



**"Coupling Administrative Practice with the Technical
Core and External Regulation: The Role of
Organizational Routines"**

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Abstract

Schools in the US have often been held up as exemplars of *loose coupling* between an organization's environment and its technical core - classroom instruction. Still, the environment of America's schools has changed substantially over the past few decades as government regulation focuses increasingly on the *technical core*. In this paper we examine the school administrative response to a changing external environment, exploring how schools deal with government efforts to regulate the technical core. We examine school leaders' efforts at coupling administrative practice with both government regulation and with the technical core by designing organizational routines. School leaders' espoused theories suggested that these routines were intended to couple the administrative with both the external environment and with the technical core. Further, our account shows that the regulative dimension of the environment, and aspects of the technical core featured prominently, if selectively, in the performance of organizational routines.

Introduction

Scholars have frequently pointed to US schools as an exemplar of decoupling or loose coupling between the technical core, classroom instruction, and the institutional environment of schools (Meyer and Rowan, 1978; Weick, 1976). In a decoupled or loosely coupled system, school administrators are often portrayed as buffering instruction, the technical core, from external scrutiny (Meyer & Rowan, 1978; Weick, 1976). School administrative work is only weakly tied to the technical core and focused instead on ensuring the organization conforms to the institutional environment so that it can continue to procure resources and maintain its legitimacy. Institutional conformity trumps technical efficiency. While some took this as a permanent state, other organizational theorists allowed for the possibility of the institutional and the technical to become more tightly coupled (DiMaggio & Powell, 1993; Meyer & Scott, 1983; Rowan & Miskel, 1999; Rowan, 2002).

A couple of decades of educational reform, including standards-based curricula, intensified guidance for classroom instruction, and the increasing use of student tests to hold schools accountable, raise doubts as to whether the administrative is loosely coupled from both the technical core and the external environment (Clotfelter & Ladd, 1996; Malen, 2003; Valli & Buese, 2007; Spillane & Burch, 2006; Rowan, 2006; Rowan and Miskel, 1999). Over the last two decades US government policymakers and extra-system actors (e.g., Comprehensive School Reform providers) have pressed for substantial change in schools, especially in the technical core. Government policy-makers at all levels have gone to considerable lengths to target institutional regulations at the technical core specifying both what teachers should teach and acceptable levels of student

achievement. Though many accounts of the changing external environment of America's schools center on No Child Left Behind (NCLB), many state and local government regulations targeted classroom instruction for a decade or more prior to NCLB (Lipman, 2004; Fuhrman, Goertz, & Weinbaum, 2007). Beyond government regulatory agencies, an ever expanding and diversifying extra-system of professional associations and private sector agencies, often aided by government regulation, increasingly targeted their efforts on classroom instruction (Burch, 2009; Cohen, 1982; Hill, 2007; Rowan & Miskil, 1999). These initiatives to influence the technical core represent a dramatic shift in the external environment of American schools (Rowan, 2002; 2006). School administrators have to figure out how to respond to this changing external environment.

In this paper, we examine the school administrative response to shifts in the external environment focusing on school administrative practice as it takes shape in the interactions among formally designated school leaders, informal leaders, and teachers. While acknowledging that school administrative practice does not always mediate relations between the external environment and classroom instruction (Coburn, 2004; Rowan & Miskel, 1999), our account is premised on the assumption that school administrative practice is an important mediator (Berman & McLaughlin, 1977; Leithwood, et al., 2004). Our concern is *whether* and *how* school administrators go about coupling administrative practice with the external environment and with the technical core. By attending to administrative practice, we move beyond an exclusive focus on the actions of formally designated leaders to consider administrative practice as it takes shape in the interactions among school staff – formally designated leaders, informal leaders (including teacher leaders), and classroom teachers.

Our paper is organized as follows: We begin by describing our theoretical framework. We then discuss our research methodology for our theory building study in four urban K-8 schools. Next, we report our findings organized around two core assertions. First, we show how school staff designed and redesigned organizational routines in an effort to couple administrative practice with both the external environment *and* with the technical core. Organizational routines figured prominently, though selectively, in school leaders' efforts. By organizational routines we mean, "regular and predictable behavioral patterns of firms including both well specified technical routines for producing things, through procedures for hiring and firing, ordering new inventory ..." (Nelson & Winter, 1982, p. 14; see also Stene, 1940). Second, focusing on the performance of organizational routines, we explore school efforts at coupling the administrative with the external and the technical, documenting how coupling efforts differed by the dimension of instruction. We conclude with a discussion of the role of organizational routines in coupling administrative practice with aspects of the external environment and with the technical core.

Theoretical and Empirical Anchors

Our work is framed by theoretical and empirical work in new institutionalism and school administration. These traditions are sometimes, but not always related in the literature.

New Institutionalism

New institutionalism takes different forms and foci, but a few ideas are fundamental.

First, organizations are treated as open systems, embedded in "organizational fields" or

sectors consisting of “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services” (DiMaggio & Powell, 1983, p. 148). Schools are embedded in an education sector that includes government agencies, testing and textbook publishers, teacher preparation programs, for-profit and non-profit providers of education services, and professional associations (Burch, 2007). Institutional theorists argue for studying schools as sub-systems of institutional fields on which they depend for resources and legitimacy (Parsons, 1960; Meyer & Rowan, 1977, 1978; Scott, 1995). Influenced by the institutional sector in which they operate and depend for survival, schools and school staff are not autonomous agents. This institutional sector constitutes the external environment of the organization and includes regulative, normative, and cultural-cognitive dimensions (Scott, 1995). Whereas the regulative focuses on rules and sanctions, the normative centers on norms and values (what is desirable and ought to be done). The cognitive dimension foregrounds the role of cognitive scripts and frameworks in mediating interactions among people and their world.

A second and related perspective in new institutional theory is that technical efficiency is not all that concerns organizations and those who work in them. As organizations strive for legitimacy and resources, institutional conformity can take precedence over technical efficiency. Giving precedence to institutional conformity, the technical core of schools can become ‘loosely coupled’ or ‘decoupled’ from the institutional environment (Meyer & Rowan, 1978; Meyer & Scott, 1983; Parsons, 1960; Weick, 1976). Pursing legitimacy through conformity, the formal structure of organizations in a particular sector becomes more homogenous, a process that

institutional theorists refer to as isomorphism (DiMaggio & Powell, 1983). In our work, we treat the school as an open system, examining how aspects of the external environment, especially the regulative aspect, were instantiated in school administrative practice.

Coupling. The concept of coupling figures prominently in framing relations between organizations and their environments (Bidwell, 1965; Burch, 2006; Glasman, 1973; Meyer & Rowan, 1977, 1978; Thompson, 1967; Weick, 1976). Widely used though diversely construed, coupling captures how organizations are made up of interdependent components that are more or less responsive to, and more or less distinctive from, each other (Orton & Weick, 1990). Coupling denotes that these interdependent elements are “linked and preserve some degree of determinacy” (Orton & Weick, 1990, p. 204). In the literature, ‘elements’ refers to many things including organizational members (Hagin, Hewitt, & Alwin, 1979), hierarchical levels (Firestone, 1985), organizational sub-units (Murphy & Hallinger, 1984), and organizations and their environments (Weick, 1979). Tight coupling refers to systems where there is “responsiveness without distinctiveness” among components. Loose coupling refers to situations of “both responsiveness and distinctiveness,” whereas decoupled is used to refer to situations of “distinctiveness without responsiveness” (Orton & Weick, 1990, p. 205). This “dialectical interpretation” of coupling contrasts with the more popular “unidimensional interpretation” in which tight and loose coupling are understood as endpoints on a scale (Orton & Weick, 1990, p. 205).

Building on Parson’s ideas (1960) that organizations’ efforts to align with societal norms and values often came into conflict with their technical work, Meyer and Rowan

(1977, 1978) theorized that schools decouple their formal structure from their technical core, instruction. Institutional conformity is the primary concern for the formal structure, whereas notions of technical efficiency prevail for the technical core. Hence, the formal structure is intended to preserve the legitimacy of schools by buffering the technical core from external scrutiny (Meyer & Rowan, 1977). Research on different institutional sectors offers empirical support for various aspects of Meyer and Rowan's theory (Covaleski & Dirsmith, 1983; Thomas, 1984). Research on relations between school governance policies and school administration suggest that the two levels are decoupled from one another (Malen et al. 1990; Malen & Ogawa, 1988). Studies that examined relations between school administration and classroom instruction provide evidence that activities at the two levels are decoupled or loosely coupled (Deal & Celotti, 1980; Firestone, 1985; Gamoran & Dreeben, 1985).

Most empirical studies, however, pre-date dramatic shifts in the external environment of schools that feature the technical core more prominently. Indeed, more recently scholars have questioned the notion that schools are necessarily loosely coupled (Clotfelter & Ladd, 1996; Malen, 2003; Meyer, 1983; Rowan & Miskel, 1999; Rowan, 2002; Spillane & Burch, 2006; Rowan, 2006). Numerous studies suggest that school administrators and teachers are heeding state policy and working to align content coverage with state standards and tests (Coburn, 2004; Firestone, Fitz, & Broadfoot, 1999; Firestone, Mayrowetz, & Fairman, 1998; McNeil, 2000; Spillane & Zeuli, 1999; Spillane, 2005; Wilson & Floden, 2001). One study of the impact of high stakes accountability on teacher roles, for example, shows how role expectations increased, intensified, and expanded with respect to not only instruction, but also the institution,

collaboration, and learning (Valli & Buese, 2007). There is also evidence to suggest that teachers are responding to state and district regulation and changing how much time they devote to different school subjects (Diamond & Spillane, 2004; Smith, 1998; Wong, Anagnostopoulos, Rutledge, Lynn, & Dreeben, 1999). Further, most research treats the technical core of schooling as an undifferentiated construct; framing the technical core as multi-dimensional allows for the possibility that some aspects of the technical may be tightly coupled with the schools' formal structure or the environment whereas other aspects may not (Spillane & Burch, 2006). More broadly, organization theorists have critiqued the over-simplified interpretation of coupling in framing research (Orton & Weick, 1990; Hallett & Ventresca, 2006). Rather than construing coupling as a static feature of organizations, these scholars argue for a "dialectical interpretation" that focuses on coupling as a process; "something that organizations do, rather than merely as something they have" (Orton & Weick, 1990, p. 218). We use coupling as a process to frame our analysis.

Calls for attention to coupling as a process echo a broader criticism of new institutionalism: its relative inattention to micro processes or practice (Colomy, 1998; DiMaggio 1988; Powell & Colyvas, 2008). As Powell and Colyvas (2008) point out, new institutionalism seldom gets inside organizations and below the surface of the formal structure to examine what people actually do. Focusing on populations of organizations, new institutionalism has stressed the emergence of dominant organizational forms rather than activities particular to individual organizations (Whittington, 1991). As a result, structure often triumphs over human practice in empirical and theoretical work, smothering human agency (DiMaggio, 1988; Fligstein, 2001; Hirsch & Lounsbury, 1997;

Scott, 2001). New institutionalism risks being overly deterministic by ignoring how organizational members enact their environment (Weick 1995; Giddens 1994). Heeding the call for attention to micro process, we focus on administrative practice.

School Administrative Practice

If new ideas are to take hold and persist over time they have to find their way into everyday practice in the schoolhouse; they have to become “instantiated in routines, roles and social organizations” (Scott, Ruef, Mendel, & Caronna, 2000, p. 174). Conceptually, practice can be framed in different ways. Some frames equate practice with the actions of organizational members, a function of their knowledge, skills, and beliefs. Other frames focus on the interactions among organizational members in which practice unfolds (Bourdieu, 1990; Weick, 1979). Organizational members act, but in relation to others so that practice is about interactions. Practice is emergent and involves improvisation (Bourdieu, 1981).

Our framing of administrative practice focuses on the web of interactions among school staff, as mediated by aspects of their situation (Gronn, 2000, 2002; Spillane, Halverson, & Diamond, 2001). Situation covers many aspects, both virtual and tangible, including organizational routines, tools of various sorts (e.g., curricular frameworks), and institutional logics (Friedland & Alford, 1991). Aspects of the situation, as instantiated in practice, offer particulars that are *constitutive of* administrative practice and, in turn, aspects of the situation are also *constituted in* practice, reproduced and sometimes transformed in the interactions among staff. Organizational routines, for example, are both a medium or vehicle for practice and a product of that same practice.

We use the concept of organizational routines to frame our analysis of administrative practice for two reasons. First, change in organizations involves modifying “patterned behavior” rather than unique, singular happenings (Kanter, Stein, & Jick, 1992). Focusing on organizational routines enables us to access patterned work practice (Simon, 1976; Stene, 1940). Second, the concept of organizational routines enables us to attend to how social structure and human agency work in tandem. More specifically, following Feldman and Pentland (2003), we use Latour’s analysis of power (1986) to frame organizational routines as having both a principle or virtual existence (ostensive aspect) as well an existence in practice (performative aspect).

Organizational Routines. Organizational routines involve “a repetitive, recognizable pattern of interdependent actions, involving multiple actors” (Feldman & Pentland, 2003, p. 311). To count as an organizational routine something has to be repeated over time, recognizable to organizational members, and involve two or more staff. Often a taken for granted aspect of organizational life, organizational routines like teacher hiring and school improvement planning structure practice as they enable and constrain interactions among staff (Cyert & March, 1963; March & Simon, 1958; Nelson & Winter, 1982). Understood as either tacit or explicit agreements about how to do organizational work and means of storing organizational experiences, organizational routines enable more or less efficient coordinated action and may be evidence of organizational learning (Argote, 1999; March & Simon, 1958; Stichome, 1959). Organizational routines contribute to stability across time in practice by socializing new organizational members by enacting organizational norms, providing tacit or explicit agreements about how to get work done, and helping reduce conflict (Cohen &

Bacdayan, 1996; Feldman & Pentland, 2003; Nelson & Winters, 1982). Routines also have a downside, enabling organizational members to go through the motions of work with a degree of mindlessness and potentially contributing to deskilling and demotivation (Feldman & Pentland, 2003). Adopting routines that fit the institutional sector serve as a means of showing institutional conformity (Meyer and Rowan, 1977).

Following Feldman and Pentland, we view organizational routines as having two aspects: *ostensive* and *performative*. The *ostensive aspect* is “the ideal or schematic form of a routine ... the abstract, generalized idea of the routine” (Feldman & Pentland, 2003, p. 101). Such abstractions are essential if the ostensive aspect is to guide practice in different times and places (Blau, 1955). In this way, organizational routines have a virtual existence. For example, when faced with evaluating a teacher’s classroom practice a school administrator can outline the steps involved. Serving as a broad script for school staff, the ostensive aspect enables and constrains interactions among organizational members. The *performative aspect* refers to “specific actions, by specific people, in specific places and at specific times. It is the routine in practice,” (Feldman & Pentland, 2003, p. 101). Framing organizational routines in terms of ostensive and performative aspects, we attend to school leaders’ espoused theories as well as their theories in use vis-à-vis organizational routines.

Macro functions and administrative practice. Focusing on administrative practice, it is easy to get lost in the micro details and lose sight of the broader organizational functions that may guide school leaders’ work. Studies have consistently identified three sets of macro functions that characterize school administrative work: setting direction, human development, and organizational development.

Developing and maintaining a direction involves building a vision, developing goals to help attain that vision, and getting buy-in from staff for the vision (Bryk & Driscoll, 1985; Newman & Wehlage, 1995). A second set of functions centers on human development through summative and formative monitoring of instruction and program implementation, staff development, and recognition of individual successes. A third set of functions centers on organizational development including developing and maintaining a school culture in which norms of trust, collaboration, and collective responsibility for student learning thrive, procuring and distributing resources to support the technical core and its improvement, and maintaining an orderly work environment. We use these macro functions descriptively to anchor our analysis of school administrative practice.²

Research Methodology

Study Context

The mid-1990s saw a concerted effort on the part of the state legislature and Mayor Daly to re-establish some central office influence over Chicago schools. District policy efforts centered on holding schools accountable for student achievement. The Chicago School Reform Amendatory Act of 1995 gave much authority to the Chief Executive Officer (CEO), appointed by the mayor, who was able to place poorly performing schools in remediation or on probation based on their performance on state standardized assessments. Specifically, the CEO had the power to place schools on probation because of low performance on a norm referenced standardized test for reading and mathematics: the Iowa Test of Basic Skills (ITBS). Schools placed on probation were required to develop a supplemental school improvement plan that outlined specific

² We acknowledge that much of this literature is normative rather than descriptive.

strategies the school would implement to improve student achievement. If the district decided that a school had not made adequate progress, the CEO could have the school reconstituted, ordering new Local School Council (LSC) elections and replacing the principal and faculty.

In 1996, the CEO put 20% of the elementary schools, 109 schools, on probation because fewer than 15% of their students performed at or above national norms on the ITBS (Hess, 2000; Wong & Anagnostopoulos, 1998). Further, the school district also ended social promotion beginning with the 1996-97 school year. Students failing to achieve a certain level on the ITBS had to attend summer school, and if they still failed by the end of the summer they were not promoted to the next grade. This represented a considerable shift in the external environment of Chicago public schools.

Study Sites and Data Collection

Our study includes four Chicago public schools: Adams, Baxter, Kosten, and Kelly.³ These schools were selected through the logic of selective (Schatzman & Strauss, 1973) and theoretical sampling (Glaser, 1978; Glaser & Strauss, 1967) according to three dimensions: high poverty schools, demographic variety, and a range of principal tenure at their respective schools. We focus on administrative practice in high poverty urban schools. First, the four schools have a minimum of 60% of students receiving free or reduced lunch (see Appendix A, Table 1). Second, the four schools varied demographically, including two predominantly African American schools, and two schools that were at least 40% White student populations. Third, at the start of our data

³ All names are pseudonyms.

collection (1998-99 school year) two schools had principals with 5 to 10 years of tenure at the school, one school had a principal with tenure of five years, while the fourth school had a principal with tenure of less than 2 years.

We spent 50-70 days per school year collecting data from 1999 through 2001 in three of the schools and through 2003 in the fourth school (Adams). Data collection included semi-structured interviews (see Appendix B for protocol), observing meetings and classrooms (including videotaping a sub-sample), shadowing school leaders, reviewing documents, teacher and principal surveys, and observing informal interactions (e.g., lunch room exchanges). Table 2 (Appendix A) details the data collected at each school. Interviews were taped recorded and transcribed, and videotapes were also transcribed.

Data Analysis

Data analysis involved three phases. In phase one, researchers who collected data in each school wrote in-depth case studies intended to provide a comprehensive, holistic account of school-level efforts to manage instruction and involved multiple iterations based on feedback from the project team. Data analysis was integrated with data collection, allowing researchers to refine data collection strategies in response to working hypotheses that were developed from ongoing analysis (Miles & Huberman, 1994). In *phase one* we identified several patterns, including the prominence of state and district regulation and of organizational routines in school leaders' reform efforts, that became the bases for phases two and three of our data analysis. The cases also served as a check on the veracity of the patterns we identified in later phases.

In *phase two*, specifically for this paper, we coded interview transcripts using HyperRESEARCH. To begin with, we conducted closed-coding of interview transcripts using five coding categories: personal biography, organizational routines, human capital, social capital, and roles and responsibilities (See Appendix A, Table 3). Using an open coding strategy (Strauss & Corbin, 1998), we analyzed data coded under ‘organizational routines’ and ‘roles and responsibilities’, identifying patterns and checking their prevalence across schools and respondents’ position. We used EXCEL to record these patterns and also to record patterns from field notes and video transcripts of meetings using the following coding categories: organizational functions (e.g., human development), organizational processes (e.g., decision making), mode of interaction (e.g., discussion,), and instructional focus (e.g., mathematics).

In *phase three* of our data analysis, we coded the field notes and video transcripts of meetings using NVIVO. This phase involved two macrocodes: the technical core and policy or government regulation. Under the technical core we used two sets of sub-codes. The first set focused on school subjects and included language arts, mathematics, and non-subject specific. The second set focused on nine dimensions of instruction including: content/topic coverage, grouping students, teaching strategy, and materials. Under policy we used four sub-codes: standards, tests, district/state/federal regulation, and other. Coding categories were not mutually exclusive. Table 4 (Appendix A) details the nodes coded. Reading the data generated under each code, we identified and tracked patterns.

Coupling and Organizational Routines in School Administrative Practice

By the 1990s the environment of American schools was undergoing dramatic shifts as government and extra-system agencies paid increasing attention to the technical core. Chicago Public Schools (CPS) was no exception, often pointed to as model for urban school reform. While policymakers applied pressure and offered some support, school leaders had to figure out the entailments of these shifts in the environment for administrative practice and for instruction.

We develop and support two main assertions. First, we argue that school leaders designed and redesigned organizational routines in an effort to couple school administrative practice with aspects of the external environment and with dimensions of the technical core. Second, through an examination of the performance of organizational routines, we argue that aspects of the environment and the technical core figured prominently and often together in school administrative practice.

Organizational Routines: The Ostensive Aspect

School leaders reported working to transform administrative practice in an effort to couple it with both the external environment, especially government regulation, and with the technical core. While school leaders did not use the term “coupling”, their accounts captured efforts to make administrative practice more responsive to, and less distinctive from, aspects of their environment and dimensions of instruction. In these efforts, the design and redesign of organizational routines were prominent.

Designing and Re-Designing Organizational Routines

Working at coupling school administrative practice with *some* aspects of the external environment and with *some* dimensions of the technical core, school leaders designed and redesigned organizational routines.⁴ At Adams, the only school to experience the threat of district probation firsthand, Principal Williams and her leadership team designed routines including Breakfast Club, grade level meetings, Teacher Talk, Teacher Leaders, Five-Week Assessment, Literacy Committee, and Mathematics Committee in an attempt to couple administrative practice with classroom instruction (Halverson, 2007; Sherer, 2007). Coming to Adams in 1989, Principal Williams sought to establish curricular coherence within and across grades, raise teachers' expectations for student academic ability, and get staff to interact about instruction. An assistant principal recalled, "Teachers were almost afraid to share knowledge or experiences with any other teachers.... We never got together and did common planning or common lesson plans.... After Dr. Williams came in... we learned how to share. And it was not easy" (Interview, 11/13/01). Williams remembered, "I had to create the structures for the teachers to come together and talk" (Interview, 3/01/00). Grade level meetings and Breakfast Club were two such efforts. Dr. Williams and her leadership team implemented grade level meetings and, in 1995, the Breakfast Club, a monthly meeting led by the literacy coordinator or teachers. The Breakfast Club was designed to tailor professional development to staff needs and build norms of collaboration among staff. Prior to each meeting, staff read an

⁴ We remind readers that our study of administrative practice focused on language arts, mathematics, and science. However, we cast a broader net in our data collection asking about school administration broadly and observing interactions that were not specific to these three subjects.

article related to instruction (e.g., the value of learning centers) and discussed it at the meeting (Halverson, 2007).

Other organizational routines, such as Five-Week Assessment, were designed in response to district probationary policy in 1996. District probation policy coupled with feedback from a Board of Education visit in 1996 prompted Dr. Williams and her literacy coordinator to design and implement the Five-Week Assessment routine. The routine was designed to test students, every five weeks, in grades 1-8 in mathematics, reading, and writing. The literacy coordinator recalled, “We were just kind of casually saying that for the majority of our teachers they all work very hard, but some of them get very low results when it comes to these achievement tests. And we were trying to figure out why... We decided not to ask anymore, ‘Are the teachers working,’ but, ‘Are the children learning?’ So this [routine] was a way to find out, ‘Are they learning?’” (Interview, 10/23/00). Based on an analysis the ITBS⁵, school leaders and a group of teachers created benchmarks for student achievement and developed tests to assess student performance on them (Sherer, 2007).

The Five Week Assessment generated student performance data on skills assessed on the ITBS every five weeks. A staff member explained, “the [standardized] tests ... didn't give us much information about what we could do to improve our scores ... because we received the results well after we could do anything about it. We thought that a more frequent assessment ... would tell us where the children were” (Interview, 5/15/00). In addition to a writing component, school leaders designed the Five Week

⁵ When Illinois Standards Achievement Test (ISAT) replaced ITBS school leaders used the ISAT to define benchmarks for the Five Week Assessment routine.

Assessment to be responsive to the topics assessed on the reading and mathematics ITBS. Dr. Williams claimed that the routine enabled teachers to see “assessment as a tool for letting them know what they need to work on in the classroom. That was the goal” (Interview, 3/16/00). School staff reports suggested they accepted the parameters set by ITBS as the criteria for answering their key question: “Are the children learning?” This routine, as designed, afforded interactions about content coverage and measures of learning that were anchored in the ITBS. School leaders also saw the results of the Five Week Assessment as enabling them to target intervention strategies for underperforming classrooms, maintain direction for instruction, and focus professional development. Principal Richards, the former assistant principal who replaced Williams as principal in 2002, explained, “I would like to see us [achieve] 50% or better, at or above grade level on the Iowa [ITBS]. ... I gave each teacher a breakdown of the Iowa [ITBS] test scores ...to give us the exact number of questions that are being asked in every skill area. I gave that to the teachers and asked them to let this breakdown, let this skills analysis, drive their instruction. ...” (Interview, 1/24/02).

Although the other three schools were not under the threat of probation, the situation was similar. Revising the school curriculum to incorporate grade specific state academic standards, Principal Johnson at Kelly designed routines to monitor and support the implementation of the curriculum. She remarked, “As you see the state goals and Chicago academic standards ... they're in [the curriculum] and every teacher, as I said, has that in the classroom and those are the goals that we focus on, the skills that children must have in order to go on to the next grade” (Interview, 12/10/99). Collaborating with teachers, Assistant Principal Brown developed a “skill chart” that teachers were to use in

tracking student progress as well as to align their lesson plans to standardized tests, district standards, and students' skill mastery. Described by Ms. Brown as “a tool to keep you focused and on track” teachers were to use the skill charts to plan instruction. Ms. Brown went on to explain, “You look at this chart and you see that [particular] child didn't master that skill. . . . You can assign your [teacher's] aide to work with that particular child on that skill and retest . . .” (Interview, 11/17/99). Dr. Johnson and Ms. Brown reported that regular reviews of teachers' skill charts gave them a “window,” albeit with a particular view, into classroom instruction. As designed, the Skill Chart Review routine was responsive to the language arts and mathematical skills assessed in state standardized tests. School leaders intended for the routine to get classroom teachers to be more responsive to school administrative practice and thereby to state and district regulation. Indeed, Dr. Johnson credited these design efforts with raising students' test scores over thirty percentage points in less than five years.

Although Kosten was not under the threat of probation when Principal Koh took over in 1999, she was not satisfied with the level of student achievement. Ms. Koh explained, “When I look at the test results . . . fifty percent [of students] are succeeding, I look at it the other way, fifty percent of our children are not succeeding . . . Bottom line is the kids have to bring those grades up to apply for the best high schools” (Interview, 11/30/00).⁶ An assistant principal explained, “The first question the REO [Regional Education Officer] is going to say to the principal is: ‘How did you do with reading and

⁶ When Koh became principal at Kosten just over 55% of the students were scoring at or above national norms in reading on the Iowa Test of Basic Skills, while nearly 58% of students did so in math.

math?’ It’s measurable. It’s empirical data. It’s something you can hold somebody accountable for” (Interview, 1/18/01).

Working at coupling school administrative practice with government regulation and with instruction, Ms. Koh redesigned existing organizational routines and designed new ones including Report Card Review, Grade Book Review, and Lesson Plan Review routines. At one staff meeting, “Principal Koh explained the Report Card Review and the Grade Book Review, informing teachers that she will review these and give them feedback” (field notes, 11/02/99). The Lesson Plan Review routine focused on teachers’ daily lesson plans and also involved an instructional review that examined student work. At a staff meeting Ms. Koh explained the routine:

Ms. Koh begins, “Part of my training, my work” is to make sure that instruction is “in alignment with the state and city standards.” As a result, I have a form, a very simple form that I have passed out to you.” Ms. Koh tells teachers that they should fill out the form based on “one period a day,” and include “actual work from the children, so I can give you feedback.” The teachers are to turn in the form and the examples of student work along with their lesson plans and the rubrics they used for grading.

Based on this review, they will “come back and talk about the kinds of assessments we want to do” and create some standardized practices (field notes, 11/02/99).

Ms. Koh designed and re-designed organizational routines to create a standardized curriculum aligned with government regulation, to make aspects of instruction more transparent, and to hold teachers accountable for student achievement.

At Baxter, Principal Stern and his leadership team also designed new organizational routines to transform administrative practice so as to involve teachers in school decision-making about the technical core. He explained:

Our biggest challenge had been developing an organizational infrastructure that could be relied upon to deliver quality services to faculty members, who could in turn provide better services ... to the kids ... and a big part of that infrastructure has been developing indigenous faculty leadership ... where ...our joint faculty leadership group ... plays a much more independent and substantial role in making decisions about how we're going to allocate our curriculum (Interview, 10/19/00).

Central to Mr. Stern's efforts were the Faculty Leadership Group and Grade-level Cycle routines. The Faculty Leadership Group met monthly and included the chairs from each grade-level cycle along with key school administrators. Grade-level Cycles (K-2, 3-5, & 6-8) met bimonthly and were designed by Mr. Stern to allow teachers to plan curriculum together. Cycle chairs, elected by colleagues, relayed information between routines. Mr. Stern argued that student achievement improvements were a result of these routines, "Every major jump that we've seen in school productivity has really come from the upgrading the faculty involvement and leadership" (Interview, 10/19/00).

Mr. Stern, the assistant principal, and the dean of students re-analyzed standardized test data longitudinally to show that while Baxter students performed well compared to other CPS schools, growth in achievement over time was not impressive compared to the 12 best performing district schools. Mr. Stern recalled, "When we did this [test score analysis] it made it clear that out of 12 schools ... Baxter was either at the bottom, or very close to the bottom, in terms of the amount of actual growth the kids

were making” (Interview, 10/19/99). Concerned, he and the faculty leadership team designed the Literacy Committee and the Mathematics/ Science Committee routines to align the school’s mathematics, science and language arts curriculum within and across grade levels. According to Mr. Stern, these routines were intended to align the school curriculum so that individual teachers could decide on 40% of content coverage, and 60% should come from a common school curriculum.

Organizational routines were central to school leaders’ efforts at coupling administrative practice with the external environment and with the technical core. These coupling efforts were *selective*, focusing extensively, though not exclusively, on government regulation and chiefly on content coverage in language arts and mathematics. Organizational routines were not the only strategy school leaders used in their attempts at coupling. Other approaches included creating new leadership positions and changing responsibilities of existing positions. For example, the Adams principal reported hiring a second assistant principal so that she could concentrate on instruction. Organizational routines, however, figured more prominently and more consistently across the schools.

While the regulative dimension of the external environment loomed large for school leaders, it did not figure alone. School leaders’ efforts at coupling were not prompted entirely by the regulative dimension. To begin with, school leaders in three schools (Adams, Baxter, Kelly) reported designing organizational routines intended to link administrative practice with the technical core prior to school district probation policy. Further, even at the three schools where there was no threat of probation, school leaders worked to couple administrative practice with aspects of the technical core and with the external environment after the enactment of district probation policy. Finally, at

Kosten, school leaders mostly ignored district and state regulation about instruction until the arrival of Ms. Koh (three years after the introduction of the probation policy). Even then, Ms. Koh struggled to convince her staff to attend to these regulations.

Though less explicit and prominent in school leaders' accounts, the cognitive and normative dimensions of the external environment were also evident. Other agencies in the institutional sector, such as universities, were conduits for ideas about administrative practice. For example, Ms. Koh credited her principal training program at a private university for many of the ideas that underpinned her reform efforts, including the school principal as an instructional leader who takes responsible for setting an instructional vision, monitoring instruction to ensure that vision is realized, and making classroom instruction more transparent.

Building An Administrative Infrastructure: Anchoring Organizational Routines

School leaders, some more than others, had a sense of how various routines fit together to form an infrastructure to support administrative practice. In school leaders' accounts some routines served to anchor others and administrative practice writ large, especially at Baxter and Adams. A Baxter leader noted:

These are things that will eventually go into the school improvement plan. This is what drives the school ... in terms of the 5/8 literacy workgroup ... But Ms. Reyes and I bring, maybe once a month we meet with him [principal], and bring him up to date on what's going on and that's also very important (Interview, 03/06/01).

For Principal Stern, the Faculty Leadership Group and the School Improvement Plan (SIP) routines anchored other routines. He likened the faculty leadership group to the hub

of a wheel and the other organizational routines (e.g., Cycle Meetings) as the spokes that fed into it.

At Adams, the SIP routine also played an anchoring role. An assistant principal remarked, “Everything is tied into the SIP somehow, that’s what gives it credibility in the school” (Interview, 03/22/00). The literacy coordinator noted:

Most of the programs we bring up in the SIP are seeded [by] discussions over lunch and at grade level meetings. For example, we talked about the Four Blocks program a full year before we introduced it into the SIP ... a teacher who reads a lot [of research] presented the basic ideas of the Four Blocks at a Breakfast Club, and there were several Teacher Leader meetings about the Four Blocks program. I know that the program was discussed at grade level meetings. By the time we talked about putting it into the SIP, everyone was on-board (Interview, 04/14/00).

In this account, organizational routines were forums for generating and developing a sense of ownership for ideas, and in turn these ideas seeded the SIP routine.

Structure, Agency and Administrative Practice

Some organizational routines were common across all four schools. For example, all schools implemented the School Improvement Planning routine as mandated for CPS schools by state legislation. At the same time, school leaders designed and implemented organizational routines that were unique to their school. Whereas Adams’s designed the Five Week Assessment in response to state and district regulations, Kosten’s leaders designed Report Card Review, Grade Book Review, and Lesson Plan Review routines. As school leaders made sense of the regulative aspect differently, regulations had

different instantiations in administrative practice in these four schools as leaders exercised agency by designing routines with unique forms.

Still, across the four schools similar ‘logics’ motivated and organized these different routines. In an institutional sector, logics specify legitimate goals and values and appropriate means for attaining them, serving as “organizing principles” that provide guidelines for actors and agencies in practice (Friedland & Alford, 1991, p. 248). The ostensive aspect of the organizational routines that looked quite different in form was guided and motivated by similar logics including curricular *standardization*, using standardized student achievement tests as *measures* of progress, and technical core *transparency*.

In designing organizational routines from the Lesson Plan Review at Kosten to the Five Week Assessment at Adams to the Skill Chart Review at Kelly, school leaders sought to standardize content coverage both within and across grade levels. In these efforts, state and district standards served as ‘legitimate’ benchmarks against which to align school curricula. Even at Baxter, where the standardization goal was modified some to allow for some teacher autonomy with respect to content coverage, there was an explicit press for horizontal and vertical standardization of content coverage. As a Baxter teacher explained, “Today we identified the outcomes and then somebody's going to ... look at the [district] benchmarks book and find out what the benchmark book says about what it is.... [for instance] more specific outcomes we should be teaching” (Interview, 1/25/01).

The ostensive aspect of many of these organizational routines also embedded a *measurement* logic; that is, student achievement as measured by state standardized tests

was viewed as a reliable measure of productivity. Standardized tests results were central in many of these organizational routine design efforts, a trend not unique to schools (Power, 1997; Strathern 1996, 2000). From the Five Week Assessment at Adams to the Literacy and Mathematics Committee at Baxter, student achievement as measured by standardized tests was a key motivator and anchor for organizational routines.

Finally, the logic of making the technical core transparent or public was embedded in the ostensive aspect of these organizational routines even though their forms differed. The ostensive aspect of organizational routines such as the Skill Chart Review at Kelly and the Lesson Plan Review at Kosten was designed to make public the content teachers covered in their classrooms, at least to school leaders. While the logic of transparency focused mostly on content coverage, some routines were also designed to make other dimensions of instruction such as teaching strategies transparent. For example, school leaders at Adams structured the Breakfast Club and Teacher Leader routines to allow teachers to share their teaching strategies with one another.

These institutional logics, standardization, measurement, and technical core transparency, have become increasingly prevalent in policy discourse in the US over the past decade. While the administrative response in terms of organizational routines with unique *forms* across schools capture the agency of school leaders vis-à-vis their external environment, the common underlying institutional *logics* that these routines shared in these schools suggest that school leaders' agency was conditioned by their external environment. While school leaders designed routines that often had forms unique to their school, their design efforts were framed by similar institutional logics, suggesting that the institutional environment structured administrative practice across the four schools.

Organizational Routines: The Performative Aspect

At times, new structures never get implemented in practice, particularly if organizational members adopt them chiefly for legitimacy purposes and see them as undermining technical efficiency goals (Meyer & Rowan, 1977). School leaders' espoused theories for their new designs can also turn out differently in practice. Turning our attention to the performative aspect, we argue that organizational routines were not purely symbolic because in practice they addressed technical efficiency goals with reference to state and district regulation. We support and develop this assertion in two steps. First, we show that both the technical core and government regulation figured prominently in the performance of organizational routines, though some dimensions of the technical core figured more prominently than others, especially language arts and mathematics. Second, we show how efforts to couple the technical core with external regulation in the performance of organizational routines were tied to technical efficiency concerns of setting direction, human development, and organizational development. We also show how school leaders repaired (Feldman, 2000) and edited organizational routines when they thought they were not meeting technical efficiency goals. Finally, focusing on Kosten, we show how transforming administrative practice to support coupling can surface tremendous conflict among school staff.

Administrative Practice, the Technical Core, and Government Regulation

The technical core figured prominently in the performance of organizational routines in all four schools, but some subjects figured more prominently than others,

reflecting in part how state and district regulation prioritized mathematics and language arts. Differences between mathematics and language arts in how organizational routines were implemented, however, suggest that the normative and cultural-cognitive aspects were also at play mediating how school staff enacted organizational routines in response to similar government regulation.

Over 80% of the organizational routines observed in the four schools addressed some aspect of the technical core, ranging from a high of 100% of the routines at Adams to a low of 82% at Kelly (see Table 5). In practice, organizational routines addressed different aspects of the technical core including classroom management, content coverage, teaching strategies, and curricular materials. At a grade level meeting at Baxter, teachers addressed sequencing and standardizing content as well as alignment of curricular materials:

Ms. Sally then switched the topic of discussion to a uniformed spelling program for the grade. She raised the point that it was important for the grade "to be following a sequence for instruction for phonics." Ms. Jones also wants to bring in one of her own favorite books into the curriculum which she claims has a "consistent format which is the most important because the students are missing a range of words." ... Ms. Sally then raised the point that she would be concerned that the grade would not be following the standards of the Illinois State in reference to the [Ms. Jones'] book.

(Field notes, 10/28/99)

Staff at Baxter also discussed teaching strategies in the performance of organizational routines.

Policy, or government regulation, also featured prominently in the performance of organizational routines, ranging from a low of 67% of the organizational routines observed at Baxter to a high of 80% of the routines at Kosten (see Table 5). Some of the attention to policy focused narrowly on test preparation including teaching students test taking skills and administering the state tests. But government regulation in the form of tests and standards were also invoked to address broader issues about the technical core including content coverage, material usage, and teaching strategies. A faculty meeting at Kelly school captures how government regulation was referenced in the performance of organizational routines:

Next, principal Johnson told the teachers that Ms. Ryan was going to go over how to read the ITBS analysis sheets from the 98-99 school year. And after Ms. Ryan was done talking, Shields was going to give a tutorial on Test Question Strategies. Dr. Johnson then gave up the floor to Ms. Ryan by saying "Okay Ms. Ryan..." She told the room that she handed out the Building Level Skills Analysis (BLSA) sheet to all the teachers and another sheet of Student Level Analysis (SLA) to the individual teachers. [After Ms. Ryan had finished] Ms. Ryan sat down and Dr. Johnson stood up again. Reiterating what Ms. Ryan had just said, Dr. Johnson stressed the importance to the teachers of "evaluating these analyses". "We do the curriculum before the test . . . Children have to have exposure to questions before the test . . . You [teachers] must refer to these [waving the analysis she had in her hand]." Dr. Johnson said that, "Some schools don't pass these to their teachers." In general the teachers seemed surprised by this comment. Again, there were "oh's" across the room. In looking at these analyses, Dr. Johnson said, "Our children do

well in the computation part but not as well in reasoning and higher-ordered thinking." (Field notes, 11/05/99)

While part of this faculty meeting was devoted to test taking strategy, as evidenced in the excerpt above, part was also devoted to identifying areas on the state test that students did not do as well on. Dr. Johnson is telling staff that when they consider what content to cover with their students, they need to devote more time to "reasoning and higher order thinking."

While discussions of content coverage based on a rudimentary analysis of student test data for language arts and mathematics were common across the schools, state and district standards were also frequently referenced in such discussions. During a Baxter grade-level meeting, for example, one teacher explained, "It is important for the grade "to be following a sequence for instruction for phonics..." [The assistant principal] then raised the point that she would be concerned that the grade would not be following the standards of the Illinois State Institute in reference to the book" (Field notes, 10/28/99). At this meeting and in others, staff stressed the need to align classroom instruction with district and state standards.

School leaders also referenced state and district regulation in discussions about curricular materials and teaching strategies. At a Breakfast Club meeting at Adams, for example, a school staff member addressed teaching strategies referencing the ISAT:

Teachers should prompt children to relevant background knowledge. A lot of times they [students] don't have the background knowledge so we have to expose it to them... And then they don't make the connection. That's one area where we have to make a conscious effort to dig back and [ask], "Did you ever go on a trip or on a

bus...?” We have to bring out their prior knowledge...prior knowledge is [part of] the ISAT. ...On the ISAT there are expository pieces... ISAT is part of the [focus] that we need... (Field notes, 02/14/01).

In this excerpt, the teacher presenting argues that school staff need to teach in a way that taps into and activates students’ prior knowledge because it is essential for student success on the ISAT. She also argues for using expository selections, justifying the focus with the ISAT.

The subject mattered in the performance of organizational routines and, as one might expect, the referencing of government regulation. Language arts was addressed in the performance of more organizational routines than any other subject, ranging from a high of 62% of the organizational routines observed at Baxter to a low of 24% at Kosten (see Table 5). Mathematics was the second most prominent subject addressed in the performance of the routines, ranging from a high of 36% of the routines observed at Adams and Kelly to a low of less than 10% at Baxter. Other schools subjects figured less prominently. For example, whereas language arts was addressed in 62% of the organizational routines observed at Adams, mathematics and science were addressed in only 36% and 17% of them respectively.

Differences among school subjects reflected how government regulation prioritized language arts and mathematics. At Adams, a school leader explained that teachers address social studies and science primarily through language arts and math, as he noted, “What they’re doing is teaching social studies and science, they’re just teaching that primarily through reading or through writing or whatever, language arts subject. So their focus is primarily on reading, writing and mathematics ...” (Interview, 03/01/00). A

teacher at Kelly explained when asked about teaching science, “all I do is reading and math” (Interview, 06/01/00). During a Kosten staff meeting, when a teacher complained that the state puts forth requirements for social studies, but then tells them to focus on reading and math, Principal Koh responded by saying that they could try to integrate but added, “When I was a teacher, I put more emphasis on reading, and so I'm not saying don't teach the (social studies) concepts, but you may want to cut back on the minutes” (Field notes, 01/30/01). Confirming the focus on math and language arts, a teacher at Baxter noted, “science isn't one of your guides for whether a child is promoted or graduates. So reading and math are what are stressed because those are what everybody looks at” (Interview, 03/31/00). Other staff expressed similar views suggesting that because language arts and mathematics were regulated through tests, they were priorities.

Still, state and district regulation do not account for differences between mathematics and language arts in the performance of organizational routines. Routines that were not designed or intended to focus on a particular school subject were more likely to address language arts than mathematics. Further, in situations where the same organizational routine existed for the two subjects, it was more likely to be performed for language arts rather than mathematics. For example, at Adams there were two Five Week Assessment routines, one for mathematics and one for language arts. Despite school leaders' similar espoused goals with respect to the Five Week Assessment, the routine was performed for language arts every five weeks but was performed less frequently for mathematics. For example, during the 2002-03 school year, while the Five Week Assessment routine was performed for language arts every five weeks, it only happened in math a total of four times.

Similarly, at Baxter the Language Arts Committee and the Mathematics/Science Committee were designed and implemented at the same time and given identical charges by the principal. However, whereas the Language Arts committee met regularly and committee members engaged in extensive data collection efforts about the school program, the Mathematics/Science committee met infrequently with the chair performing most of the work. Further, the practice we observed in the performance of the Language Arts Committee routine differed from the practice observed in the performance of the Mathematics/Science Committee routine (Burch, 2007). The Language Arts committee typically involved a lively discussion as committee members, regardless of whether they had a formally designated leadership position, offered ideas and challenged each other. Committee members with no formally designated leadership position took responsibility for different tasks over the course of the school year. Further, rather than relying exclusively on external programs and experts, committee members conducted their own research on the school's language arts program by administering surveys and conducting classroom observations in order to define problems and intervene to address them. A teacher captured the situation noting that she and her colleagues has been "trying to define for ourselves what is literacy instruction... what does it involve?" (Interview, 4/08/00) The performance of the Mathematics/Science Committee routine looked very different. The chair of the committee, took most of the responsibility for the work. In practice, the Mathematics/ Science committee routine involved much less back and forth among members with the chair typically presenting ideas she gleaned from conferences and books or journals. Other committee members occasionally asked clarifying questions but rarely challenged the direction proposed by the chair. We observed similar

differences between mathematics and literacy in the performance of organizational routines at other schools (Burch, 2007; Sherer, 2007; Spillane, 2006).

Equivalent regulatory initiatives for mathematics and language arts were understood and enacted differently in administrative practice. These differences in practice reflected different norms and cognitive scripts about the technical core by school subject. Specifically, while school staff saw both subjects as focal and critical to their students' success, the norms and scripts that informed and infused their work on the two subjects differed. Whereas school leaders saw their own staff as a primary source of expertise for reforming language arts instruction, the expertise for mathematics was seen as being in materials and programs offered by external providers. At Baxter, principal Stern captured the situation when discussing the selection of materials for language arts,

... the driving proposition of all this stuff is that... it's important for us not only from a staff development and professional development point of view but from the point of view of having a cohesive [program], ... that there be a collective aspect to those choices [textbooks]. That we [school staff] talk consciously about those choices. (Interview, 03/30/00)

With respect to mathematics, principal Johnson at Kelly explained that she sends teachers out of the building to learn new math techniques, noting,

We're trying to [learn more]. We have workshops. We've had mathematical workshops. We've even been part of a University of Chicago. We were part of their program at one time, their math program, where the teachers would go there for workshops and sometimes the instructor would come and do workshops in the building" (Interview, 1/26/01)

School leaders in the four schools expressed similar views. In addition, staff were more likely to see the need for discussion around language arts than mathematics. A 5th grade reading teacher at Kosten stated that, “We [the literacy team] do a long range plan. What we’re going to teach from day one on. We’re always talking – I have a great team. We’re always talking to each other” (Interview, 05/10/00). Also at Kosten, math planning was frequently directed by one person, rather than worked out collaboratively in a group. The principal explained that the second grade team leader “took the math books home, and she’s going to come back and map out the math for the second grade” (Interview, 9/18/00).

These school-level differences in norms and scripts between mathematics and language arts reflected broader patterns in the institutional sector. The institutional sector values school subjects differently (Little 1993; McLaughlin & Talbert, 1993; Siskin, 1990; 1991; 1994; Stodolsky, 1988; 1989). Further, there are epistemological differences between mathematics and language arts in terms of structure, sequence, and desired goals; and the degree to which the subject is defined (Stodolsky and Grossman, 1995). For example, mathematics is perceived as a more highly sequenced domain, more defined and more homogenous than language arts, the latter being composed of a number of disciplines or fields of study. Although external regulation featured prominently in the performance of routines related to mathematics and language arts, it figured differently as it was mediated in practice by the normative and cultural-cognitive aspects of the institutional environment.

Coupling the Technical Core with Government Regulation in Administrative Practice

In the performance of organizational routines, school staff worked at coupling the technical core with state and district regulation to address setting direction, human development, and organizational development. Organizational routines were sites for setting direction including constructing and getting buy-in for instructional visions, defining goals to enable the implementation of these visions, and maintaining the visions. With the exception of Baxter, these instructional visions had a relatively simple and straightforward thrust, that of improving student achievement on standardized tests by ensuring that teachers taught the material covered. School leaders also used organizational routines to address human development: to monitor and evaluate instruction, determine the professional development needs of staff, and support staff development. Organizational routines were also sites for organizational development used by school leaders to increase the transparency of classroom practice, increase interactions among staff about instruction, and develop a sense of collective responsibility for student learning. As state and district regulation was referenced frequently and consistently in these efforts, organizational routines were sites for coupling the technical core with external regulation. We consider each school below.

At Adams, setting and maintaining direction, human development, and organizational development figured prominently in the performance of routines from the Five Week Assessment to the Literacy Committee. Consider the performance of the Five-Week Assessment routine *for language arts* as it illustrates how school leaders worked at coupling the technical core with state and district regulation to address macro functions. Reversed engineered from state student assessment instruments, the Five Week Assessment routine was designed to be responsive to and not distinctive from state

assessments with respect to content coverage for language arts and mathematics. In practice, school leaders used the data generated by the Five Week Assessment for language arts to monitor what skills students had mastered, to identify weaknesses in instruction and plan interventions to address these, and to focus professional development for staff. Consider the following meeting the literacy coordinator convened with second grade teachers to discuss the data generated from the writing assessment results:

I noticed in the papers, [the second graders] are struggling a little bit . . . on this one paragraph expository task. They're writing... so we really don't want to stunt them. I would rather push them along. Plus, these third graders are struggling. They're struggling because they're trying to [write a] five-paragraph paper . . . they also have to answer open-ended responses and the teachers are only getting one or two sentences out of them. We're in the second half of the school year, and I think the second graders are ready to be pushed a little more. (Field notes, 02/04/02)

In this meeting, the literacy coordinator used the data generated by the Five Week Assessment to encourage teachers to push their students' development in writing.

School leaders also used the Five Week Assessment to address organizational development, using the students' results generated by the routine to focus interactions among staff on teaching and learning. Consider how data from the Five Week Assessment routine focused one Literacy Committee Meeting. The literacy coordinator says,

First I would like to say congratulations to grade levels—all grade levels made some improvements from the five-week assessments to the ten-week assessment

which is a reflection of your time and commitment to getting students to learn ...

Third through fifth [grade students need to work on their] abilities to write descriptive words... Probably lacking in vocabulary, ability to pick out details from the story. They [students] did a good job identifying the problem and solution of the story.

Which leads me to middle school. Problem and solution didn't always match ...this is truly a concern... [students had a] little trouble determining the important information in the story. Questions most missed were vocabulary questions ... I have a packet with lessons on teaching vocabulary. I'll pass it around and if you want me to make you a copy, put your name on the green sticky note. (Field Notes, 11/06/00)

In this excerpt, the literacy coordinator uses data from the five-week assessment to praise teachers and to draw their attention to areas where students are not doing well. Further, she uses the results as an opportunity to introduce some new lessons for teaching vocabulary. Some aspect of the Five Week Assessment routine framed and focused discussions in 63% of the routines we observed related to language arts. School leaders used data from the routine to frame the conversations, and school staff discussed strategies and plans for the upcoming focus of the routine. School leaders also used data from the routine to identify articles for Breakfast Clubs.

Overall at Adams, 72% of the routines we observed involved attention to *both* the technical core and to state and district regulation. Further, 66%, of the organizational routines addressed setting and maintaining direction for instruction, 76% addressed human development, and 78 % addressed organizational development (See Table 6).

Especially striking at Adams was the manner in which school leaders repaired organizational routines such as the Five Week Assessment when district and state regulation changed and when they believed the routine was not meeting their technical goals (Sherer & Spillane, in press). The principal explained,

When we first started our Five Week Assessment Program, it was a good idea. But what we didn't (do) was (plan) follow-up conferences with the teachers. So the teachers would give the test, get the results and put them down. And... there was no interaction after that. The first year... there was no difference (in scores). As we looked at what we did, we finally came to the conclusion— what was missing was we didn't find time for the teachers to talk about the results of the Five Week Assessment (Interview, 03/01/00).

In Fall 2001 school leaders at Adams redesigned aspects of the Five Week Assessment routine again because student achievement was falling and the state was shifting to a new assessment instrument, the Illinois Standard Achievement Test (ISAT), a test that measured higher order skills as compared with the ITBS. The routine was repaired to be responsive to the material covered in the new state test.

The situation was similar at both Kelly and Baxter. At Kelly, school leaders used organizational routines in practice to set and maintain direction and to develop staff and the organizational infrastructure. For example, at a professional development session the principal insisted that teachers pay attention to the Skill Chart Review routine:

I noticed that the skill charts are not being filled out diligently enough.... We can't get lax on this.... If you have a lot of children not getting their skills, you need to re-teach. If a lot of your children are not getting the material, it is not the children.

It is something to do with the way you taught it. ... People make excuses. But that does not hold up because we can take the same child in two different classes, and they can do well in one and have trouble in the other (Field notes, 11/10/00).

In this excerpt, the principal underscores the importance of the Skill Chart Review routine, reminding teachers that blaming children for low achievement is not acceptable; the opportunities that teachers create for children to learn in the classroom are critical. Transforming low expectations on the part of teachers for what their students can do academically was, in the principal's view, an essential part of maintaining a direction for improving instruction. Consider another excerpt from the regular professional development meetings with Dr. Johnson noting:

"You [teachers] must refer to these" [referring to the test score analysis she had in her hand]. "In looking at these analyses," [Principal] Johnson said, "our children do well in the computation part but not as well in reasoning and higher-ordered thinking." She went on to say how it is well known that many older children, particularly in high school, perform well below the level where they should be. She said, "If our children aren't doing well in high school, it's our fault because they weren't taught in elementary school ... " (Field notes, 11/05/99).

In this excerpt, Dr. Johnson connects standardized test scores to classroom teaching by arguing that what is critical is what children get taught in the classroom.

Overall, the technical core and state and district regulation were addressed together in 73% of the routines we observed at Kelly (See Table 6). Further, 64% of the organizational routines at Kelly addressed setting and maintaining direction, 82% addressed human development, and 73% addressed organizational development.

At Baxter, school leaders used the information generated from their longitudinal analysis of student achievement data in organizational routines including Leadership Team Meetings, Cycle Meetings, Curriculum Committee Meetings and School Improvement Planning to help define problems and develop an instructional vision. In addition to developing knowledge to define problems and set direction, organizational routines were also used to give teachers input into the school's vision and goals for instruction. Organizational routines were one means through which decisions were reached about what direction the school should pursue and what goals would help attain that direction. A Baxter teacher explained, "... you have to put in the time discussing it, planning for it and just plain examining what you've been doing, what you want to do, how you want to change it, what's expected as far as Board of Ed curriculum, state goals and all that" (Interview, 11/18/99). Again, as evidenced in this teacher's words, state and district regulation was central to these efforts.

At Baxter, organizational routines were a key mechanism for generating information and knowledge about instruction that was critical to defining problems, making decisions and setting direction. In addition to the trend analysis of standardized test scores, the Literacy Committee used teacher surveys and teacher interview and observation data to generate knowledge about teachers' practice and their needs with respect to literacy teaching. The Literacy Committee analyzed these data for cross-grade and grade-level patterns, generating reports that showed how teachers after grade two or three did not identify themselves as teachers of reading. As one leader shared, "It was like they teach that (reading) in first or second grade, and now I'm teaching my subject, my content area" (Interview, 11/16/99).

School leaders used organizational routines to transform staff norms, facilitate interactions among teachers, and to anchor these interactions in the technical core. A Baxter teacher captured the shift recalling how things were in the past:

You close your door. You do what you want. You don't know what everybody else is doing and it's fine. Nobody is interested. Nobody's checking on you or even interested in what you are doing ... but it changed since then. We work much closer together and I was a very quiet person. ... until I was probably elected to ... chair cycle. First of all, we probably were forced to do some exchange of ideas in - when it first started. Then people found it's very helpful and nobody keeping anything as a secret so we share freely. And it helps ...” (Interview, 4/10/00).

In this teachers’ account, new organizational routines ‘forced’ teachers to interact with one another, changing day-to-day practice at the school level at Baxter: Over time, this change in practice convinced teachers of the value of sharing ideas with one another transforming the norm of classroom privacy that had dominated in the past.

Organizational routines, from Cycle Meetings to Literacy meetings, enabled school staff to interact with one another about teaching, transforming a norm of classroom privacy to one of transparency and collaboration. Organizational routines enabled new forms of practice that in turn enacted new organizational norms.

Overall at Baxter, 38% of the organizational routines we observed addressed setting and maintaining direction, 52% addressed human development, and 95% addressed some aspect of organizational development. Further, 67% of the observed routines involved attention to both the technical core and to state and district regulation (Table 6).

The situation was somewhat different at Kosten. Specifically, 33% of the organizational routines we observed addressed direction setting, and only 11% focused on human development. At the same time, of the 56 organizational routines observed, 100% addressed some aspect of organizational development. Further, the technical core together with state and district regulation figured together in the performance of over 70% of these routines (Table 6). The attention to organizational development in part reflects the principal's contested attempts to transform administrative practice. We turn our attention to this struggle next.

The Struggle To Transform Administrative Practice: The Case of Kosten

Retrospective accounts told in more settled times often gloss over the conflict involved in efforts to transform practice in organizations. While interviews with staff at Baxter, Adams, and Kelly suggested these conflicts, they surfaced in the performance of organizational routines at Kosten. Ms. Koh took the principalship at Kosten three months after our study began and set about transforming administrative practice to couple it with both external regulation and with the technical core. Examining the performance of organizational routines, we captured the struggle involved in transforming administrative practice as the interactions among staff surfaced conflict with respect to direction setting and the school re-organization. Such conflict is not surprising considering that Ms. Koh's reform efforts at Kosten, if implemented, would fundamentally change administrative practice and organizational norms in a school where teachers were used to closing their classroom doors and doing their own thing. As one teacher remembered fondly, the last long-term principal, Mr. West, buffered teachers from external interference. "When I first

started in 1991 [the principal] was very, very laid back, and we had a lot of creative teachers in this school and you pretty much were able to do what you needed to do and use your creativity and kind of go with your own flow more or less” (Interview, 11/15/99). Another teacher agreed noting, “[Mr. West] hired good people who he let do their jobs. And his assistant principal was a strong woman but she was the same way, she let people do their jobs” (Interview, 05/12/99). Ms. Koh was intent on changing these arrangements by standardizing the instructional program and making the technical core more transparent and more responsive to state and district regulation.

A key challenge for Ms. Koh in setting a new direction and getting staff behind it involved defining a problem with the current practice. As school leaders and teachers jointly enacted organizational routines, Ms. Koh’s efforts to set a new direction surfaced disagreement and conflict. Consider the following excerpt from a faculty meeting:

Ms. Koh began, “Kosten is a good school. The former administration did a good job, but we can’t take it for granted. Society is changing.” She continued, “We are putting those preventative resources in place. Why should we wait for a disaster?” Then she told the teachers, “You’ve got to have higher expectations, because [the students] are going to be taking care of you someday.” However, a teacher quickly interjected, “But our [student test] scores are going up.” Ms. Koh responded, “But our students are changing, and we want to insure that everyone is going up.” But then another teacher responded with a different interpretation: “We’re getting more and more kids now with problems at home. There’s no discipline in the household, and I can model things here, but if they don’t get it at home...”

In this excerpt, Ms. Koh attempted to convince teachers that there was a problem and that staff expectations for students' academic ability was one cause of this problem.

Marshalling test score data, a teacher challenged Ms. Koh's claim that there was a problem with achievement. Another teacher challenged Ms. Koh's problem definition, arguing that a changing student population rather than teacher expectations was the reason for any problems with student achievement. Where Ms. Koh saw a problem, some veteran staff did not, and others publicly and privately contested her construction of the problem.

Using organizational routines from faculty meetings to grade level meetings, Ms. Koh persisted in her efforts to change administrative practice so that it was responsive to state and district regulation and centered on the technical core. Consider an excerpt from a second grade level meeting:

Ms. Koh tells them the school needs to do something to improve reading, because their scores are down "1.3" on the Iowa (ITBS) tests. In contrast, the reading scores at the other neighborhood school [Baxter] are at 70, "I have to go over there." Ms. Brown—"I'll go with you," and "They must be teaching to the test" because the two schools are "servicing the same population." (Field notes).

Arguing that student achievement in reading needed improvement and by pointing to a neighboring school with similar demographics, Ms. Koh claims that the locus of the problem is in the school's instructional program. However, a teacher challenges her definition of the problem by suggesting a different interpretation for the higher test scores.

Ms. Koh persisted in implementing organizational routines designed to transform administrative practice so as to respond to state and district regulations and to establish a new instructional direction at Kosten. Some teachers continued to challenge these efforts. At another faculty meeting where a teacher shared, at Ms. Koh's request, what she learned at a workshop on the district's "structured curriculum," teachers openly challenged the appropriateness of the curriculum for Kosten. A teacher who attended the workshop noted, "It's not mandated except for schools that are on probation." Attempts by Ms. Koh to define a problem with classroom instruction using student achievement data resulting from teachers' low academic expectations for students and their inattention to district and state regulation, surfaced conflict among staff as they jointly performed organizational routines.

This juxtaposition of teachers' accounts of the former administration's hands-off approach with respect to instruction—which preserved a norm of classroom privacy—with the performance of organizational routines under Ms. Koh gives a sense of the magnitude of the change Ms. Koh was attempting to implement. Consider the following field note excerpt on the Morning Rounds routine:

Ms. Koh opens the door to a classroom and the students are scurrying around their desks. The noise rises, and Ms. Koh asks the teacher, "Why are they running?" The teacher responds, "They're running to get their books." Ms. Koh says, "That's unacceptable," and makes the students settle down, telling them, "Show me your learning position." Once the students are sitting quietly, Ms. Koh instructs them, "Stand up, get what you need for science, and put your book bags away. You have five seconds. Five... Four... Three... Two... One..." The students move quickly but

quietly and return to their seats. Then she walks around the room checking their homework and telling them, “Raise your hand before you speak.” When the students settle down, Ms. Koh says, “OK, we are ready for learning.” (Field notes)

For veteran teachers used to working under different norms and institutional logics, these changes in administrative practice represented a dramatic shift. Many teachers wrote complaint letters about Ms. Koh that one veteran teacher compiled and sent to the school district office, prompting an investigation of Ms. Koh. Ms. Koh survived the investigation and continues as principal at Kosten, but conflict persisted throughout the course of our study. This case captures the difficulty of implementing new routines designed to change existing practice.

Discussion and Conclusion

Our account documents how school leaders faced with a changing external environment, work to couple school administrative practice both with the regulative aspect of the external environment and with the technical core by designing and redesigning organizational routines. In practice organizational routines were not purely symbolic; these routines addressed technical efficiency concerns often responding directly to state and district regulation. School leaders’ efforts at coupling were *selective*, focusing extensively, though not exclusively, on government regulation and on some school subjects more than others. By design, organizational routines were more likely to address language arts and to a lesser extent mathematics than other subjects, reflecting the priorities of government regulation. However, differences between mathematics and language arts in the performance of organizational routines suggest that the normative

and cultural-cognitive aspects of the institutional environment mediated how school staff performed these organizational routines.

While school staff exercised agency in responding to government regulation by designing organizational routines that were often unique in form, their agency was conditioned; even organizational routines with distinctly different forms by school were guided and motivated by similar institutional logics including curricular *standardization*, using standardized student achievement tests as *measures* of progress, and technical core *transparency*. Our account also suggests the normative and cognitive aspects of the external environment may influence school staff, through professional preparation and venues such as professional development programs, even in advance of particular changes in the regulative aspect (Scott, et al., 2000).

Many accounts of school reform center on changing school norms. Our account focuses on changing administrative practice in schools and suggests that such change may be critical in enabling the transformation of school norms. Further, we show how the design and implementation of organizational routines are a key mechanism in forging change in administrative practice. Based on our analysis, we hypothesize that changes in school norms are forged, at least in part, through transforming school administrative practice and that organizational routines are a key mechanism in this work. Staff at Adams, for example, credited the performance of the Five Week Assessment routine with developing a norm of data based decision-making and the Breakfast Club with developing a norm of collaboration about instruction among staff. Administrative practice as jointly performed in the interactions among school staff, enacts school norms. While the values and beliefs pressed by school leaders through the design and

implementation of organizational routines may be more or less challenged at the outset, over time through the ongoing performance of organizational routines some of these beliefs and values become established as appropriate ways of interacting. We hypothesize that through changing administrative practice school norms can change overtime. Normative changes brought about by transforming administrative practice and the design and implementation of organizational routines is a key mechanism for transforming that practice. In some respects, then, norms follow practice.

For policymakers, school reformers, and school practitioners, our account shows how organizational routines can be a mechanism for leveraging change in schools. For school leaders in our study, the (re)design and implementation of organizational routines was central in their efforts of to transform business as usual in their schools. They used organizational routines, often designed in-house, to transform administrative practice; to couple that practice with some aspects of the technical core and to make it more responsive to, and less distinctive from, district and state regulation about instruction. For policy-makers and school reformers, then, figuring out how to build on school leaders' familiarity with designing and implementing organizational routines so as to support reform is one challenge. How might reformers support school leaders in designing and implementing organizational routines?

A second issue concerns reforming schools through the introduction of new organizational routines by external agencies, a key approach, for example, in many Comprehensive School Reform models (Resnick & Spillane, 2006). Here a critical challenge concerns balancing the designs

One line of thinking with respect to the introduction of organizational routines from outside schools suggests that organizational routines that have well-specified and well-developed scripts (ostensive aspects) are more likely to succeed in schools as these scripts enable participants' implementation of the routine. If some of the ostensive aspect of organizational routines is worked out in their performance, then a key challenge in the external design of organizational routines involves balancing specification of the ostensive to allow for some local improvisation as the routine is performed in particular places over time. Though tempting to conclude that organizational routines more often than not originate from relatively well-specified and well-developed plans (the ostensive aspect), based on the retrospective accounts of school leaders our analysis suggests that the particulars of at least some of these organizational routines were worked out – specified and developed - in and through their performance, in practice. Organizational routines are created “through repetition and recognition” (Feldman & Pentland, 2003, p. 108). Hence, while some organizational routines may be more specified and well developed than others at the onset of the design stage, our analysis also suggests that some of the design particulars are worked out in the performance of these routines. Indeed, part of what may get organizational routines successfully institutionalized in schools is the fact that many of the particulars are worked out in performance by school staff themselves.

Organizational routines offer a particular way of thinking about school reform in that the development of practice (i.e., administrative practice) is the central focus as distinct from a central focus on developing the knowledge of one or more school leader. Further, rather than equating administrative practice with the actions of one or more

formally designated school leader (e.g., principal), a focus on organizational routines views practice as defined in the interactions among school staff. Hence, developing practice is not simply about developing the actions of individuals - it has to get to interactions. Organizational routines are one means of getting to interactions.

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Appendix A: Methodological Appendix

Table 1. School Demographics

School	Student Enrollment	Low Income	Black	White	Hispanic	Asian	Limited English
Adams	1,021	97%	100%	0%	0%	0%	0%
Baxter	1,127	66	7	47	22	24	38
Kelly	261	90	100	0	0	0	0
Kosten	1,569	73	8	40	19	34	48

Table 2. Data Collection/Analysis

School	Staff Interviews	Meetings/ Organizational Routine Observations
Adams	93	39
Baxter	48	25
Kelly	16	11
Kosten	62	56

Table 3. Codes used for closed-coding of interview transcripts.

Code	Description	Example
Organizational Routines	Included any mention of organizational routines, purpose(s) of organizational routines, how the routine is enacted, how/if it is expected to bring about change or improvement. This included everything from assemblies, grade level meetings, school improvement planning, literacy committee, and so on. They also include informal routines such as a group of teachers meeting between classes or every Tuesday morning.	“And those team members will go to the meetings that have been set by their team... And sometimes [the principal] set the date as to when they're going to meet. And they took a look - take a look at the overall picture as to where we are, what's working and what's not working. You follow your School Improvement Plan. That's your guide. Your goal map. And so those meetings are important to take a look at what's not working and find out what do they need to get things working. (Adams Leader Interview, 01/09/02)
Roles and Responsibilities	Included anything a person says about his/her role and responsibilities, the roles and responsibilities of other individuals and/or collectives/groups in the school, and any discussion of efforts/goals at the school in terms of bringing about improvement/change.	“Last year I took more of a backseat approach and I was just a member of committees....As a reading specialist, you belong to the school or why get the degree? ...I just started thinking about that and I just decided the person is right. ...I took it upon myself to create a reading team, to become the reading team leader and to hit this stuff head on. And it was just a decision I made.” (Kosten Teacher Interview, 10/27/00)
Personal biography	Included information about the interviewee, including personal beliefs, values, motivations, a person's background, likes and dislikes, where the person is in his/her life stage or career stage, AND any references the person might make to others' (colleagues') backgrounds/ biographies.	“I wanted to be teacher because I was always getting some little group together, so it started out very young. And I really can't say I had any role models because I think I was the first college graduate in my family, so it wasn't that type of thing. That was just something I decided: I wanted to be a teacher.” (Kelly Leader Interview, 11/17/99)
Human Capital	Included references to the knowledge, skills, and expertise of individuals in the organization that might become part of the stock of resources available in an organization to help it accomplish its goals and help it improve. This code included any mention of human capital (knowledge, skill, expertise, etc.) and efforts to develop it.	“The math program was being rewritten to be a comprehensive math program that could stand alone. It started with 1st and 2 nd (grades) and then they went back to kindergarten and then added on 3rd and then another year. So they would be field testing for a year while they're writing the next grade level at the same time. So it was real rigorous. ...Now it goes all the way up to the 5th grade, and even as late as last year there were teachers who were going off [campus] for a full day during the school year ...for their training. UIC people were coming out or ... (teachers) were going down there. ...in 6 th , 7th and 8 th [grade] we are using something else.” (Baxter Teacher Interview, 11/18/99)
Social Capital	Included the relations among individuals in the organization <i>and</i> relations between individuals in the organization and those outside it. Specifically, social capital refers to networks or ties of individuals in an organization to one another (in the school) and to individuals and agencies beyond the schoolhouse. Second, social capital refers to the nature or quality of these ties or relations.	“She and I really enjoyed co-modeling together. ...for example, she was concerned that her kids weren't comfortable with a certain format of writing expository text. She had modeled it for them and then she said, "You know, I'd really like for you to come in and model it too so they can see the different styles." ...I tend to be a bit more visual than she is and...she'll be able to give lots and lots and lots of examples from history, just, ...incredible background of knowledge... I'm able to sort of frame it more visually ...for kids which she's commented on that she wishes she were more visual. So we're kind of a good pair that way.” (Baxter Teacher Interview, 4/08/00)

Table 4. Codes used for closed-coding of meeting field notes and video transcripts

Technical Core	
Code	Example
Content/ Topic coverage	S then reviewed the information from Monday's grade level meeting which consisted of a conversation on Literature Sequencing. The conversation focused on student outcomes and methods to make the literature "go best" for the kids. (Baxter, 2 nd Grade Team meeting, 10/28/99)
Teaching Strategy	Ms. Brown is standing, holding different geometric shapes, all three dimensional, yellow, approximately 3-5 inches in height. She is talking about what students can do with these shapes: "They can build with these shapes... "Or bring in examples of these shapes... "Or they can graph the shapes..." (Adams, math meeting, 1/18/01)
Grouping students	Talking about the groupings in the kindergarten classroom again, Ms. F__ said: "The children always move. . .they never stay in the same group all year long. . .after our assessment we move them as necessary. We just had two children from our lower group move into our middle group." (Kelly, Staff Meeting, 02/04/00)
Assessing students	Ms. R__ stood up to speak. She told the room that she handed out the Building Level Skills Analysis (BSA) sheet to all the teachers . . ."To be in the 50th percentile, students had to have scored correctly on 60% of the 36 items tested," said R. She had the room look at Test Level 9 on the BSA sheet. R said "If you notice, most of the scores for Kelly are above the national average." She went on to say how impressive the scores were because the scores include the results of "our special education kids." Most everyone in the room seemed to be genuinely impressed with this as there were some "O wow's" spoken aloud across the room. Next, Ms. R drew the rooms attention to the SLA sheet. Now what this sheet does is compares the individual students' scores to that of the room." "It has the individual student's name on it, and that student's scores on each section compared to the rest of the students . . . It is an important instrument for you to use to key it in where students need help." (Kelly, Staff meeting, 11/05/99)
Curricular materials	M said that she wanted to have texts with bigger print. D redirected M's focus by saying that "if you want new books you have to bring in your own." M also raised the point that none of her exercise books worked in conjunction with specific books she was reading in class and stated that "I would rather have connected books." (Baxter, 1-2 Cycle meeting, 10/10/00)
Teaching test material/test prep	You don't get enough time to do the fun stuff because you always have to get them ready for the test. Especially 1st grade, I'm trying to get them ready to take the test for the first time. There's not enough time (Kelly, Staff meeting, 02/11/00)
Classroom management/ discipline	Then DB moves to the issue of a particular student who is going through the halls unsupervised, needs to be accounted for, "he could be in the bathroom ripping the urinals out..." Then KD says, leaning forward "This is really, this is hard for me, but I'm really thinking he's crazy for attention, and everyday we're giving it to him," recently in the form of discipline, and none of it is working. DB says, though she has not taught him, she has observed him, and "There has to be some plan," written down, plan to address situation, "even if it is a two line note" a day, and Ms. Koh suggests "a calendar even, if you just write some sort of account a day." (Kosten, 6 th Grade Team Meeting, 02/07/01)
Student work/learning	"Someone just needs to light him up, light a fire under him" because he's smart, smart enough that he fakes assignments without doing any real work. K--"He's done everything and done extra credit for me" so she gave him an A. J--"He's got an F from me, a 49 average." B--"How can he get an F from you and an A from you?" K (shrugs) "he likes me and he likes my stuff. They all react to us differently." (Kosten, 5 th Grade Team Meeting, 03/27/00)

Policy	
Code	Example
District, State, Federal Regulation	She raised the point that it was important for the grade "to be following a sequence for instruction for phonics." J also wants to bring in one of her own favorite books in the curriculum which she claims has a "consistent format which is the most important because the students are missing a range of words." D then raised the point that she would be concerned that the grade would not be following the standards of the Illinois State Institute in reference to the book. (Baxter, 2 nd Grade Team meeting, 10/28/99)
Standards	In regards to the section entitled "Let's Ask the Hard Questions", and more specifically the line that asks if the SIP "addresses the recognizable strengths and weaknesses", [the principal] said: "It [the SIP] must be aligned with the state standards and goals." (Kelly, staff meeting, 01/28/00)
Tests	We take the ISAT. They have to read a little piece; they have to figure out what is this saying. It's so important for them to learn to read and think this way. (Adams, Breakfast Club meeting, 02/14/01)

Appendix B. Sample Interview Protocol

[This is an abbreviated form of the interview protocol focusing mainly on the questions.]

DLS Research Protocol Document—Fall 2000

A. Macro-functions and micro-tasks

A1. Macro-functions and micro-tasks: General

1. What are the schools' goals (macro function) (i.e. the implementation of everyday math in K-5)?
2. What problems/issues do leaders hope to address through these functions?
3. How was this problem defined?
4. Why they are working on this particular function?
5. What are the micro-tasks associated with the broader goal(s) (i.e. weekly meetings of a planning team around the implementation, etc.)?
6. Why are they doing different micro tasks?
7. How do school leaders see each micro task [note what they identify] helping them accomplish their identified goals?
8. How do TEACHERS understand these micro tasks and evaluate their influence on their practice?
9. Who is involved in the enactment/execution of each micro task and how are they involved? (i.e. principal, assistant principal, math coordinator, etc.)?
10. What are the roles of each player in the execution of each micro task?
11. What sorts of expertise/skills do different players bring to the enactment and execution of these tasks?
12. How do the skills/expertise of different players parallel, complement, or undermine one another?
13. What tools/resources do these actors use to complete the micro-tasks?
14. Why do leaders use a particular tool?
15. How did they find out about and get access to this tool?
16. How do they think the tool helps and/or hinders the execution of the micro task?

A2. Macro-functions and micro-tasks: Leaders' thinking about their work

Pay attention to how leaders talk and about:

1. Teachers [e.g., Do they talk mainly about teachers resisting change? Is their talk positive or negative? Do they see teachers as co-decision-makers or folks that they direct and tell what to do?]
2. Teacher change [How do leaders talk about teachers' changing their practices?]
3. Teacher learning

And how they treat teachers:

1. What roles do they assign teachers? [e.g., Are teachers chiefly treated as listeners? Or, are teachers treated as a source of expertise?]

B. Subject Matter as Context

1. In what ways are you hoping to change mathematics teaching by pressing on [what leader mentioned last time, e.g. building problem-solving capacities]
 - 1a. Why do you think it is important to change mathematics in this particular way?
 - 1b. What would you take as evidence that you have achieved your goals and why?
2. Can you tell me more about the ways in which you individually AND/OR IN collaboration with others have tried to initiate or build momentum into these changes?.
 - Probed for Question #2
 - What kinds of professional development have you organized
 - Who has led this professional development
 - how involved faculty in initiating/executing changes
 - Other tools that have proved useful in the process, (e.g., state guidelines)
 - Other things that you and others have tried to do that we have not discussed so far
3. Why is XXX [Used language used by interviewee, e.g. a hands-on approach in math] so valuable or important for students?
4. Does this [e.g. what you are trying to do in math] represent any big changes (in teaching, in the curriculum, in what is currently being emphasized in math classes)? Explain.
5. Do most people in this school agree about this? If no, what are some of the issues? What do you think?
6. What else does the school need to do as a community to realize these goals?
7. Is this a challenge for teachers to start doing this more? Why -- what makes it challenging? Why not?
8. What do you think are some of the explanations for why (some. many) teachers are not [or are] doing a lot of this in their classrooms?
9. How would you get them to change?
10. How if at all have your leadership strategies for making changes in math or literacy varied?
11. What similarities and/or differences do you see in faculty response to math/literacy initiatives?
12. What is your sense of what has contributed to the differences [or lack thereof] [If they come up blank, probe e.g. district press, more teacher expertise, more external support]

Repeat questions for literacy and science.

C. Authority and Influence: The “Why” of Leadership

1. Overall, how do you think the meeting went today? WHY do you feel that way? Is there anything you would like to have changed about the meeting? WHY do you feel that way?
2. Was there anything in particular someone said or did at the meeting that you thought was very important? WHY do you feel that way? Apart from what they said, what do you think about their style of presentation? How they went about saying it? (Insert examples—“I noticed he was very animated.” or “he seemed very relaxed. . .”)
3. Are there any other things about the meeting you think were very important? WHY do you feel that way? Apart from what was said, what do you think about the style of presentation? How it was stated?

D. Construction of Clients

Specific questions for teacher and/or leader interviews

1. Ask about professional background, specifically their educational history, their relevant family background, if they went to school locally or some place else, what type of schools they went to, and how did they decide on a career in education?
2. Once you have identified the major curricular initiatives they are working on in the school ask:
 - a. How does this initiative address the needs of the students in this school?
 - b. Would you have a different approach if you were at a different school?
 - c. Teaching different students? Why?
 - d. What are your students’ strengths? Weaknesses? How do you know that this a strength/ weakness? Why do you think your students do well/ have trouble in this area? Have you changed your teaching to respond to these strengths? Weaknesses? In what way? What has been the result?
 - e. Do your students do well/have challenges in particular subject areas? What are these? Why do you think they occur?
 - f. If I asked you to grade your students (on average), what letter grade would they get for academics? (A+ to E)? For behavior? (same scale)
 - g. Have you seen any differences in how different groups of students do in reading, math or science?
 - h. Have you seen any differences in the behavior of different groups of students?
 - i. What percentage of your students do you think will graduate from high school? From college? Get a graduate or professional degree?
 - j. Who do you think is responsible for making sure students work to their ability in the classroom? [if the have trouble responding, prompt: Teachers? Students? Parents? What is the relative responsibility of each of these people? *[listen for people (or groups of people) and ask about each]*
 - k. Given the right amount of effort on the part of your students, do you think all of your students can learn & master challenging material? Why or why not?
 - l. Do you think that the choices you make in your classroom as a teacher can have an impact on your students’ outcomes? Why or why not?

Tables

Table 5. Organizational Routine Topic, by school

	Adams	Baxter	Kelly	Kosten
Percent of organizational routines addressing ...				
Technical Core	100%	88%	82%	93%
Language Arts	62	62	46	24
Math	36	10	36	17
Science	17	10	9	7
Policy/Government Regulation	72	67	73	80

Table 6. Organizational Routine Topic, by school

	Adams	Baxter	Kelly	Kosten
Percent of organizational routines addressing ...				
Technical Core AND Government Regulation	72%	67%	73%	73%
Human Development	76	52	82	11
Setting and Maintaining Direction	66	38	64	33
Organizational Development	78	95	73	100