Exploring the promise of continuous improvement strategies within the bureaucratic structure of American high schools

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The National Center for Scaling Up Effective Schools (NCSU) is a national research center and development center that focuses on identifying the combination of essential components and the programs, practices, processes and policies that make some high schools in large urban districts particularly effective with low income students, minority students and English Language Learners. NCSU and this research are funded by the Institute of Education Sciences (R305C10023). The opinions expressed in this article are those of the authors and do not necessarily represent the views of the sponsor.

Abstract

This paper explores the implementation of school-wide academic and social emotional reforms in two large, urban districts in Florida and Texas. Using a collaborative improvement approach, the National Center on Scaling Up Effective Schools developed and implemented reforms in three high schools in each district and scaled the reforms to additional high schools. Using the frame of rational and organic forms of management, this study explores how continuous improvement leverages both bureaucratic and collaborative approaches to implementation. The study finds that both districts embraced the process of improvement. Differences in rational and organic forms of management across the two districts, however, had implications for the level of initial implementation and sustainability of the innovation in the following school year.

Fifty years of studies on policy implementation document the numerous challenges in fidelity and integrity of educational policies and reforms. Early research identified the complexity of policy implementation including unclear policy goals and wide variation on the part of implementers (Pressman & Wildavsky, 1973). Subsequent studies have accounted for the context and conditions that shape the nature, variation and depth of implementation, including the will and capacity of implementers (McLaughlin, 1990), the nature of work and clientele (Lipsky, 1980), and the values, beliefs and prior knowledge of implementers (Spillane, Reiser & Reimer, 2002). There is widespread agreement that implementation is a complex endeavor of adaptation between implementers, the context of implementation, and the reform itself (Honig, 2003).

Recently, efforts have turned to an approach to implementation that directly accounts for this complexity. Continuous improvement (CI) in the context of education shifts conventional ideas about implementation from a focus on fidelity, with its focus on how clearly the reform matches policy goals, to one of integrity where local variation is expected and encouraged to meet the ideas of the policy (Cohen-Vogel et al, 2016, LeMahieu, 2011; Langley, 2009). The approach emphasizes the importance of implementers adapting the reform through an iterative process of structured and intentional evidence-based practices in which implementers mutually adapt the reform to meet their needs as well as those of the local context (Bryk, 2009; Cohen-Vogel et al, 2015; Cohen-Vogel et al, 2016). Through this process of co-construction of reform, stakeholders draw from site knowledge to build capacity in implementation. This approach is gaining in interest and popularity with the US Department of Education (https://sites.ed.gov/oii/2014/02/i3-validation-grant-fosters-continuous-learning-in-

education-organization-going-to-scale/), the Bill and Melinda Gates Foundation (Washington Post, 2017) and organizations such as the Collaborative for Academic, Social and Emotion Learning (https://drc.casel.org) including CI as central to their models of improvement.

Despite the intuitive logic of continuous improvement and the growing interest in the field of education to this approach, little is known about the enactment of CI in the organizational context of districts and schools. In particular, studies have not examined the ways in which the strategy is negotiated by district and school leaders and teachers in a design and improvement process. When leaders and teachers collaborate on reform designs and use continuous improvement strategies in implementation, they have the opportunity to adapt the reform to their local environment, something advocated for in both the implementation (Honig, 2006) and reform research (Desimone, 2002; Rowan & Miller, 2007). Yet the process of adaptation occurs within a complex organizational context. Districts and schools are characterized by administrative demands, oversight, and bureaucratic practices, as well as collaboration, partnership, and learning communities. Stakeholders involved in a continuous improvement process of reform must negotiate these multiple features of schools. Ideally, implementation using continuous improvement engages stakeholders in the decision making and iteration, thus circumventing pitfalls found in more traditional top-down implementation. Yet this process of discussion and compromise has the potential to be contentious with the formal school structure as stakeholders negotiate reform demands with the different regulations, priorities, and power dynamics of the district and school contexts. We know of no studies that have explored this tension in the context of continuous improvement.

Here, we draw from studies of organizational theory and particularly ideas about rational and organic forms of management (Burns & Stalker, 1961; Miller & Rowan, 2006) to understand how district and school administrators and teachers from two large urban districts leverage and negotiate continuous improvement in the larger district and school organization. Organizational theorists have long identified districts and schools as having both rational and organic features (Burns & Stalker, 1968; Etzioni, 1964; Hall, 1987). Rational forms of management highlight the ways in which school actors rely on the formal administrative hierarchy, regulation, and standardization of practices to support administrators' and teachers' work. Organic forms of management, in contrast, focus on ways in which "employees are actively involved in organizational decision making, staff cooperation and collegiality supplant the hierarchy as a means of coordinating work flows" (Miller & Rowan, 2006). Administrative oversight over work such as evaluations and curricular and instructional alignment represent rational forms of management that capitalize on the formal administrative hierarchy in schools. Approaches in which administrators and teachers engage in collective problem solving and collaborative practices such as professional learning communities and site based management represent organic strategies. In this conceptualization, therefore, the focus is on how school administrators, teachers, and other school staff use the organizational features in schools to meet their goals.

Understanding the ways in which implementers using a CI approach rely on rational and organic management helps us to understand the degree to which CI lives up to its potential for engaging stakeholders in the process of reform and adaptation for stronger integrity of implementation. While traditional implementation has been

critiqued for failing to adapt to local context and mobilize stakeholders (Cohen & Ball, 2007), little is known about how implementers using CI approaches rely on and negotiate the formal organization of the school district with its bureaucratic and compliance features. Understanding CI from the perspective of rational and organic forms of management highlights the different approaches implementers use to motivate school actors, willingly and unwillingly, and the potential of continuous improvement to circumvent traditional bureaucratic channels associated with the failure of implementation fidelity due to lack of teacher buy in. To understand the rational and organic features of a continuous improvement approach to implementation, we ask the following research questions:

1) In their implementation of reform through a continuous improvement approach, how did implementers use rational and organic forms of management?

2) What are the implications for continuous improvement as an implementation strategy, given the organizational features of schools?

We draw from two years of interview and observation data with district and school administrators, teachers, and guidance counselors as well as data collected during professional development meetings to explore the enactment of a CI approach to implementation in two large school districts. After describing the CI approach of this reform effort, we describe our conceptual framework and research on implementation and scaling generally and in the context of continuous improvement specifically. We then describe our reform initiative and context of our study. We then turn to our methods, findings and reflections.

Organizational Theory and Continuous Improvement

We now situate this continuous improvement approach within the broader, implementation, reform, and organizational research in order to understand its promise to circumvent typical challenges of implementation. We first turn to theory and studies on schools as organizations as well as descriptions of rational and organic forms of management in order to understand the general organizational context in which implementation occurs. We then turn to research on implementation and reform broadly, including using continuous improvement strategies, to understand traditional shortcomings and promises of CI. We close by contextualizing our model within these two sets of research.

Rational and Organic School Management

Ideas of rational and organic forms of management are rooted in theories on organizations dating to the 1960s (Burns & Stalker, 1968; Etzioni, 1964; Hall, 1987; Rowan, 1990; Scott, 1978, 1981). These theories describe organizations generally, and schools in particular, as having two complementary systems that work together in the service of the organization's goals. The rational system is rooted in formal bureaucratic activities that work through hierarchies of authority and rely on goals, rules and rules, and division of labor to meet organizational goals (Hall, 1987). The organic system is predicated on social relationship building activities where members of organizations build relationships and work collaboratively. Where the rational side casts organizations as most effective when deploying bureaucratic features, the organic side focuses on the value of organizational members actively communicating with each other, making decisions in teams, and providing support that enhances collective knowledge and skills

(Burns & Stalker, 1968). Both models share a goal of explaining the relationship between the structure of organizations and job role and tasks of the organization.

Theorists identify two forms of management that build from these features of schools. (See Table 1.) Rational forms of management turn attention to the ways in which school actors use the bureaucratic features of the formal organization to advance policies, reforms and goals. Administrators and teachers use rational forms of management when they establish rules, accountability mechanisms, and formal and informal consequences for the meeting of goals. They use rational forms of management in activities ranging from formal teacher evaluations, monitoring the achievement of a teacher's students, collecting lesson plans, and keeping track of meeting attendance. In rational forms of management, the administrators have authority, although teachers and other school stakeholders participate when they work within this system.

In contrast, administrators, teachers and guidance counselors use organic forms of management when they are active participants in decision making, collaborate around goals and reforms, and draw on collective knowledge and skills in meeting goals, implementation, and reform. Site-based management, professional learning communities, team and department meetings aimed at building capacity, and informal team and culture building activities that build adult-adult, adult-student, and student-student relationships all represent forms of organic management.

Table 1

Rational and organic forms of management in schools

Rational Forms of Management	Organic Forms of Management
• Mandating activities • Establishing rules and deadlines • Accountability mechanisms • Tracking compliance	• Shared decision making • Collective problem identification • Professional learning communities • Capacity building for members

As researchers have sought to understand implementation with integrity to reform goals, they have sought to understand the features of each form of management. Typically, the rational form of management cast as rigid and inflexible, engendering frustration and resentment as teachers are compelled to adhere to bureaucratic goals. The organic form of management is seen as a welcome contrast from "conventional, hierarchical patterns of bureaucratic control toward what have been referred to as network pattern of control" (Miller & Rowan, 2006, p. 219) with researchers pointing to democratic participation in decision making, teacher professionalism, and higher levels of collegiality as motivating to particularly teachers, this despite research in high schools that it does not improve student achievement (Miller & Rowan, 2006). Yet, despite efforts to institutionalize organic forms of management, rational approaches and the bureaucratic organization of schools continues to be the default (Cloke & Goldsmith, 2002; Tschannen-Moran, 2004; Hoy & Sweetland, 2000; with teachers finding rational forms of management familiar and comfortable (Goldstein, 2003).

Scaling and Implementation

Policymakers and district administrators with responsibility for large systems of schools tend to emphasize rational forms of management (Mehta, 2013; Rowan, 2006). Yet repeated challenges in maintaining fidelity of implementation led researchers to understand the nature and characteristics of local adaptation (Honig, 2003, McLaughlin, 1991; Odden, 1991, Spillane, Reiser & Reimer, 2003), with researchers now interested in integrity of implementation (O'Donnell, 2008). Similarly, research on scaling reforms—with the interest in transferring practices effective in one site to others—began with a focus on replication of practices (Clarke & Dede, 2009; Coburn, 2003; Glennan, Bodilly, Galegher, & Kerr, 2004; Sabelli & Harris, 2015; Schneider & McDonald, 2007). Early failures of replication, however, has led researchers to reconceptualize scaling as a process and evolution of adaptation. Understandings of scale have evolved theoretically over the years, moving away from replication towards spread of deep and systemic change in schools and districts (Clarke & Dede, 2009; Coburn, 2003). Reformers and researchers now account for variation by building adaptation into the model (Clarke-Midura, Dede, Ketelhut, Nelson, & Bowman, 2006; Penuel, Fishman, Cheng, & Sabelli, 2011; Sabelli & Harris, 2015; Rutledge, Brown, & Petrova, 2017).

Continuous Improvement

Reformers and researchers have turned to CI strategies as a way to bridge design, implementation, and scale as educators adapt reform strategies to their context and build capacity for implementation. that provide for structured adaptation. Drawn from healthcare and business (e.g., Lean, Six Sigma), CI builds in a cycle of goal setting, analysis of practices, and action based on findings (Langley, 2009). While different approaches in education have emerged in the last ten years through organizations such as

the Carnegie Foundation for the Advancement of Teaching, the Strategic Education Research Partnership, and the Research and Practice Collaboratory and methodologies such as design-based research (Mintrop, 2016), and design-based implementation research (Collins, Joseph, & Bielaczyc, 2004; Schoenfeld, 2006), these all share a recognition that district and school practitioners need to be active participants and collaborators as they adapt innovations to their sites.

Viewed through the lens of organizational theory, CI approaches use both rational and organic forms of management. With its emphasis on partnerships, collaborative inquiry, and shared definitions of the problem, CI relies on organic forms of management. For example, the Carnegie model of improvement science established networked improvement communities, where educators not only engage in their own inquiry cycle, but have structures to share that learning across groups in order to "enhance the efficacy of individual efforts, align those efforts and increase the likelihood that a collection of such actions might accumulate towards efficacious solutions" (Bryk et al., 2011, p. 5). In this way, CI approaches recognize that schools are loosely-coupled systems (Weick, 1976), and large-scale improvement comes from building capacity and aligning efforts toward a shared aim, rather than establishing a set of rules and monitoring compliance.

At the same time, CI approaches also draw from rational forms of management, such as the development of standardized work processes that guide particular improvement efforts. For instance, an improvement effort focused on supporting beginning teachers developed a standardized protocol to provide feedback to teachers, and worked with schools to adaptively integrate that protocol into school processes

(LeMahieu et al, 2017). Improvement at scale, then, requires structuring learning in order to "integrate a standard work process into new contexts" (Hannan, Russell, Takahasi, and Park, 2015, p. 3). This approach also reflects the roots of CI in healthcare (e.g., The Institute for Healthcare Improvement [IHI]), and the use of checklists to routinize some aspects of practice (Gawade, 2011).

NCSU's approach emerges out of this tradition. With our emphasis on research-practice partnership (Cannata, Cohen-Vogel, & Sorum, in press; Coburn & Penuel, 2016) and co-construction of innovation using the CI inquiry method of plan-do-study-act (PDSA), we employ a "Top-and-Bottom" approach to implementation (Tichnor-Wagnor et al, in press). This perspective highlights that this work occurs in a larger district and school context in which mutual adaptation between the organizational context and the reform is a given. During implementation, participants adapt a policy or program to their local contexts and account for administrative expectations and draw from the enthusiasm of local implementers. CI provides a structured and intentional process in which this adaptation can occur, however, it does occur in this larger organizational context. In an earlier study focused on one of our partner districts, we found that while NCSU embodied an approach that sought to combine both top-down and bottom up approaches, each school gravitated toward either a more top-down or more bottom-up approach. Here, a top-down approach is associated with

Here, we expand on this earlier work in several ways. First, we broaden our focus to compare the implementation across two districts, thus incorporating a district organizational perspective. Second, building from our finding that CI employs a "Top-and-Bottom" approach, we examine the connection between approach and

implementation quality. In so doing, we explore the degree to which continuous improvement generally and the NCSU model specifically relies on and encourages bureaucratic and collaborative elements of district and school organization.

National Center on Scaling Up Effective Schools

The National Center on Scaling Up Effective Schools (NCSU) is a research-practice partnership established in 2010 with the goal of identifying effective practices in high schools and scaling those practices into other district high schools. Our multi-phased process of collaborative improvement involved researchers, developers, and district and school participants (Cohen-Vogel et al, 2014; Cohen-Vogel, Cannata, Rutledge, & Socol, 2016; Tichnor-Wagner et al, 2016). Our model is predicated on the idea that while schools nested in the same state and district context are likely to share many of the same characteristics and constraints, each school will adapt innovations to meet its own demands and needs. As a research-practice partnership, NCSU relied on broad endorsement from the district and involved educators in the design and development of the innovation intended to create a commitment-driven and collaborative reform process within the bureaucratic organization in the two districts.

NCSU worked with two districts, in separate states. In both partner districts, NCSU followed the same process of improvement with different focal areas but using similar structures, processes, and tools. In Year 1, researchers conducted an extensive study of two higher and two lower performing high schools in each district. The findings from this initial research in each district came to be known, respectively, as student ownership and responsibility (SOAR) and personalization for academic and social learning (PASL). Both were whole-school reforms corroborated by extant research and

theory that targeted policies, programs and practices aimed at improving students' academic and social emotional competencies and skills (Rutledge & Cannata, 2016). Once identified, NCSU convened a District Innovation Design Team (DIDT) consisting of district and school administrators, teachers, developers, and researchers to translate each focal area, SOAR or PASL, into an innovation that could be implemented in three schools before being spread more widely in the district.

In this study, we focus on the implementation phase of the NCSU work. During 2014-15, each of the three schools implementing SOAR or PASL—convened a School Innovation Design Team (SIDT) consisting of the two DIDT school participants as well as additional three to six school stakeholders. The SIDTs were tasked with using the continuous improvement approach of Plan-Do-Study-Act (PDSA) to first pilot and then begin full implementation of the innovation in their schools. During this time, the SIDTs met quarterly to set SOAR and PASL goals to focus on over the following three months. Also, after each SIDT meeting, the DIDT met to further share their learning and accomplishments throughout the district and plan for future support and scale up. In 2015-16, both districts scaled the innovation to either four or five additional high schools (known as scale out schools).

Throughout the process, NCSU facilitators encouraged schools to "think small" but comprehensively across the components of the innovation. SIDT members were encouraged to bring their plans back to their teachers who would implement and then gather data on their implementation. At the SIDT meetings, the SIDT would evaluate the data and identity how to adapt the innovation for the next three months of

implementation. NCSU used this approach in the implementation in the innovation schools and then again when it scaled out to the additional schools.

SOAR had six components, which were focused around the integrated goals of building a mindset that students can succeed in challenging academic content (Cannata, Smith, & Taylor Haynes, 2017). The first component was *developing student growth mindset*, where teachers taught lessons designed to introduce students to ideas about how the brain learns to build a growth mindset. The second and third components were *goal-setting* and *grade-monitoring* practices. Here, students set both short-term goals around their grades and long-term goals to connect those grade goals to career goals. Then, at regular intervals, students monitored their progress toward their goals using a set of tools designed around examining their progress reports and report cards. The fourth component is a set of lessons around a variety of *college and career readiness* topics, such as understanding transcripts, GPAs, and how these are related to getting into college. The fifth component focused on rewarding positive behavior. This could take several forms, such as a behavior reflection form that prompted students to think about why they are acting out and how they could change their behavior, and public recognition or small rewards for students who are displaying appropriate behaviors. Finally, the last component is designed to build a *schoolwide culture* of growth mindset, engagement, and problem-solving.

PASL had five components (Rutledge, Cohen-Vogel, Roberts, & Osborne-Lampkin, 2015). The first component was *educator teams* of administrators, guidance counselors and teachers who met regularly to discuss PASL students. By implementing educator teams, each school agreed to create pathways of communication between adults

in the school around students' academic, behavioral and social emotional needs. *Rapid check-ins* were the second component. Here, teachers formally checked in with all their PASL students in two-week intervals and noted students needing additional follow-up. Third, a group of teachers at each school agreed to teach formal lessons aimed at providing students with explicit instruction regarding *goal setting/achievement skills*. Fourth, administrators, teachers, and guidance counselors agreed to *intentionally use data* to monitor students and identify those needing additional resources. This included monitoring students receiving Ds and Fs during a grading period or with poor attendance as well as sharing data with other teachers, guidance counselors and administrators. Finally, participants in PASL agreed to make concerted and intentional efforts to build a culture of personalization at their school with practices such as greeting students in the hallway, developing mentoring programs, and promoting students' extracurricular activities.

Methods and data sources

We used a comparative multi-level case study design to understand the implementation of a collaborative continuous improvement approach in our case study districts and schools (Yin, 2014). Data come from interviews with teachers, administrators, and design team members during field visits in the 2014-15 and 2015-16 school years. We also conducted cognitive interviews with DIDT and key SIDT members and other NCSU stakeholders. These occurred in 2015 and 2016. See Table 2 for the data collected in each district.

Data also come from day-long network meetings, which occurred in October, January, April, and June starting in 2012. During these meetings, all SIDT members,

some DIDT members, the district liaison, program developers, and researchers came together to share progress in each school and engage in a variety of capacity building activities led by the program developers. These meetings offer fruitful data for exploring the process of improvement in the two districts as these were working meetings where participants shared data, discussed what they were learning through the process, and discussed their experience engaging in this process. At each meeting, fieldnote logs collected data on specific interactions during the meetings and audio recordings provided additional data on small groups that a data collector could not observe. In addition, at the end of every meeting, all participants completed feedback forms and the research team wrote a summary reflection on the day's events. Finally, all artifacts of materials distributed or created during the meeting were collected. After the visits, we wrote detailed memos about each of the sessions, highlighting key features based on an a priori framework that focused on the content of the activities, attitudes and engagement in activities, the nature of collaboration, engagement in CI, and roles of various members.

For both sets of data, we analyzed the transcriptions of the interviews and fieldnote logs and audio from the network meetings using a set of *a priori* codes (Patton, 2002) particular to each reform. We also allowed themes to emerge from the data. The research team wrote analytic memos around different codes to identify patterns in the data and again met regularly during the memoing process to discuss key findings, resolve inconsistencies, and identify the similarities and differences in outcomes across the three schools. In this analysis, we draw on analytic codes related to school leadership, SIDT dynamics, and will and ownership.

In addition, we used the analytic codes related to quality of implementation to assign numerical ratings to each school's quality of implementation of PASL/SOAR practices. Three to four coders independently assigned ratings of high, medium, or low implementation quality for each school, in each of the innovation components. Coding teams then met independently to assign consensus ratings to each school in each component. Overall school ratings are the mode of each school's component ratings.

Findings

We begin our findings by focusing on the district context and how administrators in both districts used rational and organic forms of management. We then turn to examples of first high adopters in each district, and then low adopters to identify and illustrate the ways that these forms of management were used or not used in our schools. After presenting our findings, we reflect on how rational and organic forms of management inform understandings of how continuous improvement as a way to negotiate multiple demands and achieve greater integrity of implementation.

Table 3

Rational and organic forms of management in implementing PASL & SOAR

Rational forms of management	Organic forms of management
• Mandating that schools participate in NCSU initiative • District identification of SIDT members • Transition of NCSU to district as the recipients of school PDSA cycles • Allocating resources such as professional development funds, time, and experts	• Teachers as key actors on the DIDT and on the SIDT • District and School leaders adapting SOAR and PASL to their school context •Plan-Do-Study-Act cycles • Implementers deciding on the content and process of PDSA

District context

A central assumption of the National Center on Scaling Up Effective Schools has been that schools are nested in districts with districts playing a central role mediating federal and state policy, building the administrative teams, and providing professional development. These activities proved central in the development of SOAR and PASL as district administrators employed both rational and organic forms of management to support NCSU work in schools.

District involvement in the NCSU began in 2010 when each district signed a memorandum of understanding to participate in the grant and the research-practice partnership generally. By participating, both districts agreed to allow the NCSU to identify high and low performing schools using value-added modeling, conduct a comprehensive study in these schools to identify high performing practices, identify different three "innovation" schools in each district that would participate in the adaptation of the finding to their schools, populate the DIDT and eventually the SIDTs with district and school administrators and teachers, and scale the innovation into other district high schools. By its very nature, district participation in the grant represented an organic reform strategy with the university and developer partners of the NCSU collaborating with the school districts to build on both local professional capacity and local and extant research through continuous improvement approaches. However, despite the organic management nature of the district participation, the high schools, were chosen and 'strongly urged' to participate by district administrators. While being chosen to participate was cast as a privilege, both DIDT and SIDT participants at times questioned the voluntary nature of their involvement, viewing their participation as a mandate.

District A. With a fifteen-year history of teacher-driven reforms, District A, relied almost entirely on organic forms of management in the development and implementation of SOAR, viewing the teachers in DIDT and then SIDTs as designing the reform. District administrators, therefore, were not particularly visible. In the first DIDT meeting, there was high engagement from five central office leaders, however this tapered off during the design phase, with two district administrators providing general but largely passive endorsement and engagement of SOAR. One, who was a senior leader in the district, made at least a brief appearance at most meetings, offered words of encouragement at the start or end of meetings such as, "The work the group is doing is very exciting, and there is nothing better that people at the district like than people studying a problem and finding specific solutions." The other central office leader occupied a less senior position, but attended nearly every meeting. District administrators believed in the organic approach with one saying, "If we continue with the stale, top-down authoritative perspective we're going to continue to get what we get. We need to listen to teachers and we need to encourage teacher leaders to lead schools." District administrators expressed confidence in the school-level leadership but did not feel the need to supervise or participate in the process.

Despite these statements and the endorsement of organic approaches to develop SOAR, teachers and other non-central office DIDT/SIDT members voiced repeated concerns over district support. While they appreciated the autonomy and trust in their professional abilities, they were not convinced that mere "permission" from the district was enough to sustain and spread the work. For example, in the design phase, there were repeated concerns about whether they were developing something feasible within the

district, with one member wondering whether they were "designing for things outside of our own control." In implementation phase, several DIDT members worried that district administrators were not engaged, noting that the district leaders who could help bring accountability to SOAR were not involved: "We needed the members that we currently have, but we also needed to enlist principal supervisors and people with responsibilities for school accountability in the DIDT, so that they would have kind of – kind of building these vertical teams." Ultimately, these concerns led to the reconfiguration of the DIDT to include more district administrators during implementation. Yet even despite this reconfiguration, members remained unsure about district support, with one member describing how district and support are related, "if there were support from downtown then there would be a lot more freedom on the campus to make changes and do things like that and we're still having to work within restraints."

Within the broader context of school implementation, this district endorsement did not assuage participants anxieties about the viability of SOAR. District administrators participated in and encouraged organic forms of management in the development and implementation of SOAR. Teachers appreciated the autonomy, however, they voiced concern about the lack of active district involvement.

District B. Like District A, District B endorsed the organic strategies employed by the DIDT and SIDTs in the development and implementation of PASL. Also like District A, the district did not initially send high-level administrators to participate in the DIDT. Unlike District A, however, DIDT and SIDT members insisted persistently and persuasively in meetings and in feedback forms for greater participation by district and school administrators, arguing early on that without district endorsement over the work, it

would not have legitimacy in such a highly centralized context. In District B, therefore, through the collaborative nature of the DIDT and SIDT, members requested greater involvement and endorsement by district and school administrators. Put differently, using organic management strategies, participants requested increased rational management strategies.

During the development and initial implementation phases, there were two kinds of increased administrative participation in the process of developing and implementing PASL. At the beginning of the design phase, only one school administrator was participating. By then end, an assistant principal had been assigned to each innovation school as the "PASL Coordinator." While this was a school-level approach, it was sanctioned by district and school administrators. Second, as the reform moved into the implementation phase, each school's PASL Coordinator would attend and report on the previous day's activities to the DIDT during quarterly meetings. The developers, the researchers, and the district coordinator, who planned the meetings, intentionally invited school and district administrators so that by the end of the 2015 school year, the two high school directors and the principals from each participating school were regular participants. With the attendance of these stakeholders, several levels of the district hierarchy were present at each meeting. At the February 2016 DIDT meeting, during the scale out phase, the District B superintendent as well as the high school directors' supervisor, a deputy superintendent, high school directors, school principals, assistant principals, and teachers attended, representing six layers of BCPS administrative hierarchy.

In District B, participants employed both rational and organic forms of management, with rational forms of management providing the legitimacy and infrastructure for the organic forms of management to occur. The presence and involvement of the district and school administrators signaled to school implementers to continue their work. In turn, through the presentation of findings by SIDT members from their PDSA plans as well as from school data such as attendance rates, rates of students earning grades of Ds and Fs, and behavior referrals, garnered commitment from the district administrators. In District B, therefore, there was a feedback loop: district administrators and school principals used organic forms of management for PASL, building on positive findings on PASL from SIDT members. In turn, SIDT members including the PASL Coordinator/AP and the teachers reported described feeling legitimized by the presence of their supervisors.

While district administrators in both Districts A and B supported the NCSU work, we see different contexts. With its history of teacher leadership, administrators in District A gave broad leeway in the design, development and implementation of SOAR. Yet despite this history, implementers worried about a lack of support from the district. In District B, participants signaled to NCSU members that district involvement would be critical. Assistant principals were added into the model as PASL coordinators and explicit efforts were made to include district administrators in the process. These general cultures and institutional dynamics proved critical as the reform moved forward.

High Adopter Schools Across Districts

The first set of schools we discuss are identified as 'high adopter' schools. In these schools, we observed a synchrony of rational and organic management strategies in

use and, contrary to the schools we describe next later as 'low adopters,' rational management strategies appeared to bolster the organic management strategies in ways that supported effective implementation.

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At A142, the interplay between rational and organic management strategies led to a high level of initial SOAR adoption. During the 2014-2015 school year, the school administration had a high level of commitment to the SOAR innovation, and adopted a number of rational strategies to support implementation. For instance, they provided resources for teachers to develop the innovation during the summer, allotted time in professional development for campus-wide training, and changed the schedule to permit weekly advisory periods to deliver the SOAR innovation. With resources from the school administration, the SIDT was positioned to develop the SOAR innovation with broad involvement from school staff. Before the school year began, nearly half of the teaching staff joined the SIDT to develop advisory lessons for the first semester. SIDT members and the administration were cognizant of inviting a diversity of perspectives in the development process: one administrator describes this approach: "[I]t's really important to have all those types of peoples, the naysayers, the compliant, … the trailblazers. All of them need to be represented on the SIDT and at the table so that you get the full spectrum of perspectives." The financial support for this collective planning continued throughout the school year.

There were other rational management strategies related to the management of the teacher-led SIDT. First, the administration was deliberate of who they selected to serve on the SIDT. One administrator explained this strategy: "It's important that they are all

very different people and players. Because if they were bird of a feather, then only folks like them would've bought in." Second, the administration met routinely with the two leaders of the team, helping them to strategize about the implementation of the SOAR innovation and sometimes obstructing their plans. An SIDT member recalled:

> [S]he met with [the two leaders of the SIDT] like, right before we did our summer training and said, no, we need to back up. That was a little frustrating because we had kind of geared up for something, but I think it's worked out.

By filling the SIDT with talented teachers she could trust, the administration gave the SIDT significant latitude with which to determine the content of the SOAR innovation and how they would introduce it to teachers.

With the administration's support and trust, the SIDT was able to capitalize on a series of commitment strategies that elicited teacher buy-in and promoted a high level of adoption of SOAR. These strategies included making photocopies of all materials, providing frequent training on the delivery of the advisory lessons, and supporting teachers in the delivery of the lessons. A teacher reflected, "They planned it out very well. They provided time for the committee over the summer to really plan things out, and get solid, quality lessons put together and they've given us time for the professional development and that way we can implement it with confidence and fidelity." The SIDT encouraged a high level of adoption by making implementation of the innovation straightforward for teachers. In other words, rational support for teachers to develop SOAR yielded greater organic investment in the innovation from teachers. A teacher described this sentiment about the importance of a teacher-led initiative:

> I'm glad that this was teacher-run, teacher-driven, and not administration-run, administration-driven, because I know it would have failed if it was. Because then it would have been like, oh, here is another thing that my principals are making me do, and when they see it's coming from other teachers, they're more likely to

> do it, because they see other teachers who are feeling — who are in the classrooms, just like they are, feeling the struggles just like they are, and they're doing these lessons and doing them with fidelity, it makes it more real than something, you know, [the principal] would give us and tell us what to do.

SIDT members and other teachers contrasted this experience of teacher-led reform to the more common experience of having directives "handed down to us and pushed on us and it's something we have to do."

Yet, there were limits to this approach. Later in the 2014-2015 school year, members of the SIDT began to question the limits of this organic management strategy in ensuring school-wide implementation. Although the administration deployed a number of rational management strategies to support the launch of the innovation, SIDT members began to suggest a need for more of these strategies to ensure all teachers were implementing the innovation. DIDT1307 remarked, "Because it is teacher driven, teacher led, there is no administration aspect to it, which I actually, I like that aspect of it, but what happens is there's about 15% of the kids are not getting the lesson properly is what it's equating to." After a year of implementing the SOAR innovation, members of the SIDT felt that without greater accountability from the administration, they would be unable for all teachers to adopt the SOAR innovation.

During the 2015-2016 school year, the school continued to have a high level of implementation. This high integrity of implementation was attributed to the continued high level of teacher buy-in as well as the routinization of the SOAR innovation as it was sustained across school years. At the same time, the SIDT became increasingly disheartened with their work as a result of more opposition from their administration. Their struggles were related to an emerging tension between their perceived need for greater involvement in keeping teachers accountable for implementation while upholding

their commitment to the SIDT by allowing for continued autonomy in shaping the ongoing implementation of the SOAR innovation. One SIDT member summarized, "I think as a whole, we just feel like we don't have the administrative support. We've asked multiple times for administration to walk the halls and to, you know, participate in advisories and to just check in and make sure that it's being done, and they're never to be seen during advisory period. Without administrators monitoring implementation, members of the SIDT worry that teachers are not implementing SOAR or doing so with little integrity. Further, members of the SIDT were worried that the culture they were trying to establish would not be sustained noting, "we can push it all we want as teachers, but if the administration – even not just campus administration, but how the district wants it aligned – if it's not coming all the way down, it's going to be hard to – to implement."

Comments made by the administration highlight the tension between rational and organic management strategies in supporting the implementation of the SOAR innovation. On the one hand, one administrator described trying to stay back, noting, "I just have to make it clear that it is something that has to be supported campus-wide, and I know that if I get too involved, I, just by virtue of being involved, could help undermine it because of my position". At the same time, the administration drew attention to the influence of the principal's leadership to the SIDT: "We need to really know and understand that the principal is the rudder of the ship, and wherever their eyes are, that's where the ship is going." Although this challenge raises questions about the sustainability of the innovation at A142, teachers were largely unaware of these tensions between the SIDT and the administration, and integrity of implementation remained high throughout the 2015-2016 school year.

In the next case from District B, we exemplify another high adopter school that achieved a high level of success with PASL implementation, which our data suggests is rooted in the strong rational forms of management we observed from the school administration, which enabled organic forms of management to emerge.

B106

At B106, the high level of PASL adoption was largely a result of rational forms of management from the school administration, which, in turn, promoted organic forms of management from the faculty and staff. In their first year of full implementation in 2014-2015, the SIDT team decided they would ambitiously implement PASL 'school wide' with teachers and students in all first period classes, as opposed to only implementing PASL in the ninth grade like the other schools. This implementation effort was led by a highly motivated PASL coordinator/assistant principal, who relied on rational forms of management to compel commitment from the faculty and staff.

Similar to the other high adopter school in District A, the PASL coordinator at B106 had been a participant on the original DIDT and helped co-design the PASL innovation. PASL teachers relied on this coordinator's leadership and the ties s/he had as an administrator in the school to secure additional support from administration. For instance, T1008 elaborated that "we meet with [PASL Coordinator] because s/he is the senior administrator and then s/he'll take that to other levels as well, counselors, guidance." This communication across the administration and staff was an essential form of rational management to support school-wide commitment. This integration of PASL into multiple parts of the organization of the school also encouraged more organic forms of management to take root. For instance, another administrator described how PASL

was integrated throughout the school: "of all my agendas, all the agendas that's made for those meetings [team leader and departmental], PASL is included. PASL is included on our website. PASL is included in our yearbook. PASL is included in all the literature that leaves the building. At community meetings, community-parent involvement, we include PASL."

Creating opportunities for PASL teachers to collaborate about PASL students was another rational management strategy the PASL coordinator at B106 embraced. One formal collaboration between PASL teachers occurred each nine-weeks during *crosstalks* –a time teachers had to meet with one another to report on and track the progress of PASL students they shared. During piloting, B106 turned to an already existing infrastructure in the school to support crosstalks – professional learning communities (PLCs). Once PASL was scaled to the entire school the first year, however, it was not feasible to have a dedicated PASL PLC. Crosstalks then took the form of larger crosstalk "focus groups" with approximately 25 staff members and small crosstalks of "two to three teachers meeting about the same students" that teachers chose from a list of students earning Ds and Fs. Similar to other high adopter schools in District B, this "D & F report" was generated for the teachers by the PASL coordinator, who then authorized crosstalks to occur on professional study days (PSD) – another rational form of management that encouraged faculty commitment and more organic forms of management to emerge. For instance, here, the PASL coordinator describes how it wasn't until they met as a larger group that teachers had the option to involve administration:

> Teachers could say then, this is what I've been doing with my focus student, this is what's working, this isn't what's working, this is how we need administration

> to help us, this is where we're struggling, this is what we're seeing, these are the gains we've had, but here's still where we have problems, attendance or whatever it happens to be.

This additional step before involving administration in the referral process was where the teachers' commitment to their PASL students became most evident and embodied organic forms of management. Very few teachers spoke negatively of the crosstalks, and if they did it was primarily based on their frustrations with more documentation.

Documentation challenges also emerged during the initial implementation of the Rapid Check-ins (RCI) element of the PASL innovation, prompting the PASL coordinator to turn to another rational form of management. For instance, the coordinator mandated each teacher turn in a checklist that displayed the names of their PASL students and a checkmark and/or the date confirming they had 'checked in' with them. To add, teachers had some initial misconceptions about what counted as an RCI. For instance, teachers thought an RCI consisted of greeting students as they walked in the door, but the PASL coordinator clarified that RCIs were asking and probing students more deeply about "how they are doing." The checklists were required the first semester of the school year, but once they were no longer mandated (and, as IT1001 explained, replaced with the crosstalk document), multiple teachers reported continuing to check-in with students but no longer filling the sheets out. Teachers claimed that the RCIs were now "automatic" or "second nature" to them. As T1003 described it, "we did a really good job in the beginning of the year, doing the rapid check-in sheets, but I think you could tell what the, as the year went on it just it kind of lost its steam." The parts of the PASL innovation that required documentation presented a challenge for all of the schools and

B106 was no exception; however, despite the paperwork, most of the faculty and staff still showed a high level of commitment – including the administration.

In these two high adopting schools, we see that rational and organic forms of management co-existed with signals from the district and school administration serving as sanctioning organic management. This suggests the importance of rational forms of management as a requisite for this kind of work.

Low Adopter Schools Across Districts

We now turn to the management strategies that we found in the schools considered 'low adopters' in both districts. Whereas high levels of SOAR and PASL adoption were linked with the successful use of both rational and organic forms of management, the low levels of innovation adoption were linked to the weak, often halfhearted, use of rational management strategies. The management of the innovation—or lack thereof—corresponded with varying levels of commitment to the to school improvement efforts. Among the low adopters, the most common experience was a strong stated commitment to the innovation by administrators and teacher leaders but the absence or inconsistent use of rational management strategies to support its implementation. To illustrate this experience, we profile B105, an innovation school with strong administrative commitment to the PASL innovation, but few structural changes to support its implementation. Another experience was the lack of commitment to the improvement efforts, which resulted in the absence of administrative supports, or strategies that had the effect of undermining improvement efforts. A148 serves as the case study for this experience as they implemented the SOAR innovation.

B105

B105 had a new principal at the start of implementation, participants noted that the principal was open and enthusiastic to the PASL program. For example, IMP1001 shared that the "[Principal] embraced what we were doing and said, you know, this is perfect. We're not reinventing nothing. You know, the wheel is in motion, and we're going to add it into – you know, it was more of an adding." While the reform had strong stated administrative support, administrators rarely employed rational management strategies to support PASL, and what they did deploy was sporadic and generally weak.

In its implementation, the SIDT implemented elements of PASL in different content areas. The SIDT developed 'Data Chats With a Heart', a practice initially designed to broaden school-wide student-teacher discussions of academic data to also include socio-emotional elements, in English classes with 100 low performing students. As the year progressed, English teachers elected to engage in data chats with *all* ninth graders, demonstrating a high level of commitment to PASL. SIDT1003 elaborated:

> I think the school has been very effective in implementing PASL, but I do think again, it should be an entire grade level, not just a group of students because, to be honest, the English teachers are doing the Data Chats With a Heart with every single 9th grade student, anyway. They're not just selecting the 100 and something that we're PASL-izing.

The physical education teachers implemented the goal setting lessons. The ninth grade science and social studies teachers also attended the educator teams discussed next.

The main way that the administration provided time for collaboration was with "Academic/PASL Tuesdays," lasting a mere 15 minutes. Despite the minimal amount of time allocated for these meetings, the principal pointed to Academic/PASL Tuesdays as their way of carving out time in the schedule for teachers to collaborate in the absence of

any professional study days. Not suprisingly, teachers felt that the short block of time was too little to accomplish much. IMP1005 shared:

> [The lack of time] …which has made – the ability for us to really get together and discuss and analyze what part of PASLs working and what isn't, it's made that next to impossible. We try and do it in 15 minutes on Academic Tuesday like, once a month. It's not sufficient time to do it justice.

As teachers were met with new implementation challenges, they expressed the need for more time to debrief with the other PASL teachers. While most high adopter schools managed to find time for teacher collaboration through top-down structures, such as professional learning communities (PLCs), B105 still did not turn to their existing structures to encourage more teacher collaboration around PASL.

Even though the administration consistently declared a strong commitment to the PASL innovation, they did not use rational forms of management, instead expecting the SIDT to motivate adult involvement. Indeed, the PASL coordinator/assistant principal described working 'behind the scenes' to set the tone and described this less 'hands-on' approach in order to build capacity of all SIDT members:

> I think my level of commitment is high. We're trying to build capacity here on our own campus, as far as scaling it up, but leadership and like, trying to not like, pass of PASL but, you know, let – let another leader kind of do it also, and so it's been different. I haven't been as hands-on with PASL, and I feel like it shows a little bit in some of our efforts. But, you know, I feel like my commitment to it is high.

Here, the PASL coordinator explained that while his commitment was high, he was not employing rational forms of management in the daily business of PASL. Despite having the administration's stated support for the PASL innovation, the teachers complained of little overt support and complained of weak integrity to the model.

A148

The low level of adoption at A148 can be linked, in large part, to consequences that arose as a result of the principal's weak commitment to this school improvement model. Most consequential, when the principal was first introduced to this process, he/she assigned teachers to the SIDT not suited to carry out this reform work. Reflecting on what could have been improved, he/she remarked:

> I was brought here for a reason. So I had my vision and this was put on. And so I did not – I'm going to be honest. When first – when I was first told about this, I did not put my best people on it. I did not put – I put people that it wouldn't hurt the campus for them to be off the campus. And so I did that wrong and then I didn't put the real leaders on, because I didn't want them to be away from the campus.

SIDT members believed that that lack of sustained administrator commitment had a lasting impact on the cohesion of the SIDT and their ability to adapt SOAR to their school. One SIDT member stated, "And I'm not sure [the principal] ever really believed it was a good move for the campus or an important value – or valuable program for the campus, which will lead to lots of little decisions that don't show up on the radar." Another SIDT member corroborated this notion, while reaffirming the need for greater administrator involvement:

> You can't just let the teachers run it. You have to have a supervisor, and that should be from an administrative team. You have to have that person to take, you know – to take – I hate to put it this way, but that person should take, you know, the – you know, if it's successful, then they take, you know – it's kind of like I'm not saying that you should be there to take the credit, but you should be there to support. You should be there to take the falls with us. You should be there to, you know, help us because we teachers cannot – even though they think that we can as teacher leaders that have a big impact with other teachers in our department, but we don't have any authority over them.

In response to the low levels of SOAR adoption during initial implementation, the administration reconstituted the SIDT, adding department chairs to the SIDT and assigning an assistant principal as the team's leader.

The assistant principal employed a number of rational management strategies intended to empower teacher leaders to adapt the SOAR innovation to their school. He/She explains:

> [W]hen I started was, they would sit around a table and they would talk and they would take notes on paper about what they were going to do and then they would break apart and go and do their assignments. I've restructured our group time. I sit at the computer and they sit in a semi-circle around the screen and we create and have our discussions off of what we're going to do as our presentation... or when we've gone through our [Plan, Do, Study, Act] cycles, you know, we've – we've started, instead of just sitting there looking at each other, we put the PDSA cycle on the Promethean Board and we're staring at it and I'm sitting at the computer editing the document as they're looking at data in front of them and contributing to it as we move through the document together and collectively. So I think the biggest shift that – that they're experiencing is they walk away with things done.

This realignment of the SIDT helped the team better develop and implement new practices throughout the school. For instance, the SIDT developed a behavioral monitoring form—the GROW sheet—that gave students a brief period outside the classroom to reflect on their behavior before conferencing with their teacher and returning to class. Yet, because of the assistant principal's involvement, this practice was seen as administrator-led, which undermined teacher buy-in and adoption of this practice. In one focus group, participants indicated that they felt that the GROW sheet came from the administration and was created to "manipulate" the disciplinary data, by allowing the school to report fewer disciplinary infractions in the front office. An SIDT member added, "There was kind of a push that – when one of the administrators that's on the team would present, we found it was a problem because a lot of teachers looked at it like it was a directive and that – they were having to do it. And so we had to get away from letting this person present and have a teacher present, that way they felt more comfortable." Ultimately, these challenges resulted in low levels of SOAR adoption among teachers

and the assistant principal stepping down from leadership over the SIDT. Without administrator management of the SIDT, they again had limited success in translating the SOAR innovation to implementable practices for teachers and, by the second year of implementation, disbanded the SIDT.

It is noteworthy that organic forms of management were not sufficient to achieve high levels of adoption. Without more active and sustained involvement from school leaders in B105, the school never achieved a high level of innovation adoption. At the same time, when the principal was involved at A148, her lack of commitment to the improvement process led to decisions that undermined its success. Even when an assistant principal increased his/her involvement and empowered teacher leaders to customize SOAR to their school, the innovation was still viewed by other teachers as top-down and were unlikely to buy-in and implement it in their classroom.

Summary

Taken together, the experience in District A suggest that an interplay of organic and rational forms of management are necessary for the successful use of NCSU's continuous improvement model. In A142, the principal used rational forms of management to establish a number of structures, particularly in the first year of implementation, that enabled the SIDT to capitalize on organic strategies that yielded high levels of SOAR adoption. In contrast, in A148, the principal never had a strong commitment to SOAR and directed few resources to its successful implementation. When an assistant principal took over the continuous improvement process, he/she deployed a number of control strategies that yielded a more productive improvement process but were seen as too heavy-handed by teachers and failed to build a high level of buy-in.

Participants in District B were vocal and direct about the need for rational forms of management to scaffold the development and implementation of PASL. In B106, the PASL coordinator/assistant principal took the district support for PASL as an endorsement for a more top-down implementation of PASL at the school level. In turn, implementing teachers took this as a cue to implement and adapt PASL. While administrators in B105 supported PASL, neither the principal nor the PASL coordinator/AP allocated adequate resources or expended political capital in holding implementers accountable. Implementing teachers took this as a cue that PASL was not as important as the rhetoric. Weak rational management strategies and weak organic management on the part of teachers lead to lackluster implementation.

Discussion

We find in both districts that rational forms of management at the district level were seen as critical signals to assistant principals, guidance counselors and teachers to engage in SOAR and PASL activities including continuous improvement and implementation. In both districts, we found that school administrators and teachers needed confirmation that the NCSU initiative was legitimate and sanctioned at the district level. In this context, therefore, for both innovations as well as for the continuous improvement process, rational forms of management were a necessary condition for principals, assistant principals, teachers and other school level adults to take the NCSU process seriously and to engage in organic forms of management necessary for the adaptation of the innovations. While in District A, we found a greater role for teacher leadership than in District B where district and school leadership was critical as a signal to take PASL seriously, both required the formal signals from the district.

Once approved, we found that members of the DIDT and SIDT responded positively to the continuous improvement reform model as an organic management strategy. Participants in the DIDT and SIDT embraced the central role in transferring research findings from the district into a core set of components for schools to implement. They also believed strongly in the reforms, saw their value, and sought to share these with their colleagues. The emphasis on developing a reform to address local needs built high levels of buy in to both PASL and SOAR. We also found that the CI process itself, in which participants had to identify plans for implementation, implement the plans, gather data on the success of the plan, and then based on the findings set new goals for implementation provided a structure that gave evidence to district and school administrators that the innovations were having some effects in moving student outcomes such as attendance and behavior referrals. The collective problem solving and collaborative practices motivated participants to share ideas with other school actors.

School leadership was critical, however, in providing the opportunity for SIDT members to communicate with teachers and other adult stakeholders about implementation. SIDT participants tended to hesitate to employ the control strategies of direct oversight and compliance, although this did differ by district and school. Put differently, organic forms of management in school implementation were more difficult to enact. In District A, the SIDTs were able to build buy-in from teachers in their school by customizing the design to fit the needs of their students and teachers. Yet, in the process, teacher leaders opted for pre-existing and easy-to-implement practices rather than high leverage practices that would have required greater investment from teachers. In District B, the assistant principals played a more prominent role and were able to

mobilize support, however, this differed by school, particularly in the degree to which the principal sanctioned the work. In addition, while teachers in District B did take some initiative in implementation, it was always with the knowledge that administrators were looking on.

We observe important differences between the higher and lower adopting schools, however, in this area. In the high adopting schools, both principals and assistant principals played critical roles in providing resources such as summer funding for planning, professional development time, and changes in the schedule. They sent messages about the importance of a culture of SOAR and PASL at their schools. They acknowledged teachers who were particularly important in furthering the innovations. School leaders in higher adopting schools employed rational strategies that, in turn, allowed organic forms of management by the SIDT and teacher teams.

Finally, we found that while the process of improvement employed by the DIDT and SIDT to implement PASL and SOAR largely used organic forms of management, administrators, teachers and guidance counselors not involved directly in the continuous improvement process experienced it largely as a rational form of management. Therefore, school implementers described PASL and SOAR as consistent with their ideas about best practices and embraced it as something that "good" administrators, guidance counselors and teachers did. However, the degree to which implementing teachers felt this way depended on the skill of the SIDT to communicate and share these practices outside of the NCSU gaze.

Conclusion

Our study provides insight into implementation in the context of a collaborative continuous improvement approach. We find that the CI process worked well as an approach to build commitment for our innovations and facilitated their spread. At both the district and school levels, however, district and school leadership with its accompanying authority to endorse both continuous improvement and the innovations, was central to the successful implementation of the innovations. Within the district and school organization, therefore, teachers needed those signals from administrators that the reform was legitimate. Rational forms of management, therefore, were needed for the success of organic forms to emerge and thrive.

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Table 2 – Data Collected In Each District

	District A				District B		
	Innovation school baseline; Fall 2013	Implementation in innovation schools; Fall 2014	Implementation in innovation schools; Spring 2015	Implementation in innovation and scale out schools; Spring 2016	Innovation school baseline; Spring 2013	Implementation in innovation schools; Spring 2015	Implementation in innovation and scale out schools; Spring 2016
Administrator interviews	9	11	12	9	11	6	8
SIDT interviews	16	21	24	60	0	15	22
Other teacher interviews	5	71	70	67	48	35	58
Student focus groups	9	12	14	20	9	9	15
Teacher focus groups	8	8	5	0	0	0	7

Other personnel interviews	10	0	1	0	8	0	11
Other personnel focus groups	0	3	3	0	0	0	0