Attempting to Realize the Coordination and Continuous Improvement of Instruction

by

Lok-Sze Wong

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Doctoral Committee:
Professor David K. Cohen, Chair
Associate Professor Donald J. Peurach
Assistant Professor Angeline Spain
Professor Kathleen M. Sutcliffe, Johns Hopkins University

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DEDICATION

To David K. Cohen, for believing in kids like me.

To Tom, for your infinite love and support.

To Christopher and Penelope, for your future.

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Many children long to go home at the end of a school day. Home is safe. For me, and many other children, that wasn't true. For me, school was safe. And warm. And possessed what I knew of love. These adults fed me; they literally fed me. They also fed me cognitively and spiritually. They offered opportunities typically not given to a child of poverty, an English Language Learner, an immigrant, a child of color, a female child, a child of abuse, a child who typically fell through the cracks without a sound. Sometimes incorrectly, these educators assumed I could do more. So they offered me opportunities I was ill-prepared for but that opened up new, unfamiliar worlds. I often felt lost in elementary "enriched" classes, but I learned about so many things I'd never heard of and learned to do things other children didn't. I didn't usually perform well in Honors English, but I got to study Emerson. I probably made a horrible peer-lawyer and judge, but I was exposed to the judicial system. I know for a fact I failed to understand basic calculus, but I had the opportunity to play with it for a year. When I had no safe place to go, they made me feel safe. When these adults told me I could be anything I wanted, I naively believed them – to the letter. And I believed that people like them would always be there to help me along my journey. To honor them, I pay it forward.

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ABSTRACT

While the coordination and continuous improvement of instruction is the central goal of many US reforms, we know little about how to leverage the inevitable dynamics amongst formal guidance (e.g. standards, frameworks, curricular materials, whole-school reforms), existing social systems of work, and evolving environments that confound reform efforts and often fail to result in coordination. The Common Core State Standards and Multi-Tiered System of Supports/Response to Intervention are examples of the latest and most ambitious reforms championing instructional coordination. These reforms press hard on schools and teachers to work in ways they never have before. The purpose of this dissertation was to study how to help shift existing social systems of work towards coordinated and continuously improving instruction. Using a combination of qualitative and social network analyses within a longitudinal, multiple case study, I examined the work of two schools and their district during the first two years of implementing a systemic reform, Multi-Tiered System of Supports. The findings demonstrate the need to take practitioners' learning curriculum even further into practice in order to make the connections between policy and practice. Specifically, practitioners need social learning opportunities that are on-site, ongoing, and embedded within daily practice. Ideally, knowledgeable others would participate in these social learning opportunities, as the sensemaking and sensegiving produced with their participation would be more fruitful than sensemaking and sensegiving without their participation. The findings offer policy makers,

researchers, interveners, and practitioners finer understandings of using large-scale instructional coordination as a mechanism to improve instruction and students' learning opportunities.

Keywords: instructional improvement, systemic reform, instructional coordination and continuous improvement, professional development, leadership

CHAPTER ONE

The Coordination and Continuous Improvement of Instruction

When I taught elementary school, I was baffled by the lack of opportunities I had to talk with my colleagues, to support each other's work, to get on the same page about what we were doing for the students we shared – in other words, to coordinate our work. My concern spanned up to the superintendent and back down. When I was a researcher for Los Angeles Unified, I was blown away by what this problem – the lack of coordinated work – looked like on a larger scale, and the tragic consequences for kids. Through my graduate studies, I learned that this problem of organizational coordination was a result of decades of large and small political battles that constructed, over time, our institution of public schooling.

As practitioners, these are the forces that govern our work, of which we learned nothing or very little about during our credentialing programs. Yet they prevent us from doing our best jobs for kids, especially the kids who most need our help. When we try to improve our students' learning opportunities, sometimes with the help of reform initiatives, these forces are often road blocks to multiple solutions at multiple levels. They also consume our time, energy, and attention within our daily routines, preventing us from working on larger reforms. While these forces were put in place as solutions to other problems, they simultaneously create problems. This is the nature of the relationships between the micro world of instructional improvement and the macro world of schooling organizations and the institution of US public schooling.

The coordination and continuous improvement of instruction is the theory of action in many US education reforms, energetically seeking systemic changes within a public institution

and governance structure purposely constructed to frustrate direct action. The Common Core State Standards and Multi-Tiered System of Supports (MTSS)/Response to Intervention (RtI) are examples of the latest and most ambitious reforms championing coordination. These reforms press hard on schools and teachers to work in ways they never have before.

This theory of action views instruction as a system of components that can work more or less productively together to produce coherent learning opportunities for children. Research demonstrates that instructional coordination contributes to greater achievement gains by structuring lessons to connect and build knowledge and skills within and across years. By contrast, uncoordinated instruction creates enormous problems for learning, especially for at-risk students who experience the most fragmented instruction and have the least capacity to create coherence (Allington & Johnston, 1989; Newmann, Smith, Allensworth, & Bryk, 2001).

Unfortunately, how to improve instructional coordination is unclear. Indeed, attempts to create coordination often fail. While we continue to grow expertise in designing formal guidance (e.g., standards, curricular materials, whole school reforms) for systemic reforms and while the current political and educational environments better support coordination, we are far from fully understanding the dynamics amongst blueprints, existing social systems of work, and their evolving environments. Thus, actualizing the coordination and continuous improvement of instruction remains elusive.

The purpose of this dissertation was to study how to help shift existing social systems of work towards coordinated and continuously improving instruction. The existing literature in education and organizational studies elucidated many lessons learned and a few theories to test. The work of the teachers and administrators in two schools and their district to actualize systemic reform illuminated many more lessons learned. From their experiences, we learn a

great deal about the complex work of coordinating and continuously improving instructional practice within an institution constructed to frustrate such organizing, in order to improve the learning opportunities for all of our nation's students.

The first manuscript in this dissertation (a) reviewed lessons learned from prior large-scale attempts to actualize this theory of action, (b) analyzed the supports and challenges for current reforms attempting to do the same, with newer designs and in a contemporary environment, and (c) building on studies in organizational learning, explored how we might realize the coordination and continuous improvement of instruction using the existing resources in current initiatives, schools, and their environments while trying to change the very ways in which those resources work together to serve students.

While we grow more adept at designing systemic reforms to coordinate instruction, we need to know more about how to accomplish the parallel shift in the social-psychology of instructional practice. The work of actually coordinating and improving instruction is done by teachers and administrators through their daily work. How can we help them learn to coordinate instruction when they were trained to work very differently, and when they will continue to work in a system of government, education, and business organizations that are also in a nascent stage of learning how to coordinate instruction?

The second manuscript explored the usefulness of the organizational learning concepts of shared understandings, shared work, and heedful interrelating as components of social learning in efforts to develop a faculty's social, professional capital to actualize systemic reforms. Using a combination of qualitative and social network analyses within a longitudinal, multiple case study design, I studied the work of two schools and their district during the first two years of implementing a systemic reform, Multi-Tiered System of Supports (MTSS). This reform was

championed by an organization working within the existing system of public schooling to try to accomplish at a large scale and using the existing system's weak capacities what comprehensive school reformers and charter management organizations have only been able to accomplish on the fringe of the system and with limited reach. Interview, observation, and artifact data were collected from the fall of 2012 through the spring of 2014.

At the end of two years of implementation, the faculty of both schools did not have sufficient opportunities to learn how to construct customized MTSS models to manage school-wide reading instruction. Members of School MTSS Teams received direct training, but were unable to provide the rest of their staffs with similar learning opportunities. Nor were they able to develop their colleagues' capacity through ongoing collegial conversations. Further, while the training successfully developed their theoretical knowledge, it was not sufficient for developing their practical knowledge and skills. They struggled with what the design meant for their specific buildings and how to actualize those visions given their existing social systems of work. Moreover, a number of organizational issues complicated implementation, including the rocky implementation of a K-5 reading program. Thus, these hard-working and willing practitioners were unable to operationalize the MTSS framework in their schools. This has been the typical result of most reform efforts in US public education for over half a century.

However, there were successful instances of coordinating and improving instruction, and these were due to learning opportunities that were social, embedded in daily work, on-site, and ongoing. Faced with a mix of emergent problems and opportunities, practitioners repurposed and rearranged existing resources so they could jointly tackle their common instructional problems. These unexpected opportunities to learn facilitated, indeed, required the development of shared understandings, shared work, and heedful interrelating towards common goals.

Practitioners had to accomplish this new work while continually interacting with the realities of their environments, including continuing to fulfill other responsibilities. Indeed, these learning opportunities directly took on issues that complicated implementation and succeeded in coordinating and improving instruction despite them.

The third manuscript examined the possible cultural-cognitive shifts needed in administrators' work to lead the construction of complex instructional systems. Leadership is widely acknowledged now as essential to improving students' learning opportunities. However, the designs of quality and comprehensive learning curricula for leaders is still under development. This includes learning how to lead instructional systems. Building on studies that used sensemaking theory to understand how practitioners made sense of and enacted reforms, this chapter focused on the sensemaking and sensegiving work of administrators in their efforts to actualize and lead a systemic reform.

Due to their lack of substantial learning opportunities and existing understandings of systemic reform, district administrators enacted poor sensegiving to principals and teachers, thus challenging instructional coordination and continuous improvement. This, in turn, shaped principals' efforts to coordinate instruction. While these two principals had more substantial learning opportunities than their district administrators, their existing understandings of systemic reform in general and MTSS in particular led them to shape coordination and continuous improvement in two different ways. All four administrators would probably be surprised that their understandings and actions resulted in some of these consequences, as they intended to produce different outcomes. Without knowledgeable others helping them learn within practice, these enactors tried their best, but were often at a loss for how to lead systemic reform.

This dissertation demonstrates the need to take teachers' and administrators' learning curricula even further into practice in order to make connections between policy and practice. Specifically, if the goal is to develop the social, professional capital needed to enact a systemic reform, then, given the highly dynamic and occasionally chaotic system of organizations and public institution that practitioners work within, interveners and enactors might consider creating ongoing, on-site, social learning opportunities embedded in normal daily work in order to develop building-wide understandings and enactments of how to collectively coordinate and continuously improve instruction. These hard-working and willing enactors needed and deserved help with learning how to shift their daily work routines.

In order for these sorts of learning opportunities to occur on an ongoing basis, to become new (or, more accurately, revised) organizational structures and processes that sustain systemic improvement, interveners more knowledgeable about and experienced with a particular systemic reform, such as MTSS, might need to provide on-site technical assistance. Interveners could participate in these learning opportunities through scaffolding and modeling, for instance, the use of MTSS as a guiding frame. Local leaders would also have opportunities to rehearse and learn within daily practice with knowledgeable others. The main responsibility of on-site coaches would be helping practitioners develop the shared understandings, shared work, and heedful interrelating they need to jointly enact a school-wide instructional system within their unique local environments.

Establishing a new instructional system requires learning how to coordinate the disparate pieces of a unique current system of work that exists within a particular context. Learning to coordinate these pieces requires working with these pieces within the effort to learn. Thus, much of the learning happens on-site, embedded in ongoing daily practice. Yet, there are few

organizational structures in the average school and district to support this sort of learning. What people know and can do are dependent on how and what they can learn. This is dependent on the organizational structures that support their learning. In other words, the organizational structures present shape opportunities to learn, thus shaping what people know and can do. New social learning opportunities co-constructed with knowledgeable others improve people's capacity to collectively coordinate instruction while also improving the organizational system that supports their practice.

While the first manuscript in this dissertation (chapter 2) discusses two additional learning mechanisms necessary for systemic reform, the following two manuscripts (chapters 3 and 4) provide evidence for the need for one of the learning mechanisms. The other will be discussed in future manuscripts.

This study was not about how teachers and administrators improved achievement scores or classroom instruction. Both staffs accomplished a great deal in these two areas, and their efforts should be celebrated. However, student learning and the quality of classroom instruction were not the foci of this study, and thus were not measured.

While the Common Core and common assessments are components that could feasibly work well together, other components are needed to actualize a system, an infrastructure, that could feasibly, if built and then used well, support improved leadership, instruction, and student achievement on a large scale. There are many steps between adopting the Common Core and common assessments and improving student achievement. This dissertation examined a small slice of that work.

This study is timely as most schools and districts across the United States are currently working to improve instructional coordination and will continue to grapple with these issues for

many years. Whether schools and districts are implementing the Common Core, MTSS/RtI, or other improvement efforts, they wrestle with how to leverage the dynamics amongst formal guidance, existing social systems of work, and evolving environments in order to shift instructional practice. Together, these three manuscripts further our understandings of using large-scale instructional coordination as a mechanism to improve instruction and students' learning opportunities.

The findings from this study can also inform designers' choices as they create tools to help teachers and leaders improve and manage instruction. These understandings could also contribute to other areas of policy and research, such as teacher and leadership education, as building the capacity to improve instruction may be more a matter of increasing systemic capacity than individual capacity. Finally, these findings are useful for others outside of education who are studying, designing, and implementing formal guidance in organizations concerned with coordinated production and continuous improvement.

CHAPTER TWO – Manuscript 1

Building on Lessons Learned: A Review of Large-Scale Systemic Reform Efforts

The coordination and continuous improvement of instruction is the theory of action in many US education reforms, energetically seeking systemic changes within a public institution and governance structure purposely constructed to frustrate direct action. The Common Core State Standards and Multi-Tiered System of Supports/Response to Intervention are examples of the latest and most ambitious reforms championing coordination. These reforms press hard on schools and teachers to work in ways they never have before.

This theory of action views instruction as a system of components that can work more or less productively together to produce coherent learning opportunities for children (Bryk et al., 2010; Cohen & Ball, 1999; Newmann et al., 2001; Purkey & Smith, 1983). Instruction can only be effectively improved if multiple aspects of instruction are simultaneously addressed in a coordinated manner. By contrast, a lack of coordination amongst facets of instruction – ex. standards and other formal guidance, curricular materials, teachers' professional development – or changing only one facet can lead to conflicting messages and guidance for practice, which unnecessarily complicate teachers' work and create incoherence and gaps in students' learning opportunities. These facets are parts in a potential system, and in a system, all parts shape and are shaped by each other. Thus, when students' needs change or when other aspects of instruction are updated and improved, complementary facets of the system must also be updated to ensure continued coherent learning opportunities for children. This is the notion of coordinated and continuously improving instruction.

Research demonstrates that instructional coordination contributes to greater achievement gains (Bryk et al., 2010) by structuring lessons to connect and build knowledge and skills within and across years (Newmann et al., 2001). Similarly, it supports teachers by coordinating their professional learning around students' curriculum within and across years. Coordination also helps manage instruction by aligning resources to service one curriculum, not many competing programs.

By contrast, uncoordinated instruction creates enormous problems for learning, especially for at-risk students who experience the most fragmented instruction and have the least capacity to create coherence (Allington & Johnston, 1989; Newmann et al., 2001). Further, it prevents teachers from working and learning together on common problems of practice (Cohen, 2011). Moreover, an uncoordinated system leaves the burden of creating coherent learning opportunities on the shoulders of individual teachers, if they choose to and if they have the capacity to do so.

Unfortunately, how to actualize and sustain instructional coordination and continuous improvement in our schools is unclear. Indeed, attempts to create coordination often fail. The typical strategy is to leverage formal guidance (e.g., standards, curricular materials). However, formal guidance interacts with teachers' social systems of work in ways that often fail to result in coordination. For instance, Spillane and Jennings (1997) found using guidance seemed more effective at changing surface-level dimensions of instruction (e.g. student grouping arrangements) and less effective at changing deeply engrained understandings and enactments (e.g. how to guide classroom discourse).

While we continue to grow expertise in designing formal guidance for systemic reforms and while the current political and educational environments better support coordination, we are far from fully understanding the dynamics amongst blueprints, existing social systems of work,

and their evolving environments. Thus, actualizing the coordination and continuous improvement of instruction remains elusive.

The purpose of this manuscript is to (1) review what we have learned from prior large-scale attempts to actualize this theory of action, (2) analyze the supports and challenges for current reforms attempting to do the same, with newer designs and in a contemporary environment, and (3) discuss how we might realize the coordination and continuous improvement of instruction using the existing resources in current initiatives, schools, and their environments while trying to change the very ways in which those resources work together to serve students. The following review of theoretical and empirical literature analyzes the lessons learned from two types of large-scale systemic reforms (standards-based and comprehensive school reforms) and one systemic framework (instructional program coherence) that embody this theory of action. Next, a relatively new and increasingly popular large-scale systemic reform, Multi-Tiered System of Supports (MTSS; a.k.a Response to Intervention), is examined, along with the supports and challenges it will likely face given lessons learned from previous designs working in different times. Finally, scholarship in organization studies on coordinated and continuously improving work is considered for its usefulness in improving instruction.

Looking across the education and organization studies literature illuminates two additional mechanisms not previously explicated but possibly key to successfully implementing and sustaining systemic reforms. First, a way to understand the work of actualizing instructional coordination in uncoordinated social systems and their fragmented environments is to see the work as repurposing, tweaking, renaming the existing building blocks of that work and determining how they should now fit together in a manner that produces a well-functioning instructional system. Second, social learning matters. This is not learning by acquiring

knowledge, but learning as an ongoing social process embedded in daily work. As practitioners continually work together on a systemic improvement, changes in understandings and actions (i.e., repurposing existing building blocks) can be folded into their existing social system of work through heedful interrelating. This also requires repurposing other existing building blocks, specifically organizational structures (e.g., staff and team meetings) and processes (e.g., current conversational and problem solving routines), so that they support social learning. These revised building blocks facilitate effective tweaking of other building blocks into an instructional system.

Whether policy makers, practitioners, and other reformers promote the Common Core, MTSS, or other equally ambitious systemic reforms, the comprehensive analysis offered in this manuscript will help inform understandings and guide decisions and action plans as we continue to press on existing instructional programming to improve learning opportunities for all students.

Lessons Learned from Attempts to Actualize Coordinated and Continuously Improving Instruction

The Theory of Action in Systemic Reforms

Systemic reforms are founded on the theory of action that instructional improvement requires the coordinated change of multiple features of an instructional system (Cohen & Ball, 1999; Purkey & Smith, 1983; Smith & O'Day, 1991). Changing only one facet of instruction or schooling will not beget sustained improvement in students' achievement. These facets are parts in a possible system, and in a system, all parts shape and are shaped by each other. The seed for this theory of action in US education reform could arguably be the Effective Schools movement. Research findings on effective schools in the 70s and 80s helped turn the focus of problems and solutions from isolated features of instruction, educators, and schools to whole school dynamics (Purkey & Smith, 1983; Purkey & Smith, 1985). School improvement was more likely when the

whole school was treated as a system. Since then, systemic reforms have taken many shapes, most notably at scale with standards-based and comprehensive school reforms in the 80s and 90s.

Standards-based reform expanded responsibility for instructional improvement by stretching coordination between the state and each school (Smith & O'Day, 1991). Standards-based reformers believed coordination and continuous improvement was needed within the institution of public education in our country to help support all schools in their efforts to improve the quality of instruction for all students**.** Schools still needed and had the professional autonomy to improve their internal systems, but their efforts were now to be supported by their districts and states through state-level, standards-based reform. These reforms evolved significantly since the 1980s, adjusting based on lessons learned and becoming a common aspect of instructional practice. The current and most ambitious large-scale iteration of standards-based reform to date is the Common Core State Standards. However, standards in general remain unevenly understood and heeded by practitioners. Many of the complex causal chains between policy and practice (Cohen & Hill, 2001) remain weakly or improperly linked.

Comprehensive school reform (CSR) focused the theory of coordination and continuous improvement on schools implementing comprehensive, school-wide designs typically developed by external interveners. These interveners hoped to install their designs in hundreds if not thousands of partnering schools across the country. The designs varied greatly, but all attempted to improve student achievement by simultaneously improving multiple facets of instruction and schooling in partnering schools. Support from and coordination with districts and states was welcome, but not expected. Like standards-based reform, comprehensive school reform designs evolved as lessons were learned. Some failed and faded away. Others still thrive today, albeit

tenuously and with variable success. We continue to learn from these efforts to improve instruction in some of the nation's neediest schools serving some of our most disadvantaged children (Cohen, Peurach, Glazer, Gates, & Goldin, 2014; Peurach, 2011).

A state-level system of policies or an externally developed design for a model school are both far removed from classroom-level practice (Cohen et al., 2014; Cohen & Hill, 2001; Spillane, 2004). While standards and designs can guide school improvement, the work of improvement rests on the shoulders of teachers and administrators. As Cohen (1995) explained, reformers rely on teachers and administrators to actualize these reforms, but teachers and administrators are the objects of reforms. Reformers are asking the very professionals whose work needs improvement to ensure that the improvements are made. Teachers and administrators could learn to be capable of this, but exactly how do reformers expect them to learn? How can we help them learn to coordinate instruction when they were trained to work very differently, and when they will continue to work in a system of government, education, and business organizations that are also in a nascent stage of learning how to coordinate instruction? Thus far, we have gained the following key lessons on realizing coordinated and continuously improving instruction.

Lessons Learned

A high-quality design matters. Whether it came in the form of standards (Smith & O'Day, 1991), frameworks (Newmann et al., 2001), whole-school models (Rowan, Correnti, Miller, & Camburn, 2009), or other designs and blueprints, a normative model and standard operating procedures that codify principles and practices helped hold a system of work together. Further, when policy makers, interveners, and other reformers provided explicit, detailed guidance on what a systemic reform looked like in practice, practitioners were more likely to

understand and enact it (Cohen et al., 2014; Cohen & Hill, 2001; Rowan et al., 2009; Spillane & Jennings, 1997; Spillane et al., 2002), as well as improve on the formal guidance to fit students' needs. Without explicit, detailed guidance, a common outcome was changes to surface-level aspects of practice (e.g. changing student groupings), instead of deeper, fundamental changes, such as facilitating discussions with students in a manner that engaged them in rigorous thinking on complicated ideas. Studies of CSR designs found that the more a design specified what high-quality instructional practices looked like, the more likely it was implemented with fidelity and, subsequently, improved instructional practices (Aladjem et al., 2006; Cohen et al., 2014; Correnti & Rowan, 2007; Desimone, 2002; Rowan, Camburn, & Barnes, 2004; Rowan et al., 2009). A design that was accompanied by curriculum frameworks, lessons, supplemental materials, pacing suggestions, examples of exemplary student work, and other guidance was more likely to be understood and enacted by practitioners as intended by developers. Further, successful designs attended to the dynamics amongst the elements of instruction and the organizational supports for instruction, specifying how to manage school-level processes such as defining the roles and responsibilities of key actors and establishing useful organizational structures (Aladjem et al., 2006; Cohen et al., 2014; Desimone, 2002; Rowan et al., 2009). Newmann et al. (2001) also found that a highly specified coherent instructional framework was key to school improvement. In their large-scale, longitudinal study of 222 Chicago public elementary schools, they found successful instructional frameworks combined specific expectations for student learning with specific strategies and materials supporting classroom practice.

Successful CSRs also had highly specified implementation designs, including a curriculum for teacher and leader learning that was built around using the instructional design in

daily practice (Cohen et al., 2014; Rowan et al., 2009). Implementation designs helped enactors learn how to productively use the instructional designs to improve students' opportunities to learn.

Without guidance from well-developed instructional and implementation designs, practitioners bear the burden of sorting out, coordinating, and answering a multitude of messages and expectations on their work with a mass of available instructional tools. They bear the burden of creating coordinated learning opportunities for children within organizations and an institution intentionally designed to discourage coordination and within jobs subsequently designed to do the same. Unfortunately, the ability to do such work is not a set of skills teachers and administrators receive training on or can easily learn on their own. Neither is the ability to work as a coordinated team to actualize and sustain instructional improvement.

Social, professional capital matters. Well-developed, highly specified, systemic instructional and implementation designs do not guarantee instructional improvement. Each school is a unique arrangement of structural and cultural features, and the same design will interact with these existing social systems to produce various outcomes (Purkey & Smith, 1983). Stated another way, different social systems will use the same resources differently (Cohen et al., 2003).

Yet those social systems of work are the very objects of improvement. Changing schools requires changing how people think and behave, including how they interact with each other, the structural features of the system, and their environments. The lack of a common, professional knowledge base on how to effectively teach and assess student learning challenges educators' ability to work together to improve instruction. Practitioners need to share common understandings and enactments of instructional practice and organizational management. This is

a key feature of educational infrastructure that is lacking in the U.S. (Cohen et al., 2014), a feature that successful systemic reforms aimed to help schools create (Cohen et al., 2014; Newmann et al., 2001; Rowan et al., 2009). Deep change in practice will only come about with deep changes in the schemata practitioners use to enact practice (Spillane et al., 2002). These cultural-cognitive understandings are the most difficult changes to make to practice (Powell & DiMaggio, 1991).

With or without the help of instructional designs, most of the burden of creating coherent learning opportunities for students is on the shoulders of practitioners and any interveners with whom they may partner. Given the lack of available knowledge and expertise on such novel work, building a functional instructional system is quite a learning task for everyone involved, especially for those attempting to do so from within the current uncoordinated system and using its weak capabilities.

Learning matters. The more extensive the implementation support provided to enactors, the more likely the designs for instructional practice were successfully implemented (Aladjem et al., 2006; Cohen et al., 2014; Cohen & Hill, 2001; Herrmann, 2006; Newmann et al., 2001; Rowan et al., 2009; Spillane, 2004). Enactors needed extensive, rich, practice-based learning opportunities over a sustained period on how to use a design productively to improve their instructional practices. Moreover, enactors actively engaged in continuous learning over several years in order to learn how to use the design in their ever-changing contexts and with their particular students (Cohen et al., 2014; Rowan et al., 2004). Such learning opportunities helped them understand the intricacies of the instructional designs. Opportunities to learn that did not include such opportunities to rehearse often led enactors to misunderstand the reform and enact it in unintended manners. Because a professional knowledge base of how to improve

instruction was greatly lacking in most schools, as well as organizational structures that supported building such a knowledge base, designs for instruction and its management and practice-based learning opportunities had to help practitioners build, sustain, and continually improve such a knowledge base.

Continuous learning also mattered for interveners (Cohen et al., 2014; Peurach & Glazer, 2012). As they learned more about implementing and sustaining their designs, CSR developers continually improved those designs. CSR developers also had to learn how to continue helping their partnering schools learn over several years while also helping these schools learn to manage unstable, sometimes hostile environments. Moreover, CSR developers depended on the continually evolving environment for political and financial support. Thus, they had to learn how to manage multiple local environments for themselves. Being a successful intervener meant continually improving one's own operations. Such leadership and support was uncommon in US education reform.

Leadership matters. The consistent, stable support of enactors in leadership positions was critical for actualizing and sustaining systemic reforms (Aladjem et al., 2006; Desimone, 2002; Herrmann, 2006; Newmann et al., 2001; Rowan et al., 2004). On-site leaders' decision to champion the reform and make it a building-wide priority increased the likelihood of actualizing instructional coherence. Leadership activities also included allocating resources to appropriately support the reform work, integrating programs and initiatives to avoid redundant or fragmented improvement efforts, and monitoring implementation. District support included providing a stable political and financial environment to sustain schools' reform efforts. Strong teacher professional communities were also related to successful implementation and sustainability of the reform. All of these activities helped ensure a stable context that allowed reformers and

practitioners to work together over several years to institutionalize the systemic reforms, ensuring the models became a part of the normative culture, a part of everyone's way of thinking and acting.

In addition, external partners were key to training enactors on new instructional frames and training internal leadership teams on managing instructional systems. Successful CSR developers helped partnering schools build and sustain internal infrastructures to guide their daily work while continually improving their own operations and engaging the environment to better support systemic reform. Moving further from classroom- and school-level practice, standards-based reformers worked to create a less fractured environment to better support schools, districts, and states in their instructional improvement efforts.

Unmistakably, leadership in successful systemic reforms was distributed amongst teachers, coaches, principals, district administrators, external partners, policy makers, and other key actors. These leaders worked in organizations that were not typically organized to work together, were weakly linked to each other, and existed in fragmented environments. They were not incentivized to collaborate to reach a common goal, and they did not usually work within organizational structures that supported collaboration across organizations once partnerships were formed. Yet each played a key role in realizing coordinated and continuously improving instruction.

The nature of the environment matters. The fragmented environment within which effective schools could not flourish (Purkey & Smith, 1983) progressed but continued to challenge efforts to improve instruction (Cohen et al., 2014; Newmann et al., 2001; Spillane, 2004). Practitioners received multiple and often conflicting messages on how to interpret standards and other policies, which led to multiple and conflicting guidance on what such

reforms could look like in practice. Fragmented guidance also meant multiple expectations on practitioners' work, multiple forces acting on their work that they needed to satisfy, juggle, and compromise. Further, multiple goals for student outcomes typically entailed the adoption of multiple programs and initiatives to address each goal separately. Most of these programs did not require or encourage whole staffs to participate, and some required staff to distinguish their role and responsibilities from other staff and to distinguish services provided to subgroups of children. Various messages and opportunities from multiple external providers and unaligned district and state policies also heightened the incoherence that teachers and school leaders experienced. Policies and programs rarely attempted to integrate themselves with other initiatives and rarely incentivized staff to do so. A tradition of local control over what children should learn remains slow to give ground. Even with the Common Core, participation is voluntary. All of this purposeful fragmentation challenged staff collaboration around systemic reform. Indeed, it provided staff with an almost impossible puzzle to solve on their own, if they possessed the will and capacity to do so.

While standards-based reforms worked to create a less fractured environment, schools still needed help from their districts and other partners with carefully managing this fragmented, often turbulent environment, including the environment in their immediate districts. Successful CSRs helped their partnering schools build an educational infrastructure (Cohen et al., 2014), which meant establishing a common curriculum, common assessments tied to the curriculum, common educational practices grounded in the curriculum, professional development on how to teach the curriculum and assess instruction to continuously improve students' learning opportunities, and common vocabulary and understandings that allowed practitioners to talk and work together on solving instructional problems, including the management of organizational

supports. Managing the environment also included helping schools mindfully choose and then mindfully participate in initiatives and professional development that supported the same goals as the systemic reform so that initiatives did not compete for enactors' attention (Newmann et al., 2001).

Further, interveners had to manage the environment for themselves to sustain their work (Cohen et al., 2014; Peurach & Glazer, 2012), including choosing carefully how much of the environment to take on. The more problems in schools and the environment the interveners attended to, the more they complicated their own operations. For successful CSR developers, it took many years of joint work amongst interveners, partnering schools, and the environment to actualize systemic reform.

The fragmented environment discouraged educators in multiple organizations from working together to actualize instructional coordination. This included not just interveners and schools, but also affiliated local education agencies, regional service agencies, state education agencies, interveners from other initiatives, and policy makers from multiple organizations, just to name a few. These organizations do not have to work well together, and they have little incentive to do so. But such partnerships need to be encouraged, and organizational structures need to be modified to support these partnerships. Key to enactors' abilities to understand and enact change are the opportunities their schools and their partners provide to learn what they need to learn. Moreover, these partners should learn with enactors, since they themselves are limited in their capabilities to support schools with actualizing systemic reform in ever-changing environments. The partners are a mix of governmental and non-governmental agencies. These are the typical actors in US public education. If there are few organizational structures in the average school and district to support collaboration and shared work, there are even fewer inter-

organizational structures that facilitate collaboration and continuous improvement amongst these key actors.

Striking a fine balance matters. Cases of successful systemic reform demonstrated the previous five lessons were attended to concurrently, paying careful attention to various interactions amongst lessons that emerged over time. The dynamics were carefully managed, and problems and solutions were worked out over time. Just as the components of an instructional system must work in a coordinated manner, these components of actualizing systemic reforms must work in a simultaneous, coordinated manner, supporting each other over many years to continually improve instruction and student learning (Cohen et al., 2014; Desimone, 2002; Rowan et al., 2004).

A fine balance was struck between designs and existing social systems of work. While interveners had a normative model, schools actualized versions of that model, given their unique contexts and existing systems of work. Interveners addressed what were acceptable variations. Moreover, a political balance was continually managed. This was a matter of will, empowerment, authority, and the source of all three for interveners, enactors, and other key governmental and non-governmental players. Given the various structures and cultures unique to each of these organizations, what a task it is to realize instructional coordination and continuous improvement.

Multi-Tiered System of Supports (formerly known as Response to Intervention)

To illustrate the complex considerations interveners and enactors will likely deliberate, Multi-Tiered System of Supports (MTSS; formerly known as Response to Intervention), a presently popular framework, will serve as an example of a current systemic reform. After a brief history and description, the discussion explores the facets of this systemic reform in terms

of the lessons learned from prior attempts to actualize coordinated and continuously improving instruction.

In 2004, with the reauthorization of the Individuals with Disabilities Education Act, Response to Intervention (RtI) became a federally approved system of instructional interventions completed before exploring whether a student qualified for special education services. The framework was already in use in a number of schools and districts across the country. However, it was not used uniformly (Fuchs, Fuchs, & Compton, 2012). RtI models and processes varied greatly, with some seeing it as a process to address academic concerns (typically reading and math), others using it to address student behavioral concerns, and still others combining the two. Further, various school models included anywhere between one to seven tiers of service delivery, with the same tier encompassing different services for different schools. A survey of educators today would most likely reveal a multitude of understandings of what RtI is and what it looks like in practice.

RtI was originally viewed as a special education reform, and some most likely still understand it this way. However, as RtI models evolved, many reformers, practitioners, and researchers articulated the critical role of high-quality general education instruction within the model in preventing the need for remediation and over-identification for special education services (Fuchs et al., 2012). If the core curriculum provided to all students was weak, students were misidentified as needing academic interventions. Many resources could be stretched thin in attempts to provide proper core instruction that should have been provided in the general education classroom. In addition, if a student's struggles could be identified and addressed immediately within the general education classroom, the student could get back on track quickly rather than allowing a large learning gap to form. Students would not have to wait until their

needs became severe before they received support. Thus, understandings of RtI shifted from services provided by special education programming to services involving all programming in a school. For many schools and districts, this included food, transportation, and similar services as these practitioners play key roles in developing and enforcing behavior expectations and supports.

RtI continues to gain popularity and visibility on the national stage. Interveners vary from state departments of education to individual schools to external organizations. More states are mandating the use of RtI to help identify students with specific learning disabilities, versus delegating the choice to districts (Zirkel & Thomas, 2010). Districts and schools are also choosing to implement RtI, albeit in various forms, as a whole-school model of supports and interventions. Further, a number of organizations promote the use of RtI to help accomplish the expectations in the Common Core State Standards (Gamm et al., 2012; National Center for Learning Disabilities, 2014). RtI can help ensure schools address the needs of all students, including those already exceeding grade level expectations.

Proponents of this relatively new systemic reform are attempting to rebrand Response to Intervention as Multi-Tiered System of Supports (MTSS). In addition to clearing up misconceptions and narrowing the variance in understandings and acceptable versions of the model, this rebranding emphasizes the whole school, systemic nature of instructional work. For example, the National Center for Learning Disabilities emphasized the interrelated nature of the seven components they see as central to MTSS – instruction, curriculum, assessment, data-driven decision making, professional learning, leadership, and empowering culture (National Center for Learning Disabilities, n.d.). This portrayal of the reform resembles comprehensive school reform designs and the Instructional Program Coherence framework much more than a process

for identifying students with learning disabilities. The change in name itself shifts the focus from interventions for remediation to a school-wide system (Baker, Fien, & Baker, 2010). Further, some organizations emphasize the interrelated nature of behavior and academics and thus purposely include both areas within MTSS models (Florida's Multi-Tiered System of Supports, n.d.; Kansas Multi-Tier System of Supports, 2010; Michigan's Integrated Behavior and Learning Support Initiative, n.d.).

This manuscript is concerned with the actualization of a specific theory of action - the coordination and continuous improvement of instruction. Thus, while MTSS includes work on positive behavior interventions and supports, the rest of this discussion focuses on efforts to improve instruction.

Components of MTSS

While understandings and enacted models of MTSS vary, some components are central to all designs. These include tiers or levels that speak to the different types of high-quality research-based instructional opportunities provided to students, a suite of assessments that determine students' progress in mastering grade level expectations within each tier, the analysis of these data to drive instructional decisions, the common understanding that students' movement across tiers is fluid and based on their needs in relation to the current curricular goals, and the coordination of key features of instruction within and across the tiers. Figure 1 is a common depiction of the framework.

Levels or tiers. The model typically consists of three tiers of instructional support (RTI Action Network, n.d.). Tier 1, also called Universal Supports, consists of high-quality, research-based general instruction for all students, typically received in general education classrooms. Students are assessed at the beginning of each school year for a baseline and periodically

throughout the year to measure growth towards learning goals and to identify any areas of need that require additional support. If a student requires additional support, (s)he typically receives supplemental instruction within the general education classroom. This might take the form of individual or small group instruction on specific skills or concepts. During this supplemental instruction, the student's progress is monitored. If the skills or concepts are mastered, the supplemental support for these skills ends. If the student requires additional support, Tier 2 interventions are put in place.

Also called, Strategic, Targeted, or Secondary Supports, Tier 2 addresses a student's specific needs through targeted instruction over and above Tier 1. This might look like services by the general education or Title I/At-Risk teachers, again using high-quality research-based curricular materials and instructional strategies, focused on the specific skills and concepts a student needs. More targeted assessments might be used to diagnose these specific learning needs. Instruction may occur one-on-one or within a small group with other students who have similar needs. Again, each student's progress is monitored, and those students who master the skills are moved out of Tier 2 services for those skills. Those students who need additional support are considered for Tier 3 interventions.

Tier 3 supports, also called Intensive or Tertiary Supports, are instructional interventions on top of Tier 1 and 2 services. Again, more targeted assessments might be used to further identify students' learning needs. Tier 3 services might, again, be provided by Title I/At-Risk teachers one-on-one or in small groups, but perhaps with different curricular materials and instructional strategies intended to focus intensively on students' specific learning needs. In some schools, special education services are also considered Tier 3. A special education teacher would serve students on his or her caseload using materials and strategies appropriate for Tier 3

instruction. If, after Tier 3 services, a student requires additional supports, a comprehensive evaluation and special education services can be recommended.

To clarify, Tiers 2 and 3 are not necessarily for students labeled at-risk in some way, such as being an English language learner or qualifying for Title I or special education services. On the contrary, the three tiers are to be utilized fluidly, with the possibility of any student needing addition supports at any time to master any aspect of the state standards. Further, some educators advocate that students do not need to move through each tier of the system if it is clear they need intensive support immediately (Fuchs et al., 2012; Vaughn, Denton, & Fletcher, 2010).

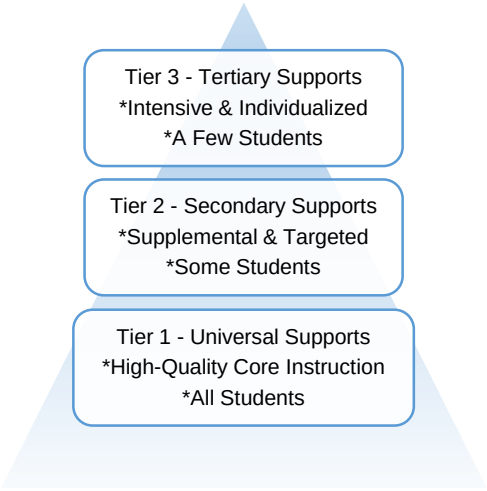

Figure 1. The MTSS framework, representing all students and their fluid movement through tiers.

Key features of instruction to be coordinated. The MTSS framework requires coordination of key features of instruction across tiers, across a school year, and across grades. First, the curriculum to be mastered and the materials used to support that curriculum should align across tiers so that, in addition to helping students master learning goals recently covered in Tier 1, Tiers 2 and 3 support students in mastering current goals, which may build on past goals. The curriculum should also build logically over the course of the year and across grades to effect

a building-wide system of instruction, a system that also feeds well into the next building. Assessments should align in a similar manner.

This means teachers need to coordinate both their understandings and their enactments of the curriculum and assessments. In addition to fulfilling their individual responsibilities within their school's MTSS model, teachers will work together to study assessment data, the curriculum tools they use to address students' needs, and other instructional practices that affect students' opportunities to learn across tiers, across the year, and across grades.

The MTSS framework also requires continuous improvement of instruction driven by assessment data. In addition to identifying students who need additional support, recurrent assessments help teachers identify areas where instruction within each tier requires improvement. For example, if a large group of students struggled with retelling text, teachers should coordinate to provide students with additional instructional supports across tiers. Teachers should also examine what retelling lessons looked like in each tier and then adjust instruction to better meet students' learning needs with this skill specifically and with the curriculum generally. Data are to be used to improve both students' opportunities to learn and the school's instructional system.

Because schools vary greatly by students' needs, human and other resources, and organizational structures, and because these factors themselves vary year-to-year, the MTSS framework is meant to be flexible and adaptive. Schools are encouraged to customize a model that fits their current contexts, as long as they adhere to the essential components of the framework. Further, schools are encouraged to use data gathered to make improvements to their version of the model as well as other organizational structures, staffing, and resources to better serve their students' needs.

Actualizing MTSS

Bringing MTSS to life, one can imagine, requires a great deal of work – work that is not typical for practitioners and their partners. MTSS is an ambitious intervention, requiring teachers and administrators to change their knowledge, skills, and dispositions (Cohen, 2011) in order to change daily instructional practice and the management of instruction. This work should begin with strategic planning, with which previous lessons learned can assist.

Design matters. Interveners may use the common MTSS design described above, or they may begin with this design and devise modifications. Further, revised or not, the design presented to enactors could be rather general, or it could be highly developed and specified, with supporting materials. As we learned, the more explicit the guidance interveners provided on what a systemic reform looked like in practice, the more likely enactors understood and enacted the reform as intended. Research on implementing RtI also demonstrated the importance of specifying details such as roles, responsibilities, and resources (Mellard & Johnson, 2008). Highly specified designs are useful tools exactly because they are less ambiguous about goals, expectations, processes, and other details. Thus, they better support the learning of practitioners in developing their capacity. Are MTSS interveners willing and able to provide highly specified designs with many supporting materials to help enactors understand and actualize the framework?

Further, will MTSS interveners worry about and have the capacity to create highly specified implementation designs that include a curriculum for teacher and leader learning, built around using the MTSS frame in daily practice and within organizations and an institution that possess weak capabilities to support coordination? The MTSS framework does not include an implementation design. This is left for interveners to consider.

The MTSS frame also does not specify what high-quality reading, writing, or math instructional practices look like, aside from stating they must be research-based and follow a scope and sequence. MTSS focuses on how to manage an instructional program. Thus learning how to improve teacher-student interactions is left to enactors and other partners, if there are any. While drawing this operational boundary is less costly for interveners and affords partnering schools more control in reform efforts, this could be a liability for MTSS interveners, as the improvement of instruction is dependent to a large degree on whether teachers improve what they do with kids. Reforming how data are analyzed and used or how teachers coordinate lessons across tiers does not necessarily change how individual teachers engage children in learning how to decode and comprehend text. Changing how instruction is managed can only have a limited impact on instructional improvement.

Moreover, the MTSS frame does not specify which curricular, assessment, or data analysis tools to use, another strength and a weakness of the reform. The frame can be used with any state standards, any published curricular product, any number of assessments. Enactors could take tools they already use and repurpose them. Most of these instructional tools are not designed by the same organization and are not designed to interrelate with each other in terms of scope & sequence, specific targeted skills, pedagogy, and instructional strategies (Hill, King, Lemons, & Partanen, 2012). Unfortunately, this lack of specificity and coordination leaves even more for enactors to figure out, including learning what a successful system could look like using these particular tools. Individual states, districts, or other interveners might require or recommend certain tools, and they might choose to do this to limit the number of instructional tools they need to help support in partnering schools. This would also facilitate cross-building conversations so schools could support each other. However, if interveners require or strongly

recommend instructional tools, they are partially responsible for their effective use, which is again more costly, and thus a less attractive choice (Cohen & Ball, 1999).

The MTSS frame and principles are not difficult to understand. In fact, some might be attracted to the straight-forward, logical design for managing a school's instructional program. Some districts, states, or other interveners may even find this frame a productive way to view their schools – some buildings are operating well while others need some intervention. However, actualizing a multi-tiered system of supports requires much more than a common understanding of the framework and its principles.

Social, professional capital matters. Because each school is a unique arrangement of structural and cultural features, the MTSS design will be taken up in various ways by each school. In fact, individuals within a school may not agree on what MTSS is and what it could look like in their building, especially because some may be familiar with how other whole-school reforms functioned, including other versions of RtI. If interveners choose to work with multiple schools, how will they determine what are acceptable variations of the MTSS frame? How will they manage those variations, including refining their instructional and implementation designs? If individuals in a school disagree on what MTSS should look like, (1) how will interveners learn about this disagreement and the nature of people's understandings, and (2) how will they help individuals come to consensus so that they can build the social, professional capital needed to actualize a new instructional system? Are interveners willing to engage in any of these issues?

MTSS makes continuously improving instruction a building-wide concern. Every member of the instructional staff has a role and responsibilities in coordinating the building's instructional program, regardless of the source of their funding and the legal responsibilities they

must fulfill. MTSS directly challenges the silos that categorical programs, such as Title I and special education, created and have sustained for decades. Within the MTSS frame, general education, Title I, special education, and other instructional programs must align their curriculum and services. Doing so helps create social, professional capital that might not have existed.

However, the MTSS frame does not explain or suggest how to get to coherence. MTSS interveners must devise this, if they wish to and have the capacity to do so. And enactors have to do the work of shifting their understandings of their responsibilities and learning how to enact their new roles, how to work with people they perhaps have not had to before to complete instructional tasks they might be new to. They need to learn to do all of this while still fulfilling other responsibilities and managing the still-present multiple expectations of their formal positions from external agencies and stakeholders, which will most likely not be shifting towards coordination with them. How can enactors learn to do this, and will interveners help? How will interveners learn how to best help their partners develop this social, professional capital?

Learning matters. Will MTSS interveners provide extensive, on-site, and ongoing implementation support so that teachers and administrators develop a deep understanding of what it means and looks like to enact MTSS in daily practice? Will they provide professional development that makes explicit the principles and procedures implicit in the MTSS frame? Research on implementing RtI demonstrated it can be a great challenge to provide sufficient learning opportunities on how to properly use components of the system, and indeed, the whole system, including why and how to conduct universal screening, how to determine if core instruction was effective, and what effective interventions looked like (Johnson, Semmelroth, Mellard, & Hopper, 2012). Teachers and administrators typically did not have opportunities to learn why and how to enact the processes properly and learn how to work together in doing it.

Learning is important for interveners, as well. Will MTSS advocates put processes in place to learn systematically from their own efforts and allow others to learn from them, as well, including their partnering schools? Will they commit to analyzing data on their operations and making improvements on a regular basis? Are they willing and able to examine their own practices as closely as they are asking teachers and administrators to do? Doing so has the potential to benefit implementing and sustaining MTSS at scale over many years. However, this is a costly choice.

Leadership matters. Some principals, teachers, coaches, and other on-site leaders will have an idea of how to go about championing a new reform in their buildings. For those who are less certain, will MTSS interveners design a curriculum for these leaders to learn skills such as how to communicate clearly and consistently that the MTSS frame will guide the building's instructional work, how to appropriately allocate resources to support MTSS, and how to conceptually and procedurally integrate other instructional programs and initiatives under the umbrella of MTSS? If interveners hope districts and other key players will help create a stable reform environment, and if they are willing to help these partners tackle this problem, will interveners also design a learning curriculum for these leaders in how to do this, specifically to support MTSS? If the interveners are district and school leaders themselves, how will they learn to do all of the above? If the interveners are external partners, how will they develop the expertise to do all of the above?

Traditionally, responsibility for instruction was devolved to local school leaders, who often devolved these responsibilities to teachers. Currently, our federal, state, and even local governments are still discouraged from taking active roles in managing and supporting their public schools. Current policies do strengthen those relationships, but only to a degree, and such

tighter coupling has come with only slightly more development in the capacity of these organizations in doing this new work they are tasked with – supporting the adoption of high-quality standards, guiding the purchase of useful curricular materials, designing useful standardized assessments, managing and using data productively to help improve student outcomes. Most aspects of schooling and instruction continue to be devolved to the local districts and schools and contracted out to private firms. This fragmentation of roles and responsibilities for the education of our country's children challenges practitioners' abilities to bring about a coordinated and continuously improving system designed to improve students' learning opportunities. Components of our public schooling system do not have to work well together. The designers of those systems have little incentive to work together. Government has little authority or capacity to require it. Professional organizations within education also have little authority, capacity, or grounds on which to demand it. The burden is left on the shoulders of practitioners (and partnering interveners) to create coherent learning opportunities for students, if these educators choose to take up this work and if they have the capacity to do the work.

Yet we learned from successful systemic reforms that responsibility is distributed amongst many governmental and non-governmental actors who can support or challenge reform in schools. How will MTSS interveners shift the traditional understandings and routines that these key actors possess about their roles and responsibilities? For instance, can state education agencies help districts reorganize and develop the capacity to support MTSS across multiple schools? Do states want to and have the ability to take up that work? Can non-governmental interveners with no authority but great will and possibly more capacity accomplish this any better than states? Can all of these key actors find ways to work together, including establishing

inter-organizational structures to sustain their partnerships? Because leadership is distributed amongst multiple enactors, interveners, and other partners, are MTSS interveners willing and able to facilitate collaboration amongst them? This would entail developing their will if it is lacking, incentivizing consistent collaboration through difficult situations, and establishing organizational structures that allow partners to collaborate effectively.

The nature of the environment matters. Fragmented guidance means multiple messages and expectations on practitioners' work, multiple forces acting on their work of which they know little about. Certainly, they were not taught about these forces in most credentialing programs or how to best work with these forces that shape their relationships with their students. The extent to which interveners and others in their environment help them understand and work with these external relationships determines, to greater or lesser degrees, the ways in which they can productively work with their students, especially in times of change, like implementing a whole-school systemic reform.

The Common Core and any state standards could work well with the MTSS frame. In a sense, MTSS would be a whole-school reform nested within a standards-based reform. Again, many promote MTSS as a means to accomplish the Common Core. Seen another way, the coordination of the two systemic reforms could aid the effort to connect the links in the complex causal chain between the work at the federal and state policy level with the work in schools, through aligning their missions (providing all children with a high-quality education), theory of action (the coordination and continuous improvement of instruction), and principles of instruction (a scope and sequence for learning opportunities, data-driven decision making, shared responsibility and accountability for student outcomes, to name a few). There is no conflict, and the two efforts could complement each other well.

It would be up to interveners and enactors, though, to integrate the work on both reforms. To start, they would need to figure out and then explicate how their MTSS model connects with and fulfills federal and state policies, including how much of the work is one and the same. As we've learned, the success of any standards-based reform depends on the opportunities practitioners' have to make sense of the standards and what the standards could look like in their daily practice. If MTSS interveners wish to help their partnering schools integrate state standards with the MTSS frame, they would need to consider this complexity as they (re)design and offer partners learning opportunities. If MTSS interveners choose not to take up these issues, or if the interveners are the districts and schools themselves, these problems will be on the shoulders of teachers and administrators to solve.

The same concerns apply when considering how other instructional initiatives or programs – such as school improvement plans, Title I reports, and Race to the Top – could work well with MTSS. Interveners would need to help partners change how they understand the initiatives and how these initiatives could connect with or are covered by MTSS, and then change how partners complete daily tasks to achieve this coherence. Further, if other reforms do not easily align and even clash, interveners and enactors will need to manage this tension. If MTSS conflicts with the work of other initiatives, teachers and administrators will unnecessarily split their already limited attention, time, and other resources. This will most likely lead to frustration as they do their best to satisfy, juggle, and compromise.

While states work out standards and standardized assessments, schools and districts work out the curricular materials, more immediate assessments, shared instructional practices, other instructional tools, and training for all of the above that they need in order to help their students reach and surpass the standards. If MTSS is used as a frame for organizing a building's

instructional work, interveners and enactors will need to think through and accomplish by trial and error how to wield these materials, assessments, instructional practices, and other tools as a team in a manner that actualizes the MTSS frame.

Many MTSS interveners will not have the capacity or desire to partner with as many schools as some CSR developers. If the interveners are state departments of education or local districts, they must split their organizational resources amongst many goals. Thus, they will be even more cautious about the number of schools they support and the depth of the support they provide. This means interveners will draw boundaries around how many school systems they will work with.

Further, the investment of the interveners in their partnering schools and districts depends on the relationships the interveners have with their environment. How are they funded? Who are they accountable to, and for what are they accountable? What do they need to produce in order to continue existing as a project or organization? With who do they compete for political and financial support? With the resources they do have (and continuing challenges), for how long and to what extent can they commit to helping their partners achieve the common desired goal? If interveners cannot commit too much, practitioners are left with more of the burden of figuring out the reform and figuring out and learning on-the-job how to accomplish it within the complex and ever-changing network of relationships that govern their work with students.

While MTSS has the potential to unify many initiatives under one operational frame, enactors and their partnering interveners need to carefully manage how much of the environment to take on. As CSR developers learned (Cohen et al., 2014), the more interveners and enactors wish to integrate under the umbrella of MTSS, the more they complicate everyone's daily work.

Will interveners and their partnering schools be explicit about such choices so that they can be strategic?

Striking a fine balance matters. The final lesson learned brings up more questions for systemic reformers to consider. Are MTSS interveners prepared to be concerned with continually improving their implementation designs and the opportunities they provide for their partnering schools to learn? Are they clear on what are acceptable variations of the MTSS frame, and are they prepared to help schools manage those variations? Are they ready to learn systematically from their efforts? Are they willing to work with their partnering schools on managing the dynamic mix of supports and challenges the environment will provide? Are they able to attend to all of the above simultaneously, and for several years as dynamics unfold? Actualizing and sustaining a systemic reform is truly a fine balancing act interveners and enactors manage over time.

Any group of educators willing to take on the responsibility and workload of systemic reform deserves high praise. Systemic reform in US public education is extremely difficult. The bountiful number of questions in this section are not meant to deter MTSS interveners and other systemic reformers. The hope is these questions will help reformers think carefully about where to invest their limited resources and how to design their overall strategy. The hope is to also illuminate two more mechanisms of change in our growing knowledge of how to realize coordinated and continuously improving instruction.

Coordinated and Continuously Improving Work

While we continue to grow expertise in designing blueprints of systemic reforms to produce instructional coordination, we know little about the design of a social system that can do the same. Currently, new formal guidance collides with a system that socializes teachers to enact

a limited role in coordination outside of their classrooms and to struggle independently to coordinate instruction within their classrooms (Little, 1990). These understandings and routines are the most difficult aspects of practice to change (Powell & DiMaggio, 1991). This led me to seek scholarship on understandings and routines that produce coordinated work.

What follows are examples of coordinated work and explanations of what is required in order for groups of people to work in a coordinated manner. These studies offer insights on what would be required for groups of educators to enact the sort of coordination designed in the MTSS framework.

Coordinated and Coherent Work

Reflecting a sociocultural learning perspective, Cook and Yanow (1993) demonstrated that when an organization, such as an orchestra, performs, it necessitates the joint work of its members. The performance is not simply an aggregate of individual performances. Individuals contribute to the group's performance, and they must interlace their work appropriately with fellow members if they hope to achieve a superior group performance. Furthermore, individuals' work only makes sense within the context of the group performance, as a fourth grade teacher's work on multiplication with decimals only makes sense if preceding teachers taught repeated addition, subsequent teachers teach solving complex systems, and the group performance results in a child highly capable in a number of disciplines. Likewise, the know-how necessary to perform is a property of the group, as only the entire orchestra can perform a concerto and only an entire line of educators can educate a child. Individuals only possess the know-how necessary to perform their parts, and, again, their individual performances must be in relation to the group's performance.

This means members must share clear understandings of (1) what the group's final product will be, and (2) the responsibilities of each member in producing this final product[1]. These understandings allow members to fulfill their individual responsibilities as well as ensure their work interlaces productively with others' work. Individuals are responsible for the high-quality execution of their own jobs as well as the relationships amongst their jobs and others' work. If either responsibility is not satisfied, the joint work will not fit very well together, and the final product will not be achieved. Further, individuals must work together to check and adjust the product before each hand-off. Thus, in a sense, individuals work in concert. As a group, members share the work of producing a final product. There is joint responsibility for the group's performance. The better a member understands this joint work, this shared practice of producing, the more successfully he can accomplish his role in the process. Because the work is shared, all members must fulfill their responsibilities, and do so in concert, if a highly capable student is to result.

In education, Bryk et al. (2010) and Cohen (2011) similarly wrote that shared understandings and shared work enable practitioners to work and learn together how to continually improve instruction for their students. Indeed, without shared work, teachers have little reason to collaborate.

Unfortunately, the work described by Cook and Yanow does not resemble current teaching or schooling practices in the US. Teachers might work to improve their own practice, but they are not trained, incentivized, or supported in attending to and improving

[1] This does not mean every member knows how to perform well others' roles in the group. Instead, they know what other members are responsible for and generally how those responsibilities are accomplished. This knowledge is needed so that members can interlace their work. If, however, some members possessed the knowledge and skills to perform many roles well, that redundancy could facilitate high-quality group performance as it could strengthen the quality of interrelating amongst members.

interdependencies with others (Bryk et al., 2010; Cohen, 2011). Indeed, norms of practice incline teachers towards keeping their work private and respecting the privacy of others (Little, 1990). Because the work is currently not shared well, teachers face many difficulties developing shared understandings and work routines, and, thus, enacting coordinated instruction.

Illuminating the social-psychological processes underlying reliable group performances, Weick and Roberts (1993) articulated that when members of a group "heedfully interrelate," they contribute more productively to a group performance. Heedful interrelating involves visualizing a social system of joint actions ("representing"), and then appropriately constructing ("contributing") and interlacing one's actions with the system ("subordinating"). The degree to which each member performs each of these activities effectively contributes to the quality of the group performance. The "collective mind" that emerges will be more or less able to detect issues in the system before they become catastrophes, solve problems systemically, and continuously improve.

Heedfulness characterizes how members perform their individual jobs as well as how they interrelate with others' work. A teacher can perform her own work more or less heedfully, and this leads to higher or lower quality outcomes. Additionally, she can perform with more or less regard for others' work, which again affects the quality of outcomes. In both cases, her heedfulness influences others' jobs, and thus the group's capacity to accomplish a joint task, such as coordinating instruction.

However, teachers typical do not heedfully interrelate concerning instruction. A teacher may be heedful with logistics, such as scheduling the computer lab or field trips. He may even heedfully interrelate when planning with his team. However, heedful interrelating on instruction across teams usually stops at the creation of a year-long curriculum map, and this falls far short

of carefully interlacing practice over time. Teachers are typically not trained, supported, or incentivized to relate with others in such ways. Their organizations typically do not define their roles or design their jobs in ways that require or even encourage interrelating (Cohen, 2011).

Continuous Improvement while Maintaining Coordination

Opportunities to adapt and continuously improve instruction can unravel coordination (Peurach, 2011). With innovations occurring randomly and often daily, maintaining coherence even building-wide is difficult. Yet, adaptations are inevitable, and productive adaptations are desired. Studies demonstrated that effective practice only emerges over time as design and practitioners continually interact to adapt and adjust both the design and the enactment of instruction (McLaughlin, 1989; Peurach, 2011; Peurach & Glazer, 2012). How can coherence be maintained while allowing innovations to flourish?

Cook and Yanow (1993) demonstrated that improving does not entail a simple addition, removal, or replacement of work routines. It entails the reworking of existing understandings and actions in order to maintain existing operations as well as identity. In other words, much of the existing culture in an organization is maintained by negotiating and folding improvements into existing work. This holds whether the improvement was internally or externally constructed. This means improving is learning done by the group, not by individual members, because, in an organization that exercises coordinated work, the improvement affects the group's performance.

According to Weick and Roberts (1993), the choice to heedfully interrelate or not during these opportunities to adapt will affect the group's ability to perform coherently. If a practitioner uses the current social system of work to guide her contributions, then adaptations are adjusted towards productively contributing to the group goal. Attention is paid to improving individual

responsibilities as well as to improving the relationships amongst work. When interrelating is less heedful, members may learn how to do their job better, but what is learned is not framed with regard to others' work and, thus, the group's performance. The member may, in fact, learn in a manner that undermines or conflicts with others' work.

Further, to continue performing in concert, Cook and Yanow (1993) explained how members must continually practice together. This means teachers must teach together, and they must learn how to do "instruction" as a collective. Individuals can rehearse their individual parts, but knowing how to perform collectively requires group rehearsal. This social learning allows for the folding in of new understandings and routines into collective practice while maintaining coordinated performance.

Social Learning and Repurposing Building Blocks Matters

While both articles from the organizational studies literature were focused on explaining organizational learning, they also provided explanations of what coordinated work looks like and how work becomes that way. Both manuscripts explained how members coordinate as a social system to continually accomplish a goal, while learning how to maintain and improve their operations in the midst of changing internal and external conditions. These are descriptions of smart, reliable systems of work. How members maintain these systems provide possible additional lessons for us to learn about how educational practitioners might coordinate and continuously improve instruction.

Based on Cook and Yanow's and Weick and Roberts's findings, there are two possible additional mechanisms needed to actualize coordinated and continuously improving instruction. First, changing people's understandings and enactments of their practice entails repurposing, tweaking, renaming the existing building blocks of their work and determining how these

building blocks could now fit together in a manner that produces a well-functioning instructional system. Second, this is not learning by acquiring knowledge, but learning as an ongoing social process. Members continually learn together while practicing daily, which means they are continually interacting with their social system of work and with their environment.

A high-quality design for a coordinated and continuously improving instructional system would likely require practitioners to work together in ways they never have before. To accomplish this, they could not learn how to actualize the design independently, one member at a time behind closed classroom doors, no matter how highly specified roles, responsibilities, and resources were. They would need to begin learning how to interlace work to create a high-quality group performance. Essentially, they would need to learn how to rehearse together. They would need to engage in social learning, learning together while doing their work (Lampert, Boerst, & Graziani, 2011). They would develop shared understandings and work routines, and they would learn how to heedfully interrelate.

Further, such rehearsal would require and facilitate gradual changes to the building blocks people work with on a daily basis. Changing the cultural-cognitive understandings and routines (Powell & DiMaggio, 1991) underlying group performance entails the reworking of existing understandings and actions. How a tool, such as a phonics program, is understood and used may be tweaked, or the tool may be repurposed. A member's role and set of responsibilities, (e.g. a general education teacher) may be revised or cast in a different light in a manner that allows the member to contribute more productively to a system. The school improvement team may find much of their work now overlaps with the student success team's work, and they would need to think carefully about how to consolidate the roles and responsibilities of both teams while ensuring all work gets completed. The data used previously

by the Title I/At-Risk program may now become a tool for universally screening all students. This is not a simple change. General education teachers would need to learn how the data were gathered and how to use them productively to drive instruction. They might even need to learn how to collect the data, since possessing this skill would help them problem solve instructional issues. These resources for instruction (Cohen et al., 2003) can be the building blocks of a system. Improving instruction entails working together to repurpose, tweak, rename existing building blocks and determine how they could now fit together in a manner that produces a well-functioning instruction system responsive to evolving internal and external conditions.

It is unrealistic to expect to replace an existing social system of work with a new model. Effective or not, existing understandings and actions are how people accomplish their work. When they are introduced to a new way of working, they will consider it in light of their current ways (Coburn, 2001; Spillane et al., 2002). This includes considering if a new method will actually pay off for their students, as well as if and how existing resources can be tweaked. Thus, interveners must consider how to help enactors carefully and productively fold the features of a new design into their existing system of work. This means helping them tweak their existing understandings and actions so that they are able to change how they work.

According to these studies, when the repurposing and reconfiguring of building blocks is done with heed to the system and while engaging in daily practice, these improvements become shared and can contribute to a better group performance. Again, this is not learning by acquiring knowledge. It is learning as an ongoing social process, one that takes into consideration complex dynamics within and external to the organization. This allows the testing of innovations within the existing social system of work. If that innovation proves to be an improvement, it allows for the folding in of that improvement into the group's existing performance.

In these studies, coordinating work was an ongoing social process. The group continually learned together while practicing daily. According to these authors, in order to coordinate work, practitioners must share understandings of what the final product is and what each member's responsibilities are in creating that final product. They must fulfill individual responsibilities well, and they must join well their work with others' work. They share the work, the responsibility for the final product. They continually re-accomplish this by working together, "practicing" together. This allows them to interrelate their work heedfully. By continually working together, they can more accurately envisage a social system of joint actions (represent), construct productive actions (contribute), and interlace that work with others' work in the system (subordinate). By continually doing "instruction" as a collective, members engage in social learning that allows them to continually fold revisions to understandings and routines into collective practice while maintaining coordinated performance.

MTSS or a similar highly specified whole-school systemic design would provide interveners and enactors with a blueprint of a system to heedfully relate with, a score for them to perform as a group. Without such a score, practitioners would have to create on their own a system to heed, a score to jointly perform, including the details around members' roles and responsibilities and the system's use of resources. Otherwise, some may perform various scores together to serve a number of purposes (grade level collaborations on specific math units, Individualized Education Plan meetings, Title I reports, school improvement plans) while others have no knowledge of these performances in their buildings. Further, around what would building leaders ask the staff to work on as a whole group? The absence of a score leaves building-wide work unguided, without focus, incoherent. Moreover, simply having a score does not guarantee a high-quality group performance. Members need regular opportunities to

rehearse the score together in order to share understandings and routines around how to properly interlace their individual parts into a coherent, effective system that produces their desired group outcome.

If these findings are correct, implementation designs for systemic reforms would need to include explicit instruction on how to repurpose building blocks and how to rehearse together around a systemic design, understanding that each school is unique and would engage in these two activities differently. Further, these professional development opportunities would need to be embedded within daily practice and occur over a sustained period of time in order for practitioners to learn how to use the systemic design with students and within continually changing contexts. Practitioners would truly rehearse together, explicating and testing implicit principles and procedures, learning how to fold in the intricacies of the instructional design into their existing daily work, exploring together how to repurpose building blocks to accomplish their instructional system. Those in formal leadership positions would have opportunities to learn how to lead within an instructional system, a set of knowledge and skills that would be new to many. Social learning would allow members of a school to work out, within daily practice, multiple and perhaps conflicting understandings of what a systemic reform could look like in their building. If interveners participate in this social learning with their partnering schools, they will be more able to help enactors untangle conflicting understandings and come to consensus. Such an explicitly designed learning curriculum for practitioners would be costly, but would allow practitioners to develop a common professional knowledge base, the shared understandings and enactments of instructional practice and organizational management they need in order to jointly enact an instructional system. Absent such a learning curriculum, such as implementation designs where professional development is off-site and irregular, practitioners

will need to figure out on their own how to learn to accomplish an instructional system, again, if they have the capacity and will to do so.

Social learning allows leadership to be more easily distributed amongst teachers, coaches, principals, district administrators, external partners, policy makers, and other key players. Because all members are trying to heedfully interrelate, share work, and share responsibility for the group performance, acts of leadership can emerge amongst a number of members as different problems call on them to create unique solutions. By "unique solutions" I mean renaming, repurposing, and tweaking building blocks, folding in new blocks, and then reconfiguring how blocks fit together to actualize an instructional system. Further, heedful interrelating allows the group to create more productive solutions because members who regularly interrelate will be able to better envisage the system and, thus, create useful contributions to the system. Heedful interrelating might be especially important for those in formal leadership positions, as they are responsible for the overall improvement of instruction and management of the instructional system. Moreover, as interveners and other governmental and non-governmental external partners engage in social learning with schools, if they choose to and are supported in doing so, they will learn how to best support their partnering schools, including how to improve their own operations.

Social learning enables members to work together to manage the environment. Multiple messages, guidance, and expectations can be made sense of as a collective, instead of fostering multiple understandings and actions within the organization. Members can share the work of repurposing and reconfiguring building blocks so there is less to juggle and compromise. When there is a need or desire to adopt new curricular materials, initiatives, or policies, social learning will allow members to work together to integrate these new building blocks with each other and

with the existing instructional system to avoid redundancies and fragmentation of work. For example, actualizing and sustaining an MTSS model would require changing how members understand the Common Core State Standards, school improvement plans, Title I reports, and Race to the Top and how these building blocks could connect with or are covered by MTSS.

Discussion: Pushing Our Understandings of Instructional Practice

While expertise and activity in developing large-scale coordinating instructional designs has grown substantially over the past few decades, similar conversations about the parallel shifts these reforms would require in the social-psychology of teaching practice are not as common, developed, or salient. For practitioners to use a formal, coordinated system adeptly, they must, jointly, have a deep understanding of its design, its components, and the joints amongst components. Proficient usage requires a solid understanding of one's specific job and the resources, including specific tools, one needs to fulfill this work. Astute practice also requires general knowledge of how others understand the formal system and their individual jobs, and then specific knowledge of how one's work interrelates with others' work. Further, in order for components to join and individual work to interconnect, people must continually work together to negotiate and renegotiate shared understandings and shared work. Moreover, systems can always be improved in light of continually changing contexts. Members need to exercise trained judgment during the course of daily work, which inevitably includes interactions and interdependencies with others' work.

Such systemic work requires a drastic shift in people's understandings and enactments of their individual jobs and of their roles as members of a school. Changing people's cultural-cognitive understandings is the most difficult aspect of work to change (Powell & DiMaggio, 1991). The greater the required shift, the more support people will need with shifting.

Two mechanisms of change discussed in the organizational learning literature are the repurposing of building blocks and opportunities for social learning. Cook and Yanow (1993) and Weick and Roberts (1993) demonstrated how these two learning mechanisms were necessary to facilitate continuous coordination and improvement in other organizations. They allowed members of a group to maintain and improve shared understandings of the group goal and each person's role, shared work routines that enact those understandings, and heedful interrelating around their system of work.

Actualizing coordinated and continuously improving instruction is not a matter of learning to serve kids better by learning common standards or learning new standard operating procedures, although standards and models of operations such as MTSS are very useful components of a functional system. Actualizing coordinated and continuously improving instruction also requires taking one's existing building blocks (i.e. components of a possible system), understanding their *changing* and *changeable* natures, and reworking together as a group a new way to operate.

The act of repurposing building blocks to come to new understandings and behaviors could be accomplished individually, independent of others' work and even with no regard for the larger system. As a teacher, one could, on her own, rethink her role and responsibilities, as well as how she uses her current materials to accomplish her new goals. That alone could result in some instructional improvement. However, to create coherent learning opportunities for students across daily settings (e.g. discipline-specific classes, general education, Title I/At-Risk, special education), throughout an academic year, and across grades, she must work with her colleagues and heed a building-wide instructional system they worked together to create and continually recreate. To do this well, she must share the same image of a system as her colleagues and share

the same understandings of how they each contribute to the system. Then they must all contribute as they designed. Thus, in systemic reform, the act of repurposing to come to new understandings and behaviors must be accomplished through social, participatory learning, so that they can share these understandings and share the work (Lampert et al., 2011). It will then be easier to contribute effectively to students' learning opportunities.

The MTSS framework does not require vast new resources. There is no need to hire new personnel or purchase new materials, although practitioners may choose to do so. Rather, it requires people to rework their understandings about and uses of existing resources. Money does need to be spent on professional development, including possibly on-site coaching, and interveners might find creative ways to cover costs with partners. However, the other resources needed are those that already exist in schools, but reworking how they are understood and used, such as existing programming, curricular materials, funding categories, formally defined personnel role and responsibilities, and even leadership teams. Indeed, existing staff and team meetings can be transformed into opportunities for social learning, and existing discourse and problem solving routines can be tweaked so that participants use MTSS as a guiding frame.

Changing understandings of and enactments with building blocks while environmental conditions continually change is difficult work. It is more than simply creating a system while ensuring that system aligns with the environment, although this alone would be far from simple work. It is trying to align with environmental conditions while also trying to change them. In other words, we are seeking systemic reform within a fragmented system while also trying to change that system. The theory of action of coordinating and continuously improving instruction seeks systemic reform in a public institution purposely constructed to be non-systemic. This takes developing new understandings and habits around what building blocks can do and how

they can fit together. Regularly accomplishing such capacity development entails social learning – learning as a group within daily practice.

The conceptualizations of coordinated work and continuous improvement developed by Cook and Yanow (1993) and Weick and Roberts (1993) help us shift further our understandings of teaching practice being collective work. Improving instruction, students' learning opportunities, and teaching practice becomes even more an endeavor of improving "teaching quality," not "teacher quality."

A major barrier to actualizing systemic reform within US public schooling has been the current fragmented infrastructure that was not designed to support coordination, and thus possesses weak capabilities to do it. In fact, the current infrastructure, as it was designed, discourages it. Thus, schools are organized and jobs are designed to discourage coordination.

Reformers working from within the system have to work with these weak capabilities to leverage change, historically with little success. Reformers such as some CSRs and charter management organizations (CMOs) have had to work on the fringe of the system to design and build infrastructures that possessed the capacity to coordinate instruction. Unfortunately, in order to expand these coordinated schooling systems, to broaden their reach to more children across the country, CSRs and CMOs would have to be willing and have the resources to take on the many aspects of incoordination within the institution of US public schooling, a formidable endeavor that has often failed.

The interveners championing the systemic reform in this dissertation tried to accomplish from within the system what CSRs and CMOs have only been able to accomplish on the peripheries of the system. Their work provides us with more lessons learned.

CHAPTER THREE – Manuscript 2

Shifting Cultural-Cognitive Understandings of Instruction towards Coordination and Continuous Improvement

A large body of research has demonstrated it is easier to design a coordinated and continuously improving instructional system than to shift existing social systems of work towards actualizing such designs. The previous manuscript explored lessons learned from prior studies on actualizing systemic reform – (a) design matters, (b) social, professional capital matters, (c) learning matters, (d) leadership matters, (e) the environment matters, and (f) striking a fine balance amongst these elements matters.

While we grow more adept at designing systemic reforms to coordinate instruction, we need to know more about how to accomplish the parallel shift in the social-psychology of instructional practice that is necessary to actualize coordinated and continuously improving work. Designs can help structure work to be more or less coordinated with the ability to continuously improve. Designs can detail how a network of professional learning communities should work together, who boundary spanners/knowledge brokers are, what feedback loops look like and how to use them. But the work of actually coordinating and improving instruction is done by teachers and administrators through their daily work. Helping people change their cultural-cognitive understandings of how to do instruction is a very different task from designing a system. However, it is a task many interveners and practitioners are willing to tackle. What else do we need to know in order to help practitioners learn to coordinate instruction when they were trained to work very differently, and when they will continue to work in a system of

government, education, and business organizations that are also in a nascent stage of learning how to coordinate instruction?

We have a critical need to understand more about how to help shift existing social systems of work towards coordinating and continuously improving instruction. The purpose of this chapter is to explore the usefulness of the organizational learning concepts of shared understandings, shared work, and heedful interrelating as components of social learning in efforts to develop a faculty's social, professional capital to actualize systemic reforms. This study addressed the following research questions:

1. In an initiative's normative model of a systemic reform, what, if any, are the expectations for sharing understandings, sharing work, and heedfully interrelating? What, if any, are the supports for actualizing these expectations?
2. In what ways, if any, did teachers share understandings, share work, and heedfully interrelate prior to the introduction of the initiative? What, if any, were the supports for actualizing and sustaining these understandings and enactments of instruction?
3. During the first two years of implementation,
    a. To what extent did the initiative help partners develop shared understandings, shared work, and heedful interrelating?
    b. What else seemed to facilitate or hinder capacity building, including the organization of schools and school systems and dynamics with the local and broader environments?

Using a combination of qualitative and social network analyses within a longitudinal, multiple case study design, I explored the nature of shared understandings, shared work, and heedful interrelating in two schools during the fall and spring of the first two years of implementing a systemic reform, specifically Multi-Tiered System of Supports (MTSS). The reform was championed by an organization working within the existing uncoordinated system of public schooling to try to accomplish at a large scale and with the existing system's weak capacities what comprehensive school reformers and charter management organizations have only been able to accomplish on the periphery of the system and with limited reach. The study design and mix of methods was fitting for examining how practitioners' understandings and

enactments of coordinated work developed or regressed within each school over the two years, as well as for identifying possible explanations for changes.

At the end of two years of implementation, the faculty of both schools did not have sufficient opportunities to learn how to construct customized MTSS models to manage school-wide reading instruction in their schools. Members of school leadership teams received direct training, but they were unable to provide the rest of their staffs with similar learning opportunities. Nor were they able to develop their colleagues' capacity through ongoing collegial conversations around reading instruction. Further, while the training successfully developed their theoretical knowledge, it was not sufficient for developing their practical knowledge and skills. They struggled with what the design meant for their specific buildings and how to actualize those visions given their existing social systems of work. Moreover, a number of other issues complicated implementation, including the rocky implementation of a K-5 reading program. Thus, these hard-working and willing practitioners were unable to operationalize the MTSS framework in their schools. This has been the typical result of most reform efforts in US public education for over half a century.

However, there were successful instances of coordinating and improving instruction, and these were due to learning opportunities that were social, embedded in daily work, on-site, and ongoing. Faced with a mix of emergent problems and opportunities, practitioners repurposed and rearranged existing resources (i.e., "building blocks") so they could jointly tackle their common instructional problems. These unexpected opportunities to learn facilitated, indeed, required the development of shared understandings, shared work, and heedful interrelating towards common goals. Practitioners had to accomplish this new work while continuing to fulfill other responsibilities and managing the realities of their organizational structures, culture,

and their environments. Indeed, these learning opportunities directly took on issues that complicated implementation and succeeded in coordinating and improving instruction despite them.

In order for these sorts of learning opportunities to occur on an ongoing basis, to become new (or, more accurately, revised) organizational structures and processes that sustain systemic improvement, interveners more knowledgeable about and experienced with the particular systemic reform, such as MTSS, might need to provide on-site technical assistance. Interveners could participate in these learning opportunities through scaffolding and modeling, for instance, the use of MTSS as a guiding frame. The main responsibility of on-site coaches would be helping practitioners develop the shared understandings, shared work, and heedful interrelating they need to jointly enact a school-wide instructional system within their local environments.

This chapter demonstrates the need to take enactors' learning curriculum even further into practice in order to make connections between policy and practice. Specifically, if the goal is to develop social, professional capital around enacting a systemic reform, interveners and enactors should consider creating ongoing, on-site, social learning opportunities embedded in normal daily work in order to develop building-wide understandings and enactments of how to coordinate and continuously improve instruction.

Teachers' Professional Learning that Changes Practice

A great deal of education research in the past three decades focused on the sorts of learning opportunities teachers need in order to help students accomplish the increasingly demanding expectations on student learning. Understandings of effective professional development continue to move away from single, off-site, process-product oriented workshops towards learning opportunities that are aligned with teachers' current reform efforts, on-site,

practice-based, social, and ongoing (Cohen & Hill, 2001; Garet, Porter, Desimone, Birman, & Yoon, 2001; Opfer & Pedder, 2011). The following literature review explores findings from studies of teachers' professional learning and then studies from organizational learning that might be useful for helping teachers shift instructional practice towards enacting an instructional system.

Sociocultural Learning Theory

Much of the literature builds on sociocultural learning theory, specifically communities of practice (Lave & Wenger, 1991; Wenger, 1998). This theory emphasizes the social nature of professional learning. Practitioners learn, relearn, and improve practice as they participate in daily ongoing work-related tasks with other practitioners. These tasks are not necessarily focused on improving practice. They could simply be typical work tasks that occasionally require an adjustment or two given ever-changing conditions. As practitioners work together on such adjustments, they can learn how to improve their practice.

Wenger's (1998) explanation of the complementary processes of *participation* and *reification* suggests how more ambitious changes to practice might occur, a strategy used with many reform efforts in and outside of education. For Wenger, *participation* is, "a process of taking part and also to the relations with others that reflect this process. It suggests both action and connection" (p. 55). Wenger defines *reification* as, "the process of giving form to our experience by producing objects that congeal this experience into 'thingness.' In so doing we create points of focus around which the negotiation of meaning becomes organized" (p. 58). For Wenger, these two processes continually engage in a dynamic interaction that facilitates the ongoing negotiation of meaning within communities of practice. This ongoing negotiation of meaning may or may not lead to changes in practice, and any change may be gradual. Many

education interventions, including systemic reforms, may be understood as efforts to inject new reifications – new curricular materials, standards, assessment systems, systemic frameworks – into the participation-reification relationship to support changes in meanings within communities of practice. However, the practitioners present for any opportunity of sense making greatly determine the knowledge brought to bear on the new reification and its effect on practice. Thus, deciding who participates with whom in professional learning opportunities, around what reifications, and in what contexts should also be key design decisions.

In line with this, much of the education research on teachers' learning opportunities has been devoted to explicating the nature of effective *participation*, specifically determining the features of teacher professional communities that are more likely to facilitate improvements in classroom-level instruction. Not all collaboration results in improvements in teachers' practice, despite many organizational resources that might support it (Holmstrom, Wong, & Krumm, 2015; Little, 1990). Research demonstrates that teachers in effective communities share a goal around students' academic performance, work together to achieve it, regularly assess their progress, make corrections to their work, and hold themselves accountable (McLaughlin & Talbert, 2006). Delving more deeply into how teachers' minute-by-minute interactions facilitate learning and improvement, Horn (2005) described three conversational resources key for shaping teachers' learning. First, while the designs of reifications mattered, the sorts of opportunities to participate determined teachers' understandings and enactments of a reform. Weak opportunities for participation (e.g., interactions that respected individual interpretations) led to weak and variable understandings and enactments. Second, existing understandings around students, subject matter, and teaching shaped discourse and, thus, possible solutions to instructional issues. Consequently, attending to those understandings and trying to shift them towards more

productive schemata are important tasks for professional development. Third, the ways in which teachers represent their teaching, specifically, how they replayed and rehearsed classroom dialogues with their colleagues, provided different opportunities for colleagues to participate together to solve instructional problems. Horn and Little (2010) also found that different types of conversational routines and other social resources afforded different opportunities to learn. A shared frame of reference and common knowledge of their common, coherent curriculum allowed teachers to characterize problems of practice in ways that allowed all members to understand a problem deeply, situate it within specific lessons they all taught using particular materials, and jointly tackle it. When a group lacked these two resources, the many independent frames and curricula frustrated joint action. Another important resource was teacher leadership that engaged the community in ongoing, productive discourse routines that allowed for collective learning and problem solving around daily, emergent student learning issues.

While the communities of practice literature does not speak directly to a system of practices, many concepts can speak to how disparate sets of instructional practices within a school could coordinate and enact an instructional system. For example, *brokers* (participants who belong to multiple communities of practice) and *boundary objects* (reifications used in multiple communities of practice) could facilitate coordination amongst communities (Wenger, 1998). Additionally, *boundary encounters* – conversations, meetings, visits – could facilitate coordination. Further, *imagination* can situate a community's practice within a broader context, and *alignment* is about actively trying to connect a community's practice with a larger endeavor. Indeed, Stein and Coburn (2008) used this theory to explain how the different environments for learning that two districts designed had different consequences for teachers' opportunities to coordinate their perspectives and actions.

For the purposes of designing learning opportunities that develop the social, professional capital needed to enact an instructional system, communities of practice theory points to the importance of carefully designing opportunities for participation around new reforms, specifically, their reifications. For one, existing understandings around students, subject matter, and teaching may need to be shifted so teachers can create productive solutions to instructional problems. Further, shared frames of reference and shared knowledge of a common, coherent curriculum allowed teachers to work together on instructional problems. Additionally, effective professional learning communities shared a goal around students' academic performance, worked together to achieve it, regularly assessed their progress, made corrections to their work, and held themselves accountable. In addition, ongoing, productive conversational routines opened up daily classroom interactions through replay and rehearsal in ways that allowed everyone to participate richly in problem solving and, thus, learning. This body of literature elucidates a multitude of understandings on the sorts of collegial interactions that foster continual professional learning and instructional improvement.

Social Capital, New Institutionalism, and Social Network Theories

Social capital, new institutionalism, and social network theories also contribute to understandings of the sorts of professional learning that can improve practice. Studies based on these theories examined how knowledge, information, norms, and other resources can flow through local networks to change practice.

Adding to findings on effective participation in the communities of practice literature, these studies searched for structural features of social networks that are more conducive to increasing social, professional capital. For example, Penuel and colleagues (2010) found that when a school's informal social network aligned with formal organizational roles (e.g. grade

levels), it was more likely that teachers developed a common vision for reform and coordinated their efforts towards instructional change. In another paper, Penuel and colleagues (2013) found that, in addition to appropriate professional development, teachers' conformity to new national norms for reading instruction was more likely if teachers' schools and subgroups (i.e. a group of frequent collaborators) demonstrated high degrees of conformity to those norms. Similarly, Jackson and Bruegmann (2009) found a spillover effect of expertise amongst teachers, suggesting peer learning. Specifically, a teacher's students were more likely to have larger achievement gains when (s)he had more effective colleagues. Coburn and Russell (2008) found that certain policy provisions could shape teachers' access to resources across subgroup boundaries, access to expertise, and depth of interactions, which all, in turn, shaped teachers' learning opportunities.

While this body of literature does not directly address developing the social, professional capital needed to enact systemic reforms, it does help us better understand the nature of learning opportunities that can change practice, such as having collegial relationships with knowledgeable others. The quality of relationships amongst colleagues is, indeed, important for improving instruction and other building-level outcomes (Bryk et al., 2010). These studies complement the findings from the communities of practice literature.

Systemic Reforms

Studies of teachers' opportunities to learn how to actualize standards-based reforms centered more on how to improve classroom-level instruction than how to organize a building-wide instructional system. Research on these learning opportunities demonstrated that changes in instructional practice were more likely to align with policy makers' intentions if teachers had opportunities to examine at length policy instruments that attended to deeper aspects of daily

practice, such as students' responses on assessments (Cohen & Hill, 2001; Spillane, 2004). In fact, the more such policy instruments teachers engaged with and the greater the length of time they spent working with them, the more likely it was for teachers to change their practice in ways that aligned with the reform. In addition, the research discussed how other aspects of learning complicated these opportunities. For example, teachers' existing beliefs, norms, and work routines shaped how they made sense of new policies. Coburn (2001) also found existing understandings and actions amongst co-workers influenced the sense teachers made of new policies. Further, Spillane (2004) emphasized the strong influence district-level sensemaking and subsequent policy making had on teachers' understandings and actions.

Learning how to actualize a comprehensive school reform (CSR) design focuses on learning to construct and sustain building-wide systems, including instructional systems. Research on these learning opportunities found that ongoing, on-site, and practice-based training that was focused on the design and strategies for instruction were key to developing practitioners' capacity to enact CSR models (Aladjem et al., 2006; Cohen et al., 2014; Herrmann, 2006; Rowan et al., 2004). Ongoing opportunities included off-site workshops, learning embedded within materials, and national conferences. On-site technical assistance included classroom observations with feedback, one-on-one coaching, and working with teachers during meeting times. Practice-based meant working on tasks teachers would engage in during daily work. These studies also described how complicated successful implementation was for reforms of this magnitude, ones that sought broad and coordinated change of a school's existing patterns of work. Successful change required a fine balance amongst instructional and implementation designs, schools' existing social systems of work, a system of quality opportunities to learn for

enactors, the existing capacity of CSR developers to provide such learning opportunities, and cooperation from the environment.

Newmann et al. (2001) also described the importance of ongoing and practice-based professional development focused on an instructional frame in order to support instructional program coherence. They added professional development should be social, involving colleagues responsible for related instructional tasks. Further, they discussed the collective responsibility teachers and administrators should have for supporting the frame. Teachers and administrators must expect each other to work towards their clear and specific goals. Moreover, teachers should remain in their position assignments for a length of time in order to learn how to do their jobs well.

Studies on implementing systemic reforms add a great deal to our knowledge on how to develop the social, professional capital needed to improve instruction, elaborating especially on the complex dynamics involved. These studies found the ability to actualize instructional coordination was best developed through ongoing, on-site, practice-based, and social learning opportunities. The more extensive the opportunities teachers had to work with the reform and its practice-based reifications, the more likely it was for them to learn how to do their jobs well and, thus, actualize systemic reform. Moreover, teachers and administrators needed to share collective responsibility for actualizing the systemic frame and reaching their reform goals. However, successful implementation of such broad and coordinated change required a fine balance amongst interveners' work, enactors' work, and environmental conditions.

Organizational Learning

Two seminal studies in the organizational learning literature explored the nature of coordinated and continuously improving work in high-performing organizations. The cultural-

cognitive understandings and routines that helped construct and reconstruct these systems of work over time and within changing contexts provide insight into the sorts of learning opportunities teachers and administrators may need to actualize systemic reform.

As described in the previous chapter, Cook and Yanow (1993) demonstrated that when an organization performs, it is not simply an aggregate of individual performances. Individuals must interlace their work with each other appropriately in order to accomplish a quality group performance. Individuals' work only makes sense within the context of the group performance, as an individual performs only one aspect of the final production. Individuals possess the know-how to perform their parts, and their individual performances must be in relation to the group's performance. Thus, members must share clear understandings of (1) what the group's final goal is, and (2) the responsibilities of each member in accomplishing this goal. These understandings allow members to fulfill their individual responsibilities as well as ensure their work interlaces productively with others' work. If these responsibilities are not satisfied, members' joint work will not fit very well together and the final goal will not be achieved. Moreover, members must work together to check and adjust the points where their work interlaces to ensure a smooth group performance. As a group, members share the work of accomplishing the final goal. The better members understand how they perform in concert, the more successfully they can accomplish their individual roles. Because the work is shared, all members must fulfill their responsibilities, and do so in concert, if the final goal is to be accomplished. Note the centrality of 'shared understandings' and 'shared work' in accomplishing coordination and continuous improvement. Without these cultural-cognitive understandings, members of a group cannot enact their system of work in order to accomplish their goal.

Weick and Roberts (1993) described the social-psychological process of 'heedful interrelating' underlying reliable group performances. Heedful interrelating involves visualizing a social system of joint actions ("representing"), and then appropriately constructing ("contributing") and interlacing one's actions with the system ("subordinating"). The degree to which a member performs each of these activities effectively contributes to the quality of the group's performance. Heedfulness describes how members perform their individual jobs as well as how they interrelate with others' work. A teacher can perform her own work more or less heedfully, and this leads to higher or lower quality outcomes. In addition, she can perform with more or less regard for others' work, and this again influences the quality of outcomes. In both cases, her heedfulness influences others' work and thus the group's ability to accomplish their goal.

In both studies, continuous improvement was built in to the system of work. Much like Wenger's (1998) concepts of 'participation' and 'reification', Cook and Yanow (1993) explicated that when a possible improvement occurs, either internally or externally constructed, its meaning is negotiated by communities of practice. If it is accepted by one or more members, it is folded into existing work through ongoing practice. This means that people's existing understandings and enactments of instruction would be modified somehow – reworked and re-understood – even if they did not directly fold the improvement into their own work. If work is coordinated, what others do shapes their work in some way. Further, the group's work would be tweaked in ways that maintained existing operations as well as identity. Thus, the instructional system would remain intact and, hopefully, function more successfully. In this way, continuous improvement is learning done by the group, not individual members. Weick and Roberts (1993) emphasized the importance of choosing to heedfully interrelate during opportunities to improve.

If a teacher uses the current social system of work to guide his contributions, then adaptations are calibrated to contribute productively to the group goal. Attention is paid to improving individual responsibilities as well as improving the relationships amongst work. The type of social learning these authors described allows for the folding in of new understandings and work routines into collective practice while maintaining coordinated performance.

Expanding Our Understandings of Teachers' Professional Learning

The organizational learning findings complement those discussed thus far in the education literature. Cook and Yanow (1993) and Weick and Roberts (1993) would agree with the importance of practitioners learning while they interact with other practitioners around daily, ongoing work tasks. Learning opportunities should be social, on-site, practice-based, and ongoing. All four elements are necessary for practitioners to develop common, shared understandings of how they practice instruction together and the work routines for which they share responsibility. This is what I mean by 'shared understandings' and 'shared work'. Further, practitioners should share clear understandings of what the school's goals are, situate individuals' and communities' practices within the context of these goals, and actively try to align those practices with the larger endeavor. This is ongoing work that requires practitioners to regularly assess their progress and make any needed adjustments. In these ways, they practice 'heedful interrelating'. When practitioners continually engage in heedful interrelating, they update their shared understandings and shared work routines. In this way, resources such as understandings and enactments of instruction flow through social networks to continually improve an instructional system by continually aligning and realigning individuals' practices. In sum, practitioners can enact a system through collective heedful interrelating, negotiating in

practice (Lampert et al., 2011) to continually maintain and adapt understandings and work routines (Feldman & Pentland, 2003) within evolving environments (Cohen et al., 2014).

Cook and Yanow (1993) and Weick and Roberts (1993) add more nuance to our understandings of what effective teachers' professional learning could look like. In addition to being social, practice-based, on-site, and ongoing, it might be useful to focus more explicitly on developing 'shared understandings', 'shared work routines', and 'heedful interrelating'. While a number of studies have touched on the importance of these resources in developing social, professional capital to improve instruction, this current study examined them directly to explore their usefulness and their nature as components of social learning in two schools' efforts to actualize systemic reform.

To recap, 'shared understandings', 'shared work', and 'heedful interrelating' are processes within social learning that allow members of a group to continually coordinate and improve their work in order to accomplish an ever-present group goal. 'Shared understandings' means members share clear understandings of what the group goal is and the responsibilities of each member in accomplishing that goal, including how individual work interlaces with others' work. For example, a group goal could be "80% of students matriculating to the next building will read at or above grade level." Each member of the faculty and administrators would agree on what individual responsibilities are, such as teaching the five pillars of literacy using certain curricular materials and assessments. Further, they would agree on how individual work interlaces with others' work, such as how instruction by Title I and special education teachers interlaces with instruction provided by general education teachers, and how this work connects across grade levels. 'Shared work' refers to the work routines faculty and administration enact to accomplish the group goal. Following our previous example, all teachers would share the work

of planning, teaching, assessing, analyzing data, and planning again using those specified curricular materials and assessments. Importantly, they would likely plan and analyze data together to renegotiate their shared understandings and ensure alignment of their individual work. Ideally, they would also teach together regularly. In addition to one's grade or program (e.g., special education, Title I/At-Risk) colleagues, joint work would include colleagues from other grades and other programs, again, to ensure alignment. 'Heedful interrelating' is the social-psychological process of imagining the group's social system of work ("representing"), creating the appropriate work routines ("contributing"), and interlacing those routines with the system ("subordinating"). Again, following our example, an individual teacher, such as a general education teacher, might imagine the social system of work at her school ("representing") as she planned lessons ("contributing") and as she worked with students ("subordinating").

Note that I refer to this sort of learning as 'social learning', instead of 'organizational learning', which is the term used by Cook and Yanow (1993) and Weick and Roberts (1993). This is intentional, as I want to be clear about what such learning looks like and where it can occur. First, it is not learning as knowledge acquisition, but learning as a social process of participation – with colleagues, embedded in daily practice, on-site, and ongoing; thus, in constant interaction with the environment. Further, 'organizational learning' paints a picture of action occurring within an organization or within a school. 'Social learning', especially in regards to systemic reform, occurs within a social network. As researchers, we can theoretically and empirically bound that network within an organization, or we can allow it to span across organizational boundaries to include multiple organizations. This is important if we want to

understand learning that involves schools, districts, states, interveners, and other external partners.

Also note that such learning does not mean teachers will perform their jobs mechanically and to exacting measures in order to accomplish a specific instructional plan. Indeed, if teachers are acting heedfully, then variance is inevitable due to continually changing internal and external conditions. Further, productive variance is actually desirable. Yet, the variance still needs to contribute to a functioning system, and new understandings about the system and how to maintain it still needs to be common and shared.

Research Questions

The preceding theories and empirical findings suggested three key issues for investigation:

1. In an initiative's normative model of a systemic reform, what, if any, are the expectations for sharing understandings, sharing work, and heedfully interrelating? What, if any, are the supports for actualizing these expectations?
2. In what ways, if any, did teachers share understandings, share work, and heedfully interrelate prior to the introduction of the initiative? What, if any, were the supports for actualizing and sustaining these understandings and enactments of instruction?
3. During the first two years of implementation,
    a. To what extent did the initiative help partners develop shared understandings, shared work, and heedful interrelating?
    b. What else seemed to facilitate or hinder capacity building, including the organization of schools and school systems and dynamics with the local and broader environments?

Methodology

Study Design

To address the preceding research questions, a longitudinal, multiple case study design (Creswell, 1998; Huberman & Miles, 2002; Yin, 2009) of two schools was employed to examine changes over time in teachers' understandings and enactments of instruction as they negotiated a new systemic reform into their existing social systems of work over the 2012-13 and 2013-14

school years. Studying implementation in multiple contexts facilitated analysis of dynamics amongst the reform and two unique social systems of work, thus allowing for the testing of existing theories while also developing an explanatory frame.

The desire to examine these questions within a large-scale attempt to improve instruction led me to seek an intervention that (a) used formal guidance to assist teachers across a variety of schools with coordinating instruction within and across grades and (b) operated at the school-level. This sort of instructional design focuses on shifting teachers' daily and regular routines, as opposed to designs that focus more broadly and diffusely, such as standards-based reform.

This study was concerned with the actualization of a specific theory of action - the coordination and continuous improvement of instruction. Thus, while the initiative in this study included work on positive behavior interventions and supports, the primary data collected were on instruction, specifically the actualization of a school-wide reading (not writing) system.

The School and Learning Initiative.

In this study, a popular systemic design, Multi-Tiered System of Supports (MTSS; formerly known as Response to Intervention) was championed by the School and Learning Initiative (SLI). This was a state-level initiative focused on building a network of schools, districts, and regional service agencies to support and sustain the large-scale enactment of MTSS long after the initiative dissolved. SLI was attempting to accomplish from within the public schooling system what some comprehensive school reformers and charter management organizations have only been able to accomplish from the margins of the system. This meant leveraging the existing system's weak capabilities to build new capacities in schools to create, sustain, and continually improve customized MTSS models as well as building new capacities in

districts and service agencies to support the MTSS work in schools. This manuscript focuses on the direct work with schools.

Case Selection

In order to study sites engaging in this work for the first time and to follow their work over time, it was important to use a replication logic (Yin, 2009) (i.e. purposeful sampling). The reading supports championed by SLI centered on elementary reading skills. Thus, two elementary schools were selected – Fairview and Riverside. To control for important demographic and policy variables, the two schools were chosen from the same district. During the study, 52% of the students at Fairview qualified for free or reduced-price lunch. The majority of the students' parents or guardians identified them as White (88%), with the rest identifying as Hispanic, two or more races, Black, Asian/Pacific Islander, and American Indian/Alaska, respectively. At Riverside, 50% of the students qualified for free or reduced-price lunch. The majority were identified as White (87%), with the rest identifying as Hispanic, two or more races, Asian/Pacific Islander, and American Indian/Alaskan, respectively. None of the students at either school were qualified as English Language Learners. Prior to participating in the SLI initiative, the two schools coordinated only in the typical exchange of records, data, and information at district meetings. They did not intentionally coordinate their work on reading instruction.

Within each school, I recruited two general education teachers per grade level in order to observe the degree of instructional coordination within and across grades. In addition, one Title I and one special education teacher per school helped measure coordination across programs, as these teachers typically provided Tiers 2 and 3 instruction. In addition to willingness to participate in the study, teachers were chosen who represented a range in (a) reading instruction

expertise and (b) buy-in to the new reform. Principals helped make this determination. In sum, a total of fourteen teachers participated in this study – six from Fairview and eight from Riverside. Additionally, the principals and MTSS Coaches from each school, the district reading coach, the district curriculum director, and the superintendent participated, bringing the total number of participants to twenty-one.

SLI asked schools to form School MTSS Teams (SMTs) – leadership teams that would receive direct training from SLI. In addition to the principals and MTSS Coaches (who were also full-time teachers), four teachers from Fairview and six teachers from Riverside were members of their SMTs. From Fairview, three of those four teachers were participants in this study during the first year of implementation. One of these three left the committee after the first year but remained a study participant. She was replaced on the committee by a teacher who did not participate in the study. From Riverside, three of the six SMT teachers participated in the study both years. Thus, three teacher-participants from Fairview were not members of their SMT during Year 1, increasing to four in Year 2. From Riverside, five teacher-participants were not on their SMT. There was at least one non-SMT participant at each grade level both years. Both Title I teachers in this study served on their SMTs, while both special education teachers in this study did not.

Data Collection

Data were collected August 2012 to June 2014. During Year 1, each school was visited approximately every five weeks for five days, which provided a regular sampling of dialogue and instruction during the first year when, arguably, teachers would wrestle the most with how to actualize MTSS. In order to gather baseline data, the first sets of observations and interviews were conducted prior to the start of SLI trainings on school-wide reading. During Year 2, each

school was visited in October and May for two weeks at each time, and phone interviews were conducted mid-year. Conventional case study methods were used:

- Collection of documents and other work artifacts,
- Direct observations of events where reading instruction was discussed (e.g., SMT meetings, staff meetings, grade level meetings), particularly points of coordination and continuous improvement (e.g., post-assessment planning, coordinating Title I services). During Year 1, eight SLI trainings, three trainings on new reading curricular materials, six district meetings, and fifteen school-level meetings were observed throughout the year. During Year 2, three SLI trainings, one training on the same reading curricular materials, one district meeting, and four school-level meetings were observed,
- Classroom observations and semi-structured interviews to directly observe and inquire on teachers' understandings and enactments of reading instruction, specifically points of coordination and continuous improvement. During Year 1, each of the fourteen teachers were observed and interviewed towards the start, middle, and end of the year. Further, they were interviewed two to three additional times throughout the year as data collection and analysis raised questions. During Year 2, each teacher was observed and interviewed at the beginning and end of the year, and then interviewed over the phone mid-year,
- Other key actors (e.g., principals and coaches) were shadowed and interviewed as needed. During Year 1, principals were interviewed five times and shadowed twice. MTSS Coaches were interviewed three times. The district's curriculum director was interviewed three times, and the superintendent was interviewed twice. Finally, a half-time reading coach hired to help implement the new reading materials was interviewed twice. During Year 2, one principal was interviewed three times, and another just once. This last principal left the district towards the beginning of the year. The new principal was interviewed at the end of the year. MTSS Coaches and the curriculum director were each interviewed three times. Due to scheduling constraints, the superintendent was only interviewed at the end of the year. Finally, the new half-time reading coach was interviewed twice.

Data Analysis

Data analysis was conducted concurrently with data collection to allow for the refinement of subsequent data collection procedures (Miles & Huberman, 1994; Yin, 2009). Analysis was deductive, to test existing theories, as well as inductive, to develop an explanatory frame with which to further study attempts to improve instructional coordination at scale.

The first round of analysis consisted of regular memoing on the research questions as well as any events or emerging themes that stood out during data collection, either pointed out by participants or noticed by me. The second round involved a detailed analysis of all the research

memos created in the first round. These memos were coded for instances (or lack of instances) of coordination and continuous improvement relevant to establishing school-wide reading according to the MTSS frame or relevant to reading instruction in general. Next, pattern matching (Yin, 2009) tested whether shared understandings, shared work, and heedful interrelating characterized the understandings and enactments related to coordination and continuous improvement. The major themes and factors that seemed to determine the degree to which MTSS and the theory of action were actualized in each school were summarized in an analytic memo. The third round of data analysis entailed studying each observation, interview, and artifact to confirm, refute, or refine the major themes and factors found during round two. This included developing a better understanding of how these factors were interrelated with each other as well as other emerging factors and how they influenced the development of coordination and continuous improvement. Again, these findings were summarized in an analytic memo.

The fourth and final round of data analysis used social network analysis (Borgatti, Everett, & Freeman, 2002) to complement the findings of the first three rounds by examining whether and to what degree there was an association between social relationships around reading instruction and developing participants' capacity to enact the MTSS frame. Based on social capital, new institutionalism, and social network theories, SLI hoped ongoing collegial conversations would serve as another learning mechanism (along with the more formal learning opportunities the SMTs would provide) that would transfer complex knowledge between knowledgeable SMT members and the rest of their staffs. Unlike other studies situated in these theories where the findings are solely based on social network analysis, in this study the social network maps ('sociograms') (Wasserman & Faust, 1994) served as analytic displays (Miles & Huberman, 1994) to help with the overall examination of all the data. The social network

analyses recreated participants' collegial interactions around reading instruction and their expressed degree of shared understandings, shared work, and heedful interrelating at the beginning and end of each school year. In lieu of gathering social network data from the entire faculty at both schools, only participants were queried on their social interactions around reading instruction. The resulting ego-centric sociograms overlapped to form partial social network displays of the entire faculty at both schools. Again, the sociograms served as analytic displays to help determine patterns of relationships. When it became clear no pattern existed between social relationships and the development of shared understandings, shared work, or heedful interrelating, inferential statistics were not pursued.

While social network analysis and my definition of "social learning" explicated above can theoretically and empirically span across many organizational boundaries, for the purpose of answering these research questions, I bounded the analysis to the partial social networks within each school and then amongst the schools and their district office. This allowed me to focus on the development of understandings and enactments around a whole-school systemic reform (MTSS) and possible supports between schools as well as from the district office.

Both schools are represented in each sociogram – Fairview to the right and Riverside to the left – connected only by their curriculum director (CD) and superintendent (SI). General education teachers' grade levels are indicated by the first digit of their assigned code (e.g., participant 13 is a first grade teacher). The principals, school MTSS Coaches, Title I teachers, special education teachers, and paraprofessionals are indicated by the initial of their school followed by their position (e.g., participant FM is the Fairview MTSS Coach). Finally, the district reading coaches were coded 'C1' and 'C2', with the digit indicating which year of the study they served in this position. While it may seem as if the two district administrators were

the linchpins of the social network, in actuality, they were not named by school-level participants as frequent collaborators on reading instruction. Further, each named only the principals as school-level colleagues. Thus, the two schools were only weakly connected by these two administrators, having no regular direct connections across schools.

In these sociograms, ties indicate relationships around reading instruction as reported by participants and as observed during site visits. Participants were asked, "Who are the top five people you speak with the most about reading instruction? How often do you speak with them? Why do you talk with them? What do you usually talk about?" Note that relationships were directional and not all relationships were reciprocated. For example, at Time 1, while participant 42 said she spoke frequently with 41, 41 did not say she spoke frequently with 42. Also note that, while data on the frequency of communication were used to draw the ties, data on the nature of discussions and the history of relationships supplemented the frequency data during analysis.

The sociograms also describe three characteristics of participants. First, SMT members are represented by triangles while all others are represented by circles. SMT members received direct training from SLI on the MTSS frame and how to implement it, specifically, how to create customized MTSS models that were responsive to their local contexts. This descriptive variable was applied to study participants and non-participants alike. Data for the next two variables were only collected from participants. The size of the node represents the number of leadership teams related to MTSS a participant was a member of, indicating their possible influence through participation on these teams on the diffusion of knowledge and skills and the creation of MTSS models. The number of teams ranged from zero (e.g. participants 51 and 22) to six (e.g. the curriculum director). Finally, colors indicate the degree to which participants articulated or enacted shared understandings, shared work, and heedful interrelating regarding the MTSS

framework (see the rubric below, Table 1, for descriptions and examples of each degree). Red refers to the lowest degree of '1', orange indicates '2', green equates to '3', blue to '4', and purple to '5'. Note that no participants were scored at '6'. As an example, one teacher scored '1' at Time 1 because she did not share responsibilities for reading instruction with another teacher, and she expressed that her work in reading instruction did not affect other teachers' work and their work did not affect hers. She also explained that, even though she met with her grade level team regularly, knew what materials they used, and knew what lessons they were currently teaching, she did not know how they taught reading and they did not know how she taught. She also did not coordinate with the Title I program, did not teach students receiving special education services, and did not know how teachers in other grade levels taught reading. At Time 2, she scored a '2' because she now said, in terms of weekly and unit pacing, "I'm always trying to stay aligned with where they're at [the rest of her grade level], what they're doing." She explained it was especially important with the teacher she partnered with for social studies and science instruction, because she was aware of the vocabulary words those students were learning in reading and could use them during her social studies lessons with them. She said adopting Reading Street allowed her team to talk with each other about reading instruction this year, including reading data, because they taught common lessons. She also expressed it would be nice to know how other grade levels introduced various concepts and skills so that she could reinforce it when students came to her, "Maybe I can use the strategy they use, if that'll help [build on] the kids' prior knowledge." However, her understandings and actions did not involve principles of or language from the MTSS frame. At Time 3, she scored '3' because, through participating in her school's building-wide invention time, she enacted principles of MTSS – assessing to target instruction across a building, responding flexibly by progress

monitoring regularly to shift students in and out of building-wide instructional groups, studying data and making instructional decisions with other teachers and administrators, expressing the notion of sharing responsibility for all students, and learning what role other teachers' played as a part of their joint goal.

Developing the rubric and assigning scores through coding interviews and observations were iterative activities. The first draft of the rubric was grounded in the theoretical framework and research questions. Next, observations and interviews at the beginning and end of each school year were coded for the degree to which participants articulated or enacted shared understandings, shared work, or heedful interrelating around systemic work in general and the MTSS framework in particular. As coding proceeded, the rubric was revised to more accurately capture the degree of understandings and actions expressed by participants.

Collapsing shared understandings, shared work, and heedful interrelating into one variable was one way in which the rubric was revised. Interviews and observations were at first coded for each concept separately. However, after coding the interviews and observations for Times 1 and 2, it was clear that, because the concepts were theoretically intertwined and thus conceptually highly correlated, participants continually earned the same score for each concept individually. Thus, it made sense to collapse the variables into one in order to aid the analyses of possible relationships amongst this and other variables. For example, one teacher scored '2' on the three variables individually because she (1) was observed coordinating specific lessons and how to teach those skills and concepts with two teachers, who, it should be noted, were not her grade level colleagues (shared work), (2) articulated the importance of using the same curricular materials and staying pace with her grade level colleagues (shared understandings of a joint goal and joint work to achieve it), and similarly, (3) felt her job was to cover all of the lessons in

Reading Street daily to serve the building's reading goal (heedful interrelating). However, she did not score '3' on any of these variables because she did not express principles of the MTSS frame. For instance, she was not concerned about what the Title I and special education teachers were teaching to the students she shared with them, other than wanting the Title I teacher to execute the small group lessons she photocopied for this teacher out of her manual. Further, aside from ensuring her grade level team all taught the same set of Reading Street lessons each week, she was not concerned with coordinating or sharing other work, such as tackling common instructional problems in their classrooms or analyzing data together. After coding all of the interviews and observations for Times 1 and 2 and finding repeatedly that participants earned the same score on shared understandings, shared work, and heedful interrelating individually, using this rubric, it made sense to collapse the three variables into one.

Note that the scores do not speak to the quality of teachers' reading instruction. Many were very good at teaching reading and were very mindful of students' individual needs. Yet some did not express understandings of systemic work. They simply had not had opportunities yet to learn such understandings, to consider whether these were useful changes for their instruction and for their students, and to consider how to change their daily work. Further, many teachers expressed they valued collaborating with others, such as within grade levels or with partner teachers, and believed it helped improve everyone's practice. This is distinct, however, from articulating shared understandings, shared work, and heedful interrelating around systemic reform.

Table 1

Degree of Articulating or Enacting Shared Understandings (SU), Shared Work (SW), or Heedful Interrelating (HI)

Degree	Description	Sample Participant Response
1	Participant did not express and was not observed exercising understandings and enactments of SU, SW, or HI around systemic work in general	Teacher did not see any reason to collaborate with her grade level or other colleagues.
2	Participant articulated understandings of SU, SW, &/or HI around systemic work in general *Or* Participant was observed or provided examples of enacting SU, SW, &/or HI around systemic work in general	"If I'm not doing what I'm supposed to be doing, that affects the [next] grade."
3	Participant articulated understandings of SU, SW, &/or HI as specified in the MTSS frame *Or* Participant was observed or provided examples of enacting SU, SW, &/or HI as specified in the MTSS frame	"We [the entire faculty] all know we play a piece and a part in getting it done. But…figuring that out, what could we do, I think that'll come out when we start doing some tier interventions."
4	Participant articulated *and* enacted SU, SW, &/or HI as specified in the MTSS frame, but these understandings were nascent	"[MTSS] primarily affects special ed and Title. They were primarily pull-out programs before. So there was that "you-have-them, I-have-these-kids-during-that-time." And it wasn't a shared responsibility. I think that's the main thing."
5	Participant articulated *and* enacted fully developed understandings of SU, SW, &/or HI as specified in the MTSS frame, but struggled with how to accomplish this consistently	"This is a team effort between me and [the] classroom teacher[s]. I have some really good results with some classroom teachers because of the way they teach. Other classroom teachers [pause] teach differently…We need to look at Title/At-Risk as a K-5 overall program."
6	Participant articulated *and* enacted SU, SW, &/or HI as specified in the MTSS frame with ease and consistency	No participant scored '6' during the two years of the study.

A number of features of this study guard against violations to validity and reliability. To address external validity, this study used a replication logic (i.e. purposeful sampling) to select the two schools (Yin, 2009) and employed thick description during report writing (Lincoln & Guba, 1985). To address internal validity, this study featured prolonged engagement and persistent observation in the field, triangulation during analysis, and member-checking during analysis and report writing (Lincoln & Guba, 1985) as well as pattern matching during analysis (Yin, 2009). To address construct validity, this study used multiple sources of evidence in order to triangulate data, establish chains of evidence, and will have key informants review draft manuscripts ('member checking') (Yin, 2009). To address reliability, this study employed data collection protocols and a case study database (Yin, 2009).

Results

RQ #1: In an initiative's normative model of MTSS, what, if any, are the expectations for sharing understandings, sharing work, and heedfully interrelating? What, if any, are the supports for actualizing these expectations?

Recall from the previous chapter that MTSS requires coordination of key features of instruction across tiers, across a school year, and across grades. In addition to the more technical coordination of curriculum, materials, and assessments, teachers must coordinate, or share, their understandings and their enactments of these key features of instruction. By sharing understandings, I mean actively developing and maintaining common understandings around reading instruction and a building's instructional system for accomplishing that instruction. By sharing enactments, or work routines, I mean, along with fulfilling individual responsibilities, teachers and administrators work together to study assessment data, study curricular tools, plan lessons, and share other instructional responsibilities that affect students' learning opportunities across tiers, across a year, and across grades.

SLI elaborated the MTSS model to partnering schools with the seven components of a school-wide reading system explicated by the Planning and Evaluation Tool for Effective Schoolwide Reading Programs – Revised (PET-R) (Kame'enui & Simmons, 2003). As described in the PET-R and numerous SLI documents, these seven components are (a) Goals/Objectives/Priorities, (b) Assessment, (c) Instructional Program and Materials, (d) Instructional Time, (e) Differentiated Instruction/Grouping/Scheduling, (f) Administration/Organization/Communication, and (g) Professional Development (see Table 2). The MTSS model and principles are woven throughout the seven components in the PET-R. Each component is further elaborated by four to eight more specific criteria, on which schools score themselves. For the sake of brevity, only one of these criteria are listed in Table 2 with each component.

The PET-R explicitly stated the expectation that goals for reading instruction should be "commonly understood and consistently used…to evaluate and communicate." If actualized, this expectation would ensure teachers and administrators shared understandings of their final 'product' and used these shared understandings to communicate with each other about their work within and across grade levels. This is also an expectation that teachers and administrators would regularly envision their building-wide goal, consider how to best contribute to it, and then mindfully subordinate their actions. The PET-R also stated the expectation that faculty responsible for non-general education instruction, such as Title I/At-Risk and special education services, are included in sharing understandings and work. While the PET-R explicitly stated the above expectations for sharing understandings, sharing work, and heedfully interrelating, it only implied the expectation that teachers and administrators clearly understand and enact the

Table 2

Components of the Planning and Evaluation Tool for Effective Schoolwide Reading Programs – Revised (PET-R)

Component	Description	Example Criterion
Goals/Objectives/Priorities	Goals for reading achievement are clearly defined, anchored to research, prioritized in terms of importance to student learning, commonly understood by users, and consistently employed as instructional guides by all teachers of reading.	Goals and Objectives are commonly understood and consistently used by teachers and administrators within and between grades to evaluate and communicate student learning and improve practice.
Assessment	Instruments and procedures for assessing reading achievement are clearly specified, measure essential skills, provide reliable and valid information about student performance, and inform instruction in important, meaningful, and maintainable ways.	Student performance data are analyzed and summarized in meaningful formats and routinely used by grade-level teams to evaluate and adjust instruction.
Instructional Programs and Materials	The instructional programs and materials have documented efficacy, are drawn from research-based findings and practices, align with state standards and benchmarks, and support the full range of learners.	A comprehensive or core reading program with documented research-based efficacy is adopted for use schoolwide.

Instructional Time	A sufficient amount of time is allocated for instruction and the time allocated is used effectively.	Additional instructional time is allocated to students who fail to make adequate reading progress.
Differentiated Instruction/Grouping/Scheduling	Instruction optimizes learning for all students by tailoring instruction to meet current levels of knowledge and prerequisite skills and organizing instruction to enhance student learning.	Cross-class and cross-grade grouping is used when appropriate to maximize learning opportunities.
Administration/Organization/Communication	Strong instructional leadership maintains a focus on high-quality instruction, organizes and allocates resources to support reading, and establishes mechanisms to communicate reading progress and practices.	Concurrent instruction (e.g., Title, special education) is coordinated with and complementary to general education reading instruction.
Professional Development	Adequate and ongoing professional development is determined and available to support reading instruction.	Time is systematically allocated for educators to analyze, plan, and refine instruction.

interdependencies amongst each other's work. This might end up being a neglected area of work.

Implementation support. SLI viewed implementation support as a large part of their work with partners. During trainings, they often revisited the stages of implementation they adapted from the National Implementation Research Network and explained that the journey through these stages was not linear, but recursive. For example, a new curriculum adoption, new staff, or district reconfigurations might require a school to revisit the beginning stages of implementation even though much of the infrastructure had been established.

SLI developed a multi-dimensional approach to supporting their partnering schools in actualizing and sustaining an MTSS model. First, SLI built a system of professional development. Second, they asked partnering regional service agencies and districts to build a chain of supports for schools. Third, they created a library of materials to support partners with implementation.

School MTSS Team members were asked to participate in a number of SLI trainings. Principals and school MTSS Coaches attended three days of leadership preparation together over three months to prepare them for facilitating the implementation work within their SMTs and schools. Coaches then attended an additional three days of training, each before all members of SMTs attended three days on what MTSS is and could look like in regards to reading instruction. For the schools in this study, SLI began training Coaches to support school-wide reading in November 2012. SMTs attended their first school-wide reading training in December. SLI trainings covered the principles and components of the MTSS framework, how it was expected to help students, and how it was expected to help schools coordinate and continually improve instruction and students' learning outcomes. Training activities also guided SMTs in practicing

how to use various tools and procedures and engaged the teams in activities that guided reflection on more complicated or difficult conversations around implementing MTSS. SLI further supported SMTs by creating to-do lists to be completed, sometimes as a team and sometimes with their entire staff, before the next training or other deadline. Trainings for Coaches and teams continued through May 2013. In addition, SLI held two days of data training to teach SMTs how to most efficiently and effectively examine school-wide reading data (including the PET-R) in terms of MTSS, deliberate on successes and challenges, strategize next steps, and develop action plans, with help from SLI trainers if needed. For the schools in this study, SLI held a Winter Data Day in February 2013 and a Spring Data Day in May 2013. The follow year, SLI provided Fall, Winter, and Spring Data Days. SLI decided to focus the 2013-14 school year on building the capacity of District Implementation Teams. Thus Phases II and III of school-level training (focusing more specifically on Tiers 2 and 3 of the MTSS framework) did not occur for at least another year.

In addition to these trainings, SLI offered two annual conferences. One conference was designed to further support Coaches and Coordinators with their roles and responsibilities. The other conference was structured in a series of workshops, each supporting a specific area of interest, such as a leadership workshop on leading MTSS geared towards principals and district leadership, and building-level or classroom-level workshops for delving further into implementing and sustaining MTSS.

The second facet of implementation support was the development of a chain of supports spanning up through a district and regional service agency to SLI and the state department of education. SLI realized, as many other reformers have, that districts and regional service agencies were in control of many aspects of schools' operations that directly impacted

instruction. The schools, district, and regional service agency in this study certainly still operated within traditional understandings of their roles and relationships with each other (Spillane, 2004). The SLI chain of supports was aimed to help shift these understandings and enactments of the roles and relationships between schools, districts, regional service agencies, and the state (Smith & O'Day, 1991). Educators working within schools would not be the only people responsible for learning how to drastically overhaul how they "do" instruction. Colleagues in central offices and regional service agencies had to learn how to do this with them. They also had to learn another new way of working – how to drive this new system, MTSS, in tandem. This was an attempt to build infrastructure (Cohen et al., 2014) and craft coherence (Honig & Hatch, 2004) where there was no or weak or voluntary relationships before, taking on part of the environment surrounding the main school-level instructional work (Cohen & Ball, 1999). However, this also pushed limits and strained relationships as people learned how to work together differently.

The state department of education and SLI were to provide guidance, visibility, funding, and political support. The SLI coaching staff trained and supported the Leadership Teams and Implementation Teams within regional service agencies and each of their partnering districts. The Leadership Teams typically consisted of the superintendent, assistant superintendents, directors, and others responsible for school-level programming that would be related to MTSS. These teams were typically already established with each regional service agency and district as the administration or cabinet. The Implementation Teams were typically formed to support this specific initiative and consisted of a Leadership Team Liaison, an MTSS Coordinator, and other members who had knowledge and experience with MTSS and with supporting implementation. Flowing down the chain, regional service agency Leadership and Implementation Teams were to

provide guidance, vision, visibility, political support, allocation of resources, barrier busting, and other implementation support to their partnering districts. District Leadership and Implementation Teams were to do the same for their schools. School MTSS Teams then similarly provided guidance and managed implementation of MTSS with their staffs. This included coordinating and managing training, coaching, resources, and evaluation as they built and sustained their MTSS model and continually worked to improve instructional practices. School MTSS Teams consisted of the principal and others who typically served on similar committees, such as the School Improvement Team. SLI also suggested inviting more inexperienced and reticent staff members to serve in the hopes of garnering more support and building more capacity across the staff.

The support chain formalized communication and feedback loops. Regional service agency Liaisons coordinated between the agency Leadership and Implementation Teams. Agency MTSS Coordinators linked the agency and district Implementation Teams. Similarly, district Liaisons coordinated between the district Leadership and Implementation Teams, and district MTSS Coordinators worked amongst the District Implementation Team and School MTSS Teams. Teams were to meet monthly and communicate frequently with each other about implementation and other support needs, such as leadership, training, coaching, and evaluation.

As a third facet of support, SLI offered a plethora of information, tools, materials, examples of how to use the tools and materials, and other formal guidance on its website for anyone to access at any time. These formal guidance covered a number of topics, such as specifying the roles and responsibilities of team members in actualizing the MTSS model, suggesting how teams might accomplish their goals, and how to use data tools or other processes to develop, enact, and evaluate action plans.

While SLI wanted fidelity to the principles of the MTSS frame, they also wanted partners to customize the frame to fit their local contexts. Curricular materials, master scheduling, and opportunities for differentiation were just a few of many components assigned to local decision making. In this way, SLI drew a boundary between their work with partners and the immediate environments that shaped their partners' work. As described in the previous chapter, this was a point of calculated conservation on SLI's part that also put the actualization of MTSS at risk for each of their partners.

As an example, at the center of Tier 1 in an MTSS reading system is a core reading program. SLI told schools they could either adopt a comprehensive curriculum product, create one of their own, or create a combination of the two. The core program must (a) be research-based and adopted for school-wide use, (b) provide explicit and systematic instruction on the five Essential Components of Reading identified by the National Reading Panel and, thus, aligned with the Common Core State Standards, and (c) follow the scope and sequence laid out by the University of Oregon's or similar K-6 curriculum maps[2]. If partnering schools decided to purchase a curriculum product, SLI strongly recommended Reading Street, a product they carefully reviewed and found to be most comprehensive and supportive of student learning opportunities at all three tiers. Both schools in this study adopted Reading Street and began implementing it in the 2012-13 school year, the same year their SMTs participated in MTSS school-wide reading training.

Reading Street. Reading Street Common Core 2013 was the newest edition of a popular K-6 reading/language arts curriculum product published by Pearson. Reading Street followed a

[2] SLI provided copies of the University of Oregon's curriculum maps during their trainings. They also edited the maps to reflect DIBELS Benchmark Goals, since this assessment tool was widely used amongst the schools and highly promoted by SLI.

comprehensive K-12, research-based scope and sequence that was said to align with the Common Core State Standards for reading and language arts, research, and study skills. In the program's pacing guide, Pearson detailed how Reading Street built knowledge and skills across weeks and units in a year and across grade levels, with spiraling review throughout. The program provided explicit and systematic instruction on the five Essential Components of Reading (phonemic awareness, phonics, fluency, vocabulary, and comprehension). Moreover, each six-week unit within the program was organized around a concept or theme from science or social studies for opportunities to read and learn across subject areas.

The MTSS frame was an intentional aspect of the program's design. In addition to whole class core lessons, the program provided a wealth of lessons and materials to support Tier 2 instruction that aligned with current Tier 1 lessons. The program also included a suite of assessments to help drive instruction. Further, Pearson developed a supplementary intervention program, My Sidewalks, for Tier 3 instruction that aligned with the content in Tiers 1 & 2 lessons. My Sidewalks contained its own set of materials and assessments to continually diagnose and monitor students' progress.

To support implementation and instructional improvement, Pearson provided in-person introductions to program materials and online resources. Additional training and on-site coaching was available for approximately $5,000 per day. In lieu of this, the regional service agency in this study pooled districts' resources and provided after-school trainings presented by Pearson trainers or teachers in neighboring districts experienced with successfully using Reading Street to help their students learn to read. Most participants in this study did not attend these trainings because the trainings were optional and unpaid. Further, participants said they were

often still at work planning for the next day, at committee meetings, or at home with their families. As one teacher said:

> At the end of my day, when I'm going to go home and do more paperwork because of this [reading] program, on top of that, I'm going to run to that class? If this district felt that it was important to educate their staff, they would pay [us] for that training or build it into our professional development time.

Administrators and teachers in the study did repeatedly note, "Reading Street has everything. We don't need to go outside of the program for anything," and, "I know the program covers everything I am supposed to. I don't have to worry about leaving something out or not covering something students need to know." Despite the clear strengths of the program, however, the schools and district in this study had existing instructional systems and practices developed over many years that did not always align with or make room for Reading Street or MTSS. In essence, teachers' work did not rely on others' work - within grades, across grades, and across programming. Their schools and district, like most US schools and districts, were not organized to support such interdependence, and their job designs did not require or support it. Thus, there was no need for teachers to share understandings of what interdependent work might look like or work together to enact a coordinated system of instruction.

RQ #2: In what ways, if any, did teachers share understandings, share work, and heedfully interrelate prior to the introduction of the initiative? What, if any, were the supports for actualizing and sustaining these understandings and enactments of instruction?

It is important to remember that the degree to which teachers shared understandings, shared work, and heedfully interrelated was not associated with the quality of their reading instruction. Again, many were very skilled at teaching reading and were quite mindful of students' individual needs.

Fairview Elementary. Serving all 1st and 2nd graders in the district, Fairview independently partnered with SLI in 2009, prior to this new initiative. While they worked to establish a school-wide model for behavior supports and interventions, PBIS/MTSS, they did not establish a school-wide model for reading instruction. According to the principal, one major barrier was the inability to adopt a comprehensive core curriculum product, such as Reading Street, to help organize instruction. This was difficult in part because their building only served two of the seven elementary grades in the district. The investment into such a tool would make most sense if the other elementary buildings agreed to participate. In lieu of a comprehensive curricular tool, the Fairview staff tried to piece together a core program while working to convince the other buildings and their district to support the adoption of a comprehensive program.

***Existing instructional system*.** General education reading instruction at Fairview was guided by the Balanced Literacy framework. Teachers actualized the framework by assessing students' reading levels and working with students to choose independent books within their levels that they were highly interested in. Teachers also met with small groups of students at the same level for guided reading. However, from here, classroom instructional systems diverged. Some teachers also organized whole group instruction around themes, such as non-fiction. Some teachers conferenced with students one-on-one to assess and dialogue about the student's specific strengths and needs with skills, strategies, and interests. Teachers used a common phonics program, Fountas & Pinnell, but used it differently in each classroom. They also adopted The Daily Five, but chose individually which components to use in each classroom.

Thus, while the Balanced Literacy framework guided instruction, each classroom had its own instructional system, which is a typical method for organizing schools in the US. There was

no building-wide goal or system to heed. Therefore, there was no need to understand others' instructional work and interlace one's work with theirs. In other words, there was no need to share understandings and share work. Teachers said they followed the state standards, but they did not follow a scope and sequence. The order of skills and concepts to be taught and the curricular materials to help teach were determined mostly by individual teachers' knowledge, skills, and philosophies of reading instruction.

Also typical in many US schools, only pairs or small groups of teachers shared some understandings and work around reading or other instruction. Some teachers were supported by administration to formally partner to share the work of reading instruction and to split the load of teaching other subjects, while others collaborated informally to support each other. Contractually established daily common planning times and monthly grade level meetings were supposed to support these collaborations, although teachers used these times differently, and often not as they hoped. Teachers who chose to collaborate were mindful of their individual responsibilities and how their work influenced the work of their partnering teachers. However, the degree of heedfulness varied by partnership. Separately, some teachers were mindful of how their work was impacted by teachers in the previous grade, and how they did the same for subsequent grades.

In contrast, teachers and parapros delivering Title I/At-Risk and special education services followed a core program called Leveled Literacy Intervention, a K-3 intervention used in the district for four years prior to the adoption of Reading Street. The program consisted of a leveled system of books and scripted lessons that focused on the five Essentials and writing. Lessons followed a scope and sequence to build skills over time. The program provided a

coherent system to support teachers with reading instruction. The Title I, special education, and general education teachers believed in the program. They saw growth in students' abilities.

This intervention program provided these teachers and parapros with tangible goals and a system to heed. Further, the Title I/At-Risk teachers and parapros developed common understandings and shared work as they enacted this program and managed reading instruction for Title I/At-Risk students. They heedfully interrelated with their Title I/At-Risk system. A daily common planning time supported their work. However, special education teachers' work was guided more by IEPs, which meant their daily activities were driven by individual students' needs. They found little reason to collaborate. Further, none of these teachers worked with general education teachers, even to manage instruction for the students they shared.

Riverside Elementary. Riverside Elementary, which served 3rd-5th grades, was slightly familiar with the SLI initiative through conversations with Fairview and other professional opportunities. This school participated in the initiative because their regional service agency and district applied for the partnership. The school was not against participating; the principal and staff saw the possibility of positive outcomes, and some were enthusiastic. However, they did not seek this work.

Existing instructional system. Reading instruction at Riverside was also guided by the Balanced Literacy framework. As with Fairview, Riverside teachers actualized the framework mostly through assessing students' reading levels, working with students on choosing high-interest books at their levels, and teaching daily, small guided reading groups. However, from here, again, classroom instructional systems diverged. Many teachers incorporated The Daily 5 to help organize instruction and CAFÉ to help drive the content of lessons. Some teachers also ran literature circles, and some teachers combined small groups with literature circles. In

addition, some teachers taught whole class units two or three times each year around highly regarded novels. Teachers admitted that while their individual reading systems were very useful and successful in many ways and students showed growth in some areas, the building did not work together towards common goals. They were guided by their state standards and school improvement goals, but they did not actively organize their work as a staff around these goals. Again, this is typical of many US schools and schooling systems.

Like Fairview, pairs or small groups of teachers partnered formally or informally to support each other with reading instruction and to split the load of teaching other subjects. Common, daily planning times and monthly grade level meetings were, again, supposed to support collaboration, but teachers were not always able to use these supports to work together. And again, the degree of shared understandings, shared work, and heedful interrelating varied by partnership.

Amongst these partnerships were special and general education teachers who co-taught to ensure students receiving special education services stayed in their general education classrooms as much as possible. Students received whole group instruction with all of their peers and small group instruction with other students at their reading levels. Special education teachers typically taught with two general education teachers, as students receiving services were placed across two or three different classrooms. Because general education teachers ran different reading systems, special education teachers often had to prepare two very different sets of lessons. Again, the degree to which teachers shared responsibilities varied with each partnership.

Title I/At-Risk services at Riverside were delivered by a Title I teacher and four parapros in a daily, 50 minute pull-out program. The Title teacher and parapros did not follow a core program, but their instruction was driven by the scope and sequence laid out in multiple

assessments that determined students' reading needs. Over the years, they developed an instructional system they believed best supported these needs. They regularly analyzed student data around the five Essentials, grouped students within each grade by ability, and structured a week of lessons on a particular skill.

In sum, there were few shared understandings across the faculty of either school of a building-wide reading goal. Some teachers stated the goal listed in the school improvement plan, while others said the goal was to ensure children read on grade level. Yet others said they needed to improve the students' DIBELS scores or to make at least a year's growth. Still others said it was to help students build a love of reading. There were more answers offered beyond these. All of these goals are related, and surely all of them are worthy. However, sharing clear understandings of the group goal(s) was a primary expectation in the PET-R and is theoretically key to coordinating work.

Further, multiple, independent instructional systems for reading existed within each building, with some involving two or more teachers intentionally sharing responsibilities. Moreover, concurrent instructional programs – general, Title I/At-Risk, and special education – rarely coordinated their efforts. Thus, few clear interdependencies existed amongst the staff, giving them very little to heed. Again, this is the typical method for organizing schools in the US.

SLI's trainers had to work with these existing understandings and enactments of reading instruction, along with the traditional ways of organizing schools that shaped members' understandings and enactments. They had to meet the teachers and administrators at their current capacity to realize an MTSS model. They had to shift schools currently organized to house independent instructional systems of varying quality to schools that functioned as a single,

well-oiled, highly interdependent system. And they had to accomplish this given these organizations' lack of affordances or strong incentives for changing in such a manner. SLI's learning curriculum and other implementation support had to develop partners' knowledge, skill, and will, along with developing their schools' organizational infrastructure. The next section examines the results from the first two years of this joint work.

RQ #3a – Times 1 and 2: During the first year of implementation, to what extent did the initiative help teachers develop shared understandings, shared work, and heedful interrelating?

Table 3 summarizes participants' development of shared understandings, shared work, and heedful interrelating across the two years of this study for SMT versus non-SMT members. The findings for Times 1 and 2 (beginning and end of Year 1) are presented in this section. The findings for Times 3 and 4 (beginning and end of Year 2) are presented two sections ahead. Again, a rubric (Table 1) was used to assign the scores. Table 3 also summaries other attribute data, such as the number of memberships a participant had in MTSS-related leadership teams.

In this study, sociograms served as analytic tools that helped determine whether and to what degree participants' collegial relationships were associated with the development of their social, professional capital to coordinate instruction, testing a learning mechanism currently popular in the professional learning literature. Again, unlike other studies where social network analyses were the primary or only analyses conducted, the sociograms in this study supplement the case study analyses performed. The sociogram at Time 1 (beginning of Year 1; Figure 2) was created from data describing participants' social networks prior to SLI training on school-wide reading. Thus, this figure represents a baseline for social interactions around reading instruction. The data represented in the sociogram at Time 2 (end of Year 1; Figure 3) were collected after SMT members participated in all three days of school-wide reading training and

two data review days. The sociogram at Time 3 (beginning of Year 2; Figure 4) represents data collected a month and a half after the start of the school year and after the fall Data Day. The sociogram at Time 4 (end of Year 2; Figure 5) depicts the social network in the last few weeks of the school year and after the spring Data Day. As with Table 3, the findings for Times 1 and 2, including the related sociograms, will be presented in this section, while those for Times 3 and 4 will be presented two sections ahead.

At the beginning of Year 1, participants in SMTs, especially at Riverside[3], had slightly higher scores but varied similarly to non-SMT members in the degrees to which they understood and enacted shared understandings, shared work, and heedful interrelating. However, by the end of Year 1 (Time 2), most SMT members scored '5' (the remaining two scored '4'), which means they expressed clear understandings of the need to share understandings, share work, and heedfully interrelate around a school-wide reading system, specifically the MTSS frame for a system. They also expressed clear understandings of how Reading Street could be used as a component of their MTSS model. Further, they attempted or were able to enact these understandings through their work with others. For the two SMT members who scored '4' at Time 2, these understandings and enactments were nascent, but still present and much further developed than at the start of the year.

As an example of this development in capacity in all SMT members, one teacher, at Time 1, could only articulate the importance of being on the same page as a faculty on how and when to progress monitor and then how to use those data to target instructional interventions. The rest of the MTSS framework was still vague to her. In practice, she only focused on the instruction she provided in her own classroom, and she did not discuss heeding a school-wide system of

[3] Recall that Fairview partnered with SLI in another initiative a few years prior to this study.

Table 3

Participants' Attributes across Time: School MTSS Team (SMT) Members vs. Non-SMT Members

SMT Members	Number of Teams	SU/SW /HI Time 1	SU/SW /HI Time 2	SU/SW /HI Time 3	SU/SW /HI Time 4	Non-SMT Members	Number of Teams	SU/SW /HI Time 1	SU/SW /HI Time 2	SU/SW /HI Time 3	SU/SW /HI Time 4
CD	6	5	5	5	5	SI	2	1	1	-	2
C1	1	5	5	-	-	C2	0	-	-	1	4
FP	5	4	5	5	-	FS	1	3	4	4	5
FP2	5	-	-	-	2	12	0	3	3	-	-
FM	3	4	5	5	5	13	1	-	-	2	3
FT	3	4	5	5	5	22	0	1	2	-	-
11[a]	3	2	4	4	5	23	0	-	-	2	3
21	1	1	4	-	-	24	0	-	-	2	2
RP	5	4	5	5	5	RS	1	4	5	5	5
RM	4	3	5	5	5	31	0	1	3	4	4
RT	2	5	5	5	5	32	0	1	1	2	2
41	3	2	5	5	5	42	0	2	2	2	2
52	3	3	5	5	5	51	0	1	2	3	3

Note. Dashes indicate participant was not interviewed or observed at that time period, either due to scheduling conflicts, leaving their positions after Year 1, or joining the study in Year 2.

[a] This participant left her SMT after Year 1, along with other teams she served on.

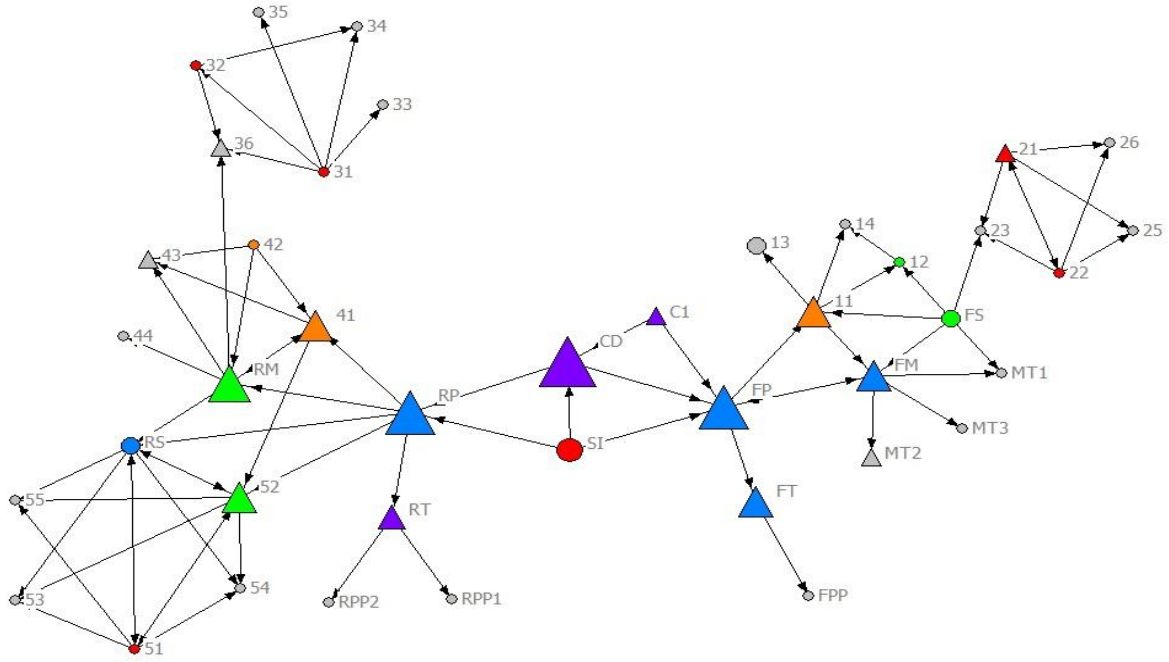

Figure 2. Social network around reading instruction at Time 1, October 2012.

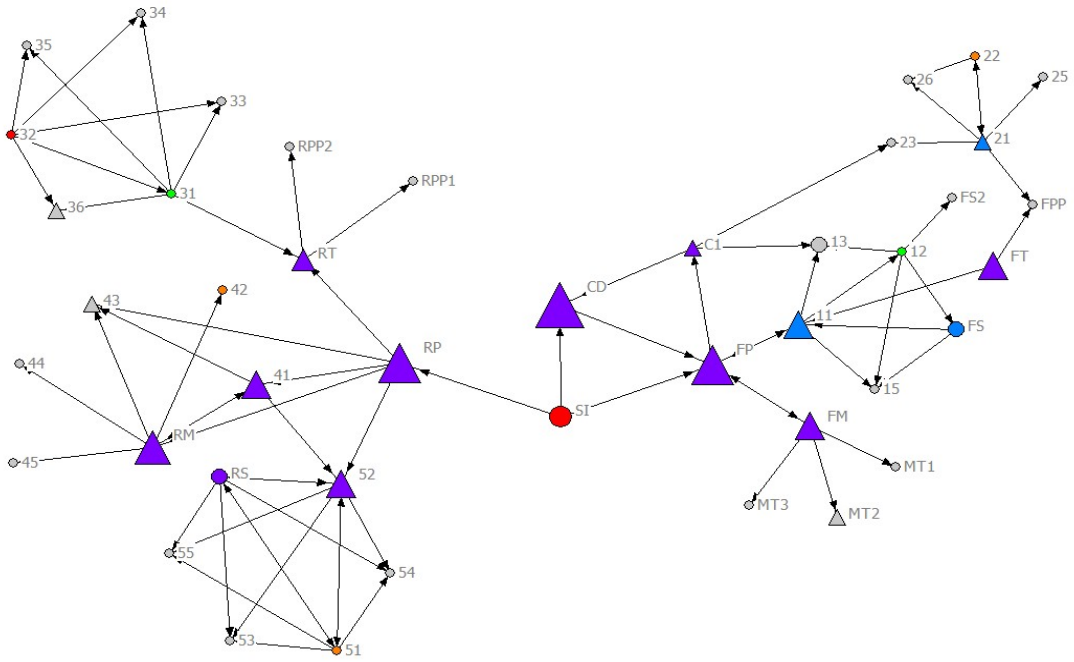

Figure 3. Social network around reading instruction at Time 2, April/May 2013.

instruction. These understandings and actions produced a score of '3'. However, at Time 2, she fully understood the MTSS frame and described how Reading Street and DIBELS were components of their building-wide model. She also actively studied data with teachers she shared students with, tried to study data regularly with her grade level team, and was a key player in establishing a building-wide intervention time at her school (described further in the next section). These understandings and actions received a score of '5'.

This development in capacity towards actualizing the MTSS frame was likely due in great part to SLI's five full days of off-site training on school-wide reading and data analysis offered every one to two months throughout the year. SLI built a number of opportunities into these full-day trainings for teams to discuss whether a school-wide reading model would be useful for them, what such a model might look like in their buildings, and how to work through barriers. Teams worked through the PET-R and other process tools and formed action plans to be completed back home in their buildings. Teams deliberated on how to change formal organizational structures (i.e., master schedules, staff and grade-level meeting times), how to help their colleagues learn to use data to drive daily instruction, and how to get people to share their practice, among many other issues that would need to be worked out if the staff were to enact a school-wide system of reading instruction.

Participants who were not SMT members did not demonstrate the same growth in understandings between Times 1 and 2. In fact, some remained at the same level of understandings. With the exception of two special education teachers (FS = Fairview special education teacher; RS = Riverside special education teacher) who participated in RtI trainings in past years and served on their schools' Intervention Teams, non-SMT participants at Time 2 could at most either articulate systemic understandings of shared work, shared understandings,

and heedful interrelating *or* enact these concepts without being able to articulate doing so. For example, the two teachers who scored '3' at Time 2 talked loosely about the need for Tiers 2 and 3, but could not articulate the work performed in each tier, who might be responsible for that work, and how the work was interrelated with Tier 1 instruction. In another example, many general education teachers spoke of the impact their work had on the work of subsequent grade level teachers, which is one aspect of coordinating instruction. However, they also said they focused on their own classrooms more than on what others were doing, which indicated they did not heedfully interrelate. One teacher explained, "We just don't see other people to talk to and share things with…I think that it's hard to share and keep track of what people are doing just because of the limitations of time and our scheduling." Many teachers expressed this was true across and even within grade levels. When asked if knowing what others did would be helpful, many teachers said they would appreciate the alternative perspectives because another teacher might have a useful way of viewing and solving a problem. They did not express it would be useful because they could properly align their work with others' work, sharing responsibility for instruction within and across grades. Further, when answering these questions, most general education teachers referenced other general education teachers. Only a few mentioned Title I (FT = Fairview; RT = Riverside) or special education teachers, even though they shared students.

This was not surprising given these practitioners only attended introductory presentations on the MTSS framework and only participated in brief MTSS-related conversations during staff or grade-level meetings. As one teacher at Fairview said:

> The last couple of years we had to take tests as to what we understood about MTSS and about how we thought we're doing in the process. I'd be like, 'I don't have a clue, I don't have a clue. Oh, I know we're supposed to do that, but I don't know why.'

SLI's implementation design intended for SMTs' action plans and SLI's to-do lists, process tools, and other supports to provide SMTs with clear next steps for how to connect the pieces of their buildings' reading instruction. This included providing their staffs with opportunities to learn about, deliberate on, and work towards actualizing customized school-wide reading MTSS models. Knowledge and skills would continually grow through working together as a leadership team and staff to actualize these models.

However, their schools' existing organizational structures and designs for their jobs challenged such change. While SMT members had monthly to bi-monthly, off-site, full days of rich opportunities to learn and wrestle through large problems together, they were not able to provide their staffs with the same opportunities. For one, SMT members themselves did not talk with each other often on-site about reading instruction, typically not naming each other as frequent collaborators. In fact, they spoke most often with their grade level or program (e.g., Montessori, Title I/At-Risk) teammates. At one school, the SMT struggled to find time for their monthly meetings. Thus, they did not have much time to design learning opportunities for the rest of their staffs. Second, even if they had designed learning opportunities, there was a lack of time to conduct these opportunities. While most teachers shared a daily common planning time with their grade level colleagues, many said they were usually too busy completing tasks for their own classes to have meetings with their teammates. Most grade level and program teams also struggled to find time to formally meet monthly. When they did, many topics fought for time during those 45 minutes. The same was true for staff meetings – when they did occur, reading instruction was one of many topics that needed their attention.

Many non-SMT teachers said MTSS was not discussed at staff or grade level meetings. I observed that while reading data and other reading instruction issues were discussed occasionally

at staff and grade level meetings, it was not made clear that these were aspects of the building's MTSS work, and how so. One SMT member expressed:

> I don't think we make it clear enough to the staff. I worry that the staff thinks that we identify these areas and we [the SMT] are going to fix it, rather than, "Okay, this is what we all need to work on."

Multiple SMT members, including principals and Coaches, said they realized they needed to work on communicating better with their staffs in the future.

SLI's implementation design also intended for SMT members to return to school sites after trainings and continually diffuse their knowledge and skills to the rest of their staffs through their ongoing collegial conversations around reading instruction. This was yet another way to connect the work of individual teachers. In the next set of paragraphs, the nature of the social networks around reading instruction at each school are examined. Then, the sociograms are used to help examine whether and to what degree a relationship existed between collegial interactions and growth in shared understandings, shared work, and heedful interrelating.

At Time 1, most Fairview participants (see the right side of Figure 2), including SMT members, spoke with their grade level or program teams most frequently about reading instruction, and one special education teacher spoke with general education teachers with whom she shared students. In this school, informal advice networks aligned with formal structures (Penuel et al., 2010). They reported speaking with these colleagues at least once a week and sometimes daily. In contrast, general education teachers who shared students with the Title I or special education teachers said they did not talk with them about reading instruction, even if they saw each other daily for push-in or pull-out services. Further, special education and Title I teachers did not speak with each other about reading instruction, even though they struggled with how to use the same new reading program, My Sidewalks. This social network configuration could be considered typical of many schools.

At Time 2 (see the right side of Figure 3), the social relationships around reading instruction did not significantly change. Most participants still named grade level or program team colleagues as frequent collaborators. Some also reported speaking with some of their colleagues less often, about once every two weeks. Participants explained they did not have enough time to meet. Again, general education teachers did not name special education or Title I teachers, and special education and Title I teachers did not name each other.

The social network around reading instruction at Riverside Elementary at Time 1 was slightly more close-knit than at Fairview (see the left side of Figure 2). Participants, including SMT members, spoke primarily with their grade level or program colleagues. Again, in this school, informal advice networks aligned with formal structures (Penuel et al., 2010). They reported speaking with these colleagues at least once a week and sometimes daily. However, a history of collaboration on other initiatives, service on the same committees, and the placement of special education teachers within grade level teams to support co-teaching facilitated a few cross-grade level and cross-programming relationships. For example, Riverside's MTSS Coach was also a special education teacher. She named and was named by her grade-level colleagues. In addition, she named the special education teachers at other grade levels. Also, one SMT member named a colleague at another grade level whom she worked with frequently on past initiatives and multiple committees.

Like Fairview, the social relationships at Riverside were essentially the same at Time 2 (see the left side of Figure 3). Most participants still named grade level or program team colleagues as frequent collaborators, although some said they collaborated less – only once a month or once every two weeks. Again, the explanation was that a lack of time prevented them from talking more often. While the Title I teacher was now named by one general education

teacher, the MTSS Coach no longer named the other special education teachers. Some general education teachers still said they did not speak with Title I or special education teachers, and special education and Title I teachers did not speak with each other, even though they simultaneously struggled with implementing My Sidewalks.

It is uncertain whether and to what degree having a social relationship with a knowledgeable SMT member contributed to non-SMT participants' growth in understandings and enactments of shared understandings, shared work, and heedful interrelating. Each of the eight school-level non-SMT participants were connected to at least one SMT member at Times 1 and 2, with some having two or three connections. Five of these eight participants expressed greater degrees of understanding and enactment at Time 2. One of them named an additional SMT member at Time 2, and she expressed a much greater degree of understanding and enactment. However, two of these five grew their understandings and enactments despite losing at least one connection over the course of the year. Further, the other three non-SMT participants did not change their degrees of understandings and enactments even though they were similarly connected to SMT members as the five who grew their capacity. Participants, themselves, did not attribute their growth to these specific social relationships. They pointed to other learning opportunities.

RQ #3b – Times 1 and 2: What else seemed to facilitate or hinder capacity building, including the organization of schools and school systems and dynamics with the local and broader environments?

Some participants' statements and actions pointed to the implementation of Reading Street as a main factor in their capacity development. To begin, many participants said Reading Street facilitated more discussion about reading instruction within their grade levels because they

now taught common content. They discussed and jointly solved common problems around how to use Reading Street. They were also able to talk more about data and use it to drive instruction.

Further, as they learned how to use this new instructional tool, they learned how the scope and sequence rolled out over the course of the year, across programing, and across years. Some also learned how pieces of Reading Street were designed for tiered, differentiated support. Some explored the degree to which responsibility for those pieces could be shared amongst teachers. In learning to actualize Reading Street, some learned a bit about the MTSS design embedded within it. For example, the principal at one school told teachers to stay pace day-by-day with each other in Reading Street and My Sidewalks in order to align the curriculum and assessments across programs, across units, and across grades. She also continually pushed them to think about how to restructure their daily lessons in order to ensure they made time for differentiation (Tiers 2 and 3). At the end of the year, while these teachers resented their principal's directives, they expressed benefits to staying aligned and using their reading program in consistent ways. They also expressed the need to talk with each other more in order to solve common issues. Some even expressed the need to collaborate across programming. These teachers did not yet articulate or demonstrate understandings of a building-wide system, how it operated, or their role in it. They were not fully mindful of a system, but they were developing understandings and enactments towards this.

The concurrent implementation of Reading Street, however, also interacted with schools' existing organizational structures and job designs to create many barriers to coordination. For one, special and general education teachers at Riverside struggled to maintain their co-teaching models. Special education teachers had to use the My Sidewalks curriculum for Tier 3 instruction. However, not all students could use the same level of My Sidewalks. Some read at

a second grade level – the Level B My Sidewalks kit – while others read at third or fourth grade levels – Levels C or D kits. Further, students receiving special education services were placed in two general education classes within each grade. Thus, students were pulled from their general education classrooms at various times depending on which My Sidewalks kit their special education teacher used that period. This, in turn, complicated instruction in general education classrooms. Other teachers decided to protect general education instruction and complicate special education by pulling all students from one general education classroom at a time, regardless of their reading level. The special education teacher had to teach two or three My Sidewalks kits at once. Moreover, remember that My Sidewalks was designed to align with Reading Street week by week to support students' mastery of Tier 1 content. At Riverside, general education teachers did not stay on pace with each other. One might be on week 2 of a unit while another was on week 5. This further complicated special education teachers' lesson plans. As a result, by Time 2, only one special education teacher still co-taught with her two general education partners, and these co-teaching teams struggled to ensure that their students receiving special services stayed in their general education classrooms as much as possible. The other partnerships dissolved. The instructional systems and interdependencies that did exist amongst these teachers at the start of the year no longer did at the end. They no longer talked about how to do reading instruction since they did not teach the same content. Instead, they talked mostly about logistics.

The typical lack of implementation support from instructional materials publishers, regional service agencies, and districts interacted with the typical organization of schools and designs of teachers' and administrators' jobs to create the common result of teachers teaching themselves how to use a new curricular tool in the middle of their hectic workdays.

Consequently, struggling to understand the basic functioning of Reading Street and My Sidewalks prevented some teachers from talking with each other. One participant said, "There are times when we really share a lot and do a bunch, and then there are times where we're just like, keep your head above water." Another teacher explained why her work did not impact others' work:

> My perception is they're so busy doing what they need to do [for Reading Street]. And this is not negative. This is not meant to be negative, but I don't think they care what I'm doing…I would like to think that I'm helping kids learn, so that impacts how those kids can respond within their class and the teacher sees some things that are different. But we don't have time to talk about that.

When teachers did have time to talk, they mostly commiserated or problem solved basic questions on how to use Reading Street or My Sidewalks that Pearson and their administrators had failed to answer. They spent most of the year learning what the various components of the programs covered, how these components might fit together, how to best use them to address their students' needs, and how to get through all the components each day. Teachers were still struggling with these basic issues at the end of Year 1. Such issues occupied whatever small amount of time there was during grade level, program team, and staff meetings to discuss reading instruction. Unfortunately for SLI and the initiative, most of these conversations did not involve the MTSS frame. One teacher expressed, "Nobody is happy with [Reading Street] because nobody really understands if they're doing it right or wrong and what can we do to make it better."

Existing patterns of social interaction amongst administrators and other leaders – patterns typical in many districts – also challenged the development of MTSS models in schools. Educational organizations are usually weakly linked and not structured to support collaboration with each other. As a result, the chain of supports SLI worked to establish was slow to develop.

School MTSS Coaches (FM = Fairview Coach; RM = Riverside Coach) did not talk with each other about school-wide reading, even though they attended the same trainings and shared the same role in their buildings. There was no history of a collaborative relationship between the two, and there was no perceived need to collaborate during this year. The same was true for the two building principals (FP = Fairview Principal; RP = Riverside Principal). While the curriculum director (CD) and superintendent (SI) said they spoke with principals about once a week on reading instruction, the principals did not name the curriculum director or superintendent. Further, at Time 2, the curriculum director only named one of the two principals in this study. Yet, these one-directional, weak relationships were the only bridges between the two buildings, even though the schools shared similar problems with implementing school-wide reading and a K-5 reading program. One principal welcomed collaboration with the other building and felt the curriculum director should facilitate that dialogue. At Time 2, SLI and the regional service agency did facilitate a meeting with the principals and curriculum director around Reading Street and MTSS implementation. One principal said she found it very useful and wished they had more of those conversations throughout the year, "Why did we wait until May? I don't know…I think we should all be there to hear each other's perspectives." Teachers were also frustrated over the lack of feedback loops for how implementation was proceeding so that questions and concerns could be addressed in a timelier manner.

Indeed, messages from leadership often confused and frustrated teachers, which complicated reading instruction district-wide, challenging coordination and continuous improvement. For instance, because administrators were unfamiliar with Reading Street and My Sidewalks, they deferred to Pearson and their regional service agency. The main direction from Pearson was to use only Reading Street or My Sidewalks in order to maintain fidelity of the

content and program, and to follow each day without deviation. Thus, the curriculum director and one principal insisted on this. However, using the reading program in such a manner did not match the reality of daily instruction. For instance:

> When you remediate, they want us to use just Reading Street materials. But if you're working on the /ch/ sound, maybe you could pull something else in…They bought this program. We're supposed to be using this program. But it only has so much. If a kid is having trouble with 'ch' beginnings and endings, it only has so much you can do here. You have to pull things in to work on that skill. I think that's an issue.

Another participant said:

> It's like we're torturing them for the sake of making sure we're on the same page…Can you give them some portion of the end of unit test on Monday, and if they're good, well then let them read [independently]? [Some] are already two or three grade levels ahead. Who cares? Do they really need to do '-es' in the end of a word? I'm pretty sure they use '-es'. There needs to be some kind of assessment system, pre-post tests, so that we can differentiate a little bit better.

Another said at Time 2 that she felt administration was "just letting us figure this out right now." She felt they were not giving their teachers the help they needed. They simply stated directives and did not get into the day-to-day work of learning how to use this new tool well to help kids.

New processes for teacher evaluations interacted with administrators' ambiguous messages to further complicated daily instruction, acting as a continual, stress-inducing disincentive against adjusting instruction to meet their students' needs. Teachers expressed they were afraid to use the new reading program flexibly to serve their students' needs, and they were afraid to use other tools to supplement. Their curriculum director clearly expressed the expectation that Reading Street and My Sidewalks were to be followed without deviation. They did not want to "get caught" using other tools to help their students, or even using Reading Street in a manner other than as written in the teachers' manuals. Principals' messages further complicated matters. Fairview's principal agreed with the curriculum director, but Riverside's principal doubted Reading Street's strength as a curricular tool. She believed no program was

perfect, and she encouraged her teachers to use Reading Street and My Sidewalks as their primary tool, but to use it flexibly. As a result of these mixed messages, Fairview teachers used Reading Street and My Sidewalks as laid out, day-by-day, staying on pace with each other. Riverside teachers used the program slightly more judiciously, each choosing differently how to manage the messages from their district and building administrators, evaluations of their work, and their students' needs. These individual choices made it difficult to coordination instruction within and across grades and across programming at Riverside.

Further, the district's hire of a half-time reading coach (C1) was a well-intentioned but squandered resource, in human as well as financial terms as this coach was paid in part through MTSS funds. The coach was as new to Reading Street as the teachers and administrators. However, she attended the regional service agency trainings others did not, and she had time that others did not to delve into the hard copy and online materials in order to make better sense and use of them. Moreover, she was a half-time Title I teacher in another elementary school and served on their SMT. Thus, she had expertise in MTSS that could have served as a resource for both staffs and the district. Unfortunately, this coach had a history in the district that caused some people to question her credibility. Few people chose to work with her in substantial ways. Thus, she did not have many opportunities to share her knowledge of Reading Street and MTSS.

Unexpectedly, a confluence of problems and opportunities drove teachers and administrators to work together to repurpose and rearrange existing resources (i.e., building blocks) in order to address building-wide instructional problems. To begin, teachers wrestled all year with how to reteach skills and concepts that Reading Street and My Sidewalks Friday assessments flagged. A set of new lessons began on Monday, filling the whole reading block. Teachers already cut activities not tagged as "targeted" (i.e., addressed the Common Core State

Standards) or "tested" (i.e., assessed that week or unit). How could they cut more to gain another 30-50 minutes daily to reteach, most likely to two or more groups of students? Later in the week, how could they cut another 20-30 minutes to retest students on those skills? Simultaneously, the SMTs, other building leadership teams, and individual teachers studied DIBELS reading assessment results and saw building-wide needs. In addition, teachers and administrators were concerned instruction was not differentiated for students already exceeding grade level expectations. When were these students' needs addressed? One participant also said people were tired of feeling ineffective. They had so many students below grade level, and it did not seem as if they had the right tools or were doing the right things to help their students daily.

During site visits to other schools using Reading Street, teachers and administrators learned those schools created building-wide intervention times. For at least half an hour each day, teachers shared the entire population of students, grouping them by reading needs (even across grade levels) and teaching specifically to those needs. Both Riverside and Fairview staffs discussed this idea throughout Year 1. A few teachers and administrators had experience using such an organizational structure from teaching Success for All in prior schools. Completing the PET-R in the spring further motivated the SMTs to work with their staffs, district, and other buildings to create their own intervention times for the new school year, as this required coordinating staffing, schedules, and other building blocks.

People's conversations at the end of Year 1 around how to actualize intervention times in their buildings are the type that support the MTSS frame. They needed to figure out as a staff how to change the way they do instruction. This included how to use students' data to drive daily activities. They had to get on the same page about how to interpret the data, how to use it, how to group students, and who would teach which group. Conversations also included problem

solving around structural issues, such as how to alter the master schedule for each teacher to create a building-wide slot for intervention. These conversations allowed people to hear and understand others' questions and concerns, learning a bit about how others understood and did instruction in their own classrooms. These conversations also developed ideas around and comfort with sharing responsibility for all students in the building. Thus, creating intervention times took on the organizing and job design challenges typical of US schools, along with the dynamics with the environment, and developed the shared understandings, shared work, and heedful interrelating needed to enact a form of coordinated and continuously improving instruction.

Conversations around building-wide intervention times also helped some non-SMT participants learn specifics about the MTSS frame, it seems more so than speaking frequently with SMT members. For example, two participants (one was an SMT member) shared a large group of students, the lowest in the building. However, most of their conversations were brief and in passing a few times a week to check in on the group overall or on particular students who needed extra help or were having a bad day. They did not have substantial interactions on reading instruction. Yet, at Time 2, the non-SMT teacher used MTSS language when talking about the intervention time, expressing a need for Tiers 2 and 3 intervention and that this was a building-wide concern, "We all gotta figure out how to service all the kids…We have talked about how to schedule tiered interventions, Tier 2 and 3 interventions."

It should be noted that the original problems of this solution – the intervention times – were not fully addressed. Teachers still did not know how to squeeze in time for reteaching and retesting. Intervention time groups addressed students' needs as broadly defined by DIBELS – accuracy, fluency, comprehension – with some further specification conducted by only some

teachers. Further, instead of receiving reading instruction at their level, some students reading above grade level attended band or choir during intervention time. This solution – attending band or choir – was itself a solution to multiple problems. Intervention times was the solution that "satisficed."

In sum, as a result of a number of challenges and their interactions, at the end of Year 1, understandings of MTSS, what it might look like in their buildings, and how they might work together to create and manage a new system existed fully only in the minds of SMT members. The rest of the staff did not have the same learning opportunities that the SMT members did to fully grapple with possible changes. Further, frequently communicating with SMT members about reading instruction did not seem to contribute to changes in non-SMT members' cultural-cognitive understandings and enactments of systemic work. Moreover, while SMT members knew 'why', they did not know 'how' to actualize the system or how to do MTSS within the complexities of their daily work and constraints of their organizations. Their off-site trainings did not prepare them well enough for actually doing MTSS within daily practice. These educators worked extremely hard to attempt to realize coordinated and continuously improving instruction. Unfortunately, organizational barriers stalled their ability to develop the capacity of their colleagues so they could share the work. One MTSS coach expressed her apprehension:

> We've got a lot of work ahead of us. A lot. It's a scary thing, but we have to start somewhere…It's a matter of time, too. It's finding the time to get all of the stuff done. I worry about how we're going to get everything done.

Thus, despite SLI's strong supports and some participants' existing understandings and practices that aligned with principles of systemic reforms generally and MTSS specifically, little progress was made in developing school-wide reading systems in either school.

RQ #3a – Times 3 and 4: During the second year of implementation, to what extent did the initiative help teachers develop shared understandings, shared work, and heedful interrelating?

Due to scheduling conflicts, the superintendent was not interviewed at Time 3. However, as with Times 1, 2, and 4, no one reported him as a frequent collaborator on reading instruction. In fact, other participants were directly asked if they spoke with their superintendent about reading instruction. None reported doing so.

Also, three teachers in the study retired. Replacement teachers for the study were selected using the same methods as with the original selection. Further, the reading coach (C1) accepted a full time position, and the district hired a new reading coach (C2). Finally, one principal left the district a few months into the year (after Time 3). Thus, this school worked with a new principal (FP2) for most of the school year.

From the end of Year 1 (Time 2) to the beginning of Year 2 (Time 3), of the six non-SMT school-level participants in the study both years, three of them grew in the degrees to which they understood and enacted shared understandings, shared work, and heedful interrelating, with two of these three now expressing understandings specific to the MTSS frame. For example, at Time 2, one teacher articulated the usefulness of coordinating within and across grade levels, but not in regard to the MTSS frame. At Time 3, she enact principles of the MTSS frame through participating in her building's intervention time. She regularly assessed her intervention time students in order to target instruction, she studied data with other teachers, and she felt she now shared responsibility with other teachers for all the students in the building. These teachers' understandings and enactments did not develop further by Time 4. Moreover, they did not express the need to collaborate with Title I or special education teachers with whom they shared students. One teacher only expressed that others' work relied on her being prepared,

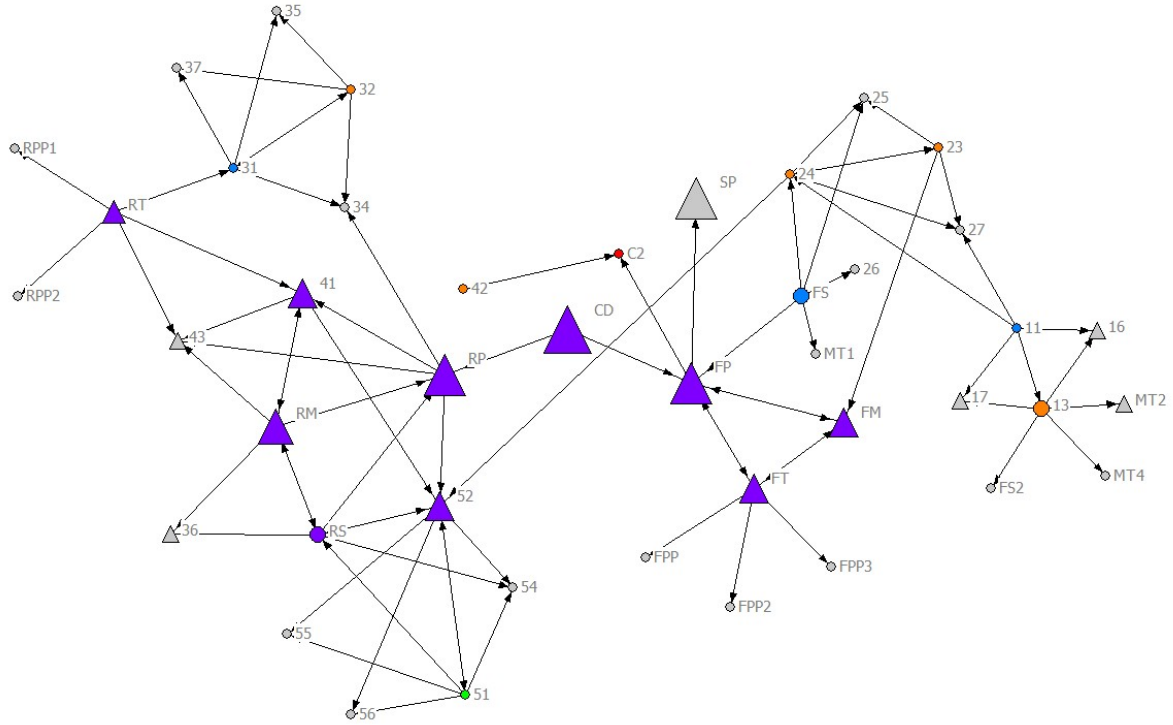

Figure 4. Social network around reading instruction at Time 3, October 2013.

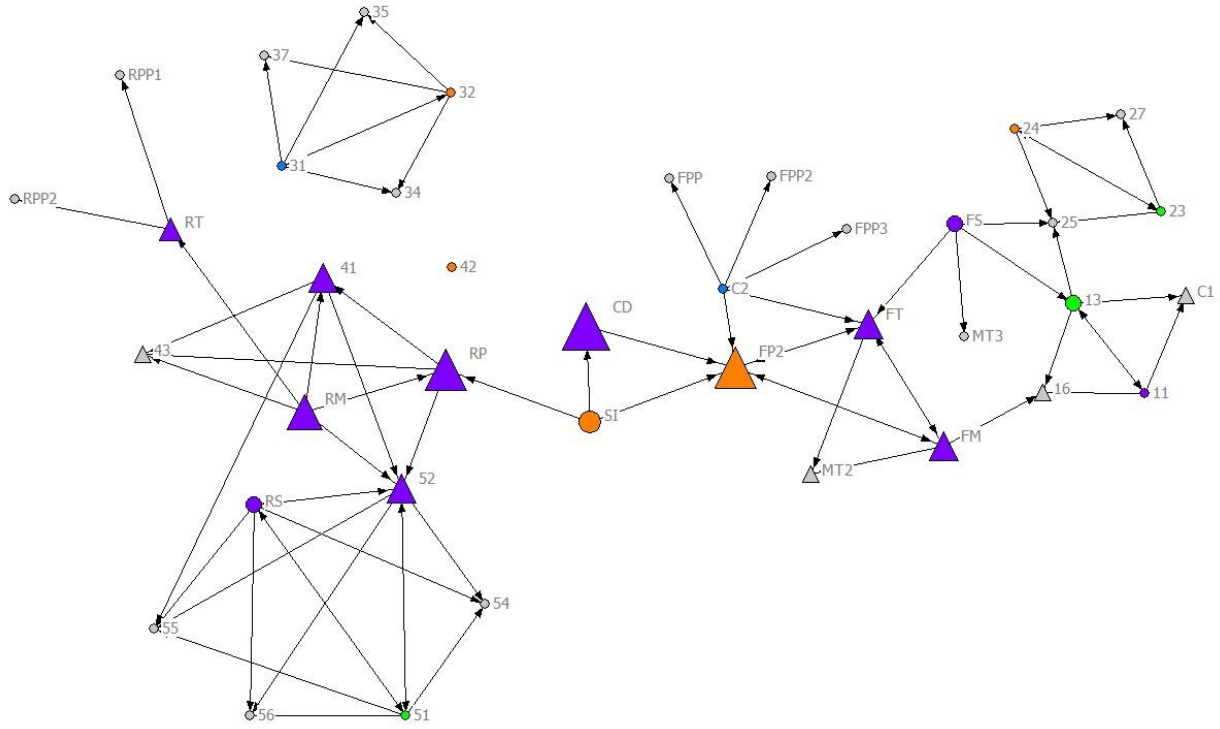

Figure 5. Social network around reading instruction at Time 4, May 2014.

such as having lessons prepared for a paraprofessional or being prepared for students to leave her room for Title I/At-Risk services. Another talked about the usefulness of collaborating to share what worked in their classroom and might be useful in another, not because they shared responsibility for students in the building.

From Time 3 to 4, one other non-SMT teacher who participated in the study both years grew her understandings and enactments. At Time 3, her understandings and enactments of the MTSS frame were still nascent. For instance, she saw the need for stronger cross-grade level and cross-program alignment of instruction, and she understood and experienced how not aligning created learning gaps for students. However, it was not until Time 4 that she could articulate and enact the importance of studying data, planning lessons, and debriefing with other teachers. She also became more involved with problem-solving with leadership building-wide issues that they experienced with intervention time.

It seemed, however, that the growth these four teachers experienced between Times 2 and 4 were not because the MTSS frame had been explicitly taught, nor because of their frequent conversations with others knowledgeable about the MTSS frame, as they either maintained the same number or lost connections from Years 1 through 2. One of these teachers even expressed reticence with sharing her practice with her team, which is whom she spoke with most frequently about reading instruction. Her team included people highly knowledgeable of MTSS.

At Time 3, the three new non-SMT teachers were able to articulate understandings or enactments around systemic work in general. Specifically, they expressed systemic understandings across and within grades, but not across programs. Further, they were unfamiliar with the MTSS frame even though they each had regular conversations (at least once a week) on reading instruction with an SMT member. At Time 4, two of these three grew their

understandings and enactments, articulating or enacting to a degree the elements of coordinated work specified in the MTSS frame. For instance, one teacher explained the importance of differentiating instruction in every classroom (Tier 2), the need to use the Reading Street Response to Intervention kit to help target students' specific learning needs, and the critical role differentiation played in achieving their building-wide reading goal. Once again, these developments were not due to opportunities to learn the MTSS framework (as they did not have substantial opportunities) or to collaborating with knowledgeable others. In fact, these two teachers both lost a connection between Times 3 and 4. Further, while they did not participate in the study in Year 1, they were both staff members and spoke regularly to at least one knowledgeable other throughout Year 1. Yet, at Time 4, they still possessed only weak understandings of the MTSS frame. Additionally, these general education teachers did not mention sharing responsibility for and heedfully interrelating with the Title I and special education teachers. One teacher seemed aware this was an issue and pointed to organizational structures and their job designs as barriers. When asked if teachers in the building looked at things from each other's perspectives, she said, "We're trying harder, but there are still cases where, especially with classroom teachers versus special ed or Title teachers. It's hard to see from other perspectives when we're not in similar situations."

Unfortunately, one non-SMT teacher did not show growth in systemic understandings or enactments the full two years of the study. This teacher was also, unfortunately, relatively socially isolated both years. She did not choose to be socially isolated. She very much wanted to collaborate with others, but a number of challenges prevented it. In regards to the association between social relationships and capacity development, she had the same lower degree of systemic understandings as many of her more socially connected colleagues. Many schools

likely have one or two teachers on their staffs who are similarly disconnected from the building's social network.

A similar issue concerns isolated grade level or program teams. The second and third grade teams and the Title I/At-Risk teams at both schools were relatively isolated both years of this study. They collaborated within each team, but were barely connected to the rest of their staffs, if at all. This is a barrier to MTSS implementation.

Demonstrating the resilience of how schools and school systems are typically organized in the US, on the whole, both schools remained similarly connected during Year 2 as in Year 1 in that most participants spoke primarily with their grade level or program teams about reading instruction, and these conversations were primarily around daily individual classroom instruction with little reference to building-wide instruction. However, at Time 3, some new relationships were formed and the frequency of some conversations picked up. This was primarily due to their efforts around establishing and maintaining their new intervention times, discussed further in the next section. In addition, a couple new relationships formed because teachers grappled with how to serve new students they shared. At Riverside, the special education teachers reported talking more frequently about common instructional problems during their weekly Intervention Team meetings. Further, Riverside grade level meetings were now bi-weekly instead of monthly. Unfortunately, at Time 4, the social networks returned mostly to their Time 2 configurations. Most relationships that developed at the start of the year around intervention times or new students had dissolved. Participants again reported reading instruction as one of many topics that needed their attention during grade level and staff meetings. And as in Year 1, Title I and special education teachers were more likely to report speaking regularly with general education teachers than general education teachers were to name them. Further, while one Title I and one special

education teacher developed a relationship around Time 4 (and these conversations were mostly around their Intervention Time, occasionally around teaching My Sidewalks), other Title I and special education teachers did not report speaking with each other, including the group of special education teachers who spoke frequently at Time 3.

However, in this study, collaborative relationships with knowledgeable others did not explain the development of shared understandings and enactments. For some, despite strong ties to knowledgeable others, that knowledge was not diffused to or shared with them. Contrary to findings from many studies of educational and other organizations (Daly, 2010), as well as the logical assumption that stronger ties facilitate the flow of complex knowledge, this was not the case for many relationships in these two schools. There were other barriers to such knowledge transfer.

In Year 2, SMT members remained the most knowledgeable of the MTSS frame and the need to share understandings, share work, and heedfully interrelate. Yet they continued to struggle with how to accomplish the reform, as building leaders and within their individual practice. SLI created these key formal positions – Coaches and leadership teams - to help build capacity within schools to create and sustain customized MTSS models. Unfortunately, these willing and hardworking people faced barriers to fulfilling their new roles and responsibilities around MTSS. These barriers were their existing job designs and organizational infrastructures.

The first barrier, in no particular order, was the lack of time, a function of job design. This organizational barrier was complex, multi-dimensional, and spilled over into other barriers, constricting them tighter. To begin, SMTs struggled to meet regularly to complete their multitude of tasks. Many SMT members said tasks were not getting done, a lot of issues were not being addressed. Everyone was busy teaching and served on many other committees. They

had a number of issues to take care of in addition to reading instruction, and they were overwhelmed. They did not have much time to manage building-wide reading instruction, to continually lead the construction of MTSS with their staffs. They wanted to, and they were trying their best. One member said SLI assessments and reports took up a lot of the team's time, consuming the little time they had to actually do the work, such as studying data, conducting fidelity checks on DIBELS assessment booklets, and working with teachers on understanding and using data. Further, other subjects suffered because of the focus on reading, and there was not even enough time to achieve their reading goals. This weighed heavily on their minds. One team member said she thought they needed to meet more than once a month, but everyone was so busy she hated to bring it up.

In addition, SMT members said they needed more time as a building and in grade or program teams to talk about MTSS. One expressed, "We don't discuss it enough as a building, where do we want to be, where do we need to be going. It needs to be a team effort." Another pointed to the lack of time as well as will, "We seldom talk about it. I'd like to see our [grade level team] focus more on ELA…It just never seems to happen. We always run out of time." Some SMT members said they were not sharing data with staff as often as they would like. As in Year 1, important agenda items were often left out of meetings because they ran out of time. Additionally, many meetings were canceled this year due to snow days, conferences, and other interruptions. One SMT member said, "It's just been one thing after another. Things keep getting pushed off." It was difficult to find more time to meet, and meeting more often became a contractual issue. Further, when reading instruction did find some time, most conversations were still over frustrations on how to best use Reading Street. Moreover, My Sidewalks, Title I, and special education were rarely discussed.

A second barrier, also a function of how schools are organized and intimately connected with time, was the lack of communication between leadership teams and their staffs. Many non-SMT teachers said they did not hear much from their SMTs during Year 2, "It seems to have died down…I know they're still doing stuff, but I don't know what," and, "I feel like they haven't been a very strong presence in our building." Some said communication from leadership teams was generally poor, and it had always been that way, a common routine in their existing social systems of work. It was understandable, they said, because everyone who served on those committees was so busy. Unless you were on the committee, you simply did not know what the committee did for the school. SMT members expressed they were trying to communicate better, but it was difficult to get important information to and have discussions with their staffs because of the lack of time. For example, DIBELS progress monitoring was an agenda item at one staff meeting, but it was the last item. The meeting ran over and progress monitoring was never discussed. One SMT member said, "I have to keep reminding myself that we're learning as we go." A Coach mentioned the lack of communication made her job difficult, as well, "The hard part is that I don't always know what people on the staff think. My SMT gives me a lot of feedback. But I don't know what the full staff is thinking."

A third barrier, a consequence of the first two, was that, amongst both staffs, MTSS was not synonymous with reading instruction. To begin, many non-SMT members thought MTSS was about student behavior, Positive Behavior Interventions and Supports. It was, but in this initiative it was also about reading instruction. This part of the message had not come through very clearly. One SMT member agreed and said she did not see any of the school-wide reading training being rolled into practice, "I feel like for us it's all about behavior. We don't discuss the reading. And they're supposed to be connected, but I see a real disconnect."

Further, as in Year 1, it was not made clear by SMT members that some conversations were a part of the building's MTSS work, and how so. A couple of teachers picked up on this:

> I think probably a lot of conversations we have are related to MTSS, but it's just not specific to it. We don't realize it is, but it's probably something they discussed at a meeting and needed to bring back to us and discuss with us.

Even more puzzling was how SMT members often separated MTSS work from reading instruction, including the implementation of Reading Street and the creation of their building-wide intervention times. For example, when asked to name who they spoke with most frequently about reading instruction, they typically named their grade level or program colleagues. When asked who they spoke with most about MTSS, they mostly named their SMT colleagues. Further, when explaining why they had little time for MTSS work, some SMT members said their buildings focused any spare time and energy towards establishing and running the building-wide intervention times:

> That's 300 students. We had to figure out where they were at [reading needs], where they were going [who was going to teach what and make sure they felt comfortable teaching it], get them there [logistically make sure the students knew where to go in the building], and not just once, but we've done this two or three times already this year...And I'm not making excuses for us. But it's all very time consuming. And that is one more reason why we're behind the ball. But we've got to get it back together.

Absolutely, creating and maintaining this new organizational structure took a lot of time and energy from every member of the staff. SMT members should applaud themselves for accomplishing some major MTSS work. Instead, they saw this as what they did instead of MTSS. And so did the rest of their staffs. It was never made clear by SMTs to their staffs that Reading Street and My Sidewalks implementation, using DIBELS data to drive instruction, and building-wide intervention times were components of their buildings' MTSS models, and that these components could work well together to help accomplish a coherent instructional system.

In sum, non-SMT members did not have the same opportunities to learn that their SMT colleagues had, and, despite their training, SMT members had trouble providing them with opportunities, either through formal meetings or regular conversations on reading instruction. The organization of their existing social systems, arguably within most schools' existing social systems, prevented it. Yet, as already described, some teachers did advance their cultural-cognitive understandings and enactments of systemic work. The likely causes of these developments are discussed next.

RQ #3b – Times 3 and 4: What else seemed to facilitate or hinder capacity building, including the organization of schools and school systems and dynamics with the local and broader environments?

Conversations around creating their building-wide intervention times were more substantial and frequent at the beginning of Year 2. Everyone was excited about this effort. The MTSS framework was not used when talking about intervention times. However, simply participating in these conversations and participating in teaching the intervention groups seemed to provide some teachers with the learning opportunities they needed to develop shared, common understandings around sharing responsibilities for students. Further, teachers began developing common understandings of what others' roles and responsibilities were regarding intervention time. They started to see a mutual system of work and started to heedfully interrelate with it.

To begin, teachers and principals talked substantially and frequently about what the intervention times might look like and how they might accomplish them. This included discussions across programs and grades. One special education teacher said she talked with general education teachers more about Intervention Time than about students on her caseload. She said for some reason it was easier to have those conversations, to look at data together, even

to find moments to meet. She thought it might be because it involved more students or because teachers were going out of their way to share data with her and talk about what they were doing. At one school, the Title I teacher became an important collaborator during grade level and program team discussions. She helped them decide which intervention programs to teach to which students. Together, they studied how the programs worked and decided how to use them to address students' needs. She even helped prepare materials. When asked if she thought the way she performed her work had a significant impact on what other teachers did, "I think this fall may be the first time ever [laughs]…I have already this year talked to teachers more about students than I ever have before."

Further, teachers at both schools said sharing students meant sharing responsibilities for instruction. They had to learn to trust others with teaching their homeroom students, "People are taking my kids." In addition, they began to report that their work had a significant impact on what other teachers did and that their own success was dependent on others' contributions. One teacher said this also helped reinforce Tier 1 instruction:

> We made a calendar at the beginning of the year, and then revised it after snow days [laughs] so that we are all on the same [Reading Street] unit, same week, same lesson. That way no matter what class they're in for, let's say, Intervention Time, that teacher can incorporate the essential question or something that was in the story into whatever they're working on.

Teachers also progress monitored their intervention group students. Thus, intervention teachers saw first-hand the results of their teaching. This additional responsibility added extra weight to their instruction, investing them more deeply into ensuring those students learned. One teacher said:

> I think everybody knows that we all affect each other, impact each other. It's the whole it-takes-a-village mentality. It's not just you going in your room and shutting the door. We all play a part in everybody's kids. I think especially with switching for Intervention Time, people realize we're all connected.

Another teacher said, "My kids have already improved. And I couldn't have done it by myself. It took the whole team."

In addition, some teachers said they were learning more about others' work and thought more about how their work connected with others':

> I think with Intervention Time now, I think we're paying more attention now [to what other teachers are doing], because we realize, "Oh, this student I have during Intervention Time, why are they responding this way? What instruction are they getting in their regular classroom that's making them do things this way?" So I think it's a great tool for us to have to teach other students. It's helping us realize, "Oh, they're our kids, not just my kids."

Another teacher said:

> With the Intervention Time, I'm actually reinforcing, I think I have everybody's fifth graders, and then I have two or three different fourth grade teachers' students. So definitely with this Intervention Time, I feel I have a lot more of an impact. As far as me just teaching Reading Street, no, I don't think so.

A few participants said Intervention Time helped people open up their own practice:

> Creating Intervention Time groups was huge in creating an environment where it was okay to say you didn't know how. Because we had all these people who had never taught phonics. So I think that allowed them to say, "I am not comfortable with phonics." And once you get that out there and it's okay and it's no big deal, I think that's going to start carrying over to regular instruction.

People also began getting comfortable with sharing data at the classroom level. In order to group students, they needed to study and use the data together. However, this meant everyone saw other's scores. One participant said:

> It's, "Let's figure out what we need to do." And I think in a way it's pushing people because they know others are going to see their scores. It's pushing certain people to make sure they're doing what they need to be doing for kids.

Studying and using data together also helped teachers pay attention to what others' were doing. As one participant said:

> I think there's a lot of attention now as to what others are doing, because we're spending more time looking at everyone's scores. When they sit down after three progress monitoring periods and look at where kids are falling in their room, there's a lot of things that will happen that tell me they're paying attention to what their neighbors are doing. There's a lot more working together.

However, some teachers said they did not have time to talk with each other about what was being taught and how students were doing:

> I'm just trusting. They're trusting me to make sure the students' comprehension is increasing, and I'm trusting them to make sure my students' phonics and fluency is getting better. I'm not even progress monitoring my lower kids anymore. Their Intervention Time teacher is in charge of that. So I'm giving up those things. So I've gotta make sure I keep coming back and saying, "Okay, do I need to do something to reinforce what they do?"

Unfortunately, one set of cultural-cognitive boundaries the intervention times did not shake up was general education understandings of Title I and special education; again, a testament to the resilience of how we organize schools and schooling systems in the US. Teachers' jobs were designed to clearly demarcate general education responsibilities from Title I and special education responsibilities. Existing organizational structures and culture made it difficult for general education teachers to learn and think differently about the roles and responsibilities of other teachers. Yet, Title I and special education teachers described and were observed playing major roles in establishing and maintaining intervention times. At the very least, they did as much as the average general education teacher. Yet, this was not always recognized by the rest of their staffs. Many general education teachers described the intervention times as the work of grade level teams with assistance from Title I and special education staff, if they were mentioned at all. To dig further into this silo problem, developing understandings around sharing responsibilities and connecting with other general education teachers did not help these teachers realize that they have shared responsibilities with Title I and special education

teachers for many years. This was one of the main goals of MTSS designers – to unify the instructional work performed by all teachers in a building in service of all students in a building.

Despite this intractable problem, building-wide intervention times shifted cultural-cognitive understandings of instruction more than any other event or set of events during the two years of this study. Many participants could not articulate understandings of the MTSS frame, but they began to enact the frame through participating in Intervention Time. They began to articulate or enact shared understandings, shared work, and heedful interrelating without using MTSS language.

In spite of Fairview's new principal's unfamiliarity with the MTSS frame, teachers also attributed key cultural-cognitive shifts to his leadership. At the time of our interview, he had only attend two SLI Data Days, not enough to fully understand the MTSS frame and its principles. Yet he had existing understandings that the big picture for their work was a K-12 system that everyone contributed to. He understood it was important for everyone to share understandings of their common goal and share the work of accomplishing it. He wanted to develop this K-12 perspective with his staff. One teacher said he brought up their building-wide reading goal at staff meetings much more than the previous principal:

> We started looking at data together and looking at different aspects of what we're doing. Just talking about things that we never did before. So hopefully [teachers] will begin keeping that reading goal in their minds, "What are we going to do?"

When this new principal joined the staff, he began familiarizing himself with Fairview's existing instructional programming by spending most of his days observing classrooms, "I made the conscious decision that that's what I want to do. Being new to the building and to the elementary level, if I'm going to help the teachers, then I need to understand what they're doing."

He encouraged teachers to do the same. He asked them to observe another teacher's instruction and report on something positive they saw at the next staff meeting. He would cover classrooms or pay for subs. He pulled teachers from the hallway into classrooms to see something positive he just witnessed. He wanted them to learn how others taught and to share their own practices, "There's a lot of good things going on in the building that nobody knows about, except for me. I'm the only one who knows what's going on." Teachers enthusiastically described these opportunities. Some even visited other grade levels and programs. Some said they felt more comfortable opening up their practice and seeking and offering help. One said:

> At the beginning of the year, it was more everybody for themselves. The change in administration has really opened the door to more, "We're working together, not separately." To not be afraid or scared of sharing things or having problems and trying to work them out. We've come a long way, but we have a long way to go.

Another said, "I think we'll become more aware of what everybody is doing just based on his leadership, because he sees things that are happening and is trying to get us out of our closed doors." The principal said this strategy worked very well for a while, but then everyone became too busy to continue.

To further widen and deepen building-wide understandings, he wanted committee service to be spread amongst all staff members. The same people tended to serve, and they ended up stretched too thin. Moreover, others needed to share the burden. In addition, he said, "I think by doing that and bringing in more people, you increase, again, that sense of community, that sense that we're all in this together. It's not about just my classroom, it's about everything."

There was evidence from both schools that serving on non-SMT building leadership teams helped develop people's understandings and enactments of systemic work. For one

teacher in the study, serving as a member of her school's Intervention Team[4] helped her see how Title I services should be more closely knit with her own instruction:

> We never get a chance to communicate with the Title I staff, and they meet with a lot of my kids in a small group. I feel like they get more information meeting one-on-one with my students than I do. So we're setting up ways that we can communicate more specifically with the Title I staff. And then incorporate the needs of those kids into our classroom, instead of just doing the regular Reading Street lessons. We thought, 'Okay, if this person is not getting vowel sounds, they're working on it in Title I through My Sidewalks, is there a way I can set up a center that's just vowel sounds. Hopefully, through repetition here and there [Title I classroom] then they'll eventually master it.

Another teacher said working on the building's Title I plan helped the School Improvement Team see that they needed to formalize cross-grade level articulation. Yet another teacher said their Intervention Team met weekly (compared to SMTs meeting monthly) and talked with general education teachers regularly. She described how each team member planned to open up their daily planning time once a week to talk with teachers one-on-one about how to help particular students. They would discuss strategies and students' responses, and they would help teachers document students' progress and complete other paperwork.

SLI actually suggested melding such teams into one since there was much overlap in their work. SMT and non-SMT members alike complained about the redundancy. The district and schools spent a large portion of Year 2 trying to figure out the best way to accomplish this. One challenge was contractual issues. Another was how to structure such a team so that discrete responsibilities, such as completing SLI's system assessments or overseeing the RtI process, were not lost yet also did not overtax the same individuals or involve the entire committee.

While building-wide intervention times and a new principal with a vision of an instructional system successfully shifted some cultural-cognitive understandings and practices,

[4] The Intervention Team was responsible for overseeing the Response to Intervention process for qualifying students for special services, a process they mostly treated as separate from MTSS reform.

practitioners' current social systems of work continued to create challenges to change. For one, both schools were still preoccupied throughout Year 2 with how to best use Reading Street and My Sidewalks to help their students. They still struggled with basic questions around how the programs worked and how to use the multiple components well. They had many legitimate questions. One principal said it would still greatly help if someone could clarify how the programs were supposed to work. So much instructional time had been wasted and so much frustration generated. Moreover, basic Reading Street and My Sidewalks implementation occupied precious time and cognitive space they could have used to think about school-wide reading instead. One teacher explained:

> I think we're all still focusing on what's going on in our own classrooms because we're all still in survival mode…I think that's human. You always think about yourself first and then others once you feel like you're not drowning anymore.

SLI was aware of this difficult implementation and how it impacted implementation of MTSS. Improving building-wide reading instruction was dependent to a large degree on whether teachers improved what they did with students. Reforming how instruction is organized and managed, as MTSS does, can only improve instruction so much without the concurrent improvement of individual teachers' practices. SLI provided some assistance to both schools, the district, and the regional service agency. However, they were hesitant to fully take on this aspect of their environment as it would greatly complicate their own operations. The regional service agency continued to offer trainings after-school, but most teachers did not find them useful and could not or would not attend. Teachers said they wanted help from others who had used Reading Street "in the trenches" for several years and seen success. These people were more familiar with the intricacies of daily instruction and had solved the complex key problems they continued to face each week, such as how to create time to reteach and retest.

Further, special education teachers at Riverside continued to struggle with teaching My Sidewalks to students at multiple reading levels placed in multiple general education classrooms that were not covering the same week in Reading Street. The set of co-teaching relationships that managed to survive during Year 1 was strained even further in Year 2. Moreover, during Year 2 at Fairview, general education teachers decided to not stay pace across grade levels, creating a similar problem at Fairview. One special education teacher said, "If we could all get on the same page, it would really help."

Additionally, when the regional service agency finally offered its first training on My Sidewalks, the presenter did not clearly explain how to accomplish coordination between My Sidewalks and Reading Street, although she made clear it needed to be done. For example, the presenter asked, "How do students exit My Sidewalks?" A teacher said, "They move to another school district." She said she did not mean to be flippant. It was simply the reality of her students' learning opportunities at this time. Many other teachers in the audience from multiple districts nodded in agreement. The teacher said, "We've gotta figure that piece out. We don't want them in this track, stuck." Later, the trainer said students could make two years growth with My Sidewalks, which astounded many teachers. One said:

> I would love to just make a solid year growth! Sometimes it makes me feel inadequate. I've had those thoughts, "What am I doing wrong?" I am following the manual. I am really working on that piece. So why isn't there the progress we're supposed to see?

In response to both issues, the presenter said communication with and support from general education teachers was key, though she was vague on specifics. One teacher reacted:

> As if [the general education teachers] don't already have enough to do in their own teaching. So we gingerly put plugs in because, if you tell them they are responsible for one more thing, it'll just upset the apple cart, because their hands are full. So I don't know, I don't know.

She added, "Show me the school that has made that two years of progress. Send me there."

Teachers said messages from their administration still conflicted with each other and with Pearson and their regional service agency. This is discussed further in the next chapter. Additionally, there was also a lot of hearsay, not official communication. The superintendent and curriculum director remained similarly connected with the two schools in Year 2 as in Year 1. The superintendent's knowledge and enactment of MTSS remained nascent, and the curriculum director continued to struggle with facilitating the development of MTSS within each school and district-wide. Systemic work is still novel work for most educators, including district administrators. Further, most educational organizations are not organized to work together and are weakly linked. Existing ways of working challenged these administrators' attempts to improve. They deserved more support with learning how to do these new responsibilities and how to fold them in with the rest of their daily work. Both of these administrators said they would be grateful for such support.

The half-time reading coach position was, again, a well-intentioned but squandered resource for the district. The new coach had little practical knowledge of Reading Street. She began her job a whole year behind the teachers she was supposed to coach. She also had no knowledge of MTSS at the beginning of the year. The district knew this but felt they needed to hire her anyways. This coach admitted to striking the wrong chord with some teachers at the start of the year. Word spread quickly, and she became socially isolated. She did not know how to get back on track. By Time 4, she was also hired as a half-time Title I teacher at Fairview. Through working with this program team, she said she learned a great deal about MTSS. Thus, frequent interactions with one SMT member did contribute to her capacity development. Unfortunately, she was still relatively socially isolated, so she did not have opportunities to share her new knowledge.

At the end of Year 2, understandings of MTSS, what it might look like in their buildings, and how they might work together to create and manage a new system still only fully existed in the minds of SMT members who co-created these understandings during SLI trainings and monthly SMT meetings. Non-SMT participants did not have similar opportunities to learn, either through formal meetings or collegial conversations around reading instruction. Thus, their understandings and enactments were variable. While SMT members were knowledgeable, they struggled with how to lead the development of their colleagues' capacities. The SLI trainings were not enough to help them actualize MTSS models back home, within daily practice. MTSS work was further challenged by the rocky implementation of a reading program, ambiguous and conflicting messages from administration, a lack of time, poor communication, and poor use of MTSS resources – all consequences of how schools and school systems are typically organized in our country. However, some non-SMT participants did develop their capacities. Participating in the development of building-wide intervention times provided them with the opportunities they needed to learn how to share responsibilities and heedfully interrelate. Learning the MTSS design embedded in Reading Street also contributed to some teachers' capacity development, as did focused leadership from one principal and service on leadership teams related to MTSS reform.

Discussion: Expanding Our Understandings of Teachers' Professional Learning

Despite SLI's utilization of many lessons learned from the implementation literature (e.g., well-specified instructional and implementation designs with tools and processes to support work, extensive and ongoing professional development, distributed leadership, and tackling some aspects of the environment), this was not enough for their partners to fully understand the design in practice, and then to fully enact the design within their local settings. SLI built an impressive system of learning opportunities for teachers and leaders to help bridge the gap

between policy and practice. While many SMT members said SLI's supports were plentiful, they struggled with what the design meant for their specific buildings and how to actualize that vision given their existing social systems of work. They were not creating and enacting school-wide systems on blank slates. They needed help with seeing how the particulars of their local contexts could be modified into the instructional design SLI laid out. Without SLI working in practice with them, they were often at a loss. Even with strong understandings by everyone involved that such fundamental organizational change takes years to actualize, frustration was common amongst these teachers and administrators over basic questions around what the goal was (e.g., behavior supports, DIBELs scores, lifelong readers) and what the processes should be. These educators wanted to create systems, but they needed more help with doing so. Fortunately, SLI viewed itself as a learning organization and continually sought feedback from multiple sources on how to improve its operations.

SLI's off-site, full-day trainings for SMTs were useful first steps in developing partners' social, professional capital to enact MTSS. Leadership teams had opportunities to work together analyzing school-wide reading data, working through possible solutions, and planning concrete next steps. Teams focused on specific goals and used the components of the MTSS frame to support their efforts in reaching those goals. As Cohen & Hill (2001) found, in order to do the work asked of them by the reform, practitioners must engage in learning opportunities around the actual work they are expected to do. These learning opportunities were social, practice-based, and ongoing. They were not on-site or embedded within day-to-day practice. However, for first learning opportunities, perhaps this was not necessary. These trainings successfully taught SMTs the 'why' and some of the 'how' of MTSS. Further, the trainings affordably accomplished this by gathering SMTs from schools across several districts. Moreover, these

trainings could feasibly help build a network of SMTs across the state that support each other with implementing and sustaining MTSS.

Still, these trainings did not prepare SMTs well enough for actually doing the work back home. SMTs did not know how to start constructing systems within their existing schools, nor were they able to provide their staffs with the learning opportunities SLI provided them. This was a major mechanism of change that SLI banked on but SMTs were not able to actualize. In order for schools to actualize MTSS, these trainings can only be one component of a suite of professional learning opportunities.

The diffusion of knowledge and skills through social networks, another mechanism of change SLI banked on, did not help these schools change their instructional practice. There were barriers to such diffusion. Like Penuel and his colleagues (2013) found, the organization was a filter for diffusion. However, unlike their study, school and district conformity to the reform did not lead to changes in practice. Nor did belonging to a conforming subgroup or exposure to knowledgeable others. Further, unlike what Penuel and his colleagues found in another study (2010), the alignment of informal social networks with formal organizational structures did not facilitate the development of a common vision for reform that would help coordinate instructional change. In fact, this alignment was a part of the problem. Grade level and programmatic teams remained bounded from each other, and this complicated the sharing of understandings and work around systemic reform. Moreover, this study found that even when complex resources did exist within a social network, another learning mechanism needed to be activated in order for the resources to transfer successfully from one person to another. As other studies have found, the content of interactions matters (Coburn & Russell, 2008; Little & Horn, 2007). The learner still needs substantial opportunities to learn. This means understanding the

knowledge and skills correctly and then practicing how to use them appropriately within their daily work – with students and given local contexts. To fold something new into existing practice, practitioners have to start folding it in into existing practice. They have to wrestle with it, work it out while trying to accomplish their daily work. Cultural-cognitive changes such as these require embedding learning within daily work. Further, ensuring the result of these learning opportunities is a functional instructional system requires that enactors learn together, socially, as they perform their daily work as a group. If this learning mechanism is not activated, regular collegial conversations can only transfer shadows of the complex knowledge and skills, if even that. Strong social networks are necessary for building social, professional capital. They are a key building block in a potential system. Efforts by policy makers, administrators, and other interveners to improve social networks are still valuable. Indeed, in this study, the work of special education and Title I teachers were, on the whole, disconnected from the work of their general education colleagues. Interveners and their partners need to find a solution to this intractable problem. However, this study also demonstrated that improving teachers' capacity to conduct instruction together also required social learning opportunities around building-wide problems. These were the opportunities that allowed them to develop some shared understandings, shared work routines, and heedful interrelating in order to coordinate and continuously improve their limited, but joint work.

The opportunities to learn that developed participants' social, professional capacities were opportunities to work with each other on how to change how they do instruction as a collective. SMTs had these opportunities at off-site SLI trainings. Staffs had these opportunities when discussing how to establish and maintain their building-wide intervention times. Some teachers grew their capacity as they collectively made sense of the MTSS design embedded in

Reading Street. Opportunities to observe and discuss each other's instruction helped some develop understandings of joint work. Finally, working on building-level issues as members of leadership teams changed some members' understandings of what instruction could look like in their buildings. These opportunities for social learning allowed people to develop common understandings and enactments. They could not have developed functional systemic understandings independently, behind closed classroom doors. Further, these opportunities allowed them to learn how they could interlace their work to create a high-quality group outcome.

In addition to involving collective work, these learning opportunities were also embedded within daily practice. Further, most of them were on-site and ongoing. Conversations around creating intervention times had to fit into the mix of daily responsibilities; staffs did not wait for monthly staff meetings to talk. Discussions involved all teachers over weeks of instruction. They deliberated together on the design, or score, of their new joint endeavor, detailing individuals' roles and responsibilities. They then rehearsed together daily, working out the wrinkles until they jointly accomplished a smooth group performance. And even then, they occasionally made adjustments as conditions changed. Thus, discussions took into account the nuanced complexities of daily work – the daily schedules of each teacher, the instructional needs of specific students, the uneven impact on the rest of reading instruction and other instructional areas, the professional development of teachers, the utilization of reading data in unfamiliar ways, the impact on other initiatives, to name a few. Teachers and administrators actively considered and reconsidered together how to repurpose and tweak these building blocks in order to do instruction collectively, as a system, shifting and modifying other aspects of their daily practice, other building blocks, in order to accomplish it.

These are the types of learning opportunities that facilitated the development of shared understandings, shared work, and heedful interrelating around an instructional system. If these opportunities were ongoing within an organization, they would form a new learning mechanism, new organizational structures (repurposed from existing structures, such as staff and team meetings) that allowed practitioners to continually update their shared understandings, shared work, and heedful interrelating. Cook and Yanow (1993) and Weick and Roberts (1993) demonstrated such organizational learning was critical for other groups to coordinate work. In this study, these learning opportunities helped participants shift their understandings of their responsibilities and enact new roles, including working with people they had not before to accomplish instructional tasks new to them. Social learning embedded within daily practice allowed people to learn and relearn together how to join their work in productive ways towards a group goal while continually interacting with the realities of their environments, including continuing to fulfill other responsibilities. Indeed, these learning opportunities directly took on the main challenges described earlier (e.g., rocky implementation of a new reading adoption, poor communication by administrators) and succeeded despite them.

Once MTSS or any other systemic reform is established within a school, these ongoing learning opportunities can prevent routinizing work to the point of acting heedlessly. Holmstrom, Wong, and Krumm (2015) studied teachers' collaborative work within a school that successfully actualized a customized MTSS model. Unfortunately, the nature of the instructional system they built narrowed their attention to keeping the well-defined and well-oiled system running. Preparing for highly prescribed instructional routines consumed teachers' attention and shaped their conversations around the tasks needed to keep the system running. The tasks themselves consumed a lot of time, which further prevented practitioners from engaging in

reflection. They rarely reflected on how lessons went or why students performed how they did. Further, sharing understandings and sharing work actually prevented the need to talk about daily practice. Teachers believed they already knew what others were doing, so there was no need to discuss it. They simply trusted the system they created, and they trusted each other to continue contributing productively to the system. Moreover, the time gained from not needing to talk fed the time needed to run and calibrate the system. Since they perceived their system to be working, as demonstrated by higher test scores and their own formative assessments, they did not challenge their system or any component of it. Thus, they no longer heedfully interrelated. Indeed, they became heedless. There is a danger to routinizing any system too much, to not question it, including one that seems as dynamic as MTSS. If practitioners are heeding individual students' needs, their constantly evolving environments, and other changing conditions, then they would need to continually reflect on their practice in order to continually improve. However, if they do not have time and perceive the time they do have should be devoted to keeping the system running, then practitioners cannot be heedful. This will lead to rote, mindless work. It is possible the routinizing of work around building-wide intervention times at Time 4 in this study partly explained the return to preexisting social relationships around reading instruction. Time and other forces pressed on these practitioners' work. These hard-working and savvy educators struggled with balancing daily responsibilities and expectations while staying reflective and seeking opportunities to improve. This is understandable. Why would practitioners create more work for themselves within an already tight work schedule if it seemed what they were doing worked? The practitioners in the Holmstrom et al. (2015) study had accomplished a great deal and experienced a lot of success. It is no small and simple feat to construct a successful MTSS model in a school. And if it is successful, then it would make sense

to trust it and let well-enough alone. The push to continually reflect and improve is exhausting. Further, these efforts were only around reading instruction. Other subjects still demanded their time. Some stability every once in a while is refreshing. We can only take so much ambiguity, complexity, and constant challenge. There is a fine balance to strike between change and stability (Feldman & Pentland, 2003) in order to actualize systemic reform.

Interveners – be they external organizations, states, districts, or schools themselves – can work with their partners to create social learning opportunities. This would entail adding to the typical suite of professional development by taking enactors' learning curriculum even further into practice than most implementation designs. In addition to developing formal structures within schools and districts to allow for such learning opportunities, it would entail working closely with partners to develop social-psychological understandings and enactments of coordinated and continuously improving instruction. It would be costly (Cohen & Ball, 1999), including additional costs around taking on more of partners' complicated environments (e.g., districts' assessment systems, highly political topics) with little support and possibly push-back from these environments as they also do not have the capacity to enact instructional systems. However, delving deeper into daily practice could connect more links in the complex causal chain between policy and practice (Cohen & Hill, 2001).

Enactors need help with beginning this learning cycle. Interveners could help by participating in learning opportunities with enactors, scaffolding and modeling. Research demonstrates implementation is more successful when interveners provide on-site support (for a review, see Rowan et al., 2004). This study demonstrated that, without further intervention by SLI, the MTSS frame might not be heeded during learning opportunities. Faculty simply did not have adequate opportunities to learn the theoretical and practical knowledge and skills needed to

enact the MTSS frame (Newmann et al., 2001). Partners needed help with engaging in the problem solving study process in situ, especially with making sense of their specific contexts in light of the MTSS frame. The ability to construct this aspect of the systemic infrastructure was lacking and could be filled in by on-site technical assistance from SLI coaches who possessed deep understandings and experiences with implementing MTSS. SLI coaches would help facilitate the learning opportunities discussed above with the goal of building shared understandings, shared work, and heedful interrelating around the MTSS frame. However, adding to their suite of implementation support in this way would be very costly for SLI, indeed, for any intervener. In addition to the direct costs of employing more coaches, SLI would need to balance developing the capacity within their own organization with developing the capacity within their growing network of school, district, and regional service agency partners. Because of the cost, it might be prudent to strategically choose coaching opportunities that are points of high leverage, such as meetings where data are analyzed or where participants from multiple areas of responsibility work together. The goal would be to build shared understandings, shared work, and heedful interrelating around an instructional system successful in their local environment. In other words, the goal would be to develop the culture-cognitive understandings and enactments needed to continually perform in concert, making improvements as conditions changed. Interveners' operations could also benefit from this participation as these opportunities would allow them to collect formative data on their work with partners. Interveners could use these data to inform and drive their 'instruction'.

Some participants in this study indicated on-site, ongoing, embedded social learning opportunities would be helpful. One SMT member said they would like someone from SLI or

their regional service agency to participate in their building-wide data analysis at beginning of the next school year:

> Use last year's data and have them show us how they would break kids up and what kind of instructional tools they would use for the different levels. And then ask them to come back the following month as a basic overview. And then in October come back when we have all our benchmark data and help facilitate that.

Another said it would be helpful if someone from SLI "lived in the building for a while," learned how the school operated and suggested some strategies that might work given their particulars. These partners were saying they needed help with doing the work within their unique complex contexts. They needed help with learning how to understand *their* data. In other words, how to look at their data and strategize possible solutions given their current situations. In addition, they needed follow up help to ensure they remained on the right track, to ensure they did not miss something important or squander time and other resources.

If a whole staff is to actualize a system, learning opportunities cannot take place solely during leadership meetings. The whole staff needs to begin considering problems and deliberating on possible solutions. As they do, they get on the same page about what solutions to try first, by whom, for how long, and when they will reconvene to share results. They begin to rehearse together, practicing instruction as a collective. Such collaborative discussions create shared understandings, shared work, and heedful interrelating around their instructional system. With these social, professional resources, future problems are more readily solved as the whole staff becomes more aware of how their system operates.

If interveners choose not to help practitioners create these learning opportunities, practitioners will have to try to do this on their own, if they have the capacity and the will to do so. Policy makers and other reformers could also help interveners and practitioners in this work, creating a more hospitable environment for these learning opportunities. The current system of

public schooling was designed to discourage coordination. Thus, most schools are organized and most jobs are designed to discourage coordinated work. As there are few organizational structures in the typical school and district to support such patterns of work, well-intentioned and hard-working practitioners would have to create these. What people know and can do are dependent on how and what they can learn. This is dependent on the organizational structures that support their learning.

Learning how to produce and then continually reproducing coordinated instruction entails a process of ongoing, on-site social learning embedded within daily practice, which allows people to continually learn together how to join their work in productive ways while continually interacting with the realities of their environments. Social learning in such a manner simultaneously perpetuates and results from a coordinated system of work. Practitioners continually re-accomplish their system by heedfully working together. Furthermore, shared work enables continuous improvement. Continuous improvement in a coordinated system of work is more than just learning new routines. It's also a disposition to learn together how to perform better together. Opportunities for social learning strengthen and perpetuate social, professional capital, the shared understandings and enactments that allow practitioners to work together in a coherent manner.

CHAPTER FOUR – Manuscript 3

The Roles of Sensegiving, Power, and Leadership in Effecting Coordination and Continuous Improvement

Policy, research, professional development, and monies to fund all three currently flow in large rivers towards improving educational leadership. Leadership is widely acknowledged now as essential to improving students' learning opportunities (Leithwood, Louis, Anderson, & Wahlstrom, 2004). However, the designs of quality and comprehensive learning curricula for leaders is still under development. This includes learning how to lead instructional systems.

The consistent, stable support of local leaders is critical for actualizing and sustaining systemic reforms (Aladjem et al., 2006; Desimone, 2002; Herrmann, 2006; Newmann et al., 2001; Rowan et al., 2004). On-site leaders' decision to champion a reform and make it a building-wide priority increased the likelihood of actualizing instructional coherence. Leadership activities also included allocating resources to appropriately support the reform work, integrating programs and initiatives to avoid redundant or fragmented improvement efforts, and monitoring implementation. District support included providing a stable political and financial environment to sustain schools' reform efforts. Strong teacher professional communities were also related to successful implementation and sustainability of the reform. All of these activities helped ensure a stable context that allowed reformers and practitioners to work together over several years to institutionalize the systemic reforms, ensuring the models became a part of the normative culture, a part of everyone's way of thinking and acting.

Unfortunately, only a small number of leaders have an idea of how to go about championing systemic reforms in their schools and districts. We continue to struggle with properly preparing our local leaders, especially administrators, to lead systemic instructional improvement. This work is novel to most. Compared to the learning curriculum for enactors in general and teachers more specifically, there is relatively little research on the learning curriculum these enactors need to lead the implementation and continued management of instructional systems.

There is a need for more knowledge on what enactors must know and be able to do in order to lead the coordination and continuous improvement of instruction, including the implementation of it. MTSS, indeed, any systemic reform drastically shifts the roles and responsibilities of leaders. They require and deserve help with learning how to shift their daily work routines.

The purpose of this chapter is to examine the possible cultural-cognitive shifts needed in administrators' work to lead the construction of complex instructional systems. Building on studies that used sensemaking theory to understand how practitioners made sense of and enacted reforms, I focus on the sensemaking and sensegiving work of administrators in their efforts to actualize a systemic reform.

This manuscript addressed the following research questions:

1. How, if at all, did SLI define the roles and responsibilities of administrators – district administrators and principals – within the MTSS framework? What learning curriculum did SLI design and provide for administrators during the two years of this study?
2. What experience did administrators in this study have with systemic reforms in general and MTSS in particular prior to the introduction of this initiative?
3. During the first two years of implementation,
    a. What understandings did administrators develop of MTSS, including their roles and responsibilities? What explained those developments?
    b. What, if at all, did they do to lead the development of customized MTSS models? What explained those actions?

As explained in the previous manuscript, a combination of qualitative and social network analyses were used to study the work of two schools and their district during the first two years of implementing MTSS. Focusing on the data that described administrators' work, I explore the complexities around leading the construction of instructional systems.

Due to their lack of substantial learning opportunities and existing understandings of systemic reform, district administrators enacted ambiguous sensegiving to principals and teachers, thus challenging instructional coordination and continuous improvement. This, in turn, shaped principals' efforts to coordinate instruction. While these two principals had more substantial learning opportunities, their existing understandings of and ability to lead systemic reform in general and MTSS in particular led them to shape coordination and continuous improvement in two different ways. All four administrators would probably be surprised that their understandings and actions resulted in some of these consequences, as they intended to produce different outcomes. Their unintentional sensegiving had unproductive consequences. Without knowledgeable others helping them learn within practice, these enactors tried their best, but were often at a loss for how to lead systemic reform.

This study expands the definition of sensegiving to include unintentional and passive instances of giving sense that have consequences for organizational outcomes. Gioia and Chittipeddi (1991) defined sensegiving as "the process of attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality" (p. 442). Indeed, other scholars based their work on this conception of sensegiving as an intentional act by leaders to craft agreement around an organizational change. However, not all actions are intentional, and leaders are not exempt from this reality. Leaders' unintentional actions can have as great of consequence as their intentional acts. Further, leaders

can take passive roles, including staying silent. Either way, their activities can shape others' sensemaking and actions. This manuscript demonstrates how district and school administrators can act passively as well as give sense in ways they do not intend but that have large impacts on how teachers understand and respond to systemic reforms.

Interveners might consider adding to their suite of learning curricula for local leaders to include opportunities to rehearse and learn within daily practice with knowledgeable others. These enactors' sensegiving, combined with their relative power, greatly shape others' understandings and enactments, which determine to a great extent whether and to what degree coordination or improved instruction is achieved. Establishing a new instructional system requires learning how to coordinate disparate pieces of a particular current system of work that exists within a particular context. Learning to coordinate these pieces requires working with these pieces within the effort to learn. Thus, much of the learning happens on-site, embedded in ongoing daily practice. Yet, there are few organizational structures in the average school and district to support administrators with learning to improve their practice, and their current jobs were not designed to support such learning. What people know and can do are dependent on how and what they can learn. This is dependent on the organizational structures that support their learning. In other words, the organizational structures present shape opportunities to learn, thus shaping what people know and can do.

The findings add to our knowledge of the types of learning opportunities administrators need to continually improve students' learning opportunities. Worrying about their opportunities to learn can connect another link in the complex causal chain between policy and practice.

Great Expectations Require Learning a New Job

Systemic reforms ask administrators, explicitly or implicitly, to change how they practice in major ways. Traditional understandings of administrative roles and responsibilities, including

devolving responsibility for instruction to teachers, are no longer appropriate (Purkey & Smith, 1985; M. S. Smith & O'Day, 1991; Spillane, 2004). Administrators must now work together across school-district and other organizational boundaries to construct and support coherent and continuously improving instructional systems.

Indeed, because much of the institution of US public schooling still supports traditional roles, administrators must construct their new jobs within traditional regulative, normative, and cultural-cognitive dynamics. Further, many administrators, including the ones in this study, understandably still operate with and only possess traditional understandings of their roles and responsibilities. Learning how to be an administrator within a productive instructional system requires learning (and possibly designing) a new job while trying to change the existing social system of work that supports your job.

Systemic reforms require practitioners to continually craft coherence together (Honig & Hatch, 2004), and administrators play key roles in this work, as they possess a great deal of power over how organizations are able to adapt. One aspect of crafting coherence is shaping others' sensemaking (Coburn, 2001; Coburn, 2005; Spillane et al., 2002). Spillane and his colleagues (2002) found that leaders' understandings of and reactions to accountability policies shaped how their teachers responded to the policies. Leaders' understandings and actions were shaped by the multiple and overlapping contexts within which their sensemaking was situated, including their understandings of their schools. Each administrator in the study understood the same policies differently and shaped teachers' understandings and actions differently. Coburn (2005) similarly found that leaders shaped how teachers made sense of new reading policies through (a) shaping access to policy ideas (privileging certain information and filtering other information out), (b) participating in the social process of meaning making (shaping how people

understood and interpreted new policies and their implications), and (c) shaping the conditions of teachers' learning opportunities (developing and supporting certain organizational structures and activities). Administrators' "sensegiving" (Gioia & Chittipeddi, 1991) was shaped by their own "sensemaking" (Weick, Sutcliffe, & Obstfeld, 2005) of the new reading policies.

A body of literature from organizational studies also examines the significant role that leaders' sensemaking and sensegiving play in change efforts. In their seminal article, Gioia and Chittipeddi (1991) found that the key role a new university president played in initiating a strategic change effort was engaging in sensemaking and sensegiving processes that shaped others sensemaking and sensegiving. Similarly, Patriotta and Spedale (2009) found that leaders must be strategic about how they shape actors' initial interactions with each other around a new issue. These early sensemaking opportunities set into motion a series of social interactions that became a resilient social structure that shaped future sensemaking and social interactions. All of these social-psychological processes can fall a number a ways, and all of the ways have consequences for participants' work and, thus, organizational outcomes.

Sensegiving contributes to the construction of schemata used to understand organizational actions (Foldy, Goldman, & Ospina, 2008; Maitlis, 2005; A. D. Smith et al., 2010). Thus, sensegiving shapes the resource – the well of knowledge – that people draw on when they try to make sense of their and others roles and responsibilities. Sensegiving, itself, draws on an individual's existing knowledge (Rouleau, 2005). What leaders know determines how well they can give sense, and thus, craft coherence. Sensegiving can be performed by any organizational actor to persuade others above, below, and all around them, including across organizational boundaries. Indeed, because leadership is typically distributed, so is sensegiving

by leadership (Foldy et al., 2008). Additionally, these instances of communication can occur daily, not only during times of great change.

Many scholars have scoped out aspects and outcomes of, as well as conditions for, sensegiving. Sensegiving can happen verbally or through activities, symbols, and symbolic action (Fiss & Zajac, 2006; Maitlis, 2005; A. D. Smith, Plowman, & Duchon, 2010). Thus, sensegiving is accomplished through what people say as well as what they do. For instance, Orlikowski and her colleagues (1995) found that a new technology was used productively due to the ongoing efforts of leaders who shaped users' interaction with the technology, modified features of it to be more useful, and changed organizational structures, processes, and activities. These mediation activities by the leaders helped with initial implementation as well as over time as local conditions evolved. Sensegiving is enabled by people's discursive abilities as well as organizational routines and structures that provide them with time and opportunities to give sense (Maitlis & Lawrence, 2007). During these sensegiving opportunities, people can draw on their tacit knowledge and social contexts to engage in micro-practices that help sell the change effort (Rouleau, 2005). Foldy, Goldman, and Ospina (2008) identified five types of sensegiving outcomes they called "cognitive shifts" – changes in frames or schemata – and accompanying sensegiving strategies actors used to try to produce these shifts. The five types of sensegiving outcomes were (1) changes in how the problem was viewed, (2) changes in how a solution was viewed, (3) changes in how a constituency viewed itself, (4) changes in how parts of a constituency viewed other parts, and (5) changes in how others viewed the constituency. The authors emphasized the need to examine all five types for possible relevance to and use for any given case. For instance, in systemic reform, it might be more important for leaders to focus on how parts of their constituencies see each other (e.g., how general education teachers see Title I

and special education teachers) than on how others see their constituencies, even though managing the environment will also be an important ongoing task. While the cognitive shifts and strategies are typically used in combination or even simultaneously in practice, it is useful to analytically distinguish them in order to help measure the effects of sensegiving. Maitlis (2005) mapped four different sensemaking processes produced by different degrees of leader and stakeholder sensegiving. High levels of both leader and stakeholder sensegiving created *guided* sensemaking processes, as leaders organized, integrated, and shaped multiple stakeholders' sensegiving efforts with their own to create a single, rich account of an issue and possible solutions. This single, rich account, which represented multiple stakeholders' views, provided people with a common understanding or resource for action. Thus, their ongoing actions around this issue were consistent with their common understanding, and, thus, each other. High levels of stakeholder sensegiving and low levels of leader sensegiving produced sensemaking processes that were *fragmented*. These fragmented sensemaking episodes produced multiple and narrow accounts of an issue. Because leaders did not attempt to integrate the multiple accounts, the accounts produced divergent, inconsistent actions. When leader sensegiving was high but stakeholder sensegiving was low, the sensemaking processes were *restricted*. This produced a unitary and narrow account that resulted in a one-time action or planned set of consistent actions. When both leader and stakeholder sensegiving was low, sensemaking around an issue was *minimal*. This produced nominal accounts that were weak resources for action. Thus, one-time, compromised actions were taken that provided temporary relief of issues.

This study expands the definition of sensegiving to include unintentional and passive instances of giving sense that have consequences for organizational outcomes. Gioia and Chittipeddi (1991) defined sensegiving as "the process of attempting to influence the

sensemaking and meaning construction of others toward a preferred redefinition of organizational reality" (p. 442). Indeed, other scholars based their work on this conception of sensegiving as an intentional act by leaders to craft agreement around an organizational change. However, not all actions are intentional, and leaders are not exempt from this reality. And certainly, leaders' unintentional actions can have as great of consequence as their intentional acts. Further, while most of the literature examines leaders' active roles in mediating and reinforcing meanings, norms, and actions, leaders can take passive roles, including staying silent (Maitlis, 2005). Either way, their activities can shape others' sensemaking and actions. This manuscript leaves open the possibility that district and school administrators may act passively as well as give sense in ways they do not intend but that have large impacts on how teachers understand and respond to systemic reforms.

As discussed in the previous chapter, there was a great divide between what teachers and administrators were expected to do within an MTSS model and what they were doing before and two years into the initiative. In this chapter, I argue that administrators' undeveloped capacity to lead systemic reform, specifically, their ability to productively give sense in order to craft coherence, partly explained why this divide remained. While the SLI initiative produced many opportunities for teachers and administrators to make sense of daily work differently, the opportunities were occasional, inconsistent, disconnected across the schools and district, and often not intertwined with daily work. District and school administrators did not know how to shape access to ideas about MTSS, shape learning opportunities, and participate in sensemaking in order to help themselves and their teachers accomplish the cultural-cognitive shifts needed to enact new roles and responsibilities.

This chapter examines administrators' sensemaking and consequential sensegiving in this study with a focus on what interveners might do to help develop the capacity of these key and powerful enactors to make and give sense more productively in order to successfully craft coherence. This chapter builds on existing literature by situating administrators' work within an effort to actualize a systemic reform, indeed, a chain of supports that would, in effect, build a district-wide MTSS model that supported school-wide MTSS models.

Research Questions

The preceding theories and empirical findings suggested three key issues for investigation:

1. How, if at all, did SLI define the roles and responsibilities of administrators – district administrators and principals – within the MTSS framework? What learning curriculum did SLI design and provide for administrators during the two years of this study?
2. What experience did administrators in this study have with systemic reforms in general and MTSS in particular prior to the introduction of this initiative?
3. During the first two years of implementation,
    a. What understandings did administrators develop of MTSS, including their roles and responsibilities? What explained those developments?
    b. What, if at all, did they do to lead the development of customized MTSS models? What explained those actions?

Methodology

As explained in the previous manuscript, a combination of qualitative and social network analyses were used to study the work of two schools and their district during the first two years of implementing MTSS. Focusing on the data that described administrators' work, I explore the complexities around leading the construction of instructional systems.

Results

RQ #1: How, if at all, did SLI define the roles and responsibilities of administrators – district administrators and principals – within the MTSS framework? What learning curriculum did SLI design and provide for administrators during the two years of this study?

Recall that MTSS requires coordination of key features of instruction across tiers, across a school year, and across grades. In addition to the coordination of curriculum, materials, and assessments, teachers must coordinate their understandings and their enactments of these key features of instruction. Thus, along with fulfilling their individual responsibilities, teachers must work together to study assessment data, curricular tools, and other instructional practices that affect students' opportunities to learn across tiers, across the year, and across grades. Further, MTSS requires continuous improvement of instruction driven by assessment data. Data are used to improve both students' learning opportunities as well as the school's instructional system.

SLI realized, as many other reformers had, that districts and regional service agencies are in control of many aspects of a school's operations that directly impact instruction. Thus, SLI decided to take on part of the environment by changing their normative model from the school as the unit of change to the regional service agency-district-school network as the unit of change. Educators working within schools were no longer the only people responsible for learning how to drastically overhaul how they "did" instruction. Now their colleagues in their central offices and regional service agencies had to learn how to do this with them.

They also had to learn another new way of working – how to drive this new system in tandem. The schools, district, and regional service agency in this study still operated under traditional understandings of their roles and relationships with each other. SLI aimed to shift these understandings and work relations. Indeed, SLI wanted districts to see their instructional work as managing a K-12 MTSS model, while regional service agencies would run a county-wide system of MTSS. The intent was to build infrastructure where there was no or weak or voluntary relationships before. However, this toyed with and pushed the limits on existing relationships. It also created extra oversight of student achievement by districts and regional

service agencies. Principals could try to buffer their schools from their districts and regional service agencies. Districts could pull their money and support from regional service agencies. Everyone had to see the benefit of continued participation with each other and in the SLI initiative. If SLI's design was to succeed, everyone had to negotiate their relationships with each other carefully. This included SLI.

Such understandings were nascent at best amongst SLI's partners. How to lead the development of these understandings remains novel work. SLI's normative model of MTSS, including the chain of supports described next, drastically shifts the roles and responsibilities of formal leaders and other key players. SLI was well aware of how difficult implementing such a complex and novel framework would be. As discussed in the previous chapter, they developed and improved over many years a suite of supports to help their implementing partners.

Therefore, to support the school-level MTSS model, SLI designed a chain of supports that would span up through the district and the regional service agency to SLI and the state department of education. The state department of education and SLI were to provide guidance, visibility, funding, and political support. The SLI coaching staff would train and support the Leadership Teams and Implementation Teams within regional service agencies and each of their partnering districts. Leadership Teams were typically already established with each regional service agency and district as the administration or cabinet, and typically consisted of the superintendent, assistant superintendents, directors, and others responsible for school-level programming. Implementation Teams would be formed to support this initiative and would consist of a Leadership Team Liaison, an MTSS Coordinator, and other members who have knowledge and experience with MTSS and with supporting implementation. Flowing down the chain, the regional service agency Leadership and Implementation Teams were to provide

guidance, vision, visibility, political support, allocation of resources, barrier busting, and other implementation support to their partnering districts. District Leadership and Implementation Teams were to do the same for their schools. School MTSS Teams then similarly provided guidance and managed implementation of MTSS with their staffs. This included coordinating and managing training, coaching, resources, and evaluation as they built and sustained their MTSS model and continually worked to improve instructional practices. School MTSS Teams would consist of the principal and others who typically served on similar committees, such as the School Improvement Team. SLI also suggested inviting more inexperienced and reticent staff members in the hopes of garnering more buy-in and building more capacity across the staff.

The support chain would formalize communication and feedback loops. Regional service agency Liaisons would coordinate the agency's Leadership and Implementation Teams. Agency MTSS Coordinators linked the agency and district Implementation Teams. Similarly, district Liaisons would coordinate district Leadership and Implementation Teams, and district MTSS Coordinators would work amongst the district Implementation Team and School MTSS Teams. All teams were to meet monthly and communicate frequently with each other about implementation and other support needs, such as leadership, training, coaching, and evaluation.

Thus, the superintendent in this study was expected to lead the district Leadership Team, which, in this district, was called the Administration Team. SLI specified this team was charged with vision, policy, barrier busting, and facilitating implementation supports that the district Implementation Team would provide to schools. The curriculum director in this study would most likely be expected to lead the district Implementation Team as the MTSS Coordinator. SLI specified that this team was responsible for collecting and summarizing data, identifying barriers to implementation, creating materials, coordinating and managing training, and other

implementation supports. In this study, the role of district Liaison also fell to the curriculum director, although someone else, including the superintendent, could have filled that role. Thus, the curriculum director was also expected to coordinate the work between the district Administration and Implementation Teams. The principals' roles and responsibilities mirrored the superintendent's but at the school level, and school MTSS Coaches' roles and responsibilities mirrored the curriculum director's.

The support chain and elaborated MTSS model described above did not exist or existed weakly amongst partnering regional service agencies, districts, and schools before this initiative. Clearly, SLI had a lot of work ahead of them in building it and in building the capacities within each link in the chain to sustain the work after the initiative dissolved. SLI recognized this and tried to shore up their supports to help their partners. They tried to teach their partners about the complexities of implementation by explicitly discussing, studying, and problem solving common implementation challenges during trainings and conferences. SLI created more tools, processes, calendars, and other resources to help structure partners' new roles and responsibilities. On the whole, their partners said SLI provided a great deal of support. Many often left trainings satisfied and ready to tackle problems back home, as well as fatigued from a day of learning new information, problem solving, and imagining all the MTSS work they had to complete back home. In fact, when asked if there were any additional supports SLI could provide, participants could rarely come up with an idea. On the whole, participants, including administrators, found SLI's supports plentiful.

Prior to the series of School MTSS Team (SMTs) trainings, principals and coaches participated in three days of leadership training. As with all SLI trainings, these were impressive off-site learning opportunities provided to multiple partners at once, conducted by trainers with

plenty of implementation knowledge and experience, and focused on highly relevant content around enactors' new roles and responsibilities. The trainings followed a deck of slides that were also reproduced into participants' workbooks. They were packed with information and activities, allowed teams to deliberate on their local circumstances, allowed teams to get help from trainers, asked teams to produce action plans and to-do lists, and accomplished all of the above at a perky pace. Many activities only began conversations on major topics, such as how to structure a system of data-driven decision making. Partners were to continue problem solving back home. These tasks were added to continually growing action plans/to-do lists throughout each training.

To provide greater detail of what certain roles and responsibilities might look like, SLI developed practice profiles that detailed the responsibilities of individuals and teams. These practice profiles were impressive. They clearly and explicitly described key responsibilities, expected outcomes, what a high-quality enactment of that responsibility looked like, what emerging enactments looked like, and what unacceptable enactments looked like. For example, the School MTSS Team practice profile detailed a number of responsibilities that covered planning and coordinating implementation efforts; communicating implementation efforts to the building staff, school community, and district administration; providing professional development and technical assistance to the staff; and developing materials, tools, and other resources for implementation purposes. These teams were responsible for developing the capacity of all staff members to successfully enact an MTSS model. Additionally, they needed to create the organizational structures to support their building model, customize implementation to fit their specific needs, and use data to drive their work. The team was responsible for installing procedures and tools to support implementation (e.g., systems assessments such as the

PET-R), develop and coordinate professional development, and develop building-wide work routines of using data to drive continuous improvement. Principals and coaches were responsible for leading all of this work. SLI understood that these new organizational structures, processes, and tools were most likely not compatible with the existing organizations. They hoped the support they provided would be enough to help their partners solve these issues.

An SLI practice profile also specified the responsibilities of district MTSS Coordinators. This person was responsible for deepening the knowledge and developing the capacity of the district and schools. In addition to leading all of the work expected of district Implementation Teams, they were responsible for data analysis and successfully applying the SLI problem-solving process at multiple levels. SLI specified they needed to be able to facilitate meetings and manage multiple projects so that work was guided by the MTSS framework. They needed to be reflective, able to identify their own knowledge and skill gaps and able to accept feedback from others. Finally, MTSS Coordinators needed to possess effective organizational and communication skills.

SLI created annual conferences to further support their partnering schools and districts. Annual coaches and coordinators conferences supported these enactors with deepening their understandings of their roles and responsibilities and problem solving common implementation problems. Annual implementation conferences were open to all members of MTSS related teams, including superintendents and principals. Indeed, some workshops were designed specifically for these administrators.

SLI also created a plethora of tools and processes to help leaders – agenda templates, action plan templates, implementation tracking forms, guidance on completing district and school improvement plans, to name just a few. The resources were to guide administrators and

other local leaders through work tasks such as gathering and acting on data, communicating with key partners, and analyzing which initiatives shared similar expected outcomes as MTSS and which ones competed for attention. These tools and processes were remarkable and could be very useful if used well.

The practice profiles, trainings, and other learning resources made it clear that, in addition to the more technical aspects of change, administrators and coaches were responsible for fundamentally changing how people understood their organizations and their roles and responsibilities within those organizations. Using the MTSS framework as a resource, local leaders were expected to reframe, for instance, how teachers viewed and used curricula and assessments. Adopting Reading Street was not supposed to be understood and enacted as another curriculum adoption, in the spirit of past adoptions. It was supposed to be understood as a tool for them to jointly use to coordinate the delivery of reading instruction within and across tiers in the service of students' evolving learning needs. All improvement efforts were no longer supposed to stand alone, competing for time and attention. Leadership teams were supposed to use the MTSS framework to determine which initiatives to keep and how to integrate those with other initiatives and policies in a manner that created a social system of work that allowed teachers to provide high-quality learning opportunities to students. Thus, when teachers and administrators struggled with questions such as how to structure small groups, how to address low fluency scores, why stay at pace with grade level and other program colleagues, and so on, they were supposed to use the MTSS framework as a primary resource for their sensemaking and sensegiving.

Yet, SLI provided little support for changing daily practice. SLI trainings focused a great deal on implementation ideas and issues, collecting and analyzing data, and forming action plans.

They provided relatively little support for leadership's enactment of the plans – using the MTSS framework to guide discussions, developing one's understandings of how teachers and fellow administrators currently worked in order to begin heedfully interrelating within and across organizations, helping others change their understandings and work routines, folding changes into existing practice, and so on. In absence of such support, enactors will likely rely a great deal on their existing understandings and work habits to complete this work, if they have understandings and routines that could be called on to perform such novel work.

SLI's implementation design purposely limited their participation to off-site, large group trainings. This decision strategically bound their operational costs, allowed them to expand their network of partnering schools, districts, and regional agencies, and prevented them from becoming too involved in local decisions. The trade-off, though, was not knowing which knowledge and skills were actually portable, what partners actually learned, and what they were capable of accomplishing back home in their various, unique settings.

RQ #2: What experience did administrators in this study have with systemic reforms in general and MTSS in particular prior to the introduction of this initiative?

The superintendent did not have prior experience with systemic reforms and was only vaguely familiar with MTSS through Fairview's prior partnership with SLI. He viewed the most important part of his job as supporting his principals and others who worked for him. He stated others may disagree with him, but he did not think his role was to be an instructional leader. His curriculum director and principals were supposed to be instructional leaders. His job was to support their efforts, for instance, by finding the funds they needed for a particular program and helping them properly staff their buildings. He said he typically worked with his principals on staffing and student discipline issues. He was interested in how new curricular programs or

initiatives were implemented, but he left the design of instruction and its implementation to the curriculum director.

The curriculum director first learned about the MTSS framework and the SLI initiative seven years prior to this study and first received training on the framework while she worked for the state department of education. She also had experience implementing the MTSS framework for behavior supports as a middle school principal in another district, partnering with a different external organization. She said she touched base with all the principals in the district daily, "They will call, or I will send out something, 'What do you need? What are you doing?'" They met formally twice a month – during Administration Meetings led by the superintendent and Principal Meetings led by her. She said she also made it a priority to attend most of the professional development her principals and teachers attended. As curriculum director, she was supposed to lead subject area K-12 committees that were in charge of curriculum design for the district. These committees met at least twice a year prior to this curriculum director joining the district. The curriculum director was also supposed to lead the district improvement team, which consisted mostly of department and grade level chairs from across the district. They were supposed to meet once every other month. However, the curriculum director only convened committee meetings as she thought they were needed, which only happened once or twice each year of this study.

The principal at Fairview first heard of the SLI initiative four years prior to this study through trainings to help children with autism that her staff attended. They applied for and were awarded a grant to participate in the initiative beginning the 2009-2010 school year, three years before this study. At the time, SLI provided three years of building-level support to implement MTSS for behavior and reading. Thus, if this district had not applied for and been awarded a

new grant, Fairview would no longer be receiving SLI support. This principal said the school-wide reading training from two years ago was a rough experience for her and her staff:

> That was when we fought a lot because [teachers] thought they did the same thing [were organizing instructional activities in the same manner]. Even people who taught side by side for years. We just started to really unravel. Just learning that maybe we weren't doing the right things. And weren't doing it enough…So, it was really through SLI that year that we figured out that we had to change and that we needed a core program, that we didn't have a core program.

Since they did not have money to purchase a comprehensive program, they began piecing together smaller programs to address their needs, following suggestions from SLI and the Florida Center for Reading Research. Simultaneously, they lobbied their Board and other elementary colleagues to adopt a comprehensive curricular tool like Reading Street. The principal said she had experience implementing a curriculum product like Reading Street three years prior to this study with Everyday Math. She said this was also a difficult implementation process.

The Riverside principal was very familiar with Response to Intervention (RtI), which she viewed as formalizing instructional differentiation. She and many of her staff members attended RtI trainings at their regional service agency and elsewhere in the state over the years. She thought MTSS formalized differentiation even further by adding more building-wide procedures and consistency. She also taught using Success for All, so she was familiar with working with a whole-school design for instruction. She explained that in their building, the Intervention Team met once a week to discuss students struggling the most academically. Working with a student's general education teacher, they analyzed data, discussed accommodations to try, and tracked the student's progress. Sometimes a teacher brought a student to the team's attention, and sometimes the team approached a teacher after studying building-wide data. The team consisted of the principal, the special education teachers, the school counselor, and the district school psychologist. While the Title I/At-Risk teacher was consulted about specific students, she did

not participate regularly in this team's work. Riverside's principal viewed Reading Street as a "basal" reading product. She thought it lacked the capacity to provide students with authentic, rich reading experiences and rigorous learning opportunities. She did think it would help teachers collaborate because they would be using the same curricular materials, "If you know you're doing all the same stories, you might as well plan together. So that's a plus." She appreciated how the program helped them enact a K-5 scope and sequence of reading instruction activities. She also thought it would be a useful support if teachers had never taught a particular skill, such as compare and contrast. However, because of her doubts about Reading Street as a strong curricular tool, she planned to encourage her teachers to see the first year as a pilot year with the program. They would test the various components and determine which were useful for helping their students learn. As a building they would decide what to use and what to discard the following year. She felt it was important to use Reading Street consistently as a building, but asked teachers to only worry about consistency within their grade levels the first year. They would come to a building-wide consensus for the second year.

Prior to the SLI initiative, the district devolved the development and use of curriculum maps to the schools. The Fairview and Riverside principals said their buildings did not develop or use a curriculum map or other instructional guide. The curriculum director was excited that Reading Street provided a K-6 scope and sequence as well as a curriculum map already aligned with the Common Core State Standards. Riverside's principal expressed apprehension. To her knowledge, no one in the district had checked to see whether Reading Street was truly aligned with the Common Core, as Pearson claimed. If the adoption had gone through the district's K-12 ELA committee, the committee would have reviewed all of the materials, "So you would know

where your gaps were. Go ahead and follow this, skip this one, and you'd better get here or else you are not going to cover all of your [state standards]."

While the district had a data management system, the superintendent said they did not have a "data guru" who managed and used the system for district purposes. The curriculum director did analyze state assessment, DIBELS, and other data for various district-level tasks, including reporting to the Board. Otherwise, buildings determined how they used the data management system, including what data they entered. This, of course, varied by building. The Fairview principal said they used their DIBELS reading data to address individual classroom and student needs, as evidence for special education referrals, and for Board meeting presentations. The Riverside principal said they also used these and other data, but it was difficult to act on them because teachers did not teach the same curriculum, "How do you align it? How do you improve it?...I didn't know how to help coordinate the process of improvement, except on an individual basis. And that was way too hard."

RQ #3: During the first two years of implementation,

a. What understandings did administrators develop of MTSS, including their roles and responsibilities? What explained those developments?
b. What, if at all, did they do to lead the development of customized MTSS models? What explained those actions?

Administrators did not learn SLI's design for interconnecting their work – the chain of supports. While the chain of supports was presented at trainings and conferences, none of the administrators recalled or described the chain. Indeed, when asked if their district had certain roles and responsibilities to fulfill during Year 1, both principals were taken back by the idea. They did not imagine a chain of supports for their building-level work. The district administrators did not mention or describe the chain, either.

Additionally, during the two years of this study, none of the administrators mentioned or were observed using any practice profile for their specific role, for any team, or for others' roles, even though everyone except the superintendent had opportunities to study and work with these practice profiles during trainings. To be fair, enactors only had one or two such opportunities spread across multiple years. With the ever-growing list of action items after each training, it made sense that partners did not think about or have time to restudy and refer to practice profiles back home.

While SLI provided a library of tools, processes, and other guidance, administrators in this study were only given a handful of these resources at trainings, including the practice profiles. All of the resources could be found within SLI's website, but this required a bit of unguided searching through multiple subfolders. With the resources they were given, specific documents were only used when enactors needed them to complete a certain task in their buildings, such as completing a building-wide survey. In fact, SMT members often strained to remember what a particular resource was called and where online or in their binders it was located. Otherwise, these artifacts remained unknown to enactors, even if they had used the artifacts during a training. Further, SLI was vague on how to accomplish some of these novel responsibilities. The tools and processes helped guide administrators with some tasks. Others were left to administrators and other local leaders to figure out. Opportunities to study and work with these resources during trainings was not the same as opportunities to use them in practice. Indeed, because many administrators did not use the resources in practice, the only experience they had with them was during trainings.

This was the main area of disconnect between trainings and daily work. Principals and their teams left trainings feeling empowered and reported being more knowledgeable about what

their roles and responsibilities were. Yet once they returned to the flows and demands of their jobs, their new MTSS roles and responsibilities had a hard time fitting in. Existing organizational structures, routines, and their job designs challenged such change. There was little time to devote to new work, and what time these leaders did carve out was devoted to completing or figuring out how to complete some of the items (e.g., building-wide surveys) on SLI's long to-do lists before the next training. Thus, practice profiles, agenda templates, implementation tracking forms, and such were not resources for these enactors.

Moreover, aside from workshops at annual implementers' conferences (which administrators in this study did not report attending), district administrators were not offered training for their new role and responsibilities prior to or during Year 1. SLI recognized this problem towards the end of Year 1 and proposed postponing further school-level training (covering Tiers 2 and 3 of the MTSS framework) to provide District Implementation Team trainings during Year 2. Thus, SLI would offer School MTSS Teams three Data Days (fall, winter, and spring) and District Implementation Teams four training days spread throughout the year. All partnering districts, including the one in this study, agreed.

The District Implementation Team trainings were designed with the same format as other SLI trainings. They were impressive off-site learning opportunities packed with information and activities, conducted by trainers with plenty of implementation knowledge and experience, and focused on highly relevant content around enactors' new roles and responsibilities. Teams had opportunities to problem solve on their specific circumstances, get help from trainers, and develop action plans for next steps to complete back home. However, as with other trainings, the district teams were not given enough time to thoroughly discuss many of the topics during training, with the occasional help from trainers. Thus, these discussions became action items on

teams' to-do lists. These long to-do lists, in turn, were difficult to tackle back home once everyone returned to their other hectic responsibilities within their traditional and commonly organized workplaces. Moreover, tools and other resources that could provide some guidance on how to conduct this novel work were again only used if they were key to completing action items.

For example, the District Implementation Team was asked at an SLI training to deliberate on how their district defined MTSS. They were given some time to discuss this during the training and were expected to continue the conversation back home. Team members described a variety of understandings – RtI, behavior intervention, the SLI initiative, an umbrella for guiding all of their improvement work. One member said people in her building probably knew it was a framework, but they would not be able to say behavior supports, school-wide reading, Reading Street, intervention times, and so on were a part of their model. It seemed members of this district team had various understandings of MTSS, including nascent ones. A trainer reminded them their task was to define for their district what MTSS is and communicate that with district administration and buildings. They would need to develop those understandings throughout the district. The team did not have time during the training to figure out what MTSS meant for their district or how to develop understandings throughout the district. This was recorded as an action item to complete back home. The training moved on to other equally enormous tasks, with accompanying spots on the to-do list. At the next team meeting back home, this item did not make it on the agenda. Four equally important tasks did. Unfortunately, the team only had time to discuss one, a particularly difficult one. Many team members felt they were going in circles and desperately wanted an SLI trainer to help them clarify their work and get them back on track.

By the end of the meeting, a few possible solutions were proposed but many more questions were generated.

Even with the support of trainings, tools, action plans, and other resources, these enactors were new to using the MTSS framework as a cultural-cognitive resource to guide their thinking and dialogue. One-time, off-site opportunities to practice with well-developed resources that could help them transfer the knowledge were not enough for them to know how to think about and lead major changes in their existing social systems of work. It was uncertain members of these teams even fully understood what SLI was asking them to do, never mind trying to operationalize the tasks within their unique local contexts in a politically savvy manner. Thus, administrators and their teams relied heavily on their existing understandings and capacities to lead change. Without continued participation from people with expertise in using the MTSS framework and SLI tools to give sense to and then develop major shifts in roles and responsibilities, how administrators and others participated with each other around these tasks and resources was based on their existing capabilities, the very capabilities that needed to change. Unfortunately, no one within SLI or their partnering organizations seemed to fully realize this was happening, or to fully understand the magnitude of its effect on implementation.

The superintendent's understandings and actions. The superintendent was enthusiastic about the SLI initiative. Throughout the first year of this study, he understood MTSS as a research-based framework focused on providing students with different levels of support based on their current learning capabilities. During the second year, his nascent understandings grew to seeing MTSS as a framework that could unify all of the district's instructional improvement goals.

The superintendent shared strong opinions on district instructional issues, but he did not see himself as one of the people responsible for solving them. He viewed his curriculum director and principals as the district instructional leaders and supported them however he could, "I do whatever they ask me to do and whatever I think would be helpful." He did not have much experience with instruction. He did not understand it, and the design of his job, like many other district administration jobs, did not require these understandings or experiences. Traditionally, superintendents had a more passive role in instructional matters; much more passive than what SLI's chain of supports required. Thus, he did not see a role for himself in the problem solving. For example, at the end of the first year of this study, when asked if people saw MTSS and Reading Street as two separate initiatives or coordinated somehow:

> I think right now they're two separate things...I'm curious myself on how we're going to coordinate that. The only tie between the MTSS and the Reading Street is going to be the curriculum [director] because she coordinates that through the [regional service agency] and then back into the building.

Another time, he expressed concern about how the district would integrate the Common Core State Standards with MTSS. He wanted to know how much professional development his staff and their staffs had attended and how comfortable they felt with implementing the new state standards, "I spent almost the entire staff meeting, 'Where are you guys on the Common Core?'" He described the issue as their responsibility to solve, and he felt they each needed to stay on top of it. At the end of the second year of this study, he expressed concern that the district was "distracted" by state-level policy changes – new teacher evaluations, changing the state standards, changing the state test. Thus, the focus of MTSS implementation in the district was stuck on behavior instead of reading. When asked if he thought reading would be a stronger focus the coming school year, "That's what I want to find out when we have this meeting [year-end off-site] and see where everybody else is at." This superintendent had some understandings

of what an instructional system might look like in his district and how they might go about constructing such a system, but he was not going to help lead the construction.

Again, SLI did not offer professional development for superintendents, but this superintendent said he made it a point to attend the SLI trainings offered to his staff when his scheduled allowed. When asked if the trainings were helpful for him:

> I got an appreciation, but I'm not a practitioner…I want to be able to support them. And interestingly enough, I was the only superintendent who went…If I have an appreciation for what they do, then it's easier for me to talk to people and say, 'Okay, let's take a little bit of money from this and do this or-.'

Understanding what the MTSS framework might look like in a building requires understanding what instruction is and how it currently functions in a building. Without these understandings, the superintendent could only learn so much from SLI trainings. Thus, this key administrator did not possess the understandings of MTSS needed to perform sensegiving that would support others' productive sensemaking of the MTSS frame. Even if he did build the same rich understandings as School MTSS Team members, he would still need the sort of learning opportunities they needed to perform the SLI tasks, the building of MTSS models, in daily practice.

While the superintendent tried to support his curriculum director and principals, his actions often left them feeling unsupported. For example, when asked if he had opportunities to discuss goals, expectations, or outcomes around implementing MTSS, he said this was a standing agenda item for his Administration Meetings. True to his design, though, when MTSS implementation was one of the items discussed, these were opportunities for principals to report out on what they and their staffs were doing. The superintendent, in turn, did his best to support what schools said they needed, such as finding money to hire more literacy parapros. He did not get involved in the day-to-day implementation efforts or help them problem solve

implementation barriers, such as how to provide the rest of their staffs with the learning opportunities they needed, how to develop understandings of MTSS. Again, he did not possess deep understandings of instruction or the MTSS frame, and he did not see himself as an instructional leader. Thus, he could not offer useful guidance on how to lead the construction of customized MTSS models. He could not participate productively in such conversations. He also did not effectively communicate a vision or use MTSS as a guiding framework for the district's efforts. Indeed, discussion rarely touched on a K-12 MTSS model.

In another example of his nascent ability to shape productive sensemaking towards an instructional system, the superintendent attended a Riverside staff meeting to talk about a staffing issue and ended up participating in a discussion about how to use Reading Street. One teacher expressed she felt she was not doing what was right for her students. The following conversation ensued:

> Superintendent: We need fidelity. This isn't so that you don't have good teaching. You can still do project based learning.
>
> Teacher: No, we can't. We're not allowed.
>
> Superintendent: [Teacher], you know what good teaching is. I trust that you know what good teaching is. We need to follow the program with fidelity. It doesn't mean you can't still do project based learning.
>
> Teacher: Well, I'm getting evaluated. [The curriculum director] can come in at whatever time she wants and she can write up that I'm not following the curriculum, and you could get rid of me.
>
> Superintendent: No, she can't.

Technically, the principal confirmed later, the curriculum director could. This teacher chose to test the waters and wrote to her curriculum director that she intended to not teach the next unit of Reading Street in order to teach a novel study, copying the superintendent and her principal in on the email. A battle ensued between the two via email. At one point, the superintendent wrote

the teacher a side email virtually high-fiving her for the arguments she presented to the curriculum director on what research on reading instruction stated was best for students. He then continued to let the teacher and curriculum director battle it out. The curriculum director finally relented and allowed the teacher to conduct the novel study.

Undermining his direct report aside, the superintendent delivered conflicting messages to the entire staff. As one teacher recalled it:

> I think when [Teacher] was told that she could do her project based unit, it was kinda like "Alright, you're giving me permission, too?" [She laughs] [The curriculum director] was very clear. We teach Reading Street, Reading Street only. That will be the same thing she keeps saying. [The superintendent] is the one who said, "I have never said you cannot do best practice." 'Well what does that mean [superintendent]?' 'You know what that means because you know what best practice is.' 'Okay, [superintendent], [laughs] are you overriding [the curriculum director] or not?' So it does have that little, 'I'm not sure.'

Another teacher expressed concern for how this would be taken up by other teachers, "You know, that's opening a Pandora's box. Now other people know that this is happening. And so, in their room, it makes me wonder, what are they not doing now? It's undermining everything."

At a Fairview staff meeting the superintendent attended, a teacher voiced a different concern:

> I said my frustration was that we just keep on moving on [in Reading Street] and we never have time to do a thorough job on [teaching the skills and concepts]. And he said, 'What's better? To do a thorough job or to at least cover everything?' And I said, 'Well, what good does it do to cover it if they don't learn it?'... We didn't get into a big discussion; he kind of let it drop. I think something else came up at that point. [she laughs] And I didn't want to debate with him.

In another example, elementary building principals' year-long disagreements on how to use Reading Street led the superintendent to ask these principals to each put together a vision of how they thought Reading Street should be used the next year. He wanted them to share their visions with the Board's curriculum committee so that the Board was aware of any

modifications. His curriculum director disagreed with this and insisted research showed they needed to use the program five years with fidelity to see the full effect. At least one of the principals agreed with her. The superintendent stayed with his decision to have the principals present their visions to the Board curriculum committee. Aside from facilitating a direct conversation with the Board committee, the superintendent did not position himself as responsible for problem solving this district-wide issue. He did not understand it enough to participate productively in deliberations. Nor could he draw on knowledge of how Reading Street can serve an MTSS model to help frame people's understandings while they deliberated on this issue. Further, he directly and openly contradicted the instructions his curriculum director had given to principals and teachers all year. He may have decided he disagreed with her, but his actions during that meeting caused a problematic leadership dynamic amongst them all.

There was a mismatch between what he saw as his role and responsibilities and what his direct reports and teachers said they wanted, indeed, needed from him in order to construct instructional systems. They at least wanted him to better understand the complexities of their jobs so he could better help them. However, since he did not possess these understandings, they rarely discussed with him one of the most important responsibilities of their jobs – reading instruction. This was especially problematic because teachers felt they would ultimately be held responsible for students' outcomes through the new teacher evaluations.

The work of developing people's understandings and abilities to enact an instructional system is complex and difficult. However, the superintendent's speculative and ambiguous messages pushed full responsibility onto other administrators and teachers to do a lot of sensemaking and problem-solving, with their limited and varied sensemaking resources

(remember, other schools, Pearson trainers, and others were also sending messages). His ambiguous sensegiving was a result of his lack of understanding of and experiences with MTSS and systemic reform. This was further complicated by his lack of understanding and experiences with instruction, a feature missing in the design of his job and the organizational supports for his job. Thus, he could not help develop others' understandings and experiences, and he could not help craft coherence. Instead of working with his curriculum director, principals, teachers, and knowledgeable others to reach understandings about how to best use the MTSS framework to improve instruction, he unintentionally left these responsibilities for others to manage.

The curriculum director's understandings and actions. The curriculum director understood that implementing MTSS would cause a huge paradigm shift for people. However, it also seemed to be a huge shift for her. She, understandably, had a difficult time seeing how it would work in practice:

> This one was a stretch for me. It was all good, what the teachers learned and what [SLI] taught was really good information but I still haven't been able to wrap my head around how this is going to fit in with Reading Street…How can we meet their needs with the kinds of schedules that we have? How can we do a pull out program, how can we do a, 'Well, they don't get it right now. Let's pull them out for a while, but then we'll put them back in.' Scheduling doesn't allow us to do that so we have to start thinking a little bit more creatively for the kids.

While there was no SLI training for her role as MTSS Coordinator prior to the second year of this study, the curriculum director felt the MTSS Coordinators at her regional service agency had prepared her well for implementation. During the first year of this study, she attended most of the school-level MTSS Coaches and School MTSS Team trainings, but mostly at the middle school level, stating they were basically the same training as the elementary level. She felt her superintendent was very supportive of her as the MTSS Coordinator, but they did not

speak often about implementation. She wished she had others to collaborate with, such as other district-level MTSS Coordinators or districts doing well with their MTSS models.

Similar to the superintendent, and true to the traditional design of her job, she understood her role as supporting principals and teachers by fulfilling their purchasing or training requests, not as a leader or participant in constructing MTSS models. She explained:

> The teachers are pretty good at letting me know and saying 'You know what, we need some more work with decodable readers. We need a better way to use decodable readers. Can you find something with Pearson?' I field a lot of that kind of stuff.

At the end of the study, she still described her role and responsibilities in the same way, "To be the facilitator for what teachers need in so far as professional development or actual physical things like programs – Anita Archer's Rewards and PALS." Her role was not to shape understandings using the MTSS framework, to help lead the construction of instructional systems, or to participate in problem solving. The design of her job, and the organizational supports for it, did not require her to take such an active role.

Yet, in her efforts to fulfill what she understood as the district's needs, she actively overloaded herself and others, spreading everyone thin across multiple responsibilities. Her understanding of MTSS as an umbrella under which all improvement efforts could be organized led her to adopt and coordinate the implementation of multiple programs and initiatives within a two year timespan – AIMSWeb, DIBELS, Reading Street, Star Math, and Title I Schoolwide, to name a few. However, she did not know how to give sense to all of the adoptions – how to integrate these components into one system and how to develop such understandings within the district. In fact, she could not explain her reasoning well, if at all. Instead, her lack of explanation gave the sense that she expected everyone to figure out on their own how to integrate

the new programs into their existing work. Thus, the programs piled on top of each other on teachers' and principals' plates, competing for time and attention.

The curriculum director's nascent understandings of how to lead systemic change made it difficult for her to communicate her efforts in general, thus unintentionally sending ambiguous, stress-inducing messages to teachers and principals. For example, she started discussing the adoption of yet another reading assessment, NWEA. She mentioned this first during a meeting, but she did not make it clear what NWEA would do, whether it would replace DIBELS and AIMSWeb, why the district might adopt it, how it might help them build a K-12 MTSS model, and so on. The news spread quickly into the two schools in this study, and other buildings, most likely. The news hung out there in the social network as an ambiguous, weighty, stress-inducing piece of information. Some people concluded the curriculum director was going to replace existing assessments with NWEA while others concluded she wanted them to do it all. One principal asked the curriculum director for some clarification and told me:

> I think she still wants to do DIBBLES. I had heard she didn't, but then when I asked on Tuesday she said, "Well I prefer doing DIBBLES." …So NWEA, she said, is coming from the state. That you have to have a K-11 assessment. But I think that's just for teacher evaluation purposes.

Even after this conversation between a principal and the curriculum director, neither were clear about why they should adopt NWEA, what it addressed, how it might be good for the district, how it might or might not work with other assessments, whether it was tied to teachers' evaluations, and so on. The curriculum director made no official communication. Instead, her vague, passive, and unintentional sensegiving put the burden on teachers and principals to make sense of what such an adoption might mean for their work.

Further, the curriculum director was simply puzzled about how to move their district towards a K-12 MTSS system, as her existing understandings and experiences were inadequate

resources for crafting coherence. To begin, she struggled with how to create learning opportunities to help everyone develop deeper understandings of the MTSS framework and why they were moving towards a K-12 model. After two district presentations, people still possessed a wide range of uneven understandings. An idea she wanted to propose at the next District Implementation Team meeting was to create an informational poster for classrooms, "Something [students and teachers] all could look at and remind them this is what our bigger picture is." She also wanted to try sending monthly or bi-weekly updates to teachers and administrators to keep everyone informed of the MTSS work. In addition, she said she now uploaded every meeting agenda and minutes to a Google share drive for everyone to access. She did admit she did not know how many people accessed the share drive. These learning opportunities are analogous to traditional teaching strategies based on the hopeful premise that students will learn if given some learning materials and a teacher's presentation. Imagine a teacher taping a math lesson to the wall or uploading lesson plans to a share drive and expecting students to learn. This key administrator simply did not know how to guide people's learning, how to give sense about this large systemic reform they adopted. While she had a theoretical understanding of what MTSS is and how a K-12 model might look, she had not had sufficient opportunities to learn about what concrete steps might be taken to set up such a system. Thus, she hopefully relied on self-admitted feeble attempts to share knowledge.

Another result of the curriculum director's lack of useful understandings and experiences was her confusing sensegiving around the District Implementation Team's work. For instance, while she enthusiastically established the team, she struggled with who to ask to serve on it. Because she had not had sufficient learning opportunities, she did not know what a district-wide team might actually do and how she might best facilitate this work. One consequence of this was

inviting people to serve who were loosely or not at all connected to their building-level MTSS work and who could only speak weakly to reading instruction. As a result, she changed the team's membership occasionally throughout the two years of this study, including well into the series of SLI District Implementation Team trainings. People asked to step down or were simply no longer invited to attend meetings. This was especially problematic during Year 2, because some new members missed the first one or two SLI trainings. The curriculum director's lack of understandings caused the membership and subsequent work of this team to continually change. This sent ambiguous messages about what the team's purpose was and how it would affect people's work.

Moreover, the curriculum director stumbled to identify a unifying purpose for the team and to facilitate conversations around coordinating buildings' efforts to form a K-12 system. Understandably, she did not have experience leading such meetings and using the MTSS frame as a resource for their conversations, as this is novel work. Further, she did not know enough about using Reading Street to facilitate discussion around how Reading Street was a component of their K-12 MTSS system, how to utilize the MTSS framework embedded in Reading Street as a tool to develop common understandings and enactments of a K-12 instructional system, and to then develop these common understandings and enactments across buildings. Even though their technical assistance partner helped her create agendas and talked with her about next steps via emails and phone calls, the curriculum director struggled to shape and participate in productive conversations during meetings. Consequently, these meetings typically consisted of individual buildings reporting out on their work with occasional group problem solving around building specific issues. Team members often commented these meetings were not a good use of their time. During a couple of meetings when the team was stalled for possible solutions, others

members suggested inviting their technical assistance partner to future meetings to help them answer their questions and work through problems. The curriculum director readily agreed this would be helpful. However, it never came to fruition. Thus, the curriculum director could not lead the crafting of coherence. She did not know how to productively give sense. She was never taught how. Instead, her nascent understandings of systemic reform mixed with her existing understandings and enactments of her role and responsibilities to produce ambiguous sensegiving about the team's purpose and work. This challenged the construction of instructional coherence.

Further, the curriculum director did not know how to communicate the purpose of the District Implementation Team with the rest of the district. Only a few people aside from members seemed aware of its presence, and these members were not always on School MTSS Teams. In fact, school MTSS Coaches were not aware for months that the team existed; they learned of it at a SLI training. One coach told me at the end of the first year:

> I don't know what that is, I don't know who is on it, I have no idea anything about it. I think that there needs to be more of a connection between what's happening at the district level and what's happening at the building level…I don't know if there are things that I could be sharing with whoever goes to that or not [for her building]. I'm not exactly sure because I don't understand really what it is or what their role is. I definitely think it could help a little bit with our building jobs to know what's going on at the district level. And vice versa. I think that they need to know what's happening probably from the coaches prospective in the buildings, too.

The curriculum director did not realize the weak feedback loops and other turmoil her poor sensegiving created until well into the second year of this study, when a combination of SLI training activities and other members' concerns brought this to her attention.

Bridging district- and school-level MTSS models. The district administrators' lack of knowledge of how to move their MTSS implementation forward served to reinforce existing organizational structures and roles instead of constructing the chain of supports. Indeed, the

superintendent did not often talk with principals about instruction. The curriculum director said she did not talk often with Riverside's principal, and she felt the best way to support Fairview's principal was by acting as a sounding board. Fairview's principal, however, did not perceive the curriculum director as supportive or even knowledgeable about the challenges she experienced with implementing MTSS.

To be sure, both principals said their district administrators could not help them with MTSS implementation or with managing and improving instruction in general. Both said their superintendent lacked instructional knowledge, "The superintendent doesn't really know anything about Reading Street. He just tells me it better work," and, "It's just a lack of knowledge of curriculum from not being an educator. He's good at other stuff. He's good at big picture, he's good at finance. I think he's really good with relationships." One principal said the curriculum director never visited buildings, "So she always has lofty ideas." The other principal pointed to how the curriculum director was spread thin, "I think she is just overwhelmed and trying to do everything, so that she ends up doing nothing." When asked how these district administrators worked with them on reading instruction, one said:

> The correct answer would be that we talk about it at curriculum meetings, but it seems like we don't so much. It's always a line item, and I will share some stories about Reading Street. But no one really asks anything of me.

The other principal echoed this. Both said they also did not ask anything of their district administrators. One explained she did not see how they could be helpful if they did not visit her building and understand what their implementation work looked like. Talking with their district administrators twice a month at the Administration or Principals Meetings, if the meetings were not cancelled, was not sufficient.

Their interactions with others positioned to lead implementation were similar to their interactions with principals. For instance, the curriculum director said she only talked with school MTSS Coaches at meetings or through email when they needed to ask her for something, "It's more of "When do I have to have this to you" or "Can we have extra of this? Is it possible to have a meeting?" you know, those kinds of things." She said she also served as a sounding board for the half-time reading coach.

The curriculum director's weak understandings of MTSS and Reading Street caused her to send confusing messages about how Reading Street should be used across the elementary schools. As she was unfamiliar with the curricular product, she deferred to Pearson trainers, who at first defined fidelity to the program as teaching all lessons written each day in the teachers' manual. Thus, the curriculum director insisted this is what teachers needed to learn to do. However, in later trainings, what counted as "fidelity" continually changed. Pearson trainers, themselves, seemed uncertain. Teachers mistrusted these trainers and were unsure how their curriculum director felt. Because of her relative power over their work, her definition of "fidelity" mattered most. Meanwhile, teachers and principals visited other schools further along with implementing Reading Street. These schools all used Reading Street differently. Teachers and principals requested multiple times for some district-wide decisions from their curriculum director on what she would accept as fidelity, but she was silent. She seemed hesitant to answer their questions, to guide their work, to help structure their work with students and interactions with each other. However, her silence unintentionally gave sense, sending messages about her expectations. Some understood her silence as 'continue to try teaching everything in the manual', while others thought this meant they could make their own decisions because the director did not know what to say or would not find out. One principal said, "I guess if she's not

going to give me a directive, I just need to make a directive...Sometimes it's just better to ask for forgiveness than for permission." While the principals and teachers expected some district-wide direction from their curriculum director, they did not anticipate or desire the ambiguous and mixed messages they received. This ambiguous, passive, and unintentional sensegiving and, thus, weak support, was due to her weak understandings of how to best use Reading Street in service of implementing MTSS. The superintendent was silent, unintentionally giving the sense that he agreed with the curriculum director. Such actions did not support people's work. Indeed, it left them feeling unsupported, confused, unguided, frustrated, and afraid.

The curriculum director unintentionally fueled these reactions with more ambiguous sensegiving in the middle of Year 1 by providing principals with a Pearson-created walk-through checklist without much explanation, during a year when new teacher evaluation processes were still ambiguous. One principal described the checklist as "daunting." She said the curriculum director told them it was just an informative tool to help principals keep track of what they observed, and this principal wanted to use the checklist in that manner. The other principal said it came across as "all about compliance." The walk-through form listed every activity in Reading Street, "And you just circle 'Yes, I saw it,' or, 'No, I didn't see it.'" She refused to use it, "When I do a walk-through, it's not about compliance. It's about, 'What feedback do you want? What feedback can I give?'" The other principal, however, decided to share the checklist with her teachers, "They kind of flipped out. So I promised them I would not use it until the second semester." She explained to them it was just a tool for principals:

> But the teachers didn't hear that. What the teachers thought was that I was going to use that checklist to write their evaluations. And I wasn't going to do that…It might help me when I am writing, but it is not just what I'm going to write about.

While the curriculum director did not clarify her message, she definitely wanted principals to use the check-lists. The superintendent's silence again gave the sense that he agreed with the curriculum director. Thus, many teachers were afraid to modify Reading Street/My Sidewalks lessons even if it was clear their students needed something different. This added additional stress as teachers wondered whether they were serving their students well and how they would be evaluated:

> Teacher: The [Pearson] presenter [said] that we can't do it all. But yet when they come in to evaluate us or sit in our room, they have a checklist with all the stuff on it to see if we have been doing all of it…It was quite an extensive checklist, and it was pretty much all of the pieces and parts that are in reading Street. But yet you heard [the presenter] say there is no way you are going to get to it all. You are to choose one or two of those targeted activities. So why are you [the curriculum director] expecting everything to be done every day? And not everything comes up every day.
>
> Teacher: I am doing what the book says. And part of that is because we are going to be evaluated on student growth, and I am concerned that. If I don't do it as the book says, and students don't progress, then it will reflect on me, "Well, you didn't teach the program with fidelity." I guess I can say that it is protecting yourself, and it is really sad that teachers have to be in this position. But if I teach it with fidelity, and the students don't progress as we would like to see, I can at least say, "Well, I taught the program with fidelity. If you want to hear my opinion from it after that," but I am scared not to teach it with fidelity.

Many teachers said they thought they were "bad teachers" these two years because they did not yet know how to use Reading Street or My Sidewalks well. Yet they were afraid of getting caught not using it in its entirety and getting fired. This lack of guidance intertwined with insistence on fidelity and new evaluation procedures left teachers and principals in a constant state of fear, ambiguity, helplessness, and frustration. They simultaneously feared and resented their curriculum director for using Reading Street to evaluate their work without providing sufficient support for using the tool well. While the curriculum director still understood fidelity as consequential for their K-12 MTSS model, she did not know how to convey this to her teachers. Nor did she know how to support them in using Reading Street and My Sidewalks in a

manner that was responsive to students' needs, a main principle of MTSS. Such a role and responsibilities were novel to her, and most likely novel to many district administrators.

Further, while some teachers said their district administrators were supportive earlier in the year by paying for Pearson trainers and visits to other schools, some teachers expressed in the middle of Year 1 that they did not believe their district was supporting reading instruction anymore. One teacher said:

> When the year started, [the curriculum director] got all the materials and resources and stuff and made sure that everybody had the supplies that they needed. But there hasn't been a K-12 ELA meeting scheduled, and we're used to having two a year… We've been asking her to set up meetings. Those haven't happened. And not just in the ELA department, but in the other departments as well…We want those meetings. That's when we get a chance to dialogue across the grade levels.

Another teacher expressed, "Our curriculum director, we've hardly seen her…I feel like it's kind of been, 'Well we got the program, here you go. See you in a couple years.'"

When asked how her curriculum director or superintendent could be more helpful, one teacher said:

> Well, I guess, here's what our day looks like. Here's what we're running into. How can you help us make this time more effective? The schedule is determining what I do more than the curriculum does sometimes, because I can do lots more in that curriculum, but I just don't have the time to do it. And, I hesitate to even say that to them because, I've been told, 'You need to work smarter.' And I said, 'No I don't.' This is the second time I've been told that. I said, 'No, I don't, I need to meet the needs of my students. So, if it means I need to stay here until eight o'clock at night, then that's what I do.' When we do bring up issues like that? Sometimes we're meant to feel like we're complaining, when we're just trying to share with them the reality of this and can you help us fix this? So, they'll listen, but the comments they make really don't help, so then you stop telling them, you know what I mean? Because it's just a waste of your time. Forget it, I'll go figure this out myself. That's how I internalize it.

Another teacher expressed the same sentiment:

> I think if they were visible and they came in here and really took the time and watched really what happened, that they could, one day's not gonna do anything. They need to be in here for a good week. For a good week, at least, to watch how the whole reading process is working, because they're gonna see that we need help.

A principal said the same regarding support for her work, "If they were here more, it might be differently. Maybe if we went into the same room, and then we left and talked about what we saw. It might open up dialogue."

The district administrators did not position themselves as 'in this' with their teachers and principals, as learners and co-problem solvers, as the traditional design of their jobs and their organizations did not train them to possess such understandings of their role and responsibilities. Instead, the curriculum director inadvertently positioned herself and the principals in the roles of evaluators in part by handing principals walk-through checklists towards the start of the year. Her occasional insensitivity reinforced this message. When some teachers asked her directly how they would be evaluated on using Reading Street, she said to them:

> You are not judged on how quickly you're getting this down. You're judged on how much [your principals] see in your classroom, how you're using the pieces for students needing the pieces…. If you're just sitting back and refuse to do it, then it will affect your evaluations…If you need help, ask for help. Don't sit back and grumble. We have professional development days built in. If your computer doesn't work, put in a trouble ticket.

The district administrators simply did not know how to achieve what they wanted – coordinated and continuously improving instruction. They operated partly on the faith that adopting the SLI initiative and adopting a new reading program would accomplish much of the work. Now everyone just needed to learn how to use these tools, and they were there to support them. They did not position themselves as implementers with their teachers and principals, as the SLI initiative expected. In order to do so, they would have to participate first-hand in some of the problem solving. However, this went against what they understood as their roles and responsibilities in a schooling system. Instead, they tried to piece together what buildings were doing from attending some of the professional development, asking for reports during meetings,

or having informal conversations with a few teachers who also possessed partial understandings. They wanted to help, but they did not have understandings on how they could best help.

The district administrators' weak understandings of MTSS and Reading Street and lack of experience with leading systemic reform was further complicated by their weak capabilities to communicate what they did understand, to give sense and craft coherence. The ambiguous sensegiving that resulted led to weak support for implementation. Indeed, because they both stayed silent or sent different messages from each other on many issues, teachers and principals were left to make sense of multiple messages on their own. This could be characterized as unintentional sensegiving by the superintendent and curriculum director, as their silence, vagueness, and inconsistency fueled plenty of unproductive sensemaking. Absent clear sensegiving, people will construct whatever understandings and enactments make the most sense and continue moving forward with their work, using these haphazardly made understandings and enactments. They have to move forward, whether their district administrators help them or not. So how could these administrators perform sensegiving better, and then check for understanding? They also need to communicate the same message, which means they have to have shared understandings of MTSS, Reading Street, and implementation. These districts administrators had good intentions to help their students and their employees. They were aware that they did not know how to accomplish the job. They expressed throughout the study they wanted help, they want to learn. So how to help them?

The Fairview principal's understandings and actions. Fairview's principal did not participate in the current set of school-wide reading trainings with the rest of Fairview's MTSS Team. She said she enjoyed participating with her teachers in prior SLI trainings. However, she did not think participating in current ones would be useful for her because they were geared

towards newly implementing schools. Indeed, during current positive behavior supports trainings, by her own account and as reported by others, she attended but did not participate productively in her team's discussions. She also did not want to re-experience the tumultuous discussions that occurred two years earlier during school-wide reading trainings. Fairview's MTSS Coach proposed the idea of the principal not attending the current set of trainings. The principal would still attend the Data Days. Some leaders and trainers from SLI and their regional service agency objected, stating the building needed administrative representation and buy-in. In the end, they accepted that Fairview's current MTSS Team felt their work would be more productive if their principal did not join them. The principal was actually more than happy to not attend and to receive updates from the MTSS Coach afterwards.

The Fairview principal had some clear understandings of how the MTSS framework might look in her building, and she appreciated how the MTSS frame was embedded into the Reading Street/My Sidewalks design. She set the expectation that all teachers would be on the same day in the teachers' manual and teach all the same targeted and tested activities. This allowed Title I/At-Risk and special education teachers to better align their instruction with general education teachers:

> Teachers have all stayed together, they are all on the same day. That really allows push-in to be easy…In My Sidewalks, I can hear [the Title teacher] using the same vocabulary words in a very similar story to the gen ed classroom.

This achieved coordination in regards to scope and sequence. It also built shared understandings and enactments of how to use Reading Street, even though those understandings and enactments did not heed a system or overarching frame at this point. Thus, it ensured grade level teachers could collaborate daily around their common content, if they chose to and found the time to. Similarly, this opened up the possibility for teachers to collaborate across grades and building

programming (Title/At-Risk and Special Ed services). In regards to coordination, this was a huge improvement over what reading instruction looked like last year.

However, it seemed she understood enacting Reading Street and My Sidewalks as enacting the MTSS frame. For example, she described how the new reading program gave the teachers a lot of good data, and she thought the teachers liked having more data. She equated this with successful change, "Now that they have [more data] and they see it, they are enjoying it more. I would have to say MTSS is definitely working. It is changing the culture, it is changing the language." Yet teachers were not learning a system or overarching frame to heed. They were simply enacting the progress monitoring, scope and sequence, and other aspects of MTSS implicit in the tool. Because the principal did not possess these understandings, she could not help her teachers develop them.

Additionally, in many ways, Fairview's principal understood and enacted the same supporting role and responsibilities as the superintendent and curriculum director, with, arguably, a little more thought towards leading the construction of a system. She saw her job in the implementation effort as "mak[ing] sure they are teaching Reading Street and they have what they need. And they're providing interventions. And that we're finding the neediest of the needy to pull out," "keeping everyone on the edge but not over," and "empowering the teachers and sympathizing at the same time." She said she did this by pushing them but also showing them how much she appreciated their efforts. When asked if she needed to think about the school's reading goal on a regular basis, she said:

> I think about it. It's not why I come to work anymore. In the beginning, I felt like I had to be here to make sure Reading Street was going. I don't feel like they need me to do that anymore. But I do still feel like I need to be a problem solver.

She said her strategy for influencing instruction was to gradually point out flaws, and her strategy for influencing the management of instruction was to manage scheduling and interruptions. She needed to make sure her teachers had time to talk with each other and that the Title I/At-Risk team and general education teachers stayed in curricular alignment. It seemed this principal did not know what else she might do to help construct a customized MTSS model in her building, even after the continual SLI training she received. Thus, she relied on a mix of new and existing understandings of her role and responsibilities in order to craft instructional coherence in her school. This was novel work for her, for everyone, including SLI.

As implementation proceeded, this principal seemed to distance her role in implementation and in instruction in general. For example, when asked at the end of the first year whether she had to think about how her work connected with teachers' work, she said she only thought about it when there was an extreme incident with a child, such as a death in the family or abuse. Otherwise, she said she needed to make sure the teachers continued using Reading Street and My Sidewalks as they had established at the start of the year.

> The Fairview faculty observed this distancing themselves. One teacher expressed:
> I would like more support from our principal. I think we need more support. We are learning and growing with this new curriculum. I think we all had an impression at the very beginning that she was too, because she was in our rooms, and she could be there 20 minutes or more and sometimes wandering and helping kids, listening and seeing what was happening. I thought, "Wow, she is really going to go through this with us." But that stopped. Probably about a month into the year… At staff meetings, sometimes they are froufrou meetings and you wonder why you came in. She could hold the key to those meetings by being an instructional leader and having dialogue about, "Here is where you are at in reading Street. You are all working on this concept at this grade level. Tell me how that is going for you. And what are you seeing with the program? Are you struggling with this part of your lesson?" I think we are all craving that, and unfortunately we don't have it.

Because of her lack of knowledge of Reading Street/My Sidewalks, her participation in solving Reading Street and MTSS implementation issues had to be limited, even though her

teachers looked to her for leadership. For example, at a staff meeting, teachers asked her what modifications they were allowed to make in administering the Unit Test. She remained silent for most of this discussion, telling teachers to talk about this more within their grade level teams. When teachers then asked her if they made some decisions, would they be allowed to do what they thought was best, the principal then said they needed to run their ideas by the curriculum director. The teachers said they already brought these concerns to the curriculum director and had not yet received a reply.

Fairview's principal did identify a major challenge to implementing MTSS that her staff needed help with:

> It is so much analyzing for that one little person and how they score week to week, and what do they consistently score low in. So I think the change over the years is they need to get better at that. They have gotten away from, "he reads at yellow," or, "he isn't an on grade level reader." They are moving away from that, but I think that analysis, that digging deeper is still going to be a rough road. And then when you tie in the emotions and the poverty, you know, you don't know why the kids are doing that. …I don't think it is that any of them don't want to. It's just how do you do that? How do you find the time? How do you connect with each little person to know? You know? …It's so much data to gather about little people and to keep track of.

Yet she did not see a role for herself in helping teachers learn to do this. When asked what supports she thought teachers needed to get better at gathering, analyzing, managing, and acting on data, she said, "Sometimes I think it is better use of time, not just time. Because anyone will say they need more time. But I think it is about how they use their time." Indeed, she told general education teachers they had to figure out how to make the time daily to meet with their lowest students for 30 minutes of Tier 2 intervention.

This problem was a part of a larger, complex issue around the lack of time and other resources needed to individualize instruction. Towards the beginning of Year 1, a Title I teacher raised the concern at a School MTSS Team and then a staff meeting that some of the Reading

Street small group lessons did not target the skills that students actually needed. Instead, these lessons focused on skills and concepts introduced that week, providing opportunities for daily reteaching or enrichment. She argued some students, for instance, still needed opportunities to master letters and sounds (lessons found in the Reading Street Response to Intervention kit) more than they needed opportunities to learn new consonant blends. Thus, the small group lessons were not a good use of time for those students. Further, using more targeted lessons was important for gathering data on what interventions were attempted before referring a student for comprehensive evaluation. If small group lessons did not teach the skills that assessments identified students needed, these efforts could not contribute to those data. Conversely, most general education teachers felt they could not exclude these small group lessons included in their teachers manuals because this might violate the fidelity of the program, thus possibly affecting their evaluations. Further, they did not have time to teach both small group and RtI lessons daily, as they barely fit in the small group lessons. However, the principal agreed with the Title I teacher's argument. Unfortunately, this gave the sense that she expected general education teachers to do more work without more support, adding more confusion to how best to use Reading Street. One teacher expressed:

> And when is that going to happen? It's easy to say, 'Oh, I should be using that kit.' Could you tell me, in my day today, when I would have had time to do additional? I can't even get through what I've got, and you're telling me I have to do more? And individually with these students? I, here, that's what, AAAAAAAAAA! I can't do it! There's only one of me! That's the part that, we are heading down a path of destruction, destroying the teacher! Because everything is our fault. Their scores aren't up, my fault. And I think next year or the year after, my evaluation will be based on test scores. So if they don't do well, it's because of me. But they came in, most of them that aren't even close to being on benchmark. Where is that my fault?! [laugh/crying] I'm trying. I'm thinking, 'What am I doing wrong?' I'm having more and more self-doubt.

The principal said she emailed the staff after this meeting to clarify she did not expect them to make this change now. She would like them to think about how to accomplish this the following

school year. However, this issue continued to arise at various meetings, and the principal became more insistent that teachers make the change. During her interview in December of Year 1, she said, "That is my main thing for the year. I'm already saying this publicly, but I'm not saying this too loudly right now…I really think this is just a nudge with a few people to get it going." In March, the principal told the teachers she would take away recess if they did not figure out a time in their day to provide students with targeted interventions. Recess could be that time. "Then I told them I wasn't going to lose my job because they couldn't raise their test scores." Teachers were appalled. They were not intentionally robbing their students of learning opportunities. This was a miscommunication between them and their principal. They fully understood and wanted to provide these opportunities. They honestly did not know how to fit in more targeted interventions given their limited schedules. The principal did not know enough about Reading Street or MTSS implementation to help solve this and many other building-wide issues. Thus, she could not give sense productively or craft coherence. Moreover, the Fairview principal did not position herself as a partner in problem solving instructional issues with her teachers. Her job was not designed or supported by her organization to enact these roles and responsibilities, and SLI had not provided the learning opportunities she needed to enact them.

The principal also missed regular opportunities to productively give sense and craft coherence. While the Fairview staff discussed reading instruction regularly at staff meetings, the principal and teachers rarely used the MTSS framework to guide their discussions. They performed some of the work of coordinating instruction, but they discussed it in disparate pieces, not as connected components that worked together. For example, while the Title I/At-Risk program was a regular topic, the Title teacher mostly shared updates with the rest of the staff. The principal did not frame these opportunities as whole staff discussions of how that work fed

their building-wide instructional system. She did not know how. This was also true of discussions around the special education referral process and Reading Street data.

The principal's lack of understandings and experiences with leading systemic change caused her to neglect other aspects of the building's instructional components. For example, during Year 1, she refused to organize the intervention team because she thought general education teachers would not generate the necessary data to qualify students for special education services. This may have been true, but only because teachers did not have opportunities to learn about the proper procedures and work with others on possible instructional strategies. These could be the responsibilities of the intervention team, as they were in many other schools. However, the principal was unaware of how her intervention team could perform this work and how she could lead such change. The principal also only called the School Improvement Team together twice during this year. She made most of the decisions and completed most of the school improvement plan – goals, objectives, activities, and professional development – on her own. She simply did not know how to lead such teams.

Because she did not have opportunities to learn differently, she understood and enacted the traditional role and responsibilities of the job design for a principal. For instance, she felt the new principal evaluations were off the mark on what her role and responsibilities were. When asked during Year 2 if she needed to think about how her work connected with teachers' work on a regular basis:

> Not really. Even though I got the latest [principal] evaluation document [from the state] and it's almost fifteen pages and there's nothing about kids or parents on it. It's all about working with teachers. Ninety percent of my day is about kids and families.

Indeed, many teachers, including members of the School MTSS Team, were troubled by their principal's statements and actions. For example, SLI's Spring Data Day occurred a few

days before the Title I Schoolwide application was due. Fairview's principal had completed Fairview's application prior to the Data Day, which was understandable given the amount of time it required. However, during the Data Day, the team's analyses identified different reading instruction needs. The principal refused to change the application even though she had a few days to do so. She simply did not want to work on it anymore because it had been so arduous, even though what she wrote in the plan would misguide the building's work the following year. The rest of the team was appalled and frustrated. They were disgusted by their principal's selfishness, and they were upset they wasted a day doing work that would not be used, "Why did we even go? I would have rather been back at home working with kids." That same day, the team discussed changing how the building used Reading Street, including not teaching some components that did not seem useful or letting the weekly assessment day fall on any day of the week (versus always Friday) to allow teachers extra days to cover all the lessons. The principal refused to allow them to drop some components. Further, while the team was divided on whether assessment days should always be on Fridays, the principal decided after the meeting to make the decision herself. These types of actions were typical for this principal. She lacked the knowledge and experience with instruction, Reading Street and My Sidewalks, and MTSS needed to craft coherence and lead differently.

The rest of Fairview's MTSS Team wanted their district, regional service agency, or SLI to intervene. One member suggested it would be helpful if someone came to their team meetings once every other month to help them stay on track, "Because we aren't on track, and we want to be…We need to set agendas, and we need to set goals that we are going to work on here." At the very least, the team hoped it would help ensure they met monthly. Their MTSS Coach did not have the formal power to put some wheels in motion. However, they could not rely on their

principal for leadership, "She can't. She doesn't know how to perform that task." The superintendent, curriculum director, regional service agency, and SLI were all aware of the situation, but no one intervened. The team was disappointed about this lack of support.

The Fairview principal had very good intentions, but she needed support in learning how to better frame the work for her teachers and how to more productively participate in the work herself. When she spoke with me about her ideas, they mostly made sense and sounded reasonable. When she spoke with her teachers, her statements sounded like commands, threats, insensitive orders to do more work, and to figure out how on their own. When she circulated during small group discussions at staff meetings, her participation was a barrier to teachers speaking freely while she was nearby. She also often used staff meetings to make a point, not to understand her teachers' experiences or work through problems with them as someone who was equally responsible for instruction. She needed and deserved help with sensegiving, with how to frame everyone's work towards actualizing an MTSS model for their building. She also deserved opportunities to learn how to collaborate with her teachers on problem solving and participating in the enactment of possible solutions, being a part of the feedback loop, the continuous improvement cycle. She actually thought she was doing all of the above and could not understand why her teachers pushed back on her. Thus, she often blamed teachers. This principal needed help with reflecting and learning how to do this work that she actually wanted to do well. In fact, she also thought it would be helpful if SLI or their regional service agency provided her with more support. She admitted often not knowing what solutions might be useful or feasible for their particular challenges.

The Riverside principal's understandings and actions. Riverside's principal thought the school-wide reading trainings were helpful, and she was enthusiastic about focusing the

building's work on constructing an MTSS system, "I love it, because I think that is what our focus has always been [instructional differentiation]. And it is making it the focus. Anything else that is coming up, I'm trying to dodge and get out of our way." She thought implementing MTSS would help people hold themselves accountable for addressing all of their students' learning needs instead of assuming less responsibility, such as assuming a student needed to leave the room to work with the Title I teacher or needed to be tested for special education services. All teachers would have to learn to share responsibility for all students. She also appreciated that SLI Data Days helped them write their school improvement plans. She thought the full day to study data as a team and make plans for the following year along with the SLI tools, processes, and exercises were exactly the sorts of learning opportunities they needed to develop thoughtful school improvement plans that were useful for guiding their future work.

Riverside's principal understood the MTSS frame and SLI initiative as tools to help them accomplish their school improvement goals. She understood one of her main responsibilities as keeping her building focused on their school improvement goals while buffering her teachers from other demands. She also understood one of her main responsibilities as facilitating dialogue amongst the teachers so they could actualize the building's reading goal:

> Knowing what the essentials are in each grade, the non-negotiables. And then really breaking those down into what are the skills underneath that. And doing that across grade level… You need to talk within your grade level and across grade levels so those are aligned. Constantly.

In fact, she said her main strategy for influencing instruction and its management was to focus discussion during building-level meetings (e.g., staff, school improvement, intervention team) on their school improvement goals. She wanted to provide more opportunities for the whole staff to analyze data together and then plan next steps within their grade level teams. She felt it was unfortunate that staff and grade level meetings were only once a month, and that they were

sometimes cancelled. She also said she was not always able to reflect on their progress towards their instructional goals because of the multitude of administrative tasks she had to complete. During the two years of this study, she did not find much time to lead the construction of an MTSS model with her staff. She wanted to, and she said she was trying her best.

Riverside's principal was able to talk about actualizing MTSS with fellow members of leadership teams, such as the intervention, school improvement, and MTSS teams. For example, they discussed the supports teachers had within each tier and whether those supports were sufficient for helping specific students. They discussed what data to collect from Reading Street and My Sidewalks to measure progress towards school improvement goals and how to feasibly use cross-grade level data to drive building-wide instructional decisions. They analyzed building-wide data together and strategized possible solutions to bring to the staff. They synthesized data and gave these reports to grade level teams to facilitate problem solving. They were trying to shift the work of the intervention team from being a conduit to special education to helping general education teachers provide students with high quality Tiers 1 and 2 instruction. They also discussed how to help teachers learn, for instance, when a student qualified for Tier 2 support and how to study data. They also saw part of the problem as teachers needing help with improving their individual practice, especially with students who needed extra supports, such as those with 504 plans. They strategized how to help these teachers learn. The problems they concerned themselves with definitely moved them towards actualizing an MTSS model. Now they needed help with moving these problem-solving conversations outside of their team meetings to the rest of the staff.

However, as discussed in the previous chapter, leadership teams in general and the MTSS Team specifically experienced difficulties with creating opportunities to have substantial

conversations with the rest of the staff in order to actualize some of their ideas. This can be partially blamed on existing ways of organizing schools and designing jobs. It can also be partially blamed on insufficient opportunities to learn how to craft coherence, including how to productively give sense. The principal realized communication was a challenge, including finding the time to communicate well:

> People interpret things very differently…And you have to go over it several times…I have to check for misunderstandings, give some people more support than others…remember that it is very different when you read it versus being able to talk about it.

The Riverside principal also recognized the need but was puzzled about how to help her staff shift their understandings of instruction towards a shared, building-wide responsibility. First, she knew that understandings of RtI or MTSS varied across the building. Second, past efforts to evolve these understandings and enactments had not provided teachers with enough support to enact their new roles and responsibilities well. She was afraid this would also be the case for the SLI initiative. For instance, when the district moved from a pull-out model for students receiving special education services to a full immersion co-teaching model, general education teachers had to change their understandings and instructional routines, "It was no longer those kids versus my kids." General education teachers had to learn how to design lessons that took into account all of their students' learning needs. However, general education teachers did not receive training on how to do this. Further, they now had to work with another teacher for part of the day, sharing instructional decision-making, deliberating on ideas with another person. This was very different and difficult for some. She said even adding parapros, speech therapists, or behavior interventionists caused this problem. How do you make the collaboration useful for everyone, especially the students? She was uncertain of a feasible answer, given existing organizational structures and culture. Further, she had not had sufficient

opportunities to learn how to do this work, how to craft coherence. Thus, she struggled with how to lead the change.

Riverside's principal also identified a main challenge the School MTSS Team faced in working away at this and other barriers – how to complete the long to-do list of action items back home. She said:

> When we have our monthly MTSS meetings, we're like, 'Look at that huge list of stuff we have to get done.' Just from our last training. Just right here, all this stuff. 'Share information from day one.' Day one? [laughs] They give us this list, and that's really nice, but I've totally forgotten day one. So I'd have to go back through my notes. When am I going to have time to do that?

The principal pointed to the lack of time as well as lack of knowledge of how to complete the to-do list while attending to their many other responsibilities. Or more accurately, how to fold these tasks into her existing daily work. For instance, because having a good conversation about MTSS during a 45 minute staff meeting once a month had proven difficult, she wondered how else to develop her staff's capacity to enact MTSS. She speculated if asking grade level teams to study their data together would get teachers to start talking about and supporting each other with improving their individual practices. She was not certain. Existing ways of organizing and a lack of understandings and experience with implementing MTSS prevented her and her MTSS Team from leading change.

The principal also recognized that her lack of expertise with Reading Street as a curricular tool further challenged her capacity to lead the construction of their MTSS model. In fact, she admitted feeling ineffective because she could not support her teachers as she would like. This was the first time she had not taught with the materials they were using:

> I just went to the first couple trainings and that's not enough to really know good instruction...I wish I could take some time and actually try and teach it myself. But that's purely a time issue. I cannot make that a priority; because it'd be really nice to work through a unit and actually maybe co-teach with somebody who has a harder class this

> year. So there'd be two of us in the room, and I'd have to lesson plan...I think, so much of what helps me to be a principal is that I've done it. So I can totally relate.

While Riverside's principal saw many strengths to their new reading program, she also saw problems with using Reading Street as their only curricular tool for Tier 1 instruction, which led to a lack of instructional coordination within and across grade levels and programs. For example, she only required grade levels to agree on which activities they would all teach. Eventually, she wanted the whole building to be on the same page. For this first year, though, grade levels could decide which components of the program to pilot. As a result, each grade level chose to exclude different components of the program. In addition, while teachers began the year teaching the same week at the same time, they quickly diverged. This made it difficult for the Title I/At Risk and special education teachers to provide their services. These programs essentially operated separately from general education classrooms. This also prevented all teachers from having conversations about common instructional issues, which prevented them from developing common understandings and common enactments. She realized by the end of the first year that teachers were enacting the program variably due to her sensegiving on how to use the program. She supported what she perceived as positive deviations from the program. However, she was bothered by the range and quality of deviations throughout the building, "We need to do that consistently and thoughtfully." Yet she did not have the time to figure out how to shape such a message or guide such work as she was spread thin amongst a multitude of responsibilities. Further, she did not have opportunities to learn how to productively give sense in order to craft coherence. Thus, these issues were never addressed.

Her lack of experience with Reading Street and My Sidewalks also led her to struggle with her leadership teams on how to use the program to address their school improvement goals. Because the principal was not familiar with the Reading Street materials herself, she relied on a

subgroup of teachers' experiences. However, their experiences with Reading Street were also limited due to the lack of support they received to learn the new program. Thus, none of them fully understood how Reading Street addressed, for instance, fluency. They all concluded that what the program offered was weak and decided to purchase a separate program, Six-Minute Solutions, to address their fluency goal.

Additionally, other administrators' inexperience with crafting coherence contributed to the Riverside principal's doubts in the usefulness of this curricular product. Specifically, the curriculum director and superintendent circumvented the district's usual processes when adopting it. Typically, the district's K-12 ELA committee (consisting of representatives from each grade) decided whether they needed an adoption. If there was agreement, the committee researched available adoptions and made their recommendations to administration and the Board curriculum committee. Unfortunately, the first time the Riverside principal heard about the Reading Street adoption was when the curriculum director explained at the Board curriculum committee they were going to purchase it:

> I'm like, 'What?!'…That is not how we make decisions here. It always comes through our K-12 ELA committee. That's why we have those committees…I just don't understand how it could get to a Board meeting. And they were about to vote! I said, 'You can't.'

The superintendent knew about the adoption yet did not insist it go through the K-12 ELA committee. Further, people had various understands of why the district wanted to purchase a new reading program in general and Reading Street specifically. Some thought the district was afraid of losing Title I money for not having a core curriculum. Some thought the regional service agency pushed the district to adopt in order to negotiate a good contract with Pearson for multiple districts they served. Some thought the district wanted to mimic a neighboring district that attributed their growth in scores to the program. None of these reasons, this principal and

many teachers believed, were tied to their needs based on careful analysis of their data and current curricular products. Because of this, they distrusted the usefulness of this product for serving their students' needs.

When the Riverside principal had time, she thought carefully about how to frame the implementation work for her teachers, how to craft coherence. She relied on her experiences as a classroom teacher to shape their learning opportunities. She listened carefully, one-on-one or during meetings, in order to understand their perspectives. Further, she positioned herself and others as active members of problem-solving conversations. She felt equally responsible for reading instruction. Her participation in discussions seemed to generate productive dialogue, and many teachers openly shared their thoughts. She was enthusiastic about actualizing MTSS in her building and tried to work towards establishing building-wide practices. However, she needed more opportunities to learn how to give sense, how to craft coherence in order to lead systemic change within existing organizational constraints, while trying to change these very constraints. As a result of her nascent understandings and experiences, she did not explicitly use the MTSS frame when working with her staff on reading instruction, squandering opportunities to build common understandings of how the staff could work together more to coordinate and continuously improve students' learning opportunities.

Insufficiently prepared to lead systemic change. Weak understandings and existing capabilities produced a great deal of poor and ambiguous sensegiving. Leaders were ill-prepared to lead the construction of systems. Thus, they provided others with insufficient supports. In addition to not knowing how to communicate about instructional coordination and continuous improvement, they did not know how to participate in problem solving on systemic issues, how

to participate in enacting possible solutions, and how to productively lead a continuous improvement cycle.

Further, while the SLI initiative and Reading Street implementation occupied a fair amount of teachers' and administrators' daily work, these efforts coexisted with other issues that also occupied their minds and days – new teaching evaluations, budget cuts, staffing decisions, and other major instructional initiatives the district adopted. District administrators were also focused on a number of distinct issues – passing a bond, establishing alternative high school programming, behavior and staffing issues at the middle and high schools, to name a few. They did not know how to actualize instructional coordination while simultaneously attending to multiple, divergent responsibilities. Asking them to attempt to integrate these issues towards a common district vision or use the MTSS frame to manage them was asking a lot of people who lacked existing experiences with working within and managing coherent systems. These administrators needed and deserved opportunities to learn how to give sense to change, how to craft coherence for themselves and their staffs while simultaneously changing the very organizations that defined their work.

Each administrator was simultaneously a driver of and an obstacle to coordination and continuous improvement. The curriculum director was often short on time, running from meeting to meeting, seemingly unprepared. She did not have or make time to learn what was going on in each building and to regularly reflect on whether and to what degree it served the MTSS frame and principles. While the Riverside principal was more mindful and capable, she was also spread thin and lacked the opportunities to reflect. Fairview's principal forced a great deal of curricular alignment, but struggled with doing more than this. The superintendent was enthusiastic about systemic change, but lacked the ability to participate. These leaders had many

existing responsibilities and were driven by pressure to make changes to instruction as quickly as possible – a function of their job designs, the organization of their workplaces, and their political and financial environments. Thus, they created some incoordination and decline while trying to create coordination and continuous improvement.

Further, district and school leaders cannot lead the construction of a system if they do not learn about the parts that need to come together to form the system. If they have weak understandings of the tools, they cannot share the work with teachers and share leadership with each other. Even if they wanted to and positioned themselves to, they could not participate as collaborators, co-problem solvers. They were as unfamiliar with Reading Street/My Sidewalks as their teachers, and they became more unfamiliar than teachers as teachers taught themselves how to use the new program. As such, administrators could not offer guidance on how to best think about and use this new tool as a component of MTSS. They could not lead in depth professional dialogue during, for instance, staff meetings on building-wide problems. They could not help develop shared understandings, shared enactments, and heedful interrelating. Instead, their lack of understandings produced confusing messages, including when they offered silence or deferred to each other. This poor and sometimes passive and unintentional sensegiving allowed for a lot of hearsay. Further, it left room for others, such as other districts and schools, to do active sensegiving, having a strong effect on teachers' and principals' sensemaking and decision-making. This all created multiple, equivocal understandings and actions. Moreover, SLI's learning opportunities were not enough to position SLI as a regular contributor to people's sensemaking and the MTSS frame as a primary schema for that sensemaking.

Additionally, with the exception of one principal, the administrators did not understand it as their responsibility to engage in daily, ongoing implementation challenges with their teachers. The principal who possessed this understanding faced additional barriers to participating. Instead, they gathered summary feedback from a few teachers after a great deal of sensemaking happened and based their actions on these partial understandings, fracturing even further the nature of their understandings from the nature of teachers' understandings. If they had attempted to learn with their teachers, teachers would have perceived their mixed messages differently. They would have understood that their administrators were learning, as well. Instead, administrators positioned themselves and were positioned by others as hands-off supporters and evaluators.

Indeed, few teachers said they probably would have approached Reading Street much more positively and consequently used it better if it had not been "jammed down our throats." However, the circumstances did not allow for this sort of relationship with the new tool. Having Reading Street thrust upon them was sensegiving from their administration that implementation was going to be an unpleasant experience.

Yet messages from administrators clearly had great weight since they held the most power over teachers' work, specifically how teachers understood and enacted a new instructional tool and a new systemic reform. Alone, their messages determined to a great extent what reform efforts looked like in buildings.

Discussion: Adding to the Suite of Opportunities to Learn how to Lead Systemic Reform.

Most of the administrators understood MTSS in theory. They could describe the framework and how the parts of a system might interrelate to form a whole. What they had various understandings about were how to actualize this theory into practice *in their buildings*, given their understandings and enactments of their organizational structures, roles and

responsibilities, and culture. These administrators were all well-intentioned and hard-working. They deserved more support with learning how to enact these new roles and responsibilities (i.e., how to repurpose these existing building blocks) and how to align them productively with the rest of their daily work. They said they would be grateful for such support.

The sensegiving literature focuses mostly on intentional sensegiving, yet much sensegiving is unintentional. Unintentional sensegiving by administration was central to the weakness and variance in understandings and enactments around MTSS implementation. These ambiguous messages were due to administration's own weak and varied understandings and enactments. Further, their understandings and enactments of their traditionally designed roles and responsibilities within their traditionally organized workplaces greatly constrained their ability to craft coherence. Instructional coordination cannot be accomplished in such conditions.

While sensegiving is always distributed amongst multiple actors (e.g., colleagues, SLI, the regional service agency, the state, textbook publishers, etc.) giving sense intentionally and unintentionally, administrators' sensegiving carried the most weight in this study because of their relative power over teachers' work. Thus, intentional or unintentional, their messages and actions were what teachers heeded the most. Even when messages lacked content, as in instances of silence, the messages still sent a strong signal of something. People decided for themselves what was communicated. Unintentional sensegiving has consequences, too. This skill needed to be developed in the service of actualizing systemic reform in order to accomplish instructional coordination.

SLI understood MTSS implementation as a five or more year developmental trajectory. Their partners thought that made sense and seemed reasonable, but their reality existed on a different timeline. They needed to help the kids sitting in front of them at that moment. Thus,

SLI might consider additional support to help administrators learn how to perform their new roles and responsibilities well. Otherwise, their performances will continue to rely on their existing understandings and capacity to enact systemic reform. Further, these efforts to realize instructional coordination relied on the will of enactors to continue the work, struggling but continuing to try. This all does not speak well for scale.

These leaders cannot continue to lead using their existing understandings as a resource for how to construct MTSS models. Sensegiving draws on one's existing knowledge. What leaders know determines how well they can give sense to change efforts, and thus, craft coherence. These administrators had partial understandings of how implementation was proceeding and little understandings of how to guide everyone's work towards instructional coordination. They knew they needed more help, but they did not know what to ask for. How does one go about using the MTSS frame to guide problem solving? Where would they even start? How does a novice know what is needed? Moreover, many of the moving pieces these leaders needed to juggle were unique to their organizations. This work is novel for most people. They need and deserve help with accomplishing their goals, indeed, changing their jobs and the very organizations they work in while accomplishing their existing responsibilities. And so do their teachers and other staff members who share these responsibilities with them.

Systemic reform asks people to create and fold changes into their existing understandings and work routines while redesigning their own jobs and redesigning the organizational structures that support their jobs. This is a lot to ask teachers and administrators to do. Not because they are inherently incapable, but because their attention is focused primarily on working with kids. Asking them to redesign their jobs within an institution constructed to support ineffective

designs of their work is quite a request. We need to be ready with more support. We need to participate in the daily redesign efforts.

Still, changing organizational structures, job designs, routines, and culture are not enough. On their own, these changes will not beget productive sensegiving. Sensegiving still relies on knowledge and discursive abilities, including the ability to strategically draw on one's tacit knowledge and social contexts to engage in micro-practices that help sell change efforts. Thus, developing administrators' understandings is key to developing their ability to give sense productively, and thus, key to their capacity to craft coherence.

It seemed prudent for SLI to visit schools and districts monthly to judge for themselves how implementation was proceeding and to help answer questions specific to those sites. It seemed even more useful for SLI to participate as partners in monthly school and district MTSS meetings to facilitate the work by modeling how to construct productive discussions and by shaping and refining people's understandings and enactments. The sensemaking and sensegiving that occurs with participation from SLI would be markedly different from sensemaking and sensegiving without their expertise. This would help build leaders' capacity to lead implementation of MTSS, ensure they facilitate the development of common understandings and enactments –coordinated work – instead of facilitating incoherence and incoordination. Further, this would help administrators redesign their jobs and develop organizational structures and culture to support their new roles and responsibilities.

As discussed in the previous chapter, these opportunities to learn would be opportunities for social learning – learning with the people you have to work with and as you actually do the work together. Essentially, SLI would "practice" or "rehearse" with enactors in order to develop shared understandings and enactments of MTSS and Reading Street/My Sidewalks *within and as*

a part of enactors' daily work. Practicing or rehearsing with enactors would mean co-planning meetings, co-leading those meetings, co-reflecting, co-analyzing data, and co-developing action plans and other next steps. To "practice" with these educators means helping them learn how to use the tools to wrestle with the nuanced situational challenges they actually face, over the course of implementation. Just as it is difficult to learn how to teach with Reading Street without using it daily with kids, it is difficult for educators to learn how to use MTSS when they are not wrestling with the nuances of real problems at home. Further, they need knowledgeable others to help accurately and productively develop their understandings and enactments while doing their daily work.

All parties would benefit from these social learning opportunities. To begin, the capacity of District Implementation Team members to support schools and sustain a K-12 MTSS model would be built through this modeling and these opportunities to practice with a SLI trainer within real work. The curriculum director expressed interest in such opportunities, "To have someone like [SLI trainer], having someone like her who knows and who can be in the trenches as kind of a liaison, to come and talk to us at least once a month." In the same manner, the capacity of School MTSS Team members would be built through these practice-based learning opportunities. As one principal said:

> I think it would be nice if [SLI], it would be great to have them at a meeting a couple of times a year to give us feedback on how they think our monthly meetings are going. I think that might be a helpful support. Are we really following what we need to do? Are we straying?

The principal said she sometimes felt they worked blindly and wasted time and other resources with many missteps. Indeed, the curriculum director commented that her prior experience with implementing MTSS for student behavior supports included such additional coaching from interveners, and she thought it helped them actualize a system. Further, SLI would use these

visits as opportunities to continuously improve their own operations, such as their training content, their organizational structures, and their strategic plans.

Such a coach would learn how a school and district operated in order to help deliberate on fitting and plausible solutions to those enactors' situated implementation challenges. The coach would participate in School MTSS Team and other strategic meetings to model how to use the MTSS framework to guide conversation, thus helping enactors problem solve towards coherent systems. The coach would help leadership learn to lead the construction of MTSS models and help develop shared understandings, shared work, and heedful interrelating around the same vision of a system. This coach would help develop sensemaking and sensegiving routines that would support ongoing social learning around continuously coordinating and improving an instructional system, given continually evolving local conditions and environments.

The most difficult aspects of practice to change are cultural-cognitive understandings. Administrators enacted many typical roles and responsibilities in managing and improving instruction, based on their very common understandings of what their roles and responsibilities were. Shifting these understandings and work routines, repurposing these building blocks, requires extensive learning opportunities, including opportunities to practice enacting these new roles and responsibilities with timely feedback from knowledgeable others. Such coaching would help shift people's sensemaking by providing them with new, productive (according to the reform) understandings and enactments to consider. Coaches would facilitate the shift through their participation during team discussions.

This is relatively novel work, so engaging in such learning opportunities would be new work for interveners and enactors alike. Neither party may know exactly how to do this work at

first. Enactors may not know how to ask for what they need and interveners may not know what to offer.

There was one example of this type of learning opportunity, though, at the beginning of the first year, when a regional MTSS Coordinator working with SLI attended a District Implementation Team meeting. This coordinator put the work into scope by reminding the team of the MTSS frame and defining their role and responsibilities within a K-12 system. She put language to their work, productively giving sense and crafting coherence:

> If this is the District Implementation Team, then when I come in, what I'm looking for is where the buildings are in actualizing this district-wide model… If we're all going to meet regularly, what are we doing together? So let's take the roof off of the district and look at all the programs. What is the purpose and function of this team? We could also bring data to every meeting to analyze together. Sharing out is great, and you will share at other trainings, too. But we also need to do more together. What are the barriers and successes to implementation? You should work through district problems together.

During this single meeting, this coordinator worked to develop common understandings and enactments of MTSS amongst the team members. This included understandings and enactments around establishing feedback loops amongst buildings and the district. She reframed and gave sense to their work together (Fairhurst & Sarr, 1996; Gioia & Chittipeddi, 1991; Orlikowski et al., 1995). The curriculum director and other team members commented later that they appreciated how this coordinator facilitated the meeting. They felt confident the team would move in the right direction. This visit was not intentionally designed into the SLI implementation plan. However, it provided the curriculum director an opportunity to study a model of what productive facilitation could look like and an opportunity to learn within practice with the coordinator there to help her if needed. Unfortunately, due to scheduling conflicts, this coordinator was not able to attend any other District Implementation Team meetings that year.

Overall, the work of building and maintaining coordinated and continuously improving systems is predicated on establishing shared, strong, accurate understandings and enactments of MTSS. If SLI does not pay closer attention to practitioners' understandings and enactments and to the quality of their learning opportunities and the outcomes of these opportunities, they will produce the same reform outcomes we have seen for decades – success will be contingent on practitioners' existing capabilities to make the reform work, the very capabilities that need to change. They deserve many accolades for what they already provide and what they have accomplished. It is truly impressive and rarely seen in most reform efforts. Yet it is not quite enough.

A comprehensive design of a learning curriculum for leaders, either in educational or other organizations, should contain opportunities to learn through knowledge acquisition as well as through social participation in everyday, ongoing work tasks. It continues to make sense for some initiative-specific professional learning to occur off-site, isolated from ongoing practice. Introducing skills and concepts, and even practice or rehearsal using them, in these protected, modified settings is a sound strategy, a thoughtful design element of leaders' learning curriculum. However, there are many skills that are difficult to perform well without additional opportunities to rehearse while engaged in daily work tasks. Sensegiving is of them. Constructing appropriate messages and participating productively in problem solving, either in the moment or in a memo, requires awareness of immediate local circumstances. Further, crafting coherence of an unfamiliar and complicated initiative adds a dimension of complexity best co-managed with a knowledgeable other.

CHAPTER FIVE

Conclusion

The purpose of this dissertation was to study how to help shift existing social systems of work towards coordinated and continuously improving instruction, in order to provide coherent learning opportunities for all of our nation's children. While we grow more adept at designing systemic reforms to coordinate instruction, we need to know more about how to accomplish the parallel shift in the social-psychology of instructional practice. The work of actually coordinating and improving instruction is done by teachers and administrators through their daily work.

Two elementary school staffs and their district leaders shared their experiences with this complex work in order for other practitioners, interveners, policy makers, and researchers to learn. Indeed, we learned a great deal about the difficulty with shifting existing social systems of work towards coordination within an institution constructed to frustrate such organizing.

To begin, we learned that, in order to build the social, professional capital needed to enact a coordinated and continuously improving instructional system, teachers and administrators needed social learning opportunities that were embedded within their daily work, on-site, and ongoing. These professional learning opportunities developed shared understandings, shared work, and heedful interrelating. These were opportunities to work with each other on how to change how they do instruction as a collective, how to interlace their work to create a high-quality group outcome. People shifted their understandings of and developed their abilities to

enact new roles and responsibilities (i.e., repurposing these resources or "building blocks"), including how to work with people they had not before to complete instructional tasks new to them. They accomplished this while fulfilling their other responsibilities and while jointly developing and managing their organizations and environments. Essentially, they repurposed, tweaked, renamed some of their existing resources and determined how these building blocks could now fit together in a manner that produced well-functioning instructional systems (for part of the day). Members continually learned and relearned together while practicing daily, which meant they continually interacted with their social system of work and with their environment. These were the common, building-wide understandings and enactments they needed in order to coordinate as a social system to continually accomplish their goal – providing their students with coherent learning opportunities guided by students' individual needs.

We also learned that traditional understandings and enactments of administrators' roles and responsibilities were poor resources for sensegiving in the effort to craft coherence. The professional learning opportunities on systemic reform that administrators received were not enough to shift the cultural-cognitive understandings they drew on to lead the construction of complex instructional systems. Instead, these administrators enacted ambiguous, passive, and unintentional sensegiving, thus challenging instructional coordination and continuous improvement. District administrators' sensegiving shaped principals' sensegiving, and all of these mixed messages complicated teachers' sensemaking and the learning opportunities they provided to students. These administrators would probably be surprised that their understandings and actions resulted in some of these consequences, as they intended to produce different outcomes. Unintentional, passive, and ambiguous sensegiving by administration was central to the weakness and variance in others' understandings and enactments of systemic

reform. These ambiguous messages were due to administrators' own weak and varied understandings of systemic reform, as well as their resilient understandings of their roles and responsibilities. Instructional coordination cannot be accomplished in such conditions.

Further, we learned that, in addition to shifting people's existing understandings and work routines, the traditional ways of organizing schools and school systems needed to be shifted in order to support social learning. Organizations shape people's understandings and enactments of their jobs. Traditional structures and job designs beget traditional understandings and enactments of jobs, thus challenging change. In order to support continual social learning that is responsive to changing conditions, existing building blocks, such as staff and leadership meetings, need to be repurposed, tweaked to support developing understandings and enactments of new roles and responsibilities and to continually update these shared understandings, shared work, and heedful interrelating. If we hope to shift people's roles and responsibilities towards those that contribute to an instructional system, we also need to intervene on the ways their workplaces are organized.

Additionally, coaches knowledgeable in the systemic design needed to, at least initially, participate in social learning opportunities, because the sensemaking and sensegiving produced with their participation was much more fruitful than sensemaking and sensegiving without their participation. This study demonstrated the need to take teachers' and administrators' learning curricula even further into practice in order to make connections between policy and practice. If interveners do not help create these learning opportunities, practitioners will have to do this on their own, if they have the capacity and will.

Attempting to Realize Coordinated and Continuously Improving Instruction

Actualizing the theory of action in systemic reforms is only not a matter of learning to serve students better by learning common standards or learning new operating procedures, although standards and models of operations such as MTSS can be very useful components of a functional system. Actualizing coordinated and continuously improving instruction also requires taking an organization's existing building blocks (i.e., components of a possible system), understanding their *changing* and *changeable* natures, and reworking together as a group a new way to operate. Further, coordinating work is an ongoing social process. Members continually learn together while they practice daily. Thus, improving instruction, students' learning opportunities, and teaching practice is an endeavor of improving "teaching quality," not only "teacher quality."

A high-quality design for a coordinated and continuously improving instructional program would likely require practitioners to work together in ways they never have before. To accomplish this, they could not learn how to actualize the design independently, one member at a time behind closed classroom doors, no matter how highly specified roles, responsibilities, and resources were. They would need to begin learning how to interlace their work and the building blocks that support their work in order to create a high-quality group performance. Essentially, they would need to learn how to rehearse together. They would need to engage in social learning.

Through opportunities for social learning, members of an organization can jointly deliberate whether a possible innovation will actually pay off for their students in light of their existing social systems of work and environments. Together, they consider what the innovation might mean for their students, their daily work, and their organization's existing building blocks,

including changes that might be made in order to improve or maintain their joint work. Because each school is a unique arrangement of structural and cultural features, any innovation will be taken up in various ways by each school.

Social learning opportunities facilitate the development and continuous reconstruction of shared understandings, shared work, and heedful interrelating, which comprise a great deal of the social, professional capital practitioners need to jointly enact a complex, coordinated system. In order for practitioners to contribute to a coordinated system, they must, collectively share understandings of what the final product is and what each member's responsibilities are in creating that final product. They must fulfill individual responsibilities well, and they must join well their work with others' work. They share the work, the responsibility for the final product. They continually re-accomplish this by working together, "practicing" together. This allows them to interrelate their work heedfully. By continually working together, they can more accurately envisage a social system of joint actions (represent), construct productive actions (contribute), and interlace that work with others' work in the system (subordinate). By continually doing "instruction" as a collective, members engage in social learning that allows them to continually fold improvements to understandings, routines, and other building blocks into collective practice while maintaining coordinated performance. During social learning opportunities, members continually negotiate and renegotiate these shared understandings and shared work while considering their evolving environments.

Social learning opportunities are occasions for leaders to develop the knowledge they draw on to lead and then to practice leading an instructional system, a set of knowledge and skills that would be new to many. Developing administrators' ability to give sense is particularly important, as their messages and actions carry great weight due to their relative power over

teachers' work. Even when messages are unintentional, passive, and ambiguous, they still send a strong signal of something. People decide for themselves what is communicated. Poor sensegiving has consequences, too. Thus, productive sensegiving is a skill that needs to be developed in service of accomplishing instructional coordination. This begins with developing administrators' understandings and enactments of systemic reform for their unique contexts, as well as their roles and responsibilities within it. Social learning opportunities develop the knowledge administrators draw on to lead change. What leaders know determines how well they can give sense to change efforts and, thus, craft coherence. Further, leadership can be more easily distributed and can more productively perpetuate shared understandings, shared work, and heedful interrelating, as all members would heed the same social system and create useful contributions, such as craft coherence, to align with it. Social learning opportunities might be especially important for those in formal leadership positions, as they are responsible for the overall improvement of instruction and management of the instructional system. Moreover, if interveners and other governmental and non-governmental external partners engaged in social learning with schools, they could learn how to best support their partnering schools, including how to improve their own operations.

Social learning enables members to work together to manage the environment. Multiple messages, guidance, and expectations can be made sense of as a collective, instead of fostering multiple understandings and actions within the organization. Members can share the work of repurposing and reconfiguring building blocks so there is less to juggle and compromise. When there is a need or desire to adopt new curricular materials, initiatives, or policies, social learning will allow members to work together to integrate these new building blocks with each other and with the existing instructional system to avoid redundancies and fragmentation of work. For

example, actualizing and sustaining an MTSS model would require changing how members understand the Common Core, school improvement plans, Title I reports, and Race to the Top and how these building blocks could connect with or are covered by MTSS.

Systemic reform requires a drastic shift in people's cultural-cognitive understandings of their individual jobs and of their roles as members of a school. Systemic reform asks people to create and fold changes into their existing understandings and work routines while redesigning their own jobs and redesigning the organizational structures that support their jobs. Asking them to redesign their jobs within an institution constructed to support uncoordinated work in quite a request. The greater the required shift, the more support they need with shifting.

Implications for Practice

If practitioners are ultimately the actors who will change how we "do" instruction, then change begins with their understandings of their roles and responsibilities. This holds for teachers and administrators.

To begin, practitioners would need to become familiar with what systemic reforms are, what they have looked like in the past, and what lessons we have learned from attempts to actualize them. Teachers and administrators alike would need to learn the "why" of instructional coordination and continuous improvement. Learning "how" is a more complicated endeavor.

Learning how to lead the (a) implementation and (b) continued management of instructional systems might actually entail the same set of skills, a set that teachers and administrators alike should rehearse. Among other skills, practitioners would need to know how to craft coherence through productive sensegiving. They would need to know how to use a guiding framework or other blueprint, its principles, and supporting tools to help others make sense of a situation and fashion solutions. They need to know how to build and sustain shared

understandings, shared work, and heedful interrelating. Practitioners would also need to rehearse tweaking organizational building blocks to support social learning opportunities. They would also have to facilitate and productively participate in these learning opportunities. In addition, they would need to know existing building blocks well in order to wield, mold, and coordinate them skillfully into a productive instructional system and thus change the very organizations that define their work. This last set of skills is particularly complicated because the work will often require bridging organizational boundaries with the larger environment and managing a multitude of demands sometimes tangential to instruction. Thus, practitioners need practice with how to not only manage their relationships with the broader environment, but also how to begin changing that environment so that it is more supportive of new ways of working. Unlike some CSRs and CMOs, most public education organizations do not have the luxury of choosing or building strong and cooperative partners and other resources. They must work with the weak, uncoordinated system within which they currently exist.

Just as it is unlikely that all districts across the country or even across a city will adopt the same curricular materials, it is unlikely that all districts or schools will work with the same design for systemic reform. This complicates pre-service training, as programs and pipelines are currently organized. Thus, preparation programs might utilize a few of the more popular designs to anchor student practitioners' work, and the similarities, differences, and implications for practice would be highlighted. It would likely be helpful to pay special attention to the meta-structure of each design, elucidating what exactly would need to be shared and heeded.

Finally, all of the above should be rehearsed within a suite of carefully designed learning opportunities, of which the bulk would be on-site, ongoing, social learning opportunities embedded within daily practice. Knowledgeable others should actively participate, as the

sensemaking and sensegiving that would occur with their participation would be markedly different from the sensemaking and sensegiving without their expertise. Further, student practitioners should have opportunities to rehearse in a few different social systems – with real colleagues, real students, real environments, and real consequences – and then reflect on the dynamics that caused each set of unique outcomes. If these learning opportunities were designed appropriately, they would change the structure of current preparation programs.

Implications for Interveners

SLI did not regularly visit schools to get feedback on how implementation was progressing, nor could they rely on existing feedback loops, as these were weak, varied, and sometimes nonexistent (e.g., School MTSS Team members reports during trainings, emails or informal conversations with Team members and district administrators). Thus, SLI was not aware of how uneven understandings and enactments of MTSS were within each school and district. Further, while SLI did not see themselves as responsible for Reading Street implementation, it benefitted them to do so. Because schools struggled with establishing a core curriculum across instructional programming, this weak component of instruction affected the rest of the system SLI hoped to help schools build.

Adding social learning opportunities to intervener's implementation designs would be prudent to help enactors learn how to develop and sustain their unique instructional systems. Research demonstrates implementation is more successful when interveners provide on-site support. This study demonstrated that partners needed SLI to participate in their implementation work back home in order to perpetuate the capacity development SLI began in their off-site trainings. Local leaders also needed opportunities to rehearse and learn with knowledgeable others within their daily practice how to craft coherence, including how to productively perform

sensegiving. On-site technical assistance would help partners develop the many skills that are difficult to learn without practicing them daily and in situ, given the multiple, complex dynamics unique to each workplace.

Practitioners need help with beginning this learning cycle, as this organizational structure, the social and technical routines involved, and the roles and responsibilities required would be novel for most people. Interveners could help by participating in learning opportunities with partners, scaffolding and modeling how to, for instance, make sense of their specific contexts in light of the MTSS frame. The goal of these learning opportunities would be building the shared understandings, shared work, and heedful interrelating around an MTSS model that was successful and adaptive in a school's local environment. In other words, the goal would be to develop the culture-cognitive understandings and enactments needed to continually perform in concert, making improvements as conditions changed. This would include developing people's ability to redesign their jobs and develop organizational structures and culture to support their new roles and responsibilities. Interveners' operations could also benefit from this participation as these opportunities would allow them to collect formative data on their work with partners. Interveners could use these data to inform and drive their 'instruction'.

Adding on-site technical assistance to intervener's implementation designs would be costly, including additional costs around taking on more of partners' complicated environments (e.g, local assessment systems, local curricular materials, highly political topics) with little support and possibly push-back. Further, in addition to the direct costs of employing on-site coaches, an intervener would need to balance developing capacity within their own organization with developing capacity within their growing network of partners. However, delving deeper

into partners' daily practice would connect more links in the complex causal chain between policy and practice.

Thus, it might be prudent to strategically choose social learning opportunities that are points of high leverage, such as meetings where data are analyzed or where participants from multiple areas of responsibility work together. Coaches would practice or rehearse with enactors, meaning they would co-plan meetings, co-lead those meetings, co-reflect, co-analyze data, co-develop action plans and other next steps. They would fully participate, helping partners use, for instance, the MTSS frame to wrestle with the nuanced situational challenges unique to each organization over the course of implementation. They would help partners develop sensemaking and sensegiving routines that support ongoing social learning focused on continuously coordinating and improving an instructional system. They would help partners shift cultural-cognitive understandings and work routines by helping them repurpose building blocks and providing extensive learning opportunities to practice enacting new roles and responsibilities with timely feedback from knowledgeable others.

SLI views itself as a learning organization. They worked hard to continually improve their own operations before this study, during this study, and after this study. They are an impressive set of educators who provided their partners with many rich learning opportunities and supports. This work is novel. SLI was ambitious with the complex model they championed and the scale of schools, districts, and regional service agencies with which they partnered. In many ways, they were successful. This study demonstrated the need to continue learning, building their capacity to support their partners. Are other interveners, including state and federal departments of education, willing to do the same?

Implications for Policy

MTSS, as a systemic reform, exists amongst many other systemic and non-systemic reforms and policies in our country. While the Common Core and the common assessments are receiving a great deal of attention, practitioners' juggle a multitude of policies in daily work. Many of these policies, if integrated well, could feasibly work well together to actualize a system that connected the links between federal and state policy and practice. Will champions of the various policies and reforms, including state and federal departments of education, help practitioners integrate these multiple demands on their work, for the sake of practitioners as well as the reforms? If interveners choose not to take up this issue, or if the interveners are the districts and schools themselves, this problem will be on the shoulders of teachers and administrators to solve. SLI tried to help their partners with this problem, but they felt they had to bound their involvement in order to protect their own work. Other interveners face the same conundrum.

SLI had an advantage over many interveners, including government agencies – their staff was flexible enough to change their work midstream as they saw opportunities for improvement. Many interveners do not have that ability or flexibility, as how their roles and responsibilities are currently defined may prevent it. Yet, if interveners do not grow and change, practitioners will continue to struggle with actualizing change on their own, including attempting to actualize instructional coordination. Will champions of other reforms heed the findings in this study, along with similar findings from other studies? If so, how will they develop their own capacity to act on these findings?

Uncoordinated instruction creates enormous problems for learning, especially for at-risk students who experience the most fragmented instruction and have the least capacity to create

coherence on their own. Systemic reforms press hard on schools and teachers to work in ways they never have before. However, the fragmentation of roles and responsibilities for the education of our country's children challenges practitioners' abilities to bring about a coordinated and continuously improving system. Responsibility for coordinating instruction is distributed amongst many actors who can support or challenge improvement.

There are forces that govern practitioners' work, force they know nothing or very little about. Yet they prevent practitioners from doing their best jobs for kids, especially the kids who most need their help. While these forces were put in place as solutions to other problems, they simultaneously create problems. Children should not suffer from incoherent learning opportunities. Teachers should have ample opportunities to support each other and get on the same page about how they serve students they share – in other words, to coordinate their work.

Contributions and Limitations

Whether schools and districts are implementing the Common Core, MTSS, or other systemic reforms, they wrestle with how to leverage the dynamics amongst formal guidance, existing social systems of work, and evolving environments in order to shift instructional practice. Together, these three manuscripts further our understandings of using large-scale instructional coordination as a mechanism to improve instruction and students' learning opportunities. These reforms require drastic shifts in peoples' understandings and enactments of their individual jobs and of their work together. Changing peoples' cultural-cognitive understandings is the most difficult aspect of an organization's work to change. These well-intentioned and hard-working teachers and administrators deserve more support with learning how to shift.

The findings from this study can also inform designers' choices as they create tools to help teachers and administrators improve and manage instruction. These findings can also contribute to other areas of policy and research, such as teacher and leadership education, as building the capacity to improve instruction is more a matter of increasing systemic capacity than individual capacity. Finally, these findings are useful for others outside of education who study, design, and implement formal guidance in organizations concerned with coordinated production and continuous improvement.

While the design of this study afforded many learning opportunities, it also had some limitations. One limitation was participants worked in a small district with few schools. Certainly, attempting to change cultural-cognitive understandings of instructional practice becomes more complicated when more schools are included in the learning. Further, the larger the district, the more likely multiple initiatives are adopted, which would further complicate the implementation of MTSS, even if MTSS was used as an overarching frame under which other initiatives were organized. Second, I studied one regional service agency, one local district, and two elementary schools within the SLI network. While the findings in this study were verified by study participants and resonate with the findings of other studies, I do not know the degree to which they represent the experiences of other schools and districts in the SLI network.

In conclusion, my hope is this study contributes to improving teachers' and administrators' work environments. What brought me out of the classroom into graduate school and research was the mystery of the pressures on our work as practitioners that make it difficult for us to actually do our best jobs for kids. All of these forces that act on us are not forces we learn about during our credentialing programs. We are not taught how to manage the broader environment or that there is even a broader environment to attend to. Instead, we work in toxic

environments that drive out many of us within five years and jade the rest of us over time. If we can improve the working conditions of teachers and administrators, then they can truly focus their efforts on providing all kids within our public schooling system with thirteen or more years of rich learning opportunities.

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