poverty schools was the negative perceptions of the teaching environment in these schools.
2. In what ways are allocation policies for newly recruited teachers and experienced teachers targeted to increase the supply of effective teachers in high-poverty elementary schools?	2-1. The district had not targeted its teacher allocation policies to increase the supply of effective teachers in high-poverty schools. Teachers in low-poverty schools were largely unaware of the bonuses and other benefits they would receive if they transferred to a targeted high-poverty school. 2-2. Only one participant in this study desired to transfer from a low-poverty school into a higher-poverty school; however, many participants in high-poverty schools reported a desire to change schools. Teachers seeking a transfer sought a less stressful position. 2-3. Teacher mobility in this district was extremely limited, due primarily to lack of vacancies. Teachers who wanted to transfer had nowhere to go and remained in their first placements. The process of remediation and eventual removal of ineffective teachers was seen as overly lengthy and burdensome, so ineffective teachers also remained in their placements. Several district policies unintentionally played a role in inhibiting teacher transfers.
3. In what ways are teacher retention policies targeted to increase the supply of effective teachers in high-poverty elementary schools?	3-1. Providing performance bonuses for teachers in tested grades who had high value-added data was the district's primary tool in the effort to retain good teachers in high-poverty schools. 3-2. Participants mentioned many factors that played a role in their retention decisions. They credited camaraderie among the staff with being the primary facilitator to retaining teachers in high-poverty schools. 3-3. Principals and teachers explained that "a good fit" between a teacher and a school—resulting from a teacher's particular combination of personal dispositions and instructional skills—played an important role in whether a teacher would be successful at that school and decide to stay. They denied that the performance incentives played a strong role in teacher retention. In contrast, administrators in this study reported that the performance incentives helped increase teacher retention in high-poverty schools. 3-4. When teachers were dissatisfied with their principal's leadership, it was generally not enough to make them leave; however, teachers' dissatisfaction with their principal's leadership combined with a perception of ineffective school-level discipline management became a primary factor in teachers' dissatisfaction and strongly influenced their retention decisions. The current behavior management programs in place may not be sufficient in counteracting the severity of student misbehavior seen in high-poverty schools. 3-5. According to the teachers in this study, performance incentives had a very limited effect on teacher retention in their high-poverty schools because so few teachers were eligible for the large performance bonus. More broadly, there is

Research question	Findings
	a dichotomy between the attention and incentives given to teachers in the tested grades in contrast with their counterparts in kindergarten through second grade. This differential treatment led to significant resentment on both sides and was cited as a reason for teachers' dissatisfaction and desire to leave their high-poverty school.
4. In what ways are professional development policies targeted to increase the supply of effective teachers in high-poverty elementary schools, particularly in helping teachers adjust to the realities of teaching in high-poverty environments and in strengthening the skills of current teachers in high-poverty schools?	4-1. A comprehensive induction and mentoring program was provided to new teachers in the district to help them adjust to their schools. 4-2. The district provided teacher leaders and coaches to targeted high-poverty schools in an effort to support novice teachers and strengthen the skills of experienced teachers in high-poverty schools. Targeted high-poverty schools received mandatory professional development training on culturally relevant instruction and other topics of pertinence to teachers in high-poverty schools. 4-3. Teachers reported that collaboration with colleagues and their own resource finding were the two most important factors in improving their instructional skills. Teachers in high-poverty and low-poverty schools mentioned different facilitating factors to successful implementation of professional development: teachers in low-poverty schools emphasized the extent to which the new skill could be implemented right away, whereas teachers in high-poverty schools emphasized having a positive attitude toward professional development as being key to its implementation. 4-4. Low-poverty schools' curriculum facilitators can play an important role in helping improve teacher effectiveness at their schools. In high-poverty schools, participants pointed to the district-provided coach as a key player in improving teacher effectiveness at their school. 4-5. Teachers in all schools reported that lack of time was the most salient constraint to improving their instructional skills. There were notable differences in the responses of different groups of participants. Teachers in high-poverty schools reported that professional development being offered at inconvenient times was a constraint to their willingness to implement what they learned, whereas teachers in low-poverty schools were not required to attend as many training sessions and were more satisfied with their professional development. Novice teachers were more likely to find the trainings helpful than their more experienced counterparts.

CHAPTER 5:

CONCLUSIONS AND POLICY IMPLICATIONS

This chapter draws conclusions from the study findings and discusses the implications of these conclusions for three groups of stakeholders: education scholars, district administrators, and policymakers. It focuses on the ways that considering the human capital system in schools when designing and implementing staffing and professional development policies might aid school districts in their efforts to increase the supply of effective teachers in high-poverty schools.

Summary of Findings

The data from this study revealed that the district made substantial efforts to target its teacher staffing and professional development policies to increase the supply of effective teachers; however, these efforts were not uniform across the four domains of the district's human capital system: teacher recruitment, allocation, professional development, and retention. The district's teacher staffing policies placed greater emphasis on some domains than others. In particular, the district limited the role of the allocation domain by not including teacher transfers as a part of its comprehensive improvement strategy for high-poverty schools. The data also revealed that the domains of teacher recruitment and retention were influenced by outside factors such as the overall economy, perhaps obscuring the impact of the district's policies in these areas.

Recruitment

Overall recruitment finding. *Recruiting teachers for high-poverty elementary schools was not a problem for the district given the current economy. The district's*

monetary recruitment incentives played a very limited role in teachers' decisions about accepting a position; however, the district's efforts to target its recruitment to universities and programs that have reputations for producing effective graduates were perceived to lead to a better-prepared workforce for high-poverty schools.

Only two of the teachers in this study reported that the recruitment bonuses in Project RADAR played any role in their accepting a job at their school. When asked about the most appealing factor that influenced their acceptance of their teaching position, the most common response was "it was a job." Because there was not a teacher shortage in this district, applicants were happy to be selected anywhere, and they accepted positions at high-poverty schools even if they would have rather taught at a more affluent school.

According to administrators, the district's most successful effort to increase the supply of effective teachers through its recruitment policies was its targeted recruitment of teachers from alternative certification programs whose graduates have had high value-added scores in high-poverty schools. Speaking of one such partnership program with a historically black college or university (HBCU), a district administrator reported,

> Retention of this group of alternatively certified teachers is higher in those schools than regularly certified staff, and the value-added scores of this population are within a hundredth of a percentage point of our regularly certified staff in high-poverty schools.

Allocation

Overall allocation finding. *Mobility in this district was extremely limited. An overall lack of vacancies inhibited teacher transfers within the district. The lack of vacancies was traced to three primary sources: principals' reluctance to remove*

marginally effective teachers, the satisfaction of teachers in low-poverty schools, and the economy overall.

District administrators claimed that transferring from school to school in the district was common; however, the teachers and principals included in this study claimed that transferring used to be common but was now quite rare. In particular, there were few vacancies at low-poverty schools, so teachers in high-poverty schools had few opportunities to transfer. The lack of vacancies was attributable to teachers in low-poverty schools being very satisfied in their positions and having no desire to leave. Furthermore, principals viewed the process required to remove ineffective or marginally effective teachers as burdensome, so they were reluctant to use it. Ineffective teachers therefore remained in their positions for a long time before being counseled out. The lack of vacancies was also a symptom of decreasing enrollment and budget deficits that had decreased the number of teaching positions in the district overall. The situation was exacerbated by the district policy of placing surplus teachers before others could transfer. This combination of economic circumstances, district policies, and personal dispositions meant that teachers tended to stay in their first placement in the district for a long time. Understandably, novice teachers were largely unaware upon accepting a position that their mobility was so limited and that they would be "stuck" in the position for many years before an opportunity to transfer would be possible.

Retention

Overall retention finding. *According to district administrators, the retention rates in high-poverty schools had stabilized since the implementation of monetary incentives and professional support services. According to the principals and teachers in*

high-poverty schools, however, teacher turnover remained a large challenge at their schools.

District administrators reported that the performance incentive policies were a highly successful tool in the effort to retain teachers in high-poverty schools. Evidence supporting this claim came from independent policy evaluations[21] that showed that teacher retention increased in the targeted schools after the implementation of the incentives, as well as from an administrator's assertion that teacher turnover increased again after funding for these incentives ceased. Administrators acknowledged that their own qualitative data did not support the quantitative data: teachers reported in focus groups and surveys that the performance incentives were not a major factor in their retention decisions.

Consistent with the district's own survey data, the majority of high-poverty school teachers interviewed for this study said that the bonuses played no part in their staying at their school; however, most of these teachers had been at their schools when Project RADAR was implemented and might have already made the decision to stay based on other factors. Several novice and recently transferred teachers acknowledged that the bonuses played a modest role in their wanting to stay in their schools, lending some support to the district's assertion that the policies had been successful.

One unintended consequence of Project RADAR's design presented a constraint to the district using that program to improve teacher retention at high-poverty schools. The program paid the large bonuses only to teachers who had high value-added scores.

[21] The independent evaluations used a mixed-methods approach that included comparison of teacher effectiveness and retention data from Project RADAR and matched non-Project RADAR schools, descriptive statistics on student achievement scores and incentives paid to teachers, teacher and parent surveys, and focus groups of teachers and administrators.

The calculation of value-added scores required 2 years of testing data; therefore, in elementary schools, only the fifth-grade teachers were eligible for the performance incentives (Whitehurst, 2013). The data in this study showed clear tensions within each school between teachers in testing grades and their early elementary grade colleagues, who resented the allocation of these bonuses. They felt that they had laid the foundation for the students' later success and that someone else was reaping the benefit of their hard work. These perceptions impacted morale in a negative way, and dissatisfaction with school morale was a primary factor teachers pointed to in their retention decisions.

In spite of the positive teacher retention results demonstrated by the external evaluations of Project RADAR, principals and teachers in all three high-poverty schools in this study believed that teacher turnover remained a large challenge for their school. One school had experienced the turnover of five of its teachers within the past year, an attrition rate of close to 30%. Another school's principal remarked, "I have more teachers who want out of here than ever before."

Professional Development

Overall professional development finding. *The district-provided coaches were universally appreciated and consistently mentioned as key players in the improvement of teacher quality in high-poverty schools. The mandatory professional development workshops targeted to high-poverty schools were well matched to school needs, but were generally not seen as helpful in strengthening teachers' skills. Voluntary professional development opportunities were plentiful, but participation in them was constrained by lack of time.*

The support personnel provided as a part of the professional development in Project RADAR were seen as more effective at increasing teachers' instructional skills and satisfaction than the formal professional development workshops for high-poverty schools. Mandatory skills-related professional development such as the Reading Foundations training was well targeted to high-poverty schools' needs, but generally not viewed by teachers as helpful in improving their instructional skills.

In addition to the mandatory workshops, teachers could choose to attend other district-provided training on their own to improve their instructional skills. The district supported these efforts to improve teacher quality by offering a long list (with over 70 topics) of professional development experiences that teachers could elect to attend. Teachers in all schools, but especially in high-poverty schools, felt that they already participated in so many workshops and meetings that there was not time to take advantage of the professional development opportunities offered by the district that might address their individual professional growth.

Study Conclusions and Policy Implications

Contributions to the Research Base

This study contributes to a growing research base on districts using value-added models of teacher effectiveness to create performance incentive policies with the goal of increasing teacher recruitment and retention in high-poverty schools. The study is distinct from other studies in several important ways. First, most studies of performance-based compensation policies have looked at the efficacy of the policy exclusively in terms of teacher retention and/or student achievement (e.g., Clotfelter et al., 2010; Figlio, 2002; Hanushek, Kain, et al., 2005; Milanowski, 2007). This interview-based study was unique

in that it asked teachers and principals, the people most impacted by the policy, about their perceptions of the facilitators of and constraints to the success of the district's staffing policies. Second, most studies addressed teacher staffing issues in isolation from other district policies, such as professional development programs. This study took a broader approach to the topic by using the human capital system in schools as its conceptual framework, considering all four domains of this framework rather than approaching staffing and professional development policies in isolation from one another. This broad approach is important because it presents a more realistic picture of policy implementation at the local level, which includes many initiatives at the same time.

This study's findings add several new interpretations to the current literature base on these initiatives. First, whereas there have been several recent studies of teacher mobility across districts, few studies have examined teacher mobility within socioeconomically heterogeneous districts. Intradistrict mobility was extremely limited in the study district because of a lack of vacancies in low-poverty schools. The lack of vacancies is an issue that adds an important caveat to the recent studies showing teacher mobility trends toward lower-poverty and higher-achieving students (Goldhaber, Gross, & Player, 2009; Ingersoll & May, 2012). This study found one clear reason for the lack of vacancies: teachers in low-poverty schools were satisfied in their positions and did not wish to transfer, leaving no spaces in more affluent schools for teachers in high-poverty schools who wished to transfer. There was a stark contrast between the satisfaction of teachers in low-poverty schools and that of their counterparts in high-poverty schools, even though both groups of teachers were in the same district.

The Role of the Economy in Teacher Staffing Policies

This study's findings demonstrated the economy's central role in teacher recruitment and retention, which may obscure the impact of districts' policy initiatives addressing these domains. Although administrators reported that the monetary incentives had worked well as inducements for recruitment and retention, there was no way to determine with certainty the relative importance of the economic downturn on the positive results the district had seen in recent years. Novice teachers in this study accepted the first job offered to them, regardless of whether it was at a school in which they really wanted to teach, citing the poor job market as the primary reason for this choice. Similarly, teachers in high-poverty schools reported that they remained in their teaching positions not because they were satisfied, but because they simply had nowhere else to go. These findings suggest that the poor job market plays a larger factor in teacher recruitment than any particular district policy. Likewise, in a district without much mobility and in an economy with few other jobs available, teachers' retention decisions may be influenced more by these outside factors than by monetary performance incentives. Thus, Project RADAR might have received credit for outcomes that were actually a reflection of the poor job market. Because contextual variables such as the economy are always changing, their role can be expected to vary considerably among studies and, therefore, make it difficult to compare results across studies.

The finding that the overall economy played a larger role in teacher recruitment decisions than any specific school district policy is likely to be reiterated in studies of other contexts in the years to come, given the fact that the economic downturn was a nationwide occurrence. This study also revealed that due to the sluggish economy, the

teacher supply market was saturated. There simply was not a teacher shortage at the elementary school level, even in high-poverty schools. These related findings are not surprising and are corroborated by national statistics that document teacher shortages primarily at the secondary level (U.S. Department of Education, 2013). It is important to note that this study design did not include participants from secondary schools, and therefore the results and conclusions about the district's teacher staffing policies may not adequately reflect the district as a whole or the entirety of the economic context. The overall job market for people with degrees in math and science, the two areas of secondary teacher shortage in North Carolina (U.S. Department of Education, 2013), may look very different than the job market for someone with a degree in elementary education. However, the finding that there is not an elementary teacher shortage is at odds with education policy efforts that offer signing bonuses at the elementary level. If policymakers were to pay greater attention to the wider economic context, they might choose to target these limited resources elsewhere.

Teacher Staffing

This study found that aside from the economy overall, the most important facilitator to recruiting teachers for high-poverty schools was the district's partnerships with targeted universities. The district heavily recruited novice teachers from programs whose graduates had high value-added scores or whose students had performed particularly well in a targeted subject area. The effectiveness of this strategy for recruiting teachers to high-poverty schools is backed up by other studies on the topic (Chesley, 2010; Gebhard & Willett, 2008). Most of the study district's targeted partnerships were with alternative certification programs.

Given that teacher recruitment is not a challenge in the current economy, the need to ease the entry requirements into the profession via alternative certification programs is questionable; however, these programs continue to be a focus of teacher recruitment policies. Moreover, this study raises the concern that districts may be systematically placing alternatively certified teachers of color into high-poverty schools. In this study, one HBCU's alternative certification program was the recipient of extra recruitment efforts because its graduates had high value-added scores, and administrators said that targeting recruitment toward this university decreased "the cultural gap between the student population and the teaching force." Although the word used was "cultural," the statement has larger implications for race and equity issues in education. It raises the concern that the graduates of HBCUs may be assigned to high-poverty schools with large populations of black students at greater rates than graduates of any other strong preparatory program. Doing so exacerbates racial segregation within and across school systems.

The policy also raises a concern about the dependence on alternatively certified teachers. Although administrators in this study reported that high-poverty school teachers from the targeted HBCU had retention rates higher than those of their fully certified counterparts, other studies have found the opposite and suggest that this phenomenon may be exacerbating the problem of high teacher turnover in high-poverty schools (Costigan, 2005; Harris, Camp, & Adkison, 2003). The potential for increased turnover might have been partially masked in this study because of the current job market.

This study also revealed that certain teacher staffing policies constrain the district from improving its teacher quality; in particular, the practice of assigning surplus

teachers before any transfers or new hires inhibited the principals from improving teacher quality through hiring decisions. There are compromises that could be made to balance the superintendent's desire to keep teachers "in the family" and principals' desire to maintain control over school hiring. As district-level policymakers review the efficacy of their staffing policies, they might consider allowing principals to interview and select from a list of several surplus teacher candidates, rather than excluding principals from the placement process.

In addition, district administrators' acknowledgment that their high-poverty school teachers tend to burn out after about 10 years is worthy of further attention. The district could use this predictability to its advantage by taking proactive measures to help these teachers transfer to a less challenging teaching environment, move to an education support position outside the classroom, or decrease their stress levels in their current placements. The district already addresses novice teachers' stress levels by limiting their additional responsibilities. In similar fashion, the district could pay closer attention to the workloads of teachers with 8 to 10 years of experience in an attempt to decrease the feelings of burnout in this population.

Different Conclusions Result from Different Research Designs

This study yielded conflicting findings on the role of performance incentives in teacher retention: administrators credited this policy with reducing teacher turnover, whereas school-based personnel reported that teacher turnover remained high. One potential reason for the contrasting responses across participant types is that the administrators were looking at averages for the entire district, whereas the school-based personnel responded only about their individual school. District-wide averages of teacher

turnover do not show the wide variations in turnover across high-poverty schools within a district—a finding shown, for example, in a study by DeAngelis and Presley (2011). The averages do not make the turnover any less real for those schools experiencing it.

One of the primary implications of the findings of this study is that differences in the methodology behind the evaluation of district staffing and professional development policies create inconsistency in our assessment of these policies. Administrators and school-based personnel held different opinions about the effectiveness of the district's teacher staffing policies for teacher retention primarily because the administrators were using quantitative data as their information source, whereas school-based personnel were not only looking at teacher turnover in their school but also using qualitative sources such as informal conversations among the staff. One source is no more or less valid than the other. Administrators had the benefit of looking at trends across the entire district, whereas principals and teachers had the benefit of knowing the intentions, motivations, and feelings of their colleagues. Administrators in this study discounted the qualitative data: teachers reported that the monetary incentives were not driving factors in their recruitment and retention decisions, but their viewpoint was brushed aside by district administrators as being disingenuous about the importance of money because it contradicted the quantitative data that supported the effectiveness of the incentive policies. The numbers were clear: teacher turnover in high-poverty schools had decreased since the performance incentive program was implemented, and the administrators emphasized teachers' actions over their words in the assessment of the program. Principals and teachers, on the other hand, knew from conversations with their colleagues that the economy and lack of vacancies in the district were keeping teachers in place who

otherwise would have chosen to leave, and their emphasis on this qualitative data resulted in a different assessment of the staffing policies. Each stakeholder found a valid data point on which to base her claims, but the different emphases led to inconsistent findings.

Problems with Value-Added Measures

Administrators and teachers in this study differed not only in their methodological approach to evaluate district policies, but also in their view of the theoretical appropriateness of these policies. The performance incentives used by this district were based on teachers' value-added scores. Administrators viewed these scores as appropriate measures on which to base their policies, consistent with their counterparts at the state and federal levels in education policy. Teachers viewed them as something largely outside the scope of their control. They were upset at the bonuses given to some teachers using value-added scores, and their criticism centered largely on these incentive policies' lack of understanding of the social context of schools. The teachers' viewpoint has been mirrored by education economists who have cautioned against overreliance on these measures in education policy. Value-added statistical models do not adequately capture the social context of teaching and learning because students are not assigned randomly to their classrooms, many adults in a school other than the teacher of record are involved in any individual student's learning, and teachers' effectiveness is impacted by the quality of their colleagues and administration (Harris, 2011). We cannot isolate these contextual factors from teachers' performance.

The use of value-added models as the basis for targeted performance incentive policies also has the unintended consequence of exacerbating the perceived inequity in the teaching environment between high-poverty and low-poverty schools. Policymakers

view staffing inequity as a problem of teacher quality differentials between high-poverty and low-poverty schools, as measured by value-added scores. Because of this emphasis, they often attempt to address staffing inequity through recruitment and performance incentives targeted at equalizing those scores. Using a quantitative measure of teacher effectiveness and targeting its use toward teachers in high-poverty schools but not teachers in low-poverty schools leads to interpretations of teacher effectiveness in the two types of schools that may not be accurate. For example, there was a widespread perception among low-poverty school teachers in this study that their counterparts in high-poverty schools were less effective, but this perception may be entirely unfounded. The state generates a yearly value-added score for teachers in all schools, not just high-poverty ones, but these scores are largely ignored for teachers in low-poverty schools: because student achievement overall is higher in those schools, teachers' effectiveness is assumed to be satisfactory. Teachers in low-poverty schools may have value-added scores comparable to those of their high-poverty school counterparts, but these scores are disregarded because they are not the focus of policymaking. Because their schools aren't targeted as needing any improvements and they are never informed of their relative value-added scores, teachers in low-poverty schools are left to believe that their own performance is strong; conversely, they interpret the district's targeting of other schools for performance-based teacher compensation as evidence that the effectiveness of the teaching staff as a whole is inherently lower at the targeted schools than at other schools in the district. This inequity in the way that the district communicates and creates policy based on teacher value-added scores is important because it contributes to the perception that high-poverty schools are full of ineffective teachers and therefore not desirable

places to work. The perceived differences in the teaching environment between high-poverty schools and their more affluent counterparts in the same district drive many teachers' placement and mobility decisions.

Inequity in the way that value-added scores (and the policies based upon them) are used may also have a negative impact on the implementation of the policies across the district by decreasing teachers' buy-in of these policies. In this study, teachers in low-poverty schools were uninterested in the bonuses they might receive if they were willing to transfer to a high-poverty school. Their buy-in to the value of the performance incentives was low, both because the district did not inform the teachers whether their score would have been high enough to receive a bonus and because their negative perceptions of the teaching environment in high-poverty schools outweighed their interest in receiving a monetary incentive. Teachers in high-poverty schools were offered workshops to teach them about how their value-added scores were calculated, but they did not take advantage of this opportunity. Like their counterparts in low-poverty schools, high-poverty school teachers' buy-in to the value of the performance incentive policy was low, likely because they saw the scores as something outside the scope of their control and because only a small subset of the teaching force was eligible for the bonuses. Administrators in this study were satisfied with the implementation and efficacy of their staffing policies in spite of teachers' low buy-in for them; however, in a different economic context the lack of teacher buy-in may have detracted from these policies' success.

Another fundamental problem with the creation of monetary incentive policies based on teachers' value-added scores is that the impact of such policies will likely be

limited because teachers are less responsive to money than they are to the teaching environment. In this study, teachers in low-poverty schools largely ignored the monetary incentive policies that might entice them to transfer to a high-poverty school; the intrinsic rewards of their position were more salient to them than the bonuses. The low-poverty school teachers reported that they would consider transferring to a high-poverty school if they were guaranteed five things:

- Respect for teacher professionalism
- A supportive principal
- Planning time that would not be replaced with meetings
- A collegial staff
- Increased pay including overtime for required work outside of school hours

This finding is consistent with previous research, wherein low-poverty school teachers declined to take advantage of monetary incentives to transfer and expressed the same reservations about the relative working conditions in the different types of schools (Archer, 2003; Glazerman et al., 2012). These environmental factors were much more salient to teachers' retention decisions than the district's monetary incentives. This finding is notable for two reasons. First, it further underscores teachers' perceptions of large variations in the teaching environment across different schools within the same district. These perceptions may or may not be accurate, but they are important enough to outweigh the district's incentive policies.

Second, many of these teachers' desired variables are amenable to policy attention. For example, Teacher Incentive Fund grant money could be allocated to compensate high-poverty school teachers for training beyond the school calendar.

Programs that train principals to be more effective instructional leaders could be piloted and implemented, and resources could be targeted toward ensuring that elementary schools have assistant principals to strengthen the administrative leadership capacity in elementary schools. Considering that the curriculum facilitator at one of the high-poverty schools in this study was playing a much larger supportive role in her school's turnaround efforts than some of her counterparts elsewhere, identifying models of best practice in this position are worthy priorities for district policymakers seeking to improve administrative support and instructional leadership in high-poverty schools. In addition, technology could be better utilized to cut down on the amount of meetings that teachers in high-poverty schools attend. Performance-based compensation is therefore only one factor among many that education policymakers might consider in efforts to increase teacher retention. Creating policies with the goal of equalizing teachers' perceptions of the teaching environment in high- and low-poverty schools may also positively influence effective teachers' willingness to accept positions in high-poverty schools.

This study also found that the performance incentives were not seen by the school-based personnel as effective recruitment or retention inducements because so few teachers were eligible for them, a problem that has received little attention in previous studies. Current research on performance incentives focuses on their impact on teacher retention (Almy & Tooley, 2012; Glazerman & Seifullah, 2012; Wiley, Spindler, & Subert, 2010) or on student achievement (Fryer, 2013; Glazerman & Seifullah, 2012; Springer et al., 2010) for the teachers who are eligible for the incentives. Research on performance incentives largely ignores the majority of elementary school teachers who

are ineligible for these bonuses and discounts the negative impact on morale that the incentives may be creating.

The Role of Professional Development in Teacher Effectiveness Policies

In the domain of professional development, this study found that the targeted support personnel were the most important facilitators to improving teacher quality in high-poverty schools. This district's program was particularly innovative in that it combined teacher leaders with a district-wide coach. This is the only district policy that directly addresses inequity in the teaching environment between high-poverty schools and low-poverty schools. Naming teacher leaders empowered the best teachers in struggling schools, rejuvenating their commitment to their school and giving them license to serve as mentors to others. The finding that teacher leaders played a role in teacher retention is correlated with an emerging body of research showing this to be the case (e.g., Katzenmeyer & Moller, 2009; Murphy, 2005; Waddell, 2009). The teacher leaders improved the teaching environment for all by increasing collaboration and morale. The district coaches also improved the teaching environment by providing context-specific instructional guidance for teachers, serving as an additional source of administrative support in their targeted schools. The perceived positive impact of this policy, in contrast to the perceived lack of impact of the monetary incentive policies, emphasizes the importance of addressing teachers' workplace satisfaction in the effort to increase the supply of effective teachers in high-poverty schools.

Teachers' and principals' perceptions that the teacher leaders and district coaches contributed greatly to the effort to improve teaching quality in high-poverty schools indicate that these roles are valuable and worthy of continued support. Additional

resources to support or expand the teacher leader and targeted district coaching program might be found by reallocating the funds used for signing bonuses, which this study found to be unnecessary in the current teacher job market. Furthermore, the contrast between teachers' satisfaction with the personal support provided by the district coaches and teachers' dissatisfaction with the workshops targeted to high-poverty schools suggests that teacher professional development would be more effective if it shifted from one-size-fits-all workshops and programs toward more school-specific and individual-specific professional development. Because teachers credited camaraderie as the primary factor in their retention decisions, professional development that serves to increase trust and collaboration between teachers may be a better use of limited professional development money. Paying closer attention to the alignment between teachers' individual goals in their professional development plans and the professional development they actually receive is another way to ensure that professional development serves to increase the effectiveness of teachers in high-poverty schools. Likewise, teachers' criticism that resource-finding is a key component of their professional development that goes unacknowledged and undervalued by the district is something that is very amenable to a policy solution.

Implications for Future Research

Although every education context is unique, education research serves to explain a phenomenon within its context so that other researchers may learn from it and apply it to their own situation, as appropriate. The findings from this study suggest two primary areas for future inquiry on the goal of increasing the supply of effective teachers in high-poverty schools: research into the professional development and supports we provide to

improve the effectiveness of teachers in high-poverty schools, and research that considers the broader economic context in its analysis of educational policies.

The success of the district-based coaches and teacher leaders, described earlier, is worthy of deeper examination, as current research on the role of coaching in school improvement efforts is limited. Interestingly, there was great variation in the emphases and techniques used by coaches in different schools in this study; therefore, the findings lead to the conclusion that the coaches are instrumental in school improvement efforts, but this study was not able to ascertain *how* they accomplish their goals, nor does the existing literature answer that question. One hypothesis consistent with this study's findings is that the level of individualization a district coach is able to provide to her school site contributes to successful school reform. This topic would benefit from case study research that tests this hypothesis and explores how the coaches were chosen and trained, how they decided which strategy to use at a given school, and how they earned such widespread respect and buy-in from school-based personnel in such a short time, so that this type of successful program might be implemented elsewhere.

The finding that the teacher leaders were seen as useful tools not only in professional development but also in teacher retention is also an area worthy of future research. The administrator's statement that most teachers in high-poverty classrooms "burn out" after about 10 years, coupled with the finding that not one of the teacher leaders in this study wanted to leave her school, indicates a potential link between teacher leadership and experienced teacher retention. In other words, being named a teacher leader may serve to rejuvenate a population of teachers that is likely to leave high-poverty classrooms. Because teachers with more than 5 years of experience are generally

more effective than the novices who would be hired to replace them (Clotfelter et al., 2007; Hanushek & Rivkin, 2008; Ronfeldt et al., 2013), rejuvenating and retaining this population of teachers is a worthwhile goal. However, current research on the impact of teacher leadership on retention focuses largely on the novices' retention and ignores that of the mentor. Clarifying the role of teacher leadership in increasing veteran teachers' effectiveness and retention, and identifying best practices toward this goal, are topics for further consideration.

Finally, this study highlighted the role of the job market, both in teachers' decisions and as it influences the outcomes of district policies. This broader economic context is rarely considered either in school district policy formulation or in research on its effects, as if the educational system were in a vacuum. Without considering the context, policymakers may attribute a policy's success to internal factors when external ones may also be at play; consequently, they are more likely to continue a particular program that is unlikely to show continued success when the economy shifts. Furthermore, when the economic context is not included in the design of educational research, the reader cannot adequately compare contexts and determine whether a study's conclusions might apply elsewhere. Although the administrators in this study credited their teacher staffing policies with decreasing turnover in high-poverty schools, the independent evaluations did not consider the extent to which the poor job market overall may have contributed to the improvement in teacher recruitment and retention. Both novices and experienced teachers in this study emphasized that the job market played a strong role in their school assignment: novices accepted the first job offered to them regardless of fit, and the poor job market was one factor contributing to the lack of

mobility that constrained experienced teachers from transferring. The results of this study, therefore, highlight the centrality of the economic context and suggest that it should be included in the design of future studies.

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APPENDIX A:

DATA COLLECTION MATRIX

Inquiry	Data Collection Point[22]	Source
Research Question 1		
In what ways are teacher recruitment policies targeted to meet the recruitment needs in high-poverty schools?	Description of teacher recruitment goals and policies	Documents
	How are the district's recruitment efforts targeted at recruiting effective teachers to high-poverty schools?	Administrators; all principals; high-poverty teachers
	What is Project RADAR's impact on recruiting teachers? Have you seen a school's designation as a program participant have an impact on the ability to recruit new teachers to that school?	Administrators
	Is recruitment done primarily at the district level or at the school level?	All principals
	What recruitment efforts do you use to encourage teachers to apply to this school in particular?	All principals
	How were you recruited to your school?	All teachers
Research Question 2		
In what ways are allocation policies for newly recruited teachers and experienced teachers targeted to increase the supply of effective teachers in high-poverty elementary schools?	Description of teacher allocation goals and policies	Documents
	How easy or difficult is it to remove ineffective teachers? How have the district's staffing policies helped or hindered the removal of ineffective teachers?	Administrators; all principals
	What is the process for teachers to transfer to a different school? How common is it for teachers to transfer to other schools within the district? Do you see more teachers transferring into high-poverty schools, out of high-poverty schools, or from one high-poverty school to another?	Administrators
	Who decides which teachers go where? Is there a team of people that interviews and hires new teachers, or is the decision up to the principal?	All principals

[22] Questions in this column may be worded slightly differently depending on which population is being interviewed. Please see the interview protocols in Appendix C for the exact wording of interview questions.

Inquiry	Data Collection Point[22]	Source
	What processes do you use to ensure that the teachers here are the most effective ones available to you? What are you looking for in a new recruit that tells you she will be effective in this school? Do you identify and measure teacher effectiveness differently for experienced teachers than novice ones? Have these staffing policies changed? If so, why?	All principals
	How do you define teacher effectiveness? Do you think you define it differently than the district does?	Administrators; all principals
	What processes do you use to ensure that the teachers at this school/district are the most effective ones available to you?	Administrators; all principals
	Can you please describe the district's policies or practices that encourage effective teachers and principals to transfer from low-poverty schools to high-poverty schools?	Administrators; all principals; all teachers
	How are principals in Project RADAR selected and matched with high-poverty schools?	Administrators
	There are many underperforming schools. How are they prioritized for inclusion in Project RADAR?	Administrators
	Would you ever consider transferring to a high-poverty school? Why or why not?	Low-poverty teachers
	How easy or hard would it be for you to transfer to a different school if you wanted to? Can you please describe the transfer process in this district.	All teachers
Research Question 3		
In what ways are teacher retention policies targeted to increase the supply of effective teachers in high-poverty elementary schools?	Description of teacher retention goals and policies	Documents
	What is your turnover rate in this district? Has it changed over time? If so, why?	Administrators
	Which, if any, district policies and practices influence the retention of effective teachers?	Administrators; all principals; high-poverty teachers
	Can you please describe the induction and mentoring policies and programs provided to new teachers?	Administrators
	Are induction/mentoring programs targeted specifically for high-poverty schools?	Administrators
	Do you expect to remain teaching in this school? If not, why? What factors have influenced your decision to remain in this school?	All teachers

Inquiry	Data Collection Point[22]	Source
Research Question 4		
In what ways are professional development policies targeted to increase the supply of effective teachers in high-poverty elementary schools? • Helping teachers adjust to teaching in high-poverty environments	What do you think are the greatest professional development needs for teachers at this school?	All principals
	What are the greatest professional development needs for teachers in high-poverty schools?	Administrators
	How are the professional development opportunities for teachers targeted to meet their needs? Are professional development opportunities in high-poverty schools any different from those for teachers in other schools? If so, how?	Administrators; all principals
	How does this district help teachers adjust to the challenges of teaching in high-poverty schools? In what ways, if any, are the induction and mentoring opportunities for teachers in high-poverty schools targeted to help them adjust to the teaching environment there?	Administrators; high-poverty principals; high-poverty teachers
	Think back to when you first started teaching in a high-poverty school. In what ways did the experience match your expectations, and in what ways was it different? What sort of training or professional development did you receive to help you adjust to the teaching environment in a school like this one?	High-poverty teachers
	How are your professional development opportunities selected? In what ways, if any, have your professional development opportunities been targeted to your specific needs?	All teachers
In what ways are professional development policies targeted to increase the supply of effective teachers in high-poverty elementary schools? • Strengthening the skills of current teachers in high-poverty schools	Does the professional development offered here facilitate improvement of teachers' instructional skills? If so, what facilitates this improvement? How is the improvement measured? What are the challenges to using professional development to improve teachers' instructional skills?	Administrators
	In what ways have your professional development opportunities helped improve your instructional skills?	All teachers
	[For RADAR teacher leaders] Describe the role of a teacher leader in your school. Why did you apply for this role?	High-poverty teachers
Research Question 5		
Overall, what are administrators' and teachers' perspectives on the impact of the district's teacher	To what extent do you feel the district has made progress in increasing the supply of effective teachers in high-poverty schools?	Administrators; all principals, all teachers
	How effective do you believe the district has been in recruiting effective teachers to high-	Administrators; all teachers

Inquiry	Data Collection Point[22]	Source
staffing and professional development policies as they relate to increasing the supply of effective teachers at high-poverty schools?	poverty schools?	
	To what extent did the district's programs/ policies influence your decision to teach at this school?	High-poverty teachers
	Has Project RADAR impacted your school? If so, how?	All principals; all teachers
	Have any of your teachers left this school to transfer to a high-poverty school? In what ways, if any, has their departure impacted this school?	Low-poverty principals
	Can you clarify the relationship between Project RADAR and the other national project?	Administrators
	How effective is Project RADAR as a strategy for allocating strong teachers and principals to high-poverty schools?	Administrators; all principals
	Have the teachers who transferred here as a part of Project RADAR proven as effective at this school as they were in their previous school, or did their effectiveness decline when they were placed in a more challenging environment?	High-poverty principals
	[For teachers who transferred] In what ways have the teaching requirements changed? Will these changes make a difference in your effectiveness as a teacher as measured by your students' achievement gains? Will they make a difference in your effectiveness as measured by other indicators?	High-poverty teachers
	[For teachers who transferred] Please describe your previous school. What was its poverty level compared to this school?	All teachers
	If you decided to leave this school, where would you go?	All teachers
	Would you say the teachers who leave this school are more or less effective than those who remain?	All principals
	To what extent have the performance and retention bonuses given to participants in Project RADAR been a factor in keeping you at this school?	High-poverty teachers
	How effective have the retention bonuses given to your teachers as a part of Project RADAR been as an incentive to retain effective teachers?	High-poverty principals
What are the facilitators and constraints, both internal and external, in achieving these goals?	What do you see as the challenges to recruiting effective teachers? Some of your high-poverty schools are harder to staff than others. To what do you attribute these differences? What factors contribute to this school being "hard to staff"?	Administrators; all principals; all teachers

Inquiry	Data Collection Point[22]	Source
	What factors facilitate the recruitment of effective teachers into high-poverty schools? What are the facilitating factors that help you get the best available teachers to accept positions here?	Administrators; all principals
	When deciding to accept a job at this school, which factors were most appealing? Which were least appealing?	All teachers
	When you were considering where to teach, did you consider positions at high-poverty schools? If so, what factors led you away from those schools?	Low-poverty teachers
	Which aspects of Project RADAR most appealed to you?	High-poverty teachers
	What, if any, external factors or pressures impact the district's efforts to remove ineffective teachers?	Administrators
	What do you see as the challenges in transferring effective teachers into high-poverty schools? What factors facilitate the transfer of effective teachers into high-poverty schools?	Administrators; all principals
	[For teachers who transferred] What factors went into your decision to transfer to this school?	All teachers
	Does there seem to be any competition between schools like this one and higher-poverty schools for effective teachers? If so, can you describe it? How has Project RADAR influenced this?	All principals
	How has Project RADAR been received by principals?	Administrators; all principals
	How has Project RADAR been received by teachers?	All teachers
	If you received an offer to participate in Project RADAR, would you accept? What factors would influence your decision?	Low-poverty principals; low-poverty teachers
	What made you decide to accept the offer to participate in Project RADAR?	High-poverty principals
	How did you select the teachers you did to help reconstitute the staff here? How was that choice received by the teachers and staff at this school? What types of staffing challenges have you faced?	High-poverty principals
	Have you ever considered transferring to a high-poverty school? Why/why not? What factors might entice you to transfer to a high-poverty school? What factors prevent you from wanting to	Low-poverty teachers

Inquiry	Data Collection Point[22]	Source
	transfer to a high-poverty school?	
	Other than what we discussed before regarding transfers, are there additional factors that have influenced your decision to remain in this school? What aspects of your job are most influential in keeping you here? Conversely, what factors might make you want to leave?	All teachers
	Why do you believe teachers want to remain in this school? What other factors facilitate retention of effective teachers here?	All principals
	What do you see as the challenges to retaining teachers in high-poverty schools? What factors facilitate teacher retention in high-poverty schools?	Administrators
	Why do you believe teachers leave this school? What other challenges exist in retaining effective teachers here?	All principals
	What factors influence whether or not the professional development experiences will improve your instructional skills? What else helps you improve your instructional skills? What detracts from you improving your instructional skills?	All teachers

APPENDIX B:

LIST OF CODES

Type of Code	Code	Notes
Attribute	Age range: 20s	Age of participant
	Age range: 30s	
	Age range: 40s	
	Age range: 50+	
	Ethnic makeup: Diverse, equal mix	Ethnic makeup of the student population at the participating school
	Ethnic makeup: Diverse, primarily white/Hispanic	
	Ethnic makeup: Primarily black	
	Ethnic makeup: primarily white	
	Ethnicity: black	Race/ethnicity of participant
	Ethnicity: white	
	Ethnicity: other	
	Experience: experienced	Participant with 10+ years' experience in the job
	Experience: mid-career	Participant with 5-10 years' experience in the job
	Experience: novice	Participant with less than 5 years' experience in the job
	Gender: female	Gender of participant
	Gender: male	
	Location: suburban/rural	School location
	Location: urban	
	Participant type: admin	Job of participant
	Participant type: principal	
	Participant type: teacher	
	Poverty: high	School with >80% of students eligible for free lunch
	Poverty: low	School with <40% of students eligible for free lunch
	Testing grade/subject: no	Teacher participant whose students did not take the state tests
	Testing grade/subject: yes	Teacher participant whose students took the state tests
	Type: magnet	Type of school
	Type: neighborhood	
Structural	Recruitment	Research question aligned with the interview question asked and answer given
	Allocation	
	Retention	
	Professional development	
	Teacher effectiveness	
	Progress	
Descriptive	Recruitment - district screening process	Descriptive and pattern codes for Research Question 1
	Recruitment - don't have to do any	
	Recruitment - excitement	
	Recruitment - fear of testing grades	

Type of Code	Code	Notes
	Recruitment - finding someone fits with existing staff	
	Recruitment - hesitant about parent/teachers	
	Recruitment - job offered faster at non-high-pov than high-pov	
	Recruitment - lack of university partnerships	
	Recruitment - match between personality and school focus/culture	
	Recruitment - misc. neutral/negative	
	Recruitment - miscellaneous positive	
	Recruitment - novice vs. transfer	
	Recruitment - novices will need more support	
	Recruitment - parent involvement in AG teacher[23] hiring	
	Recruitment - principal's role	
	Recruitment - principal dishonesty	
	Recruitment - principal referrals	
	Recruitment - principal struggles	
	Recruitment - role of ed theory	
	Recruitment - some want high-pov and some don't	
	Recruitment - teachers' role	
	Recruitment - teachers' self-recruitment	
	Recruitment - test-based accountability	
	Recruitment - vacancies on website	
	Recruitment - wheeling and dealing	
	Recruitment barrier - not a lot of highly effective teachers out there	
	Recruitment barrier - "shot in the dark"	
	Recruitment barrier - budget not set early enough to know vacancies	
	Recruitment barrier - need to provide cultural education	
	Recruitment barrier - negative perceptions of high-pov schools	
	Recruitment barrier - negative perceptions of principal	
	Recruitment barrier - negative previous experience in high-pov school	
	Recruitment barrier - pay for performance	
	Recruitment barrier - surplus teacher policy	
	Recruitment barrier - test-based accountability	
	Recruitment facilitator - attrition mid-year	
	Recruitment facilitator - bad job market elsewhere	
	Recruitment facilitator - camaraderie	
	Recruitment facilitator - children attend the school	
	Recruitment facilitator - close to home	
	Recruitment facilitator - co-teacher alt-cert program	
	Recruitment facilitator - early hire	
	Recruitment facilitator - having an "in"	
	Recruitment facilitator - HBCU alt cert program	
	Recruitment facilitator - job fairs	
	Recruitment facilitator - loan forgiveness	
	Recruitment facilitator - more jobs in NC than elsewhere	
	Recruitment facilitator - passionate candidate	
	Recruitment facilitator - perception of support	

[23] AG stands for "academically gifted" (i.e., specialists teaching groups of gifted students).

Type of Code	Code	Notes
	Recruitment facilitator - position opened up late	
	Recruitment facilitator - positive climate	
	Recruitment facilitator - principal characteristics	
	Recruitment facilitator - principal selectivity	
	Recruitment facilitator - school discipline plan	
	Recruitment facilitator - strong PTA	
	Recruitment facilitator - support position first	
	Recruitment facilitator - targeted univ. partnership	
	Recruitment facilitator - teachers in interview process	
	Recruitment facilitator - technology	
	Recruitment facilitator - university partnerships	
	Recruitment facilitator - website reviews	
	Recruitment facilitator - year round school	
	Recruitment success - gauged by student readiness	
	Recruitment success - hit or miss	
	Recruitment success - more effective teachers	
	Recruitment success - team dynamics	
	Recruitment success/progress	
	Recruitment wishes	
	Hard-to-staff meaning	
	Hard-to-staff positions	
	Hard to staff = low achievement	
	Hiring from within	
Pattern	RECFAC - miscellaneous positive	
	RECFAC - appealing school factors	
	RECFAC - teacher's role	
	RECFAC - principal's role	
	RECFAC - district level	
	RECFAC - school level	
	RECFAC - state and national level	
	RECFAC - RADAR positive	
	RECCON - miscellaneous negative	
	RECCON - principal struggles	
	RECCON - unappealing school factors	
	RECCON - school level	
	RECCON - test-based accountability	
	RECCON - RADAR negative	
Descriptive	Transfer - clear process	Descriptive and pattern codes for Research Question 2
	Transfer - effective teachers into high-pov schools	
	Transfer - gaming the district policies	
	Transfer - no desire	
	Transfer - no way out of high-pov schools	
	Transfer - not hard	
	Transfer - teachers want out of high-pov schools	
	Transfer - unsure	
	Transfer barrier - "happy where I'm at"	
	Transfer barrier - disillusionment	
	Transfer barrier - district rules about principal initiating contact	
	Transfer barrier - effective teachers don't leave low-pov schools	
	Transfer barrier - fear of inefficacy in high-pov school	
	Transfer barrier - fear of micromanagement	

Type of Code	Code	Notes
	Transfer barrier - fear of the unknown	
	Transfer barrier - focusing on equity within non-high-pov school	
	Transfer barrier – high-pov schools far from home	
	Transfer barrier - lack of teacher autonomy	
	Transfer barrier - negative stigma of being on the transfer list	
	Transfer barrier - no transferring in 4th year	
	Transfer barrier - principal roadblock	
	Transfer barrier - RADAR oversight seen as negative	
	Transfer barrier - surplus teacher policy	
	Transfer barrier - test-based accountability stresses	
	Transfer barrier - unknown vacancies	
	Transfer constraints	
	Transfer facilitator - “connection” with principal	
	Transfer facilitator - bigger bonuses	
	Transfer facilitator - change is good	
	Transfer facilitator - desired community/location	
	Transfer facilitator - desired grade	
	Transfer facilitator - district policy	
	Transfer facilitator - dynamic principal	
	Transfer facilitator - easier for AG teachers than classroom teachers	
	Transfer facilitator - having an “in”	
	Transfer facilitator - less stressful position	
	Transfer facilitator - new assignment from district coordinator	
	Transfer facilitator - new position	
	Transfer facilitator - perception of planning time	
	Transfer facilitator - perception of professionalism	
	Transfer facilitator - perception of support	
	Transfer facilitator - personal contact from district	
	Transfer facilitator - principal initiative	
	Transfer facilitator - school functioning well	
	Transfer facilitator - spot bonus only available to transfers	
	Transfer facilitator - strong teacher	
	Transfer facilitator - teacher autonomy	
	Transfer facilitator - teachers following a principal	
	Transfer facilitator - transfer list	
	Transfer facilitator - wanting to improve practice	
	Transfer facilitators	
	Transfer fair	
	Transfer fair ineffective	
	Transfer from private school	
	Transfer list meaningless	
	Transfer period	
	Transfer period inadequate	
	Transfer teachers’ effectiveness	
	Transfer teachers desirable	
	Transfer to high-pov - supports needed to consider it	
	Transfers - central office to classroom	
	Transfers - extra hard for NBCTs/masters	

Type of Code	Code	Notes
	Transfers – high-pov to high-pov	
	Transfer - clear process	
	Incentives not effective at higher salary scale	
	Ineffective teachers placed elsewhere	
	Not knowing vacancies	
	No transfer requests into high-poverty schools	
	Surplus teachers take available spots	
Pattern	TRANSFAC - motivation	
	TRANSFAC - making it easier	
	TRANSFAC - RADAR	
	TRANSCON - making it harder	
	TRANSCON - RADAR	
	TRANSCON - lack of vacancies	
Descriptive	Appealing - “it was a job”	Descriptive and pattern codes for Research Question 3
	Appealing - already knew other teachers	
	Appealing - being a role model from the community	
	Appealing - challenge	
	Appealing - climate	
	Appealing - close to home	
	Appealing - dedication of staff	
	Appealing - departmentalized grades	
	Appealing - desired grade level	
	Appealing - diversity	
	Appealing - easier place to teach	
	Appealing - facilities	
	Appealing - familiar with curriculum	
	Appealing - familiarity with school	
	Appealing - good test scores of school	
	Appealing - growth opportunities	
	Appealing - high needs	
	Appealing - higher achieving	
	Appealing - kids can go with mom	
	Appealing - low turnover	
	Appealing - making a difference	
	Appealing - more experienced staff	
	Appealing - not Title I school	
	Appealing - parent involvement	
	Appealing - principal	
	Appealing - school characteristic	
	Appealing - small class size	
	Appealing - teacher’s assistants	
	Appealing - teacher freedom	
	Appealing - university partnership	
	Appealing school factors	
	Attrition - discipline problems at school	
	Attrition - ed policy pushing older teachers out	
	Attrition - equal mix of effective/ineffective	
	Attrition - experienced teachers leaving	
	Attrition - lack of parental involvement	
	Attrition - lack of student engagement	
	Attrition - micromanagement	
	Attrition - moving away	

Type of Code	Code	Notes
	Attrition - principal playing favorites	
	Attrition - principal unsupportive	
	Attrition - promotion	
	Attrition - retirement	
	Attrition - teacher quit mid-year	
	Benefits of teaching in a high-poverty school	
	Bonuses - performance bonuses better than recruitment bonuses	
	Budget shortfalls	
	Burnout	
	Challenge - basic needs	
	Challenge - behavior problems	
	Challenge - class size	
	Challenge - cultural gap between teacher and students	
	Challenge - dealing with parents	
	Challenge - diversity becomes excuse for low performance	
	Challenge - expectations of academics in early ed	
	Challenge - falling test scores	
	Challenge - high-pov schools get more money	
	Challenge - increasing bureaucracy	
	Challenge - kids behind grade level	
	Challenge - lack of collaboration time	
	Challenge - lack of lesson planning time	
	Challenge - lack of parental involvement	
	Challenge - lack of personal support	
	Challenge - lack of social workers and nurses	
	Challenge - lack of staff working together	
	Challenge - lack of support	
	Challenge - lack of teacher assistants	
	Challenge - lack of technology	
	Challenge - more disadvantaged than expected	
	Challenge - motivating students	
	Challenge - no experience with school focus	
	Challenge - no set curriculum	
	Challenge - non-high-pov schools receiving high-pov kids	
	Challenge - paperwork burden	
	Challenge - previous teacher quit mid-year	
	Challenge - resistance to change	
	Challenge - switching grades	
	Challenge - technology firewalls	
	Challenge - time put in after school	
	Discipline role in retention	
	Embracing challenge	
	Economy's role in retention	
	Hard to staff = retention	
	High-poverty school realities - role in retention	
	High-poverty schools - bad teachers hide behind poverty	
	High-poverty schools - different teaching styles	
	High-poverty schools - teachers watched more closely	
	High-poverty schools give diff. perspective on teaching	
	High-poverty schools harder to teach in	

Type of Code	Code	Notes
	High-poverty schools have good teachers	
	High-poverty schools struggle with discipline	
	Importance of first placement	
	Lack of parental involvement	
	Lack of preparation for high-poverty teaching	
	Lack of support personnel in high-pov schools	
	Lack of technology	
	Lack of vacancies	
	Ineffective schoolwide discipline	
	Local supplement fund as retention tool	
	Micromanagement of teachers in testing grades	
	Negative perceptions of urban schools	
	Neighboring counties less stressful	
	Performance-based compensation	
	Poverty denial	
	Principal - effective instructional leader	
	Principal - fairness	
	Principal - lack of discipline	
	Principal - need to have been an excellent teacher first	
	Principal – non-high-pov as proving ground	
	Principal - no desire to transfer	
	Principal - progress toward a vision	
	Principal - sets level of testing stress	
	Principal - transparency	
	Principal - trusts and supports teachers	
	Principal - use of feedback survey	
	Principal - use of teacher leadership teams	
	Principal dealing with parents	
	Principal fit	
	Principal impact on morale	
	Principal listening to teachers' input	
	Principal role in retention	
	Principal visibility	
	Principal will "back you up"	
	Principals stretched too thin	
	Reasons for attrition	
	Remediation vs. removal of ineffective teachers	
	Removal of ineffective teachers - bad ones quit	
	Removal of ineffective teachers - become an assistant	
	Removal of ineffective teachers - clear process	
	Removal of ineffective teachers - difficult	
	Removal of ineffective teachers - district rehires them elsewhere	
	Removal of ineffective teachers - doesn't happen	
	Removal of ineffective teachers - easy	
	Removal of ineffective teachers - easy for new hires	
	Removal of ineffective teachers - no union barriers	
	Removal of ineffective teachers - nowhere for "bad fit" victims to go	
	Removal of ineffective teachers - paperwork burden	
	Retention - "I like my school"	
	Retention - "no one leaves"	
	Retention - "the grass is not greener"	

Type of Code	Code	Notes
	Retention - a good fit	
	Retention - burnout not a factor	
	Retention - change is scary	
	Retention - district is trying	
	Retention - ineffective teachers are not fired	
	Retention - low turnover	
	Retention - no	
	Retention - not a challenge here	
	Retention - principal change vs. new school	
	Retention - principal leadership	
	Retention - principal leadership not a strong factor	
	Retention - resilience	
	Retention - school discipline	
	Retention - teachers leaving are worst ones	
	Retention - testing not a factor	
	Retention - unprepared for poverty	
	Retention - unsure	
	Retention - yes	
	Retention barrier - burnout	
	Retention barrier - challenge of high-pov school	
	Retention barrier - class size	
	Retention barrier - conflict with colleagues	
	Retention barrier - conflict with parents	
	Retention barrier - constant need to improve	
	Retention barrier - district policies	
	Retention barrier - greater demands of urban high-pov teachers	
	Retention barrier - ineffective teachers	
	Retention barrier - lack of discipline	
	Retention barrier - lack of leadership	
	Retention barrier - lack of parental involvement	
	Retention barrier - lack of personal time	
	Retention barrier - lack of respect for the teaching profession	
	Retention barrier - lack of teacher assistants	
	Retention barrier - lack of teacher-based decision-making	
	Retention barrier - lack of technology	
	Retention barrier - micromanagement	
	Retention barrier - moved grades due to low scores	
	Retention barrier - negative climate	
	Retention barrier - no social worker or counselor	
	Retention barrier - paperwork burden	
	Retention barrier - perfectionism	
	Retention barrier - salary freeze	
	Retention barrier - school format change	
	Retention barrier - teacher gossip	
	Retention barrier - test-based accountability	
	Retention excuses	
	Retention facilitator - administrator support	
	Retention facilitator - alt cert program	
	Retention facilitator - camaraderie	
	Retention facilitator - career status	
	Retention facilitator - change is scary	

Type of Code	Code	Notes
	Retention facilitator - community relationships	
	Retention facilitator - competitive benefits, salary	
	Retention facilitator - county pays higher	
	Retention facilitator - desirable grade level	
	Retention facilitator - efficacy	
	Retention facilitator - fairness	
	Retention facilitator - having an assistant	
	Retention facilitator - high expectations for students	
	Retention facilitator - job market	
	Retention facilitator - limit responsibilities for attrition-prone	
	Retention facilitator - love the city	
	Retention facilitator - love the kids	
	Retention facilitator - making a difference	
	Retention facilitator - not dealing with parents	
	Retention facilitator - older teachers' life experience	
	Retention facilitator - PD	
	Retention facilitator - positive school climate	
	Retention facilitator - principal laid back	
	Retention facilitator - principal leadership	
	Retention facilitator - principal managing parents	
	Retention facilitator - relationships with students/families	
	Retention facilitator - removal of ineffective teachers	
	Retention facilitator - reputation already established	
	Retention facilitator - school characteristic	
	Retention facilitator - staff accountability	
	Retention facilitator - strong PTA	
	Retention facilitator - superintendent well-liked	
	Retention facilitator – support	
	Retention facilitator - teacher freedom	
	Retention facilitator - teacher leadership	
	Retention facilitator - teacher morale	
	Retention facilitator - teachers have a voice	
	Retention facilitator - transferring is a hassle	
	Retention joke - don't want to move stuff	
	Retention the problem	
	Safety at school	
	Student misbehavior	
	Students' growth	
	Students' lack of respect	
	Students' later success	
	Testing hijacks specialists' schedule	
	Testing not appropriate	
	Testing out of teachers' control	
	Testing results hard on kids	
	Testing stressful for students	
	Testing takes the fun out of teaching	
Pattern	RET - economy's role	
	RET - hard-to-staff meaning	
	RETFAC - principal's role	
	RETCON - principal's role	
	RET - discipline's role	
	RET - test-based accountability's role	

Type of Code	Code	Notes
	RETFAC – RADAR	
	RETCON – RADAR	
	RETCON - high-poverty school realities	
	RET - ineffective teachers	
	RET - misc. reasons for leaving	
Descriptive	Adjusting to lower-needs schools	Descriptive and pattern codes for Research Question 4
	Collaboration with colleagues	
	Continual assessment	
	NBCTs - lots at one school	
	Grant-writing	
	PD - “multilayered” approach for new teachers	
	PD - aspects of strong PD	
	PD - attitude toward improvement	
	PD - based on observation data for new teachers	
	PD - based on survey data	
	PD - blended formats	
	PD - can adapt it to teacher’s individual needs	
	PD - CEUs match with mandatory PD	
	PD - collaboration	
	PD - comprehensive list of workshops	
	PD - contradictory programs	
	PD - cross-grade sharing in staff meetings	
	PD - curriculum facilitator observations	
	PD - data driven	
	PD - district mentor	
	PD - district priorities stifle school initiatives	
	PD - effective teachers implement it	
	PD - evaluated by survey	
	PD - focused on raising test scores	
	PD - follow-up	
	PD - format	
	PD - grade-level specific	
	PD - hard for teachers to be away	
	PD - heard it before	
	PD - high quality	
	PD - how to evaluate it	
	PD - implemented for a short time	
	PD - implemented in good faith	
	PD - improved teachers’ skills	
	PD - inconsistent quality	
	PD - inconvenient timing	
	PD - induction	
	PD - induction model	
	PD - lack of continuity	
	PD - lack of follow-up support	
	PD - lack of money	
	PD - lasting impact	
	PD - leadership development	
	PD - lots of depts offering it	
	PD - mandatory	
	PD - mandatory PD receives follow-up	
	PD - master’s coursework	

Type of Code	Code	Notes
	PD - mismatch principal priorities vs. teacher priorities	
	PD - National Boards	
	PD - NBCTs as teacher trainers for Common Core	
	PD - NBCTs mentoring NBC candidates	
	PD - negative perception	
	PD - new idea fitting in with current practices/materials	
	PD - new ideas to try	
	PD - no causal link to student achievement improvement	
	PD - no implementation follow-up	
	PD - no support for transfers	
	PD - not grade appropriate	
	PD - not improving instruction	
	PD - not targeted to individual needs	
	PD - not targeted to school needs	
	PD - not too much	
	PD - older teachers' difficulty making sense of PD	
	PD - part of teacher evaluation system	
	PD - peer observations	
	PD - principal support for teacher choice	
	PD - program for alt. cert teachers in high-pov schools	
	PD - programs/policies not sustained	
	PD - ready to implement right away	
	PD - relevant to grade level	
	PD - Right Start on school sites	
	PD - school-based after RADAR	
	PD - school-based mentor	
	PD - sharing at staff meetings	
	PD - should have measurable impact	
	PD - specialists' PD affected by coordinator turnover	
	PD - strong presenter	
	PD - targeted to individual needs	
	PD - targeted to school needs	
	PD - teacher buy-in	
	PD - teacher choice	
	PD - teacher evaluation system	
	PD - teacher gaming the system	
	PD - teacher resource-finding	
	PD - teachers accountable for implementation	
	PD - teachers own initiatives more valuable than PD	
	PD - timing in the curriculum	
	PD - too much	
	PD - unsure what's available	
	PD - value-added algorithm	
	PD - increasing supply of effective teachers	
	PD barrier - class size	
	PD barrier - hard to be away from class	
	PD barrier - hard to make PLCs engaging	
	PD barrier - lack of time	
	PD barrier - must stay current to be inst. leader	
	PD challenge - ineffective teachers don't know they're ineffective	
	PD challenge - materials	
	PD challenge - money	

Type of Code	Code	Notes
	PD challenge - not knowing who's implementing it	
	PD challenge - paperwork	
	PD challenge - staying up to date	
	PD facilitator - "process or content" sharing	
	PD facilitator – curriculum facilitator helpful	
	PD facilitator - cross-district sharing	
	PD facilitator - differentiated for teachers' needs	
	PD facilitator - in-house training by current teachers	
	PD facilitator - inspiration	
	PD facilitator - presented by teachers	
	PD facilitator - teacher input	
	PD facilitator - university coursework	
	PD facilitator - unstructured time	
	PD need - avoiding burnout	
	PD need - becoming more data-driven about PD	
	PD need - building capacity among school-based leaders	
	PD need - classroom management	
	PD need - classroom observations	
	PD need - Common Core	
	PD need - Common Core reconcile with school focus	
	PD need - compensation if not during school hours	
	PD need - content area	
	PD need - content area mentor for novices	
	PD need - cooperative learning	
	PD need - culturally relevant instruction	
	PD need - dealing with language barriers	
	PD need - differentiated instruction	
	PD need - disaggregating data	
	PD need - early childhood	
	PD need - experienced teachers	
	PD need - guided reading	
	PD need - individualized support from curriculum facilitator	
	PD need - interaction between RADAR and non-high-pov schools	
	PD need - literacy	
	PD need - more time to focus on school-specific issues	
	PD need - new teachers getting caught up to school	
	PD need - poverty's impact on the classroom	
	PD need - ratchet up the rigor	
	PD need - Reading Foundations	
	PD need - real-world connections	
	PD need - recovering from failures	
	PD need - reflection	
	PD need - resource-finding	
	PD need - same grade, cross-school collaboration	
	PD need - sheltered instruction observation protocol	
	PD need - special for mid-year hires	
	PD need - stay up to date	
	PD need - student-centered instruction	
	PD need - support across the entire career	
	PD need - teaching without a TA	

Type of Code	Code	Notes
	PD need - technology training	
	PD need - time for conversations	
	PD need - transfer teachers learning school policies	
	PD need - value-added	
	PD need - vertical alignment	
	PD workshops not as helpful as self	
Pattern	PD - high-poverty school needs	
	PD - aspects of high-quality PD	
	PDFAC	
	PDCON	
	PDFAC - RADAR	
	PDFAC - role of teacher leaders	
	PDFAC - role of coaches	
	PDCON - RADAR	
Descriptive	Performance bonuses better than recruitment bonuses	Descriptive and pattern codes for definition of teacher effectiveness and overall progress toward district goals
	Budget shortfalls	
	Confusion	
	Description of teacher evaluation system	
	Importance of first placement	
	Importance of principal leadership in school success	
	Lack of clarity in teacher evaluation	
	Low-performing schools unfair to kids	
	Low enrollment	
	Progress - acknowledging inequity	
	Progress - better principals in high-pov schools	
	Progress - can't say on a district level	
	Progress - consistency of instruction across schools	
	Progress - data not shared	
	Progress - dedication of staff	
	Progress - district performing ok compared to state	
	Progress - due to poor job market	
	Progress - focus should be raising rigor overall	
	Progress - good intentions by the district	
	Progress - helping teachers find a good fit	
	Progress - incentives work	
	Progress - increased scores	
	Progress - increasing effectiveness through PD	
	Progress - inefficiency/waste	
	Progress - initiatives being tried	
	Progress - less turnover	
	Progress - more accountable	
	Progress - need more diversity in schools	
	Progress - need more new teachers	
	Progress - no vacancies	
	Progress - nonmonetary incentives help	
	Progress - not enough emphasis on higher ed	
	Progress - not enough improvement in high-pov schools	
	Progress - not removing ineffective teachers	
	Progress - pay all teachers more, not incentivize	
	Progress - policies forcing change	
	Progress - Principal of the Year	
	Progress - RADAR rep should be at interviews	

Type of Code	Code	Notes
	Progress - recruiting more effective teachers	
	Progress - redistribution of effective teachers	
	Progress - removing ineffective teachers	
	Progress - rewarding tougher jobs	
	Progress - rigorous interviewing process	
	Progress - some teachers stagnant	
	Progress - staying current with ed policy	
	Progress - still underpaid	
	Progress - strong superintendent	
	Progress - supporting school improvement	
	Progress - surplus teacher policy constraint	
	Progress - teacher quality equalized	
	Progress - teacher quality improved	
	Progress - teachers want to improve	
	Progress - turnover still high	
	Progress - working with higher ed	
	RADAR's role in retention	
	RADAR - benefits	
	RADAR - bonuses effective retention tool	
	RADAR - bonuses instead of salary freeze	
	RADAR - bonuses not a factor	
	RADAR - bonuses not guaranteed	
	RADAR - bonuses not high enough to get effective teachers	
	RADAR - bonuses seen as a negative	
	RADAR - central office oversight nonthreatening	
	RADAR - changes and inconsistencies	
	RADAR - competition between schools	
	RADAR - district not advertising it	
	RADAR - district screeners informed candidate	
	RADAR - effective teachers recruited	
	RADAR - hard on principals	
	RADAR - hazard pay	
	RADAR - impact on meetings	
	RADAR - impact on teacher evaluation	
	RADAR - incentives make teachers work harder	
	RADAR - lots of support for teachers	
	RADAR - misperceptions	
	RADAR - mistrust	
	RADAR - more follow up in PD	
	RADAR - NBCTs recruited	
	RADAR - negative perceptions	
	RADAR - neutral/negative	
	RADAR - no data on transfer effect	
	RADAR - no impact felt	
	RADAR - no surplussed teachers sent	
	RADAR - not focused on effective teachers	
	RADAR - not pulling teachers from non-high-pov	
	RADAR - not recruiting teachers to transfer	
	RADAR - other appealing aspects trump benefits	
	RADAR - own PD programs	
	RADAR - PD high quality	
	RADAR - PD ineffective	

Type of Code	Code	Notes
	RADAR - PD not taken advantage of	
	RADAR - perception of increased technology	
	RADAR - positive	
	RADAR - positive perception	
	RADAR - principal retention	
	RADAR - principals not selected	
	RADAR - principals recruiting non-high-pov teachers via email	
	RADAR - programs and PD not uniform across schools	
	RADAR - pull, not push	
	RADAR - recruitment incentive	
	RADAR - resentment	
	RADAR - resource inequity between RADAR schools	
	RADAR - role of district coach	
	RADAR - role of teacher leaders	
	RADAR - school-specific data not available to teachers	
	RADAR - small class sizes a recruitment facilitator	
	RADAR - small class sizes not guaranteed	
	RADAR - snafu	
	RADAR - sticking with it	
	RADAR - teachers already working as hard as they can	
	RADAR - too many meetings	
	RADAR - transfer facilitator	
	RADAR - transfer fair presence	
	RADAR - unaware	
	RADAR - unequal distribution of benefits	
	RADAR - value-added data helpful to principals	
	RADAR - whole school incentive better than individual incentive	
	RADAR bonus as gauge of school success	
	RADAR not for transfers	
	Teacher effectiveness - “children first”	
	Teacher effectiveness - “come watch me teach!”	
	Teacher effectiveness - “go the extra mile”	
	Teacher effectiveness - “rigor and relevance”	
	Teacher effectiveness - “whole child”	
	Teacher effectiveness - broad definition	
	Teacher effectiveness - classroom management	
	Teacher effectiveness - collaboration	
	Teacher effectiveness - communicating with families	
	Teacher effectiveness - community involvement	
	Teacher effectiveness - competition between teachers	
	Teacher effectiveness - content knowledge	
	Teacher effectiveness - continuous improvement	
	Teacher effectiveness - creativity	
	Teacher effectiveness - curricular knowledge	
	Teacher effectiveness - data-driven instruction	
	Teacher effectiveness - different expectations in different schools	
	Teacher effectiveness - differentiating instruction	
	Teacher effectiveness - district definition unclear	
	Teacher effectiveness - experienced teachers set in their ways	

Type of Code	Code	Notes
	Teacher effectiveness - flexibility	
	Teacher effectiveness - gap between scores and observations	
	Teacher effectiveness - high expectations	
	Teacher effectiveness - implementing PD	
	Teacher effectiveness - leadership	
	Teacher effectiveness - lesson plans	
	Teacher effectiveness - lifelong learner	
	Teacher effectiveness - meet students' needs	
	Teacher effectiveness - neg impact of behavior problems	
	Teacher effectiveness - no data in primary grades	
	Teacher effectiveness - not needing the principal	
	Teacher effectiveness - parent satisfaction	
	Teacher effectiveness - professional teaching standards	
	Teacher effectiveness - prove it by adherence to policies	
	Teacher effectiveness - reflection	
	Teacher effectiveness - relationship with students	
	Teacher effectiveness - resourcefulness	
	Teacher effectiveness - scripted teaching goes against it	
	Teacher effectiveness - student-centered instructional practices	
	Teacher effectiveness - student engagement	
	Teacher effectiveness - student mastery of grade-level skills	
	Teacher effectiveness - student preparedness	
	Teacher effectiveness - student success	
	Teacher effectiveness - students can identify learning	
	Teacher effectiveness - unclear	
	Teacher effectiveness - value-added unfair for AG teachers	
	Teacher effectiveness - very high at my school	
	Teacher effectiveness - willingness to change	
	Teacher evaluation areas not all observable	
	Teacher leader - new capacity for veteran teacher	
	Teacher leaders - friends signing up to be leaders together	
	Teacher leaders - low-stakes peer observations	
	Teacher leaders - NBCTs	
	Teacher leaders - not considering leaving	
	Teacher leaders - not enough time for leadership	
	Teacher leaders - promoting teacher retention	
	Teacher leaders - receptivity	
	Teacher leaders - unofficial mentors	
	Teacher morale	
	Teacher resiliency	
	Teacher turnover	
	Teacher turnover low	
	Teachers' involvement in hiring process	
	Teachers already working as hard as they can	
	Teachers leaving the profession entirely	
	Teachers not seen as professionals	
	Teachers want principal to look good	
	Teaching not a desirable career right now	

Type of Code	Code	Notes
	Value-added - have to game the system	
	Value-added - inappropriate	
	Value-added - no idea what goes into it	
	Value-added as “uncontrolled variable”	
	Value-added conflicts with culturally relevant instruction	
	Value-added decreases accountability stress	
	Value-added positive impressions	
	Value-added reception depends on communication	
	Value-added unsure	
Pattern	TE - define it	
	TE - measure it	
	VAM - positive	
	VAM - neutral/negative	
	OVERALL - REC	
	OVERALL - ALL	
	OVERALL - RET	
	OVERALL - PD	
	RADAR - positive	
	RADAR - neutral/negative	
	TL - role in PD	
	TL - role in retention	

APPENDIX C:

INTERVIEW PROTOCOLS

INTERVIEW PROTOCOL: DISTRICT ADMINISTRATORS

Thank you for agreeing to speak to me today. I am a doctoral student at The George Washington University, and my dissertation focuses on the ways that a large heterogeneous district, such as District A, recruits and retains effective teachers in its high-poverty schools. In our interview today, I would like to understand your perspective regarding the effectiveness of this district's teacher recruitment, allocation, retention, and professional development policies.

You were chosen to participate in this study because you are an administrator with insight into the district's efforts to increase the supply of effective teachers in high-poverty schools. The interview should take about an hour. Your anonymity in this study is assured: my study will not mention your name or title, nor will it reveal the name of the district.

Do you have any questions before we start?

1. Throughout this interview I'll be using the term "effective teachers." How does this district define and measure teacher effectiveness?
    - How has the district educated principals and teachers about the measures used to evaluate teachers? Do you feel that teachers have an understanding of the factors that go into the value-added algorithm?

<u>Teacher Recruitment</u>

I would like to talk to you about this district's policies for recruiting new teachers.

1. Can you please describe the teacher recruitment process in District A?

2. How are the district's recruitment efforts targeted at recruiting effective teachers to high-poverty schools?
    - I'm interested in [Policy X].[24] What, if any, is this program's impact on recruiting teachers? In other words, have you seen a school's designation as a program participant have an impact on your ability to recruit new teachers to that school?
    - Can you clarify the relationship between [Policy X] and [Policy Y]?

3. How effective do you believe the district has been in recruiting effective teachers overall?

[24] [Policy X, Y, etc.] will be substituted with the names of the specific policies or programs gathered through document analysis and interviews with district administrators.

- How effective has the district been in targeting its recruiting efforts to high-poverty schools?

4. What do you see as the constraints to recruiting effective teachers into high-poverty schools?

5. What do you see as the facilitators to recruiting effective teachers into high-poverty schools?

Teacher Allocation

I'd like to ask you a few questions about how the district places teachers into their teaching assignments. When I say "allocation," I'm interested both in the initial placement of new teachers and in transferring experienced teachers.

1. Can you please describe how this district allocates teachers to schools? In other words, who decides which teachers go where?

2. How easy or difficult is it to remove ineffective teachers?
    - How have the district's teacher allocation policies helped or hindered the removal of ineffective teachers?

3. What do you see as the constraints to allocating effective teachers into high-poverty schools?

4. What do you see as the facilitators to allocating effective teachers into high-poverty schools?

5. Can you please describe the district's policies or practices that encourage effective teachers and principals to transfer from low-poverty schools to high-poverty schools?
    - How effective is [Policy X] as a strategy for allocating effective teachers and principals to high-poverty schools?
    - How has [Policy X] been received by principals?
    - How are principals in [Policy X] selected and matched with high-poverty schools?
    - There are many underperforming schools. How are they prioritized for inclusion in [Policy X]?

Teacher Retention

Now I'd like to ask you some questions about this district's efforts to retain effective teachers.

1. How high is your turnover rate in this district?

2. Which, if any, district policies and practices influence the retention of effective teachers?

3. Can you please describe the induction or mentoring policies and programs provided to new teachers?
    - Are these policies/programs targeted specifically for high-poverty schools?

4. What do you see as the constraints to retaining teachers in high-poverty schools?

5. What do you see as the facilitators to retaining teachers in high-poverty schools?

Teacher Professional Development

I'd like to ask you about this district's professional development policies for teachers.

1. What do you think are the greatest professional development needs for teachers in high-poverty schools?
    - Do these needs differ from teachers in low-poverty schools? If so, how?

2. How are professional development opportunities for teachers selected?
    - Are professional development opportunities for teachers in high-poverty schools any different from those for teachers in other schools?

3. Do professional development opportunities for teachers influence teacher retention in high-poverty schools? How?

4. Does the professional development offered here facilitate improvement of teachers' instructional skills? If so, what facilitates this improvement? How is this improvement measured?
    - What are the barriers to using professional development to improve teachers' instructional skills?

One last question: To what extent do you feel the district has made progress in increasing the supply of effective teachers in high-poverty schools?

- Reflecting now on everything we've talked about, do you have any other thoughts regarding these topics that you'd like to share?

Thank you so much for your time with me today.

INTERVIEW PROTOCOL: PRINCIPALS IN LOW-POVERTY SCHOOLS

Thank you for agreeing to speak to me today. I am a doctoral student at The George Washington University, and my dissertation focuses on the ways that a large heterogeneous district, such as District A, recruits and retains effective teachers in its high-poverty schools. In our interview today, I would like to understand your perspective regarding the effectiveness of this district's teacher recruitment, allocation, retention, and professional development policies.

You were chosen to participate in this study because you are the principal of a school that has not been designated "high-poverty." The interview should take about an hour. Everything you say will be kept confidential; your name, school, and district will not be associated with any specific comments or conclusions expressed in the study.

Do you have any questions before we start?

Teacher Recruitment

I would like to talk to you about this district's policies for recruiting new teachers.

1. Please describe the teacher recruitment process in District A.
    - What are recruitment efforts you use to encourage teachers to this school in particular?

2. Are you aware of any efforts targeted at recruiting effective teachers to high-poverty schools? If so, can you please describe them?
    - Has [Policy X][25] impacted your school? If so, how?

3. How effective do you believe this school has been in recruiting effective teachers overall?
    - How effective has the district been in targeting its recruiting efforts to high-poverty schools?

4. What do you see as the constraints to recruiting effective teachers?
    - To what extent are these constraints experienced in this school?
    - To what extent are these constraints experienced in this district?

5. What do you see as the facilitators to recruiting effective teachers?
    - To what extent are these facilitators experienced in this school?
    - To what extent are these facilitators experienced in this district?

Teacher Allocation

I'd like to ask you a few questions about how the district places teachers into their classroom assignments. When I say "allocation," I'm interested both in the initial placement of new teachers and the transfer of experienced teachers.

[25] [Policy X] will be substituted with the name of the specific policy or program gathered through document analysis and interviews with district administrators.

1. Can you please describe how this district allocates teachers to schools? In other words, who decides which teachers go where?

2. What processes do you use to ensure that the teachers at this school are the most effective ones available to you?
    - How do you measure teacher effectiveness in recruitment efforts? How do you measure it after the teacher is placed in your school? Do you think you define it differently than the district does?
    - How easy or difficult is it for you to remove ineffective teachers? How have the district's teacher allocation policies helped or hindered the removal of ineffective teachers?
    - Have these allocation processes changed over time? If so, why?

3. What do you see as the constraints to allocating effective teachers into your school?
    - To what extent do you think most other schools experience similar constraints?
    - Does there seem to be any competition between schools like this one and higher-poverty schools for effective teachers? If so, can you describe it? How has [Policy X] influenced this?

4. What do you see as the facilitators to allocating effective teachers into your school?
    - To what extent do you think most other schools experience similar facilitators?

5. Would you please describe the district's policies or practices that encourage effective teachers and principals to transfer from low-poverty schools to high-poverty schools?
    - How effective is [Policy X][26] as a strategy for allocating effective teachers and principals to high-poverty schools?
    - How has this policy impacted this school?
    - How has [Policy X] been received by principals?
    - If you received an offer to participate in [Policy X], would you accept? What factors would influence your decision?

Teacher Retention

Now I'd like to ask you some questions about this district's efforts to retain effective teachers. I'm most interested in reasons that teachers want to remain in schools like this one instead of transferring to a higher-poverty school.

1. What is your turnover rate in this school?

[26] [Policy X] will be substituted with the name of the specific policy or program gathered through document analysis and interviews with district administrators.

- Has this changed over time? If so, why?
- Why do you believe teachers want to remain in this school?
- Why do you believe teachers leave this school?

2. Which, if any, district policies and practices influence the retention of effective teachers?

3. Can you please describe the induction or mentoring policies and programs provided to new teachers?
    - Do these policies/programs influence teacher retention in schools like this one? How?

4. What do you see as the constraints to retaining effective teachers?

5. What do you see as the facilitators to retaining effective teachers?

Teacher Professional Development

I'd like to ask you about this district's professional development policies for teachers. I am specifically interested in the ways that professional development improves teacher instructional skills and impacts retention.

1. What do you think are the greatest professional development needs for teachers in this school?

2. How are professional development opportunities for teachers in this school selected?
    - How might the selection of professional development opportunities for teacher vary across the district?

3. Have the professional development opportunities for teachers at this school influenced teacher retention? If so, how?
    - Do the professional development opportunities in this district influence teacher retention overall? If so, how?

4. Does the professional development offered here facilitate improvement of teachers' instructional skills? If so, what facilitates this improvement? How is this improvement measured?
    - What are the constraints to using professional development to improve teachers' instructional skills?

One last question: To what extent do you feel the district has made progress in increasing the supply of effective teachers in high-poverty schools?

- Reflecting now on everything we've talked about, do you have any other thoughts regarding these topics that you'd like to share?

Thank you so much for your time with me today.

INTERVIEW PROTOCOL: PRINCIPALS IN HIGH-POVERTY SCHOOLS

Thank you for agreeing to speak to me today. I am a doctoral student at The George Washington University, and my dissertation focuses on the ways that a large heterogeneous district, such as District A, recruits and retains effective teachers in its high-poverty schools. In our interview today, I would like to understand your perspective regarding the effectiveness of this district's teacher recruitment, allocation, retention, and professional development policies.

You were chosen to participate in this study because you are the principal of a high-poverty school. The interview should take about an hour. Everything you say will be kept confidential; your name and school will not be associated with any specific comments or conclusions expressed in the study.

Do you have any questions before we start?

Teacher Recruitment

I would like to talk to you about this district's policies for recruiting new teachers.

1. Please describe the teacher recruitment process in District A.
    - What are recruitment efforts you use to encourage teachers to come to this school in particular?

2. Are you aware of any recruitment efforts targeted at high-poverty schools? If so, can you please describe them?
    - You and this school were chosen to participate in [Policy X].[27] What, if any, is this program's impact on recruiting teachers? In other words, other than the teachers you "pulled in" as a part of this program, have you seen the school's designation as a program participant have an impact on your ability to recruit new teachers to this school?

3. How effective do you believe the district has been in recruiting effective teachers overall?
    - How effective has the district been in targeting its recruiting efforts to high-poverty schools?

4. What do you see as the constraints to recruiting effective teachers into high-poverty schools?
    - To what extent are these constraints experienced in this school?
    - To what extent are these constraints experienced in this district?

[27] [Policy X] will be substituted with the name of the specific policy or program gathered through document analysis and interviews with district administrators.

5. What do you see as the facilitators to recruiting effective teachers into high-poverty schools?
    - To what extent are these facilitators experienced in this school?
    - To what extent are these facilitators experienced in this district?

Teacher Allocation

I'd like to ask you a few questions about how the district places teachers into their classroom assignments. When I say "allocation," I'm interested both in the initial match between teachers and schools and the transfer of experienced teachers.

1. Can you please describe how this district allocates teachers to schools? In other words, who decides which teachers go where?

2. What processes do you use to ensure that the teachers here are the most effective ones available to you?
    - How do you measure teacher effectiveness in recruitment efforts? How do you measure it once a teacher is placed in your school? Do you think you define it differently than the district does?
    - How easy or difficult is it for you to remove ineffective teachers? How have the district's teacher allocation policies helped or hindered the removal of ineffective teachers?
    - Have these allocation policies changed over time? If so, why?

3. What do you see as the constraints to allocating effective teachers into your school?
    - To what extent do you think most other schools experience similar constraints?
    - Does there seem to be any competition between schools like this one and lower-poverty schools for effective teachers? If so, can you describe it? How has [Policy X] influenced this?

4. What do you see as the facilitators to allocating effective teachers into your school?
    - To what extent do you think most other schools experience similar facilitators?

5. Would you please describe the district's policies or practices that encourage effective teachers and principals to transfer from low-poverty schools to high-poverty schools?
    - How effective is [Policy X] as a strategy for allocating effective teachers and principals to high-poverty schools?
    - How has [Policy X] been received by principals?
    - How has this policy impacted this school?
    - What made you decide to accept the offer to participate in [Policy X]?

- How did you select the teachers you did to help reconstitute the staff here? How was that choice received by the teachers and staff at this school? What types of staffing challenges have you faced?
- Have the teachers you selected as a part of your participation in [Policy X] proven as effective at this school as they were in their previous school, or did their effectiveness decline when they were placed in a more challenging assignment?

Teacher Retention

Now I'd like to ask you some questions about this district's efforts to retain effective teachers. I'm most interested in reasons that teachers want to remain in schools like this one instead of transferring to a lower-poverty school.

1. How high is your turnover rate in this school?
    - Has this changed over time? If so, why?
    - Why do you believe teachers want to remain in this school?
    - Why do you believe teachers leave this school?

2. Which, if any, district policies and practices influence the retention of effective teachers?

3. Can you please describe the induction or mentoring policies and programs provided to new teachers?
    - Do these policies/programs influence teacher retention in schools like this one? How?
    - How does this district help teachers adjust to the challenges of teaching in high-poverty schools?

4. What do you see as the constraints to retaining effective teachers in the district?
    - How might these constraints vary across the district?

5. What do you see as the facilitators to retaining effective teachers in the district?
    - How might these facilitators vary across the district?

Teacher Professional Development

I'd like to ask you about this district's professional development policies for teachers.

1. What do you think are the greatest professional development needs for teachers in this school?

2. How are professional development opportunities for teachers in this school selected?
    - Is this typical? How are professional development opportunities selected in the district overall?

- Are professional development opportunities for teachers in high-poverty schools any different from those for teachers in other schools?

3. Have the professional development opportunities for teachers at this school influenced teacher retention? If so, how?
    - Do the professional development opportunities in this district influence teacher retention overall? If so, how?

4. Does the professional development offered here facilitate improvement of teachers' instructional skills? If so, what facilitates this improvement? How is this improvement measured?
    - What are the constraints to using professional development to improve teachers' instructional skills?

One last question: To what extent do you feel the district has made progress in increasing the supply of effective teachers in high-poverty schools?

- Reflecting now on everything we've talked about, do you have any other thoughts regarding these topics that you'd like to share?

Thank you so much for your time with me today.

INTERVIEW PROTOCOL: TEACHERS IN LOW-POVERTY SCHOOLS

Thank you for agreeing to speak to me today. I am a doctoral student at The George Washington University, and my dissertation focuses on the ways that a large heterogeneous district, such as District A, recruits and retains effective teachers in its high-poverty schools. In our interview today, I would like to understand your perspective regarding the effectiveness of this district's teacher recruitment, allocation, retention, and professional development policies.

You were chosen to participate in this study because you are a teacher in a school that is not designated as "high-poverty." The interview should take about an hour. Everything you say will be kept confidential; your name, position, or school will not be associated with any specific comments or conclusions expressed in the study.

Do you have any questions before we start?

Teacher Recruitment

I would like to talk to you about this district's policies for recruiting new teachers.

1. How long have you taught here? How were you recruited into District A?
    - How do you define teacher effectiveness? Do you think you define it differently than the district does?
    - How would you describe the district's recruitment policies and practices?

2. Are you aware of any recruitment efforts targeted at high-poverty schools? If so, can you please describe them?
    - How effective do you believe the district has been in recruiting effective teachers to high-poverty schools?

3. What do you see as the constraints to recruiting effective teachers into schools overall?
    - How might these constraints vary across the district?

4. What do you see as the facilitators to recruiting effective teachers into schools overall?
    - How might these facilitators vary across the district?

Teacher Allocation

I'd like to ask you a few questions about how the district places teachers into their teaching assignments. When I say "allocation," I'm interested both in the placement of new teachers and in the transfer of experienced teachers.

1. Can you please describe how this district allocates teachers to schools? In other words, who decides which teachers go where?

2. Have you ever considered transferring to a high-poverty school? Why/why not?
    - What factors influenced your decision to accept a position at this particular school?

3. What do you see as the constraints to transferring effective teachers into high-poverty schools?

4. What do you see as the facilitators to transferring effective teachers into high-poverty schools?

5. Can you please describe the district's policies or practices that encourage effective teachers to transfer from lower-poverty schools to high-poverty schools?
    - How effective is [Policy X] as a strategy for allocating effective teachers to high-poverty schools? If you were selected to participate in that program, what factors would go into your decision?
    - How has [Policy X] been received by teachers?
    - How has this policy impacted this school?

Teacher Retention

Now I'd like to ask you some questions about this district's efforts to retain effective teachers. I'm most interested in reasons that teachers want to remain in schools like this one instead of transferring to a higher-poverty school.

1. Do you expect to remain teaching in this school?
    - What factors have influenced your decision to remain in this school?

2. Which, if any, district policies and practices influence the retention of effective teachers?

3. Can you please describe the induction or mentoring policies and programs provided to new teachers?
    - Do these policies/programs influence teacher retention in schools like this one? How?

4. What do you see as the constraints to retaining effective teachers overall?
    - How might these constraints vary across the district?

5. What do you see as the facilitators to retaining effective teachers overall?
    - How might these facilitators vary across the district?

Teacher Professional Development

I'd like to ask you about this district's professional development policies for teachers.

1. How have your professional development opportunities been selected?

- Is your experience typical? How are professional development opportunities selected in the district overall?
- Are professional development opportunities for teachers in high-poverty schools any different from those for teachers in schools like this one?

2. In what ways, if any, have your professional development opportunities been targeted to your specific needs?
    - In what ways have your professional development opportunities helped improve your instructional skills? How is your improvement measured?
    - What factors facilitate the improvement of your instructional skills through professional development?
    - What factors constrain the improvement of your instructional skills through professional development?

One last question: To what extent do you feel the district has made progress in increasing the supply of effective teachers in high-poverty schools?

- Reflecting now on everything we've talked about, do you have any other thoughts regarding these topics that you'd like to share?

Thank you so much for your time with me today.

INTERVIEW PROTOCOL: TEACHERS IN HIGH-POVERTY SCHOOLS

Thank you for agreeing to speak to me today. I am a doctoral student at The George Washington University, and my dissertation focuses on the ways that a large heterogeneous district, such as District A, recruits and retains effective teachers in its high-poverty schools. In our interview today, I would like to understand your perspective regarding the effectiveness of this district's teacher recruitment, allocation, retention, and professional development policies.

You were chosen to participate in this study because you are a teacher in a high-poverty school. The interview should take about an hour. Everything you say will be kept confidential; your name, position, or school will not be associated with any specific comments or conclusions expressed in the study.

Do you have any questions before we start?

Teacher Recruitment

I would like to talk to you about this district's policies for recruiting new teachers. I want to focus on how the district targets its recruitment efforts toward high-poverty schools.

1. How long have you taught here? How were you recruited to teach at this school?
    - How do you define teacher effectiveness? Do you think you define it differently than the district does?
    - What policies and practices are used by the district to recruit effective teachers to high-poverty schools?

2. How effective do you believe the district has been in recruiting effective teachers to high-poverty schools?

3. What do you see as the constraints to recruiting effective teachers into high-poverty schools?

4. What do you see as the facilitators to recruiting effective teachers into high-poverty schools?

Teacher Allocation

I'd like to ask you a few questions about how the district places teachers into their classroom assignments, particularly assignments in high-poverty schools. When I say "allocation," I'm interested both in the initial placement of new teachers and the transfer of experienced teachers.

1. Can you please describe how this district allocates teachers to schools? In other words, who decides which teachers go where?

2. Can you please describe the district's policies or practices that encourage effective teachers to transfer from low-poverty schools to high-poverty schools?
    - How effective is [Policy X][28] as a strategy for allocating effective teachers to high-poverty schools?
    - How has [Policy X] been received by teachers?
    - How has this policy impacted this school?
    - Do you think that teachers allocated to this school by [Policy X] will be as effective in this environment as they were in their previous school? Why or why not?

3. What do you see as the constraints to transferring effective teachers into high-poverty schools?

4. What do you see as the facilitators to transferring effective teachers into high-poverty schools?

Teacher Retention

Now I'd like to ask you some questions about this district's efforts to retain effective teachers. I'm most interested in the district's policies and practices that help teachers want to remain in schools like this one instead of transferring to a lower-poverty school.

1. Do you expect to remain teaching in this school? If not, why?
    - What factors have influenced your decision to remain in this school?

2. Which, if any, district policies and practices influence the retention of effective teachers in high-poverty schools?
    - Do you think the signing and retention bonuses given to participants in [Policy X] are effective incentives to retaining those teachers in high-poverty schools? Why/why not?

3. Can you please describe the induction or mentoring policies and programs provided to new teachers?
    - Have these policies changed over time? If so, how?
    - Do these policies/programs influence teacher retention in high-poverty schools? How?

4. What do you see as the constraints to retaining effective teachers overall?
    - What do you see as the constraints to retaining effective teachers in high-poverty schools?

5. What do you see as the facilitators to retaining effective teachers overall?

[28] [Policy X] will be substituted with the name of the specific policy or program gathered through document analysis and interviews with district administrators.

- What do you see as the facilitators to retaining effective teachers in high-poverty schools?

Teacher Professional Development

I'd like to ask you about this district's professional development policies for teachers in high-poverty schools.

1. Think back to when you first started teaching in a high-poverty school. In what ways did the experience match your expectations, and in what ways was it different?
    - What sort of training or professional development did you receive to help you adapt to the teaching environment in schools like this one?

2. How have your professional development opportunities been selected?
    - Is your experience typical? How are professional development opportunities selected in the district overall?
    - Are professional development opportunities for teachers in high-poverty schools any different from those for teachers in other schools?
    - Are professional development opportunities in [Policy X] or [Policy Y] schools any different from those for teachers in other high-poverty schools?

3. In what ways, if any, have your professional development opportunities been targeted to your specific needs?
    - In what ways have your professional development opportunities helped improve your instructional skills? How is your improvement measured?
    - What factors facilitate the improvement of your instructional skills through professional development?
    - What factors constrain the improvement of your instructional skills through professional development?

One last question: To what extent do you feel the district has made progress in increasing the supply of effective teachers in high-poverty schools?

- Reflecting now on everything we've talked about, do you have any other thoughts regarding these topics that you'd like to share?

Thank you so much for your time with me today.

APPENDIX D:

INFORMED CONSENT FORM

Increasing the Supply of Effective Teachers in High-Poverty Schools in a Heterogeneous District: Facilitators and Constraints
IRB # 081134

Primary Investigator: Iris Rotberg, Ph.D.
Telephone Number: 202-994-xxxx
Primary Contact: Leigh K. Kennedy, M.S.Ed.
Telephone Number: 703-927-xxxx

I. INTRODUCTION
You are invited to take part in a research study conducted by researchers in the Graduate School of Education and Human Development at The George Washington University. This consent form provides information about the research study. A staff member of the research study will be available to answer your questions and provide further explanations. This process is known as informed consent. Your consent to take part in this study is implied by your agreement to proceed with the research activities.

Your decision to take part in the study is voluntary. You are free to choose whether or not you will take part in the study, and you may withdraw from the study at any time.

II. PURPOSE
The purposes of this study are to clarify the ways that a district's teacher recruitment, allocation, retention, and professional development policies are targeted toward the goal of increasing the supply of effective teachers in elementary schools serving low-income families; to determine the efficacy of these policies in the view of district administrators and teachers; and to identify the facilitators and constraints to accomplishing the district's goal. The investigator (person in charge of this research study) is Dr. Iris Rotberg. The primary contact, Leigh Kennedy, will be conducting the majority of the research activities.

III. PROCEDURES
The research involves audiotaped interviews that will be conducted in several schools in this district and in the district office. Each participant will be interviewed one time. The

interview will be scheduled at your convenience and will take place in your classroom or office. The interviews will last approximately 45 minutes.

IV. POSSIBLE RISKS AND CONFIDENTIALITY CONCERNS

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life. Although we have made every effort to minimize this, you may find that some questions we ask you evoke negative feelings. If you do not wish to answer a question, please say so and the interviewer will move to the next question.

There is a chance that someone not on our research team could find out that you took part in the study or somehow connect your name with the information we collect about you; however, the following steps are being taken to reduce this risk:

1. Your name will be replaced with a pseudonym. In any published articles or presentations, we **will not include any information that will make it possible to identify you as a subject**. Any quotes included in our report will be attributed to a participant's pseudonym or by a vague descriptor such as "a teacher in a high-poverty school."
2. The records of this study will be kept private. The key that links study participants with pseudonyms will be password-protected and kept separate from the rest of the study data in a secure location.
3. The audio recording of your interview will be promptly uploaded onto a password-protected computer and deleted from the recording device. The data from this study will come from transcripts of these audio recordings. No one other than the researcher will listen to these recordings, and they will not be used in the final report or in any presentations about this study.

V. POSSIBLE BENEFITS

Taking part in this research will not help you directly, but your participation is a contribution to the field of education policy. Your viewpoints, combined with those of others in your district, will help researchers gain a better understanding of the ways that principal and teacher staffing policies help a district increase the supply of effective teachers in high-poverty schools.

VI. COSTS

There are no costs associated with taking part in this study.

VII. COMPENSATION

You will not receive compensation for participating in this study.

VIII. RIGHT TO WITHDRAW FROM THE STUDY

Your participation in this research study is voluntary. You may decide not to begin or to stop this study at any time. You will be told of any new information about the research study that may cause you to change your mind about participation. Your employment status will not be affected in any way should you choose not to take part or to withdraw at any time.

IX. CONFIDENTIALITY OF RESEARCH RECORDS

Your records will be confidential. You will not be identified (e.g., name, Social Security number) in any reports or publications of this study. Research study records will be kept confidential unless you authorize their release or the records are required by law (i.e., court subpoena); however, your records for the study may be reviewed by departments of the University responsible for overseeing research safety and compliance.

X. QUESTIONS

If you have questions about the procedures of this research study, please contact Leigh Kennedy by telephoning 703-927-xxxx during the workday. If you wish to contact the Principal Investigator of this study, Dr. Iris Rotberg, she may be reached at 202-994-xxxx. If you have any questions about the informed consent process or any other rights as a research subject, please contact the Office of Human Research at the George Washington University, at 202-994-xxxx.