How Principals "Bridge and Buffer" the New Demands of Teacher Quality and Accountability: A Mixed-Methods Analysis of Teacher Hiring

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In this mixed-methods study, we examine the degree to which district- and building-level administrators accommodate teacher-quality and test-based accountability policies in their hiring practices. We find that administrators negotiated local hiring goals with characteristics emphasized by federal and state teacher-quality policies, such as knowledge of the subject and teaching skills. While district administrators and principals largely "bridged" to external certification requirements, some principals "buffered" their hiring decisions from the pressures of test-based accountability. Principals who bridged to test-based accountability gave greater weight to subject knowledge and teaching skills. We find that bridging and buffering differs by policy and cannot be easily applied to accountability policies. Specifically, separating the indirect effect of external accountability from other policies influencing principal hiring is difficult. Our analysis also highlights tensions among local, state, and federal policies regarding teacher quality and the potential of accountability to permeate noninstructional school decision making.

It is widely recognized that teacher quality is one of the most important influences on student learning (e.g., Rivkin et al. 2005; Sanders and Horn 1998) and therefore represents a promising path to school improvement. This recognition has led to a wide variety of governmental efforts in the United States to improve the quality of teachers, such as providing alternative routes

with different educational requirements and reforming colleges of education. At the federal level, the Highly Qualified Teachers (HQT) provision of No Child Left Behind (NCLB) builds on a long history of state-level certification requirements by mandating that all public school teachers hold a bachelor's degree and demonstrate subject-matter knowledge (Smith et al. 2005).

These direct policies, however, are not the only ones influencing local teacher-quality efforts. The Adequate Yearly Progress (AYP) provision of NCLB and other high-stakes test-based accountability policies also define expected student outcomes but allow school personnel to determine how those outcomes can best be achieved. There are good reasons to expect that NCLB and related forms of accountability will have a significant, albeit indirect, influence on school efforts related to teacher quality.[1]

Research on high-stakes test-based accountability has identified "a more capable and committed faculty" as an important component of the theory of action underlying the reform effort (Malen et al. 2002, 114). Studies have also documented that high-stakes accountability exerts a significant influence on teaching (Anagnostopoulos and Rutledge 2007; Au 2007; Booher-Jennings 2005; Firestone et al. 2004a; Smith 1991; Spillane, Diamond, et al. 2002).

In this exploratory study, we use a mixed-methods design to understand how teacher-quality and test-based accountability policies affect teacher-hiring practices. We interviewed 33 district and school administrators in a midsize school district (30–70 schools) over a two-year period about their hiring processes and preferences in teachers. Our design allows for a multilevel analysis of the nested implementation of the two distinct sets of policies. It also allows us to explore how district and school administrators negotiated complex external policy demands with local goals, such as racial diversity. We use qualitative methods to understand the organization of hiring and the relationship between policy demands, local goals and context, and principals' own hiring processes and preferences. We use quantitative methods to understand the

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relationship between principals' responses to test-based accountability and the characteristics they prefer in a candidate. The methods are complementary and provide an in-depth look at how external policy messages and demands are shaping hiring.

We identify and describe three different ways that hiring in this district is influenced by teacher-quality and test-based accountability policies. First, districts and principals assimilate "policy messages" when they implement structures that favor teachers with professional qualities like experience and subject-matter knowledge. Second, districts and principals either adhere to or circumvent "direct mandates," such as the HQT provision of NCLB, whose stated aims focus on improving teacher quality. Finally, school leaders respond to "indirect policy efforts," such as test-based accountability and the related pressure to improve student test scores. Both the direct mandates and the indirect policy efforts may influence the policy messages that key actors receive. While we would certainly expect district and school administrators to respond more to direct mandates because they have clearer requirements and sanctions, our findings suggest that administrators are also influenced by indirect policy efforts to address teacher quality.

To understand principals' responses to policy efforts to improve teacher quality, we build on Honig and Hatch's (2004) conceptualization of "bridging and buffering." This framework, rooted in organizational and institutional theory, explains how organizations respond to external regulation and control. In this framework, districts and schools are understood as organizations in which members collectively negotiate external policies with their own internal goals and strategies. Bridging entails accommodating policy demands through initiatives and structures directly aimed at meeting policy goals. Buffering, in contrast, represents resistance to policy goals by focusing on local objectives and priorities. Along the continuum between bridging and buffering, schools shape "the terms of compliance," a process that can include selective and symbolic implementation (Honig and Hatch 2004, 23). This framework provides a way to quantitatively link principals' understanding of their school's response to external policy with the characteristics they prefer in applicants and illustrates the complexities involved when trying to use this framework.

In subsequent sections, we review the research on teacher quality and hiring. We then discuss Honig and Hatch's notion of bridging and buffering and its theoretical foundations. After a description of the policy context of our case-study district, we describe the design of our mixed-methods study. We start by describing our sample, the organization of hiring in our district, and our data collection and coding process. We continue with our qualitative findings that focus on how district administrators and principals negotiated teacher quality and test-based accountability in their hiring practices. We follow with a description of our quantitative data analysis that includes a factor analysis

of principals' tendencies toward bridging and buffering and subsequent multi-variate correlational analysis of the bridging measure with principals' preferences for teacher and organizational characteristics. We conclude with implications of our study for theory, research, policy, and practice.

Teacher Quality and Administrators' Hiring Practices

Improving the quality of teachers has been widely identified as a promising direction for improving student achievement in schools (Rivkin et al. 2005; Sanders and Horn 1998). Reviews of teacher effectiveness (Harris and Rutledge 2010; Harris and Sass 2007; Rice 2003; Wayne and Youngs 2003; Wilson and Floden 2003; Wilson et al. 2001) have identified professional characteristics—experience, verbal/cognitive ability, and subject-matter and pedagogical knowledge—that show promise in improving student achievement.[2] Policy efforts over the past 10 years have built on many of these findings, leading to mandates such as NCLB's HQT provision aimed at ensuring a minimum level of teacher knowledge in public schools (Manna and Petrilli 2008).

In this section, we review research that informs whether administrators, through their stated preferences for teacher characteristics, are attending to messages about what constitutes teacher quality. We then discuss studies on the implementation of teacher-quality policies and the effects of accountability.

Teacher-Quality Messages

A number of studies have looked at both the reported and demonstrated hiring preferences of administrators. These studies find that principals prefer characteristics beyond what has been identified in the teacher-quality research as being associated with effectiveness. While administrators report looking for teachers with characteristics found to improve student achievement, such as strong teaching skills (Harris et al., forthcoming), communication skills (Braun et al. 1987; Cain-Caston 1999; Dunton 2001; Ralph et al. 1998), and subject-matter knowledge (Harris et al., forthcoming), they are also looking for teachers who display other characteristics, such as enthusiasm, caring, and interpersonal skills (Broberg 1987; Dunton 2001; Harris et al., forthcoming; Ralph et al. 1998). Despite findings that link teacher experience to improved student achievement (Harris and Sass 2007; Rice 2003; Wayne and Youngs 2003; Wilson and Floden 2003; Wilson et al. 2001), studies are mixed on whether principals prefer younger teachers or experienced teachers (Pounder 1987; Young and Pounder 1985; Young and Voss 1986). Administrators also report considering organizational factors when hiring teachers, trying to create a

"mixture" based on race and gender and a "match" to the styles and personalities of the existing teachers in the school (Harris et al., forthcoming). What is clear is that hiring is a complex and subjective activity in which principals consider multiple teacher characteristics.

Studies on Direct Policy Efforts to Improve Teacher Quality

We identify two studies that focus on district and school administrators' direct responses to the HQT provision of NCLB and other policies directed at addressing teacher quality in hiring. In their study of six New Jersey districts, Liu et al. (2008) found that administrators reported that the HQT provision of NCLB restricted the supply of candidates, which led to the hiring of less qualified but certified teachers over more qualified candidates without certification. Further, administrators complained that the policy placed pressure on them to replace current math teachers not holding proper certification.

In their study of five districts in three states, Roellke and Rice (2008) found that the HQT provision is not meeting its stated goal of staffing low-performing schools with high-quality teachers because more affluent districts are more successful at attracting highly qualified teachers. They argue that district, state, and federal policies, including HQT and NCLB, need to be understood as "policy packages" in which multiple policies interact to create conditions to attract and retain quality teachers. In their study, little was being done to address working conditions that affected retention, such as poor resources and anxiety related to not meeting AYP. Roellke and Rice reveal the complex policy environment in which teacher-quality decisions occur, and they raise important questions about how local, state, and federal policies interact to facilitate or impede quality hiring.

Indirect Efforts to Improve Teacher Quality: High-Stakes Accountability

Most implementation studies of high-stakes accountability consistently find that district and school administrators reallocate time, materials, personnel, and professional development toward improving student achievement on high-stakes assessments (Booher-Jennings 2005; Bulkley et al. 2004; Diamond and Spillane 2004; Firestone et al. 2004b; Ladd and Zelli 2002; Lemons et al. 2003; Malen et al. 2002; Mintrop 2004; Rutledge 2010; Spillane, Diamond, et al. 2002). With increased external pressure, administrators have been found to spend more time on instructional tasks and less time on administrative tasks (DeBray et al. 2003; Lemons et al. 2003).

It is less clear what to expect with regard to teacher hiring. The centrality

of teachers to instructional improvement suggests that, as with the increased focus on professional development, principals would alter their hiring and give greater preferences to teachers they see as more likely to improve student achievement. Yet it is difficult to know in advance which teachers will be effective in raising student achievement.

One of our earlier studies of these same principals provides some evidence to support the notion that accountability is shaping preferences in teachers. We found that in schools performing well under state accountability measures—the school grades—principals gave more weight to teacher creativity and enthusiasm and less to teacher cooperation and organization (Harris et al., forthcoming). One possible explanation is that principals in "high-grade" schools are under less pressure to improve academic performance and are therefore more open to teacher characteristics that are less directly related to improving test scores, such as creativity and enthusiasm.

Another set of studies has focused on the supply of teachers in low-performing schools. In their study of reconstitution, Malen and colleagues (2002) found that many strong and experienced teachers chose to leave reconstituted schools, leaving administrators to replace the majority of their staff with new and inexperienced teachers. Other studies point to schools facing challenges retaining experienced and qualified teachers because of the difficulty and stigma of working in sanctioned schools (Mintrop 2004; Roellke and Rice 2008). These studies suggest that high-stakes accountability affects teacher recruitment and retention. Here, we provide some of the first evidence about the degree to which the messages and objectives embodied in teacher-quality and accountability policies influence hiring decisions and school decision making.

Conceptual Framework: Bridging and Buffering

To understand how direct and indirect policies aimed at improving teacher quality are affecting hiring, we turn to Honig and Hatch (2004), who provide a conceptual model for understanding how school actors negotiate multiple policy messages with their own beliefs and values regarding teacher quality. Honig and Hatch argue that implementation should be understood not as an objective alignment of internal and external goals but rather as a process of "crafting coherence," in which district and school actors negotiate multiple external demands in their efforts to achieve internal goals. As they manage external demands, district and school administrators simplify external messages, fitting "new information into familiar rules and decision frames to help cast the unusual into tried-and-true forms" (2004, 20).

Researchers in education (Ogawa 1998) and other applied fields such as

business (Menzar and Nigh 1995; van den Bosch and van Riel 1998) have employed the concept of bridging and buffering to understand the complex relationship between organizations and their environment. These theorists posit that organizations develop strategies to reduce uncertainty and manage their core technical activities from external regulation and control (Aldrich 1979; Thompson 1967). How an organization chooses to respond to environmental demands depends on factors such as the degree to which an organization is dependent on the resources from the environment (Scott 1992) or wants to protect itself from uncertainty (Thompson 1967). Bridging and buffering are not mutually exclusive; organizations can simultaneously engage in bridging and buffering activities depending on the activity and their goals (Fennell and Alexander 1987). Also, some organizations may be more vulnerable to environmental encroachment than others: powerful organizations can oppose external stakeholders and maintain their legitimacy (Pfeffer and Salancik 1978).

In the context of schools and policy implementation, bridging consists of activities in which schools respond to external policy demands by instituting programs and initiatives to achieve policy goals. Buffering activities occur when schools choose not to enact policy demands but rather to orient themselves around their own priorities and goals. Here, buffering is "not the blind dismissal of external demands but strategically deciding to engage external demands in limited ways" (Honig and Hatch 2004, 23). Adding peripheral structures, such as committees and programs to target specific external demands, and buffering by symbolically adopting external demands, such as aligning the mission statement or using reform language without changing actual practices, represent more moderate manifestations of bridging and buffering, respectively (Honig and Hatch 2004). Bridging and buffering, therefore, represent opposite ends of a complex continuum. Studies have documented the process of mutual adaptation in implementation (McLaughlin 1990), with recent studies highlighting the process of individual and collective sense making, in which actors seek to address policy goals in the context of their own prior knowledge, beliefs, and values (Louis et al. 2005; Spillane, Reiser, et al. 2002). Bridging and buffering models highlight the complex ways in which administrators and teachers strategically negotiate external pressure with local values and goals, and they raise important questions about what accounts for variation across schools, as some face greater pressure to maintain legitimacy and others have more flexibility to preserve local goals.

For Honig and Hatch, districts officials have an important role to play in this process of crafting coherence by helping schools strategize how to use external resources to bridge or buffer effectively. Districts facilitate both the top-down and bottom-up policy response by simplifying external messages, helping schools manage external demands with internal goals and strategies,

and helping school actors make sense of policies, facilitating a match with local conditions and resources.

In the context of Florida's high-stakes accountability climate and AYP, we first hypothesize that principals in schools with lower accountability grades will be more inclined to bridge to test-based accountability. Given that these schools stand to lose status as well as important resources because of a low grade or failure to meet AYP, we look at the relationship between school grades and principals' responses to our five accountability questions.

We also hypothesize that principals who bridge to policy demands will prefer applicants with professional characteristics such as teaching skills and knowledge of subject matter. These characteristics are logically, as well as sometimes empirically, related to student achievement (Harris and Rutledge 2010; Harris and Sass 2007; Wilson and Floden 2003).

For example, there is evidence that a combination of content knowledge and pedagogy—pedagogical content knowledge—is related to student achievement (Darling-Hammond 2000; Harris and Sass 2007; Monk 1994). For these reasons, we examine whether administrators who face strong test-based accountability pressures and who bridge to those pressures gave greater weight to knowledge and teaching skill when hiring teachers. Conversely, we look at whether principals who buffered policy demands are drawn to applicants who exhibit personality characteristics such as creativity and thoughtfulness, characteristics that are largely independent of high-stakes accountability messages. This mixed-method approach offers a comprehensive way to explore bridging and buffering in the context of teacher quality and test-based accountability.

Other theories address how external policy messages and demands shape hiring, often focusing on the match between policy goals and individual principals' conceptions of teacher quality. For example, sense-making theory (Spillane, Reiser, et al. 2002) focuses on how principals' beliefs, values, and knowledge shape their understandings of different teacher characteristics (see examples in Ingle et al. 2009; Rutledge et al. 2008).

Also, the bridging and buffering framework does not highlight the different types of messages from the institutional environment. An analysis using Scott's (2001) ideas of regulatory, normative, and cultural-cognitive messages would draw our attention away from meaning making to the different routines and structures implemented by district and school administrators in order to conform to beliefs, values, and expectations from the institutional environment about teacher-quality and test-based accountability. While all of these theories would help highlight the variation and nuances in principals' responses to individual policies, they are less useful in making the connection between them. With our interests in understanding the link between principals' responses to test-based accountability and their preferences in teacher characteristics, the bridging and buffering framework offers a way to understand not

only how individual principals respond to the two policies but also their interaction.

Bridging and Buffering Teacher-Quality Policies

In this section, we provide the federal and state policy context for the district in our study. At the federal level, the HQT provision of NCLB is a teacher-quality mandate that calls for "highly qualified teachers"—defined as teachers who hold at least a bachelor's degree, have state certification, and have passed a subject-matter assessment—in core academic classes in Title I schools by 2003 and in all classrooms by 2007 (Smith et al. 2005). States risk losing federal funds if they do not meet federal expectations (Keller 2006).

Like the federal policy, state-level policies in Florida place direct pressure on improving teacher quality. As in all states, Florida oversees the certification of teachers to provide a minimum level of quality. State certification requires a temporary or a professional certificate as well as a passing score on the Florida Subject Area Exam for each certificate area of assignment (Florida Department of Education 2002). State certification requirements, like the HQT provision, can be viewed as mandates.

As both the HQT provision and state certification requirements are mandates and specific in their requirements, we would expect district and school administrators to bridge. They face direct loss of resources if they do not comply. However, as federal and state efforts toward certification represent only a minimum standard, there remain ways for local actors to shape the terms of compliance beyond the goals of the policy. For example, district and school administrators may set additional criteria for their candidates, such as years of teaching experience.

We identify two test-based accountability policies in Florida aimed at improving student achievement that may also affect teacher quality: federal AYP and Florida's A+ policy. By linking school status and financial rewards to annual student achievement measures, both policies work as inducements to improve student performance. They also seek to generate capacity building as administrators and teachers embark on a long-term effort to improve student performance (McDonnell and Elmore 1991), such as hiring teachers who would improve student achievement. Federal AYP may indirectly influence efforts aimed at improving teacher quality. As part of the provision, states established a beginning percentage of students reaching proficiency for the 2002–3 school year. Each subsequent year, the baseline level has been increased by increments, so that by the 2013–14 school year, 100 percent of students should be proficient or above in language arts and math. The law also requires that each of various student subpopulations (racial and ethnic

minorities, students living in poverty, students with limited English proficiency, and students with disabilities) achieve AYP. If any one of these subpopulations in a school fails to make AYP, the whole school is identified as needing improvement. Schools face public stigmatization, loss of students, and potential loss of federal funds if they do not meet AYP.

Florida's school accountability system, arguably one of the most rigorous in the nation (Carnoy and Loeb 2003; Harris et al. 2007), is the state's main indirect effort to shape teacher quality. Like AYP, the policy focuses schools on student outcomes and therefore emphasizes teachers' instructional skills in improving learning pertaining to those outcomes. In Florida, all public schools receive a grade (A through F) based on student performance on the Florida Comprehensive Assessment Test (FCAT) in reading, math, and writing.

Florida's district administrators, school administrators, and teachers therefore face multiple policy efforts aimed at improving teacher quality. In a complex policy environment, they negotiate multiple goals and messages with local goals and conditions by selectively and strategically shaping the terms of their compliance. To be sure, Florida's A+ policy, in which all schools are held to high accountability standards, is particular to Florida. However, with all public schools now facing pressure from AYP, the findings here have implications for all schools. Further, as hiring is a nested activity shaped not only by local context but also by external and internal policy pressures, the findings have transferability to other district and school contexts (Miles and Huberman 1994).

Data Sources and Method

To understand the influence of direct and indirect efforts to improve teacher quality on teacher-hiring decisions, we designed an across-stage mixed-model design (Johnson and Onwuegbuzie 2004). Across-stage mixed-method designs "mix qualitative and quantitative approaches across stages of the research process" (Johnson and Onwuegbuzie 2004, 20). The "stages" refer to the way in which answering one set of research questions with one set of methods can lead to another set of questions that demand other methods. In this study, we began by describing how principals buffered and bridged accountability and teacher-quality policies. Given that this is only one midsize school district, it was plausible that we would find a high degree of uniformity in principals' responses. As we show below, however, there was considerable variation in the responses. This led to a subsequent stage of quantitative analysis based on two hypotheses that emerged from the qualitative findings in which we sought to explain why some principals bridged and others buffered.

Sample and Data

The subjects of this study are 30 principals drawn from a midsize Florida school district, Hillyer County, who are responsible for screening and selecting teachers at their school.[3] We also interviewed three district administrators involved in organizing and managing district-level activities. The data were collected as part of a larger project on teacher hiring and teacher quality (see Harris et al., forthcoming). Below, we summarize the relevant characteristics of the district and these principals, though some details are omitted to protect their identities.

The district was chosen because the hiring process reflected the approximately 70 percent of districts where the principal is at the center of the hiring process—what Liu and Johnson (2006) call "decentralized or moderately decentralized hiring." The district had several other important characteristics. First, the district enjoyed an ample supply of teachers. Principals, therefore, had a substantial number of candidates to choose from for most positions and were therefore less likely to have their stated preferences influenced by compromises. Second, the district was racially diverse, making it a good location for studying how district administrators and principals negotiated an alternative idea of quality, the goal of racial diversity, with the federal and state policies under analysis in this study. Third, at the time of the study, district administrators had recently begun initiatives directed at addressing the need for highly qualified teachers in Title I schools. Finally, according to both district administrators and principals, there was little involvement by such stakeholders as the superintendent, school board, or community members, making the school principals central actors.

We interviewed principals from 17 elementary (or K–8) schools, six middle schools, four high schools, and three special population schools, which represented more than half of the principals in the district. While the racial distribution of principals is almost identical to the national average (sample district: 78 percent white; nation: 82 percent white), there are differences regarding gender and education. The percentage of females is somewhat larger (sample district: 63 percent; nation: 44 percent), and the percentage with at least a master's degree is larger (sample district: 100 percent; nation: 54 percent).[4] Table 1 includes demographic information about our sample schools. We also include data on Title I status and the school grade assigned through Florida's accountability system that we described earlier.

We conducted the primary interviews, lasting approximately two hours each, during the summer of 2005. There are three interview sections that are particularly relevant to the present study: (1) items asking principals to describe their students and their vision and goals for the school, which allowed us to assess the degree to which principals have oriented school goals around ex-

TABLE 1

Bridging Measure with School Characteristics

| SCHOOL | LEVEL | BRIDGING MEASURE* | SCHOOL CHARACTERISTICS (2004–5) | | |
			% Free or Reduced-Price Lunch†	Title I Status	School Grade‡
1	Elementary	2.17	70	Y	A–B
2	Elementary	.50	70	Y	A–B
3	Elementary	1.33	10	N	A–B
4	Elementary	1.67	30	N	A–B
5	Elementary	1.33	40	N	A–B
6	Elementary	1.83	20	N	A–B
7	Elementary	2.62	90	Y	C–F
8	Elementary	2.67	60	Y	A–B
9	Elementary	2.67	20	N	A–B
10	Elementary	2.67	70	Y	A–B
11	Elementary	2.83	10	N	A–B
12	Elementary	1.00	90	Y	C–F
13	Elementary	2.00	40	N	A–B
14	Elementary	2.67	90	Y	C–F
15	Elementary	2.00	40	N	A–B
16	Elementary	3.00	80	Y	A–B
17	Elementary	1.50	50	N	A–B
18	Middle	2.57	10	N	A–B
19	Middle	1.17	60	N	A–B
20	Middle	1.83	50	Y	A–B
21	Middle	2.33	40	N	A–B
22	Middle	1.83	30	N	A–B
23	Middle	1.17	20	N	A–B
24	High	.67	10	N	A–B
25	High	1.50	10	N	A–B
26	High	1.33	20	N	A–B
27	High	2.33	40	N	A–B
28	Special	NA	60	N	NA
29	Special	2.00	70	N	NA
30	Special	NA	80	N	NA
Total				9 Y; 21 N	24 A–B; 3 C–F; 3 NA

* Bridging measure is a composite score on a continuum of bridging and buffering, where full buffering $= 0$, buffering with some bridging $= 1$, bridging with some buffering $= 2$, and full bridging $= 3$. NA $=$ not applicable.

† Figures are rounded to the nearest 10 percent in order to protect the identity of the school. The mean percentage of students enrolled in the program is 46 percent.

‡ School grade ranges are given in order to protect the identity of the school. NA $=$ not applicable.

ternal policy goals; (2) a ranking activity about principals' preferred characteristics and a follow-up question clarifying rankings; and (3) direct questions about how different policies affected hiring decisions.[5] We discuss these in more detail shortly. All interviews were recorded and transcribed. We also conducted a follow-up interview during the summer of 2006 in which 21 of the original 30 principals participated. Except where noted, our analysis is based on the first interview.

In addition to the interviews with principals, we attended hiring fairs during the summers of 2005 and 2006 and observed the initial interview process and, in some cases, actual hiring decisions. We also conducted two two-hour interviews with three district administrators involved in hiring. While our analysis is based primarily on interviews with school principals, we draw from these other interviews and observations where appropriate.

Coding and Data Analysis

We used the software program NVivo in our qualitative coding process and developed 208 codes, drawing from the research on hiring (e.g., Liu and Johnson 2006), teacher effectiveness (e.g., Rice 2003), school-level policy response (i.e., Honig and Hatch 2004), as well as our own iterative and inductive process in which themes emerged. We used a memo-writing process, identifying memo topics from the codes and writing 26 memos focusing on topics such as the principals' explanations of different personality and professional characteristics, gender and race, and the context and process of hiring in the district. As a group, we met to discuss the content of the memos, which were rewritten until we had achieved theoretical and empirical saturation (Denzin and Lincoln 1998).

While our qualitative results are drawn from interview questions only, our quantitative results are built on responses to five specific interview questions and a ranking activity. We describe the development of the bridging measure in greater detail in the quantitative findings section, but in brief, we created a measure of bridging on a 0–3 scale, where 0 represents strong buffering and 3 represents strong bridging, based on principals' responses to the five questions. (See the appendix in the online edition of the *American Journal of Education* for more information on the ranking activity.) Part of the motivation for the present study is our previous finding that principals prefer a broad mixture of qualities that vary across principals and school types (Harris et al., forthcoming). Here, we test whether this variation can be explained partly by how principals bridge and buffer teacher-quality and accountability policies. After the qualitative analysis, in which we present our findings on the organization of hiring and how district and school administrators negotiated different

policies aimed at improving teacher quality, we go into more detail on our procedure for creating the bridging variable, the teacher characteristics that were ranked, our theories regarding how bridging might be reflected in the rankings, and, finally, our quantitative results.

Qualitative Findings of Bridging and Buffering

We identified three possible ways in which district and school administrators respond to policy approaches aimed at improving teacher quality. First, district administrators and principals bridge or buffer policy messages aimed at improving teacher quality by implementing structures favorable to candidates with strong professional characteristics emphasized in the teacher-quality research (Wayne and Youngs 2003; Wilson and Floden 2003; Wilson et al. 2001) and by policy makers (Aloe and Becker 2007). Second, they respond to direct mandates (such as NCLB's HQT provision), state certification, and local efforts, as in the case of our district addressing racial diversity in schools. Third, they bridge and buffer indirect policy efforts, specifically high-stakes accountability and the related call to improve student achievement scores, which in turn may influence the characteristics they prefer in a candidate. Below, we discuss how district and school administrators reconcile policy demands with their own internal goals and priorities.

Assimilating Policy Messages about Teacher Quality

Hiring in Hillyer County reflected a concern for hiring applicants with the strongest professional characteristics. Yet while administrators bridged to policy messages, they also negotiated these with other ideas of teacher quality, such as personality characteristics and racial diversity. In this section, we discuss how district and school administrators reconciled messages about teachers' professional characteristics with other conceptions of teacher quality.

District administrators.—At the time of our study, district administrators had recently implemented new procedures aimed at interpreting and simplifying policy messages for principals. The year before our first round of data collection, the superintendent charged district administrators with the responsibility of exercising more oversight over principals who had typically enjoyed a large degree of discretion over the process. District administrators implemented an online application process for all applicants and expanded their involvement in the district-organized annual hiring fair.[6] They also described

assimilating policy messages about professional characteristics and conveying these messages to principals through district-provided professional development. District administrators reported that hiring quality teachers had been a growing concern in the district and was made only more urgent by NCLB.

However, the new organization of hiring also included tools to measure indicators of teacher quality, such as personality characteristics, as well as to extend the HQT provision to address inequities in the distribution of teacher quality across schools. In this way, the district strategically bridged to policy messages while also retaining local goals. For example, the district's organization of hiring encouraged principals to attend to personal characteristics and racial diversity. The online application was not complete until applicants had taken Gallup's TeacherInsight, an assessment of their social intelligence (Young and Delli 2002). District officials also explained that they monitored principals' hiring choices by race, alerting principals if their hires did not represent a racial balance. So while district administrators said that they bridged to current policy messages about teacher quality, they also explained that they sent other messages about personality characteristics and the importance of racial diversity. We explore this latter goal in more detail in the section on direct policy efforts to improve teacher quality.

Principals.—Like the district officials, principals in our study also sought professional characteristics, although the degree to which principals prioritized these varied. In our previous analysis of the data, we found that principals balanced these with alternate conceptions of quality, such as personality characteristics (Harris et al., forthcoming). On the basis of teacher characteristics that principals said were important, we categorized two of our principals as having a "professional" focus, six as having a "personality" focus, and 22 as having a "personality/professional mixed" focus. (See table A1 in the online edition of the *American Journal of Education* for the distribution of principals by school.) Personality-focused principals looked for characteristics such as caring, enthusiasm, and motivation. Professional-focused principals listed characteristics consistent with those in the teacher-quality research (Rice 2003; Wayne and Youngs 2003; Wilson and Floden 2003), such as academic background, strong teaching skills, and experience. Principals who had a personality/professional mixed focus preferred a mixture of qualities.

These findings suggest that district administrators and most principals preferred characteristics consistent with policy messages about teachers' professional characteristics. At the same time, district officials and principals identified other conceptions of quality that they considered important. Next we explore this tension.

Direct Efforts to Improve Teacher Quality

We identify two different district policies that directly affected principals' hiring in Hillyer County. First, the district pursued a policy designed to address NCLB's HQT provision and attract qualified applicants to lower-performing schools. Second, district personnel encouraged principals to hire teachers of color to achieve a racial balance in schools.

No Child Left Behind and the Highly Qualified Teacher provision.—To address NCLB's HQT provision, the district implemented a 10-day hiring window in the first year of our study that gave preferential hiring to Title I schools and "critical shortage areas" of non–Title I middle and high schools, thus bridging to local goals. An applicant who interviewed with a non–Title I school at the fair could not be hired until after the hiring window for Title I schools had closed. In that time, if an applicant interviewed with a Title I school and turned down a contract offer, they were barred from teaching in the district for a year. District officials explained that the goal of the policy was to give Title I schools first access to the applicant pool and thus allow them to hire the strongest teachers. As Principal N of a non–Title I school described the policy, "It allows those schools that have historically or traditionally had very hard times recruiting and keeping highly qualified teachers in their schools, and it gives them that kind of first dibs."[7]

While principals reported agreeing with the policy, we found that this policy had several unintended consequences. First, the preferential hiring given to Title I schools created two pools of teachers: those who were willing to interview and teach in Title I schools and those who were not. Despite the district's best efforts to channel teachers to Title I schools, applicants at the hiring fair knew of the policy, and many chose not to interview with Title I schools if they hoped to be hired by a non–Title I school. Title I principals in the study described this as a self-selection of teachers who they would not want in their schools if they did not want to work there. Yet this also undermined district efforts to control the distribution of teachers and revealed vulnerabilities of Title I schools as they sought to hire the most qualified applicants.

Another unintended consequence of the district policy was to encourage principals of non–Title I schools to hire internal transfers. According to district administrators, internal transfers accounted for approximately 10 percent of all hiring in the district. Often these teachers had already established positive reputations in the district and had made prior contact with the hiring principal. Title I principals complained about the flight of these teachers, yet they seemed resigned to this mobility, explaining that if the teachers did not want to be there, they should leave. Nevertheless, this highlights a vulnerability of Title I schools in losing more experienced teachers.

Regardless of Title I status, all of the principals in the study discussed the importance of certification and the impact of NCLB's HQT provision. Principals at both types of schools were concerned with adhering to state requirements for certification. Principal Z explained, "We typically want someone who is already certified, because if they're not certified, you can't hire them. Don't waste your time." Principal F said, "Certification has to be important because they have to have it, but it doesn't always mean a great teacher." As expected, principals described bridging to this policy mandate.

District administrators, therefore, initiated internal policies that advanced and extended the goals of the HQT provision. They could have gone much further, for example, by reducing the hiring authority of the principals and assuming the role of allocating teachers across schools. However, this would have challenged school-level autonomy and district norms of principal discretion, something that district administrators reported they were hesitant to do. The responses of principals also suggest that more direct intervention was perhaps unnecessary for meeting the letter of the HQT rules, as principals took this seriously on their own.

Goal of racial diversity and balance in schools.—As we mentioned earlier, Hillyer County encouraged principals to hire faculty in a way that would achieve a racial balance. The district initiated this policy in response to a consent decree in the 1970s but had continued to regularly monitor principals' hires. District administrators reported valuing racial diversity by setting voluntary targets for racial distribution of teachers across schools; however, they took no action beyond addressing discrepancies verbally with individual principals.

From the district's perspective, principals faced a constant challenge to meet this goal. As suggested by Malen et al. (2002) and Roellke and Rice (2008), district officials in Hillyer attributed it to an issue of supply, with one explaining, "You know, there's just not a whole lot of minority applicants out there." Many principals described the need to complement faculty already present at the school, and often this was understood in terms of racial and gender diversity. One principal (BB) explained that before selecting teachers to interview, he had the department chair screen candidates on the basis of their demographics: "And what we will say is we give preference to veterans, minorities, and males because we're very short in males. . . . Bring me more males. I need more African Americans or minorities." For their part, principals embraced the need for diversity and described it as an important quality of the teaching workforce as a whole. As a principal of an overwhelmingly white and high-socioeconomic-status school explained, "I've got about [under 30 percent] black kids in this school, and they are outnumbered. I've got to make sure that I have some people on this campus that they can go to. . . . Plus, the superintendent wants it that way too. I do all I can to hire minorities into my faculty." For the most part, principals did not discuss efforts to hire mi-

norities and males as competing with their ideas of teacher quality. One principal (P) reported, "If I had one candidate versus another candidate, and they had equal strengths, then if one were a minority . . . and I needed a minority at the school, I would certainly hire them. And same with a male and female problem. . . . I think it's real important to have some—try to get more male role models and more minority role models to try to go along with the diversity of my school." Several principals, however, described a tension between hiring the most qualified candidate and the priority for minorities and males. Principal (CC) explained, "I'm always looking for minorities and men. What I have to do is not lean in that direction and take a candidate who isn't as good as maybe a white female simply because I'm leaning in that direction." Another principal (I) said that when making a hire, he was more concerned with racial balance than with the years of experience or the age of a candidate. Principal R said, "Anytime we can find a quality minority candidate that jumps out . . . we want to hire those individuals. And I don't— you know, I don't want to say giving them preference, but certainly you're looking hard."

We explored issues of race and gender further in the second interview with principals. When asked directly, 24 of the 30 principals indicated that they considered race when hiring, including three who said that race was more important than quality. One of these three principals explained, "I would hire a minority candidate because I know I need to—because right now the racial percentage of my school does not match my school population." A more typical response, however, was one such as this: "I just see a person, and if the candidate is hirable and happens to be minority, then that's just gravy." Of the 30 principals in the second interview, 16 reported that they weighed quality more heavily than teacher demographics. The three mentioned above said they weighed race more heavily than quality, and the remaining 11 did not indicate which they weighed more heavily. Principals in our study, therefore, reported negotiating the goal for racial and gender diversity with efforts to hire on the basis of professional characteristics.

In summary, district and school administrators described bridging and buffering state and federal certification requirements that were directly aimed at addressing teacher quality. They explained that they adhered to federal and state mandates while also modifying and extending the policy to meet local goals. At the same time, however, administrators also explained that they prioritized other values—principal autonomy, site-based hiring, and a racially diverse faculty—that are downplayed or absent in teacher certification and other messages related to teacher quality. These other values represented efforts to shape the terms of compliance to meet local goals (Honig and Hatch 2004). While district administrators tried to simplify external messages toward the teacher-quality policies, principals in turn varied in the degree to which they

bridged to these policies. Nevertheless, there were several indications that the direct efforts to improve teacher quality were being taken seriously in our sample district. The district policy for racial diversity was stated but not enforced. Likewise, district officials mentioned that they were considering reducing the considerable discretion they gave to school principals in the hiring process, in order to ensure greater compliance with state and federal certification guidelines. Thus, we view this as a combination of bridging and buffering, but with bridging clearly being the dominant theme.

Indirect Efforts to Improve Teacher Quality

Direct measures were not the only efforts to improve teacher quality: in order to improve student outcomes, principals and teachers need to attend to improving instructional quality. The Florida schools in our study faced indirect test-based accountability pressure from two sources: the AYP provision and Florida's A+ accountability policy.

All of the principals in the study reported feeling pressure from both AYP and Florida's A+ policy. But while AYP was on many of the principals' minds, almost no principals mentioned efforts to comply with this as part of their discussions of major school policy initiatives. All of the principals in our study, however, discussed bridging to the state's A+ policy. Principal J in a school with a high accountability grade described the policy environment in Florida, with its central role on high-stakes assessments: "Testing is driving [school improvement]. Anybody that says it's not, I mean, they're just not being truthful. I mean, it is driving everything. That train is going down the track, and you are not going to stop it. . . . You know what the rules are. Just go out and do it. . . . I don't care what school you are in and what your demographics are, you can contact DOE [Department of Education] and they will show you a school with the same demographics and they are doing an unbelievable job."

Principals were asked directly how state and federal pressures to improve test scores had affected the hiring process; 19 responded that it had affected how they hire, and 10 reported that it had not.[8] Of the 10 reporting that it had not affected the hiring process, nine were in schools with the highest accountability grades, either an A (seven) or a B (two). Seven were non–Title I schools. Of these 10 principals, several explained that a good candidate would naturally lead to students who scored well.

Sixty-eight percent of the sample, however, reported that they tried to hire teachers who were effective and, in turn, would improve student achievement—bridging to the policy. Eighty percent of the principals in C–F schools reported this type of bridging. Emblematic of these general responses was that

of a high school principal (S) in a non–Title I school with a high accountability grade who explained, "I'm looking for really good people, and we don't have the luxury of having people in the classroom who aren't. I mean, there's pressure." Principal N, also in a non–Title I school with a high accountability grade, discussed thinking strategically on teacher placement due to FCAT considerations: "Well, certain grade levels get a greater weight in the [school accountability] formula. Fourth grade makes up 50 percent of your data that goes into the grade. You want to make sure you have a fourth-grade teacher that perhaps has experience and knows what they're doing and is, you know, well versed in fourth-grade skills that are going to be tested." Despite knowing and looking at the student test scores of teachers already in the school, though, few principals discussed looking at candidates' student FCAT scores when hiring. Principals' responses to high-stakes testing revealed that they felt pressure to address accountability demands.

The qualitative results demonstrate that hiring practices in the district were shaped by multiple external policies. District administrators and principals developed systems to negotiate their "policy package" of federal and state teacher-quality and test-based accountability policies (Roellke and Rice 2008). In response to messages and mandates about teacher quality, district administrators relied on simplification systems such as online applications and commercial protocols to help principals make choices more consistent with district goals. However, district administrators and principals also pursued local goals such as attending to applicants' personality characteristics and race when hiring. While the general trend was toward bridging, a number of principals negotiated external messages with nonaccountability goals for their school and students. While all of the principals reported feeling pressure from Florida's test-based accountability policy, our findings suggest that principals in schools with lower accountability grades felt increased pressure to hire teachers who would work well in the current accountability system, which suggests that these schools were more vulnerable to external pressure than the others were.

Bridging, Accountability, and Preferences for Teachers

Powerful organizations are better able to buffer outside pressure than weaker ones are. In our study, the best indicator of school "power" is the school accountability grade. We hypothesized that principals in weaker schools would be more likely to bridge to test-based accountability and would be attuned to teacher-quality messages. This quantitative section of our study tests these hypotheses.

To further understand the degree to which principals were bridging or buffering to test-based accountability, we coded principals' responses to five

specific questions about students, the school, and their goals for the school into one of four categories, where 0 indicates that principals buffer their schools from the policy demands and 3 indicates that they bridge their schools to the demands. If the principals' responses indicated that they placed more emphasis on bridging activities, such as preparing students for the high-stakes assessment, but that they also included some buffering activities, such as building school community, we coded those responses as 2. However, if their responses indicated that they were more concerned with buffering their schools from the demands but were also doing some bridging activities, we coded those responses as 1.

Twenty-eight of the principals provided answers to these five questions. (See the appendix for the distribution of these answers.) Of these, 11 principals were coded above 2, which suggests that they bridged to test-based accountability. Fourteen principals gave answers in which they bridged to test-based accountability but also pursued other goals. Three provided answers that were primarily buffering. Table 1 includes principals' bridging measures. These findings provide insight into the degree to which test-based accountability was driving efforts to address students' needs and school-level initiatives.

While the sample of 30 principals is small, it is possible for patterns to emerge, and this means that quantitative analysis is potentially informative. In our first analysis, we found a negative correlation (-0.10) between the school grade and the degree to which principals bridge (e.g., a school with the highest grade of A appears slightly more likely to buffer than a school with a lower grade does). This finding is consistent with the theory from the organizational behavior literature, although the correlation is small in magnitude and not statistically significant.

In our second analysis, we use both simple correlations and partial correlations from ordered probit regression analysis to identify the relationships between principals' composite bridging tendency and the teacher characteristics they prefer. The simple correlations in table 2 suggest that principals with more of a tendency to bridge give less weight to enthusiasm and more to organization skills. The rankings of the other teacher traits are uncorrelated with principal bridging. A confirmatory factor analysis suggests that there is only one common factor (using Kaiser's eigenvalue rule). We therefore used the factor loadings from this analysis, shown in table 3, to create a single composite measure of buffering and bridging for each principal. Various factor analytic strategies were used and yielded similar factor loadings. These loadings are used to create the composite "bridging" measure for each principal that is used in the remainder of the analysis.

As a group, the principals in Hillyer tend toward bridging over buffering, suggesting that they are generally accepting the objectives and approaches promoted by both hiring and high-stakes accountability policies. As shown in

TABLE 2

Simple Correlations of Five Separate Bridging Measures

Bridging Measure	Q14	Q15	Q16	Q17	Q18
Q14	1				
Q15	.300*	1			
Q16	.518[+]	.585**	1		
Q17	.252	.038	.194	1	
Q18	.376	.422*	.416*	.367[+]	1

NOTE.—Principals' responses for each question are coded as buffering $= 0$ and bridging $= 3$.
[+] Statistical significance at $p < .10$.
* Statistical significance at $p < .05$.
** Statistical significance at $p < .01$.

table 4, the unweighted mean response was 1.89, with 1.50 being an equal balance between bridging and buffering. There is also considerable variation across principals with some tending heavily toward one side or the other (refer back to table 1).

Because principal preferences for teachers may vary for reasons other than bridging tendencies and because these other factors may be correlated with the bridging measure, we also estimate the partial correlations, controlling for an additional set of principal and school characteristics, including principal race, gender, highest degree earned, selectivity of undergraduate institution, and years as principal in the specific school (see table 5). School characteristics in the regressions include school level (elementary, middle, high), average student socioeconomic status (average of the percentage of minority students and the percentage receiving free or reduced-price lunch), and school accountability grade. The signs of the relationships are generally unchanged, though the statistical significance increases. In addition to giving less weight

TABLE 3

Factor Loadings for Composite Bridging Measure

Bridging Measure	Factor Loadings
Q14	.595
Q15	.632
Q16	.750
Q17	.335
Q18	.625

NOTE.—Factor loadings (all positive values) are from principal factors analysis in Stata; communalities are unrestricted.

Mean Bridging Tendencies of Principals

Variable	Mean	Minimum	Maximum
Q14	1.26	0	3.00
Q15	1.78	0	3.00
Q16	1.66	0	3.00
Q17	2.19	0	3.00
Q18	2.52	0	3.00
Unweighted	1.89		
Factor weighted	1.86		

TABLE 5

Multivariate Analysis of Relationship between Composite Bridging Measure and Hiring Preferences

	CORRELATION WITH COMPOSITE BRIDGING	
TEACHER CHARACTERISTIC	Simple	Partial
Caring	.235	1.076**
Strong teaching skills	.310	.267
Knows subject	.131	.855*
Enthusiastic	−.430*	−.798*
Motivated	−.207	−.417
Communication skills	.034	.236
Works well with others	−.140	−.319
Creative	−.135	−.775[+]
Intelligent	−.225	.037
Thoughtful	.084	−.078
Organized	.504*	1.538**
Cooperative	−.145	−.472[+]

NOTE.—The teacher characteristics are the dependent variables, and the partial correlations in the last column are estimated using ordered probit. Other variables in the regression include the principal's race, gender, highest degree earned, selectivity of undergraduate institution, and years as principal in the specific school. School characteristics in the regressions include school level (elementary $= 0$, middle $= 1$, high $= 2$), average student socioeconomic status (average of the percentage of minority students and the percentage of those receiving free or reduced-price lunch), and school accountability grade.

[+] Statistical significance at $p < .10$.
* Statistical significance at $p < .05$.
** Statistical significance at $p < .01$.

to enthusiasm, bridging principals also now appear to give less weight to creativity and cooperativeness and more weight to organization and knowledge of the subject. This last characteristic—knowledge of the subject—is one that policy makers are now emphasizing in their policy messages.

In these respects, principals who generally bridge are also bridging in their teacher-quality efforts. While these results are consistent with our qualitative results, others are less so. For example, bridging principals also give more weight to caring and less weight to cooperativeness. One possible explanation is that principals conceive of caring teachers as more successful at motivating students. Another is that bridging schools have less of a community focus than buffering schools and therefore place less value on cooperativeness. Without greater understanding of principals' definitions of these characteristics, however, it is difficult to know.

These quantitative results regarding principal preferences for teachers are generally consistent with earlier qualitative results from other aspects of the principal interview data and with our hypothesis that teachers who bridge to test-based accountability are also more likely to bridge to messages about teacher quality. In the qualitative results, all principals reported feeling pressure from high-stakes accountability, and two-thirds explained that it had affected their hiring. If principals believe that teacher knowledge and other qualities are likely to improve student achievement, then we would expect to see results just like those in table 5, where characteristics like knowledge of subject are given a high priority.

Discussion

In this study, we provide evidence of the degree to which district and school administrators negotiate teacher quality and test-based accountability in teacher hiring. We find that the principals generally bridged to policies aimed directly at teacher quality—teacher certification and credentials. In their teacher-quality preferences, principals were also largely responsive to the indirect pressure from high-stakes accountability policies, although these findings are less consistent. On one level, one would expect direct pressures, especially mandates such as teacher certification and the federal HQT provision, to have greater observed influence than policies such as accountability, which lay out few requirements as to how to reach educational objectives. On the face of it, bridging to teacher certification requirements is much easier than bridging to accountability.

Yet principals described the value of hiring teachers who understood accountability demands. District and school administrators reported that messages about teacher quality and school improvement were shaping local hiring

processes and preferences. The majority of principals stated that they preferred candidates with professional characteristics consistent with accountability goals, such as subject-matter knowledge and teaching skills. The quantitative analysis complements and confirms these findings by providing evidence of a relationship between principals' goals for their schools and the types of characteristics they prefer in a candidate, with those bridging to test-based accountability preferring professional characteristics in teacher candidates.

Despite general trends toward bridging, implementation of teacher-quality policies was not a simple matter of bridging or buffering. Rather, district administrators and principals negotiated multiple messages and policies, each selecting a unique combination that resonated with their individual conceptions of quality and local goals. At the district level, administrators sought to reduce uncertainty by managing the organization of teacher hiring. They simplified policy messages, attempting to allocate better-qualified teachers to Title I schools. Principals implemented district policies aimed at meeting the HQT provision as they sought to hire the "best" teacher for their school. They described negotiating federal, state, and district expectations with their own goals for their schools and their personal preferences in candidates.

In terms of test-based accountability, all of the principals in the study felt pressure to improve student achievement. Given that Florida's A+ policy creates high stakes for all schools, this is not surprising. Yet again we documented a range of responses between bridging and buffering. Some principals bridged, some selectively bridged, and others buffered. Consistent with findings of implementation studies that more-sanctioned schools are more likely to teach to the test (DeBray et al. 2003; Diamond and Spillane 2004; Lemons et al. 2003), we found a relationship, albeit a weak one, between school grades and principals' descriptions of school goals, which suggests that principals with lower accountability grades were more likely to describe bridging to test-based accountability. This finding is consistent with the organizational theories discussed earlier that posit that weaker organizations, such as low-performing schools, may be more vulnerable to outside encroachment than are stronger organizations, such as high-performing schools. Taken with the finding that bridging principals prefer certain professional characteristics associated with teacher-quality messages, the pressure to improve test scores seems to be extending beyond curricular and instructional activities and to be shaping the hiring choices of principals in general and those of principals in lower-performing schools in particular.

We also find that most of the principals in our study assimilated the district's policy of a racially diverse faculty. However, some principals expressed a tension between the district policy and hiring candidates with preferred professional characteristics. This raises important questions of how different ideas of quality are negotiated by district and school administrators, as well as the

larger issue of how administrators reconcile local goals related to teacher quality with state and federal efforts. While administrators in our study largely bridged to policy efforts aimed at improving teacher quality, this occurred in a complex context in which administrators negotiated multiple conceptions of what constitutes a "good" teacher with external messages and policies aimed at reconfiguring the teacher pool. These are tensions faced by district administrators and teachers across the country as they negotiate teacher-quality and accountability policies.

Implications for Theory, Research, Practice, and Policy

These findings have important implications for theory, research, practice, and policy. From a theoretical perspective, Honig and Hatch (2004) offer a useful lens through which to understand the implementation of policies aimed at improving teacher quality. Their perspective sheds light on how district and school administrators manage multiple policy demands with local values and conditions. It illuminates the process of negotiation that occurs at the district and school levels as administrators make sense of policy demands within their own school context. Finally, it provides a useful way to understand the degrees to which actors are embracing multiple policy goals, underscoring the importance of understanding the "policy package" facing administrators in their efforts to address teacher quality (Roellke and Rice 2008).

This study also highlights some of the difficulties of determining the degree to which administrators are bridging and buffering test-based accountability policies that set goals but impose few specific and measurable steps. Consider, for example, the principals who give little weight to subject knowledge. In the qualitative analysis, we assumed that principals who give greater weight to subject knowledge are bridging to test-based accountability. However, if principals believe that most teacher candidates have sufficient content knowledge to raise student achievement, then those who give a low weight may not be communicating bridging but rather some other view about how to improve student achievement. We have addressed this problem in our analysis by measuring bridging and buffering tendencies separately from the behaviors and other beliefs related to teacher characteristics. The fact that principals who generally appear to bridge (as determined by their discussions of school initiatives and goals) also give greater weight to content knowledge suggests that our assumption is a reasonable one. But in the case of accountability, researchers cannot assume that particular behaviors necessarily reflect buffering or bridging tendencies.

Further, in the context of teacher quality, it is somewhat difficult to separate the effects of direct policy pressures (certification) from the effects of indirect

pressures (test-based accountability). It may be that the HQT requirement has sent strong policy messages and that these drive principals' responses. Alternatively, because the HQT provision and test-based accountability developed simultaneously with the passage of NCLB, it is difficult to separate the effects of direct from indirect policy influences because of the complicated and somewhat amorphous role of policy messages. We believe we have addressed this concern in the present context by measuring the school accountability grades in the quantitative analysis. The more general concern in this type of analysis is that many policies influence behaviors at any given time, and isolating the effects of particular ones can be challenging.

We also identified an important limitation of the bridging and buffering framework. As currently conceptualized, the model does not account for the type of policy instrument under analysis. Bridging to a mandate, such as the HQT provision, is different than bridging to a policy such as test-based accountability that is aimed at setting objectives and generating long-term change. Mandates are meant to induce compliance to specific behaviors and processes (McDonnell and Elmore 1991). If the standards for compliance are manageable, there is leeway for districts and schools to comply and adapt the policy to local conditions, which may in turn exceed policy goals. Test-based accountability, however, works differently. Schools are rewarded with accountability grades, AYP, and additional funding when they meet policy goals. As schools are given discretion over how to meet test-based accountability goals, the process can be both a short-term and a long-term endeavor. In the context of this study, if principals state that they are implementing a curriculum aligned to the high-stakes assessment, this is a clear example of bridging. Yet programs that focus on the socioemotional needs of children may also improve student achievement in the long run by providing a context conducive for learning. Should these not be considered bridging? Given the high degree of compliance by administrators and teachers to test-based accountability (Au 2007), there may be different types of bridging rather than outright buffering.

Findings from this study also have implications for further research on hiring practices and teacher quality. The current federal and state policy climate emphasizes teachers' professional characteristics (Manna and Petrilli 2008). While this research has the potential to identify characteristics that affect student achievement, it also may set limitations on the hiring process itself. Policies that allocate teachers on the basis of their academic and test score performance run the risk of further reducing the applicant pool, eliminating teachers who learn quickly or have other qualities that may positively affect student learning. The narrow focus on professional characteristics in both research and policy may constrain hiring, possibly resulting in poor matches between teachers and schools and thus raising turnover in the most vulnerable schools (Liu and Johnson 2006).

Our case study district provides a strong example of how districts can facilitate site-based hiring and can intervene to support schools that have a more difficult time attracting quality teachers. This study finds that in the area of hiring, teachers are increasingly selected in a context in which hiring choices are restricted by federal and state efforts to affect teacher quality. Policies such as the HQT and AYP provisions of NCLB and state certification and accountability policies are affecting district and school hiring practices as well as the characteristics that principals look for when hiring teachers. As expected, principals are responding to direct mandates. Yet under the constraints of test-based accountability, principals are also extending beyond instructional alignment into personnel practices. This suggests that accountability may have a broad reach, affecting not only decisions that can have an immediate effect on student achievement but also those that have a more indirect and long-term influence on teaching and learning in schools.

While this study finds that district and school administrators respond to multiple messages and policies about teacher quality, it also draws our attention to the diverse conceptions of teacher quality and school improvement held by district and school leaders. Studies on both teacher quality (Roellke and Rice 2008; Rutledge et al. 2008) and test-based accountability (Anagnostopoulos and Rutledge 2007; Booher-Jennings 2005; Diamond and Spillane 2004; Rutledge 2010; Spillane, Diamond, et al. 2002) document the importance of administrators' sense making in accounting for variation between sites, highlighting the importance of understanding how different policies affect principals' beliefs about their work and their implementation of efforts to improve teaching and learning.

Notes

1. Smith et al. (2005), however, find that the teacher-quality requirements in the HQT provision of NCLB, such as certification status and having a degree in mathematics, are not strong predictors of instructional practices advocated in current mathematics reforms.

2. Recent studies have challenged the finding that teacher verbal/cognitive ability is related to raising student test scores (Aloe and Becker 2007; Harris and Sass 2007).

3. Hillyer County is a pseudonym.

4. The national data on principals come from the 1999–2000 Schools and Staffing Survey (SASS), as reported in the *Digest of Education Statistics, 2004* (National Center for Education Statistics 2005).

5. In advance of the interviews, the research team debated the pros and cons of

both ratings and rankings, analyzing the research literature to inform our decision making (e.g., Alwin and Krosnick 1985; McCarty and Shrum 2000; Ovadia 2004). Our literature review on the issue suggested that rankings force respondents to prioritize, so we chose this method.

6. The district administrators reported that the school board had no involvement in organizing the hiring process in Hillyer County. Nor did we find any evidence from our interviews with district administrators or principals that there was external community involvement in hiring. Finally, neither the district administrators nor the principals described any budget constraints that affected the hiring process or their choices in hiring.

7. We identify principals by letter to show the range of responses; however, to preserve the anonymity of the participants in the study, we do not link principals to specific schools.

8. One principal was inadvertently not asked whether high-stakes accountability affected his or her hiring practices.

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