



***School Districts as Learning Systems:  
An Agenda for Practice-based Research***

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## INTRODUCTION

This document proposes a practice-based, problem-focused agenda for research on districts as learning systems. The agenda was developed in response to the Spencer Foundation's request for recommendations for research on organizational learning in K-12 school systems. Suggested research activities address problems that school districts encounter as they attempt to learn from practice and research to continually improve student achievement. Results will provide knowledge useful to district practice and to theory on learning organizations.

This advisory project, conducted from June 2007 through December 2008, grew out of a Spencer Foundation convening of researchers in 2005 to discuss lessons and methods of problem-focused research in school systems. Subsequent dialogue among practitioners, researchers, and Foundation staff identified district system learning as a critical arena for inquiry to improve practice within and across system units. Despite considerable rhetoric in educational circles about the need for evidence-based practice in school districts, research in this arena remains limited and provides little guidance to school and district leaders on key problems of practice. For example, how can districts and reform partners scale up lessons from successful individual teachers and schools? How can knowledge and expertise from outside the district be exploited effectively? How can district leaders manage political pressures for constant change and immediate results in ways that ensure that school personnel have the time to learn what they need to learn to improve their practice?

The proposed agenda is grounded in our distillation of insights from practice and practice-based research and findings from disciplinary research on organizational learning. Our goal was to identify the knowledge gaps that Spencer might strategically address. For what pressing problems of system learning practice does education research fall most short? Toward this end the team:

- reviewed literature on organizational learning and “learning organizations” from business, medicine, the military, and the social sciences;
- analyzed practice-based documentation research (our own and that of other documenters) on district improvement strategies<sup>1</sup>; and
- interviewed and convened district practitioners and support providers in order to identify important problems of practice in district learning to promote student learning.<sup>2</sup>

Through our review of research and conversation with practitioners, three broad “problem spaces” emerged as key to understanding and addressing current challenges and dilemmas in district system learning:

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<sup>1</sup> This review included reports on the following districts: San Diego, Minneapolis (Learning Partnership), Austin (Institute for Learning), Chicago, New York City, Ravenswood, CA, Hayward, CA, Long Beach, Duval County, FL, and the districts involved in the Bay Area School Reform Collaborative (BASRC) and the California Collaborative on District Reform.

<sup>2</sup> Please see Appendix for a list of the individuals who were interviewed or who participated in convenings associated with this project.

- 1) **How can a district develop a system-wide culture and mechanisms for evidence-based practice for continuous improvement?** Accountability structures and policy demands to use scientifically-based practices have pushed increasing amounts of information in the direction of education professionals, but often the information available is difficult to interpret and use. While practitioners complain that they are “drowning in data,” districts struggle to move from a system that is based on tradition, bureaucratic rules, and individual inclination to one in which professionals and others systematically and collaboratively use evidence to guide, evaluate, and revise their practice.
- 2) **How can a district establish and manage external partnerships to promote system learning?** Districts increasingly turn to external organizations, often through foundation support, for assistance in implementing reforms and developing their capacity for continuous improvement. But differences in underlying assumptions and approaches – between multiple partners and between partners and a district’s reform history – pose challenges for partnering at all levels of the system. District and school administrators and teachers complain about partners that bring a one-size-fits-all mentality and do not relate to their knowledge or needs. They struggle to move from a system that implements prescribed models to one that co-designs interventions with its partners to strategically address school and subject instruction needs in the given context.
- 3) **How can a district sustain its learning and improvement efforts amidst the leadership churn characteristic of large urban systems?** The average tenure of urban superintendents is but two and a half years. With leadership changes – at the school board, central office, and school level – come “new and improved” strategies and demands for reform that disregard prior local knowledge and undercut improvement efforts before they have had an opportunity to become deeply integrated into practice. Endemic to large systems, this leadership churn forces practitioners to keep reinventing the wheel with little long-term change to show for their effort. District leaders struggle to move from a system that prizes “quick fix” reforms to one that sustains learning and improvement around core principles for instruction.

Research on such problems and challenges to district system learning holds promise not only to improve educational outcomes for students but also to illuminate principles of change and improvement in complex organizations. Research in this arena is critical to advancing knowledge about how organizationally to translate educational research into improved student outcomes. Prior research points to several compelling reasons why the Spencer Foundation should invest in practice-based research on school district learning.

*Districts mediate research-based change efforts:* Although some critics argue that school districts are antiquated institutions (Chubb & Moe, 1990), nearly 90 percent<sup>3</sup> of school age children in the United States are educated in public school systems, with far too few of these children performing at levels to which they are capable. Districts and schools, pressed to improve outcomes for the students in their charge, thus take on multiple reform efforts toward this goal. Each of these reform initiatives – whether it involves implementing a new curriculum, transitioning to a weighted student formula and school-based budgeting system, designing a new teacher evaluation and compensation system to motivate improved teacher performance, or introducing a new standards-based assessments – requires learning, not only among those most directly involved but often across the system among those who would lead, evaluate, or otherwise support such efforts. Thus in order for instructional reform to be successful on any broad scale, school systems must develop their capacity to support professional learning in strategic and systematic ways. Implementing a reform is fundamentally an educational problem (Ball & Forzani, 2007)

*Existence proofs of “learning districts” demonstrate the potential for significant system-wide improvement.* In recent years, several districts have demonstrated that it is possible to systematically capture and share knowledge in ways that continually improve student achievement. Common across them is a focus on and an explicit approach to developing professional learning at all levels of the system. For example, oft-cited New York City Community School District 2, under the leadership of Tony Alvarado, emphasized the infusion of expertise and professional learning for teachers and principals as integral to improving instruction and student results (Elmore & Burney, 1996). Meanwhile, Long Beach Unified has posted substantial gains over more than a decade through its strategies and norms for evidence-based practices, experimentation, and cross-school fertilization of innovations and insights (Austin, Schwartz & Seusse, 2005; Olson, 2007). What distinguishes these and other highly successful urban districts (e.g., Garden Grove and Norfolk) from others is that they learn *strategically* and continuously.

These existence proofs of successful “learning districts,” coupled with research from other sectors, suggest that system learning in school districts can be much more strategic and systematic than is currently the case and can result in better and more equitable outcomes for students. Research on problems of district learning can inform these processes and make reform efforts more fruitful by drawing lessons that can be applied not only in the particular context in which the research is located but in other systems struggling to improve.

*Problem-focused research on district learning can address knowledge gaps for both organizational practice and scientific knowledge.* Education research often falls

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<sup>3</sup> The most recent figures from the National Center for Educational Statistics (NCES) put private school enrollment in grades K-12 at just under 10 percent in 2005 (<http://nces.ed.gov/programs/coe/2008/section1/table.asp?tableID=860> retrieved on 9/12/2008). Of those students enrolled in public schools, less than one percent were in districts of fewer than 300 students; almost 70 percent were enrolled in districts of 2500 or more; and over a third of the students were in large districts of over 25,000 students.

short of changing practice because it addresses problems that are important in research disciplines but are not well aligned with problems of education practice. Even when research addresses fundamental problems of practice, disciplinary issues and language can create barriers to practitioners' learning from the findings. For example, practitioners struggle to understand and translate into practice key research-based concepts for district improvement such as the "negotiation of status and authority" in partnering relationships and "social capital" as a learning resource.

Meanwhile, case studies of high functioning districts describe conditions that distinguish an exemplary school system but provide little or no guidance on how a district can *develop* those conditions. And documentation research that does track system change tends to focus on a particular reform initiative and its theory of action (Argyris & Schon, 1978; Weiss, 1995) rather than on the school system as a "learner" with a particular reform history, context, and concurrent improvement efforts. The knowledge produced focuses on the initiative and is useful to the funder and other stakeholders, but is rarely accessible to other districts that might benefit from the findings. The internet is increasing district access to research, which further presses the field to develop useful, theory-based resources for education professionals' learning and improvement efforts.

Problems of disconnect between research and practice have been documented for decades in education and across sectors. The research agenda we propose falls into what Donald Stokes (1997) termed "Pasteur's Quadrant" – that is, it is high in both the potential for bettering a social problem and the potential for advancing understanding of general explanatory principles. It also falls into the Spencer Foundation's fundamental purpose: "learning to make education better."

The research agenda and activities we propose are designed to:

- help school districts become better learners in order to improve outcomes for students;
- facilitate the uptake of findings from other research in school systems by illuminating ways in which knowledge from outside the system can be most productively communicated and used for learning internally; and
- bring to light fundamental principles and processes of organizational learning in education – and by extension, in other sectors as well.

## DISTRICTS AS SOCIAL LEARNING SYSTEMS: A GUIDING FRAMEWORK

Social learning theory provides essential grounding for this research program. In particular, a social practice perspective on occupational learning, developed through inter-disciplinary research across sectors, frames critical questions for research and practice within each problem space outlined above -- developing evidence-based practice, managing partnerships, and sustaining learning amidst leadership churn.

Three conclusions from research on learning in organizations offer core premises for research on district system learning: 1) knowledge development, sharing, and use in organizations is grounded in practice; 2) learning is inherently social and gives rise to informal and formal communities of practice that both foster (or inhibit) learning within and across their boundaries; and 3) organizational/system effectiveness depends on its ability to promote, manage, and coordinate learning within and across practice communities.

### Practice grounds learning

Practice in any line of work in an organization is the root of knowledge development and use for improving outcomes.<sup>4</sup> Thus, understanding the multiple worlds of practice in a district system is critical for framing and addressing practical problems of education improvement. Further, understanding the cognitive demands of learning is critical to change in a school system. A social practice framework establishes key assumptions about how individuals learn in organizations and about the relationship of that learning to their practice.

First, performance of a task or job is learned in part through *doing* that job or task – whether it is teaching fourth grade mathematics or aligning curriculum materials to state standards or manipulating categorical funding stream in a school budget to support instruction. Moreover, there is a tacit dimension to task relevant knowledge that is based on practical experience (Polyani, 1966; Ryle, 1949; Schon, 1983; Brown & Duguid, 2001). “We know more than we can tell” (Polyani, 1966, p.4). Differences in such tacit knowledge are one aspect of the novice-expert distinction in any given task or field and can prevent effective communication and knowledge sharing among individuals.

Second, all new learning builds on prior knowledge (Bransford, Brown & Cocking, 1999). Interpretation of new information is shaped by an individual’s previously constructed cognitive maps that incorporate practice-based tacit understandings. Consider, for example, the ten-year veteran second grade teacher who is learning a set of instructional strategies – including Guided Reading – as she implements her district’s new balanced literacy program. In the initial stages of implementation, she will likely interpret the “new” strategies through the lens of her prior practice. Hence the frequent retort, “This is no different from what we were already doing!” With practice and coaching, however, this veteran may begin to interpret guided reading not just as a

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<sup>4</sup> “Practice” here is defined broadly as “undertaking or engaging fully in a task, job, or profession.” (Brown & Duguid, 2001, p. 203)



discrete activity similar to prior reading groups she has taught but in its scaffolded position between modeling on the one hand and student independence on the other. As the teacher gains tacit understanding of when and how to use guided reading with different groups of readers to address varying literacy needs of the students, she will be better able to interpret both the similarities to and the differences from her earlier use of reading groups in the classroom.

An implication of this framework for organizational learning is that new knowledge is comprehensible and useable to the extent that it builds upon prior knowledge and experience (Brown & Duguid, 2001). When prior relevant knowledge is lacking, people cannot interpret or make use of information conveyed to them.

“It’s never enough to just *tell* people about some new insight. Rather, you have to get them to experience it in a new way that evokes its power and possibility. Instead of pouring knowledge into people’s heads, you need to help them grind a new set of glasses so that they can see the world in a new way. That... requires creating new communication techniques that actually get people to experience the implications of a new innovation.” (Brown, 1991, p. 109)

This fundamental principle of learning frames challenges and strategies in all three problems spaces addressed in this document.

### **Communities of practice mediate professional learning**

A social practice perspective sees learning in organizations as grounded in work demands and intrinsically social in nature (Bransford, Brown & Cocking, 1999; Brown & Duguid, 2001, Wenger, 2000). At the institutional level, notions of competence in a particular role – teacher, student, administrator – are culturally and historically defined. These notions set parameters of practice and identity in the role. Specialties within roles further shape identities and practice modes, through professional training and networks as well cultural expectations. For example, a special education teacher has work roles, regulations, and language that are distinct from those of a high school physics teacher or an elementary school teacher. Both broad and narrow definitions of work roles in education carry identities and perspectives around which communities of practice can develop within and across schools and school systems.

At the organizational level, notions of professional competence and foci for learning emerge in particular work settings as individuals influence and are influenced by others with whom they interact. Thus, a “competent” teacher in one school may be one who keeps her students quiet, orderly, and busy at their individual desks, while in another school teaching norms call for a high degree of student talk, interaction, and movement in the classroom. In the course of interactions and joint endeavor, individuals develop a *shared perspective and identity*, norms and *relationships of mutual engagement* (social trust, authority relationship, mutual expectations), and a *repertoire of knowledge resources* (routines, artifacts, tools, stories) to which the members have access (Wenger 2000). In these ways, groups form “communities of practice” that engender shared tacit knowledge about “the way we do things here.”

Communities of practice are the locus of learning in organizations, yet their strength and culture, boundaries, and interconnections vary across organizations. For example, special education teachers in a school system can communicate easily about IEPs and Student Study Teams; yet the extent and kind of interaction they have about their work – and thus their opportunities to learn from one another and collaborate on improvement efforts – vary widely across districts. This variation is rooted in district SPED culture and structures that inhibit or support them to develop a strong community of practice.

Several observations from research on communities of practice in education and other sectors ground our analysis of problems of practice for developing district learning system conditions.

- *Boundaries.* Communities of practice tend to form around occupational specialties because they have cultural meaning, common preparation and language, work roles and repertoires of practice, and often reside in an organizational unit. High school subject area departments in traditional comprehensive high schools often have tight boundaries around their practice community because they share all of these conditions for identity and practice development.
- *Boundary spanning.* Individuals generally participate in multiple practice communities and networks<sup>5</sup> and thus potentially serve as conduits for new insights, knowledge, and innovations between communities. Yet communities of practice are more or less open to incorporating new insights and knowledge, whether from outside or inside the community. Some follow privacy norms typical in education and form weak communities without boundaries, others are insular and enforce traditional standards of practice, and others have frequent exchanges with colleagues and experts outside the organization to improve their instruction (McLaughlin & Talbert, 2001). Problems of change and learning in communities of practice thus depend upon where they start; some need to become stronger and more trusting, others need to open their boundaries and re-examine strongly held views; others need access to knowledge resources to deepen their learning and improvement. Such diverse needs call for differentiated organizational strategies and supports.
- *Developmental processes.* Communities of practice develop *over time* as individuals engage in joint work, establish relationships, and gain access to both

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<sup>5</sup> Brown and Duguid (2001) use the term “networks of practice” to refer to “loose epistemic groups” in which individuals share similarities of practice but in which the relationships among members are looser than in more localized practice communities. For example, the National Council of Teachers of Mathematics is a network for members who identify with the organization as mathematics teachers and occasionally attend conferences or use materials from the group, but who are not engaged in interdependent practice with other members. Professional practice networks are particularly important to system learning because they form a bridge between the organization and the external knowledge environment. Organization members who participate in such networks provide conduits for knowledge sharing across organizational boundaries.

explicit and implicit aspects of their shared knowledge repertoire. Further, it takes time for new insights, innovations, or practices introduced into a community of practice to be fully engaged and incorporated into the knowledge repertoires of the community and its members. These developmental facets of communities of practice are critical to understanding the sustainability or fragility of learning and reform efforts over time. Too much churn of educational personnel at all levels can undermine community formation and stability, while faddish movement from one reform initiative to another can prevent the ideas and practices of any one of them from taking hold.

### **Organization learning systems coordinate community knowledge**

From the perspective of social practice, any complex organization like a school district is a collection of many communities of practice, sometimes overlapping and interacting, sometimes separate and insulated. Their boundaries reflect both opportunities for, and barriers to, system learning. On one hand, the joint practice and interaction of the members within them develops common experience and cognitive frames that enable members to communicate and share knowledge. Further, when boundaries are crossed, such as when special education and regular education teachers in a school work together on a project or team teach a class, the specialized knowledge of different practice communities can intermingle and enrich knowledge in each community.

On the other hand, boundaries between practice communities in organizations pose significant challenges to learning in that the *differences* in cognitive frames and relationships between them make communication and knowledge sharing difficult. For example, district administrators and teachers may hold radically different views about the value of text-based accountability or about how to assess student writing proficiency because their work roles and communities of practice carry different learning opportunities and knowledge about these matters.

System learning and improvement thus depends on the district's ability to foster, coordinate, and manage learning within and across communities of practice to improve professional work and student learning. (Brown & Duguid, 2001) Opportunities and activities for "boundary spanning" are a particularly important avenue for cross fertilization of ideas and system learning. Activities that bring different perspectives together also provide opportunities for "double loop" (Argyris & Schon, 1978) or "strategic" learning, in which "some of the basic assumptions change the organization to acquire a new frame of reference, or strategic orientation." (Kuwada, 1998, p.723). The articulation of "The Long Beach Way" (Olson, 2007) is an example of the result of such a system learning process.

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A social practice perspective on district learning and improvement shines a particular light on the problem of change that we think will be pivotal to Spencer's advance on its Organization Learning agenda. Its premises are both guiding assumptions to focus

practice and practice-based research on district learning systems and theoretical propositions to be refined through research in school districts.

Our analysis of problems associated with district efforts to achieve evidence-based practice, productive district partnerships, and sustained improvement in the face of leadership turnover highlights issues that are framed by a social practice framework. They center on:

- the role of *common practice* in facilitating knowledge transfer and use across communities of practice,
- the *developmental* nature of practice communities and the knowledge they engender, and
- the role of *boundary spanning* activities and processes for addressing each of these problems.

These themes place this perspective in sharp contrast to dominant views and approaches to educational change that focus on technical systems and bureaucratic strategies for change. The proposed agenda takes the social practices of knowledge creation, transfer and use as central to the development of a district learning system that can significantly improve student outcomes over time.

## PROBLEMS OF PRACTICE IN DISTRICT LEARNING: PROPOSED RESEARCH AREAS

Current conditions of educational practice and improvement – including intensified accountability for improving achievement among an increasingly diverse student population, limited organizational and human capacity to address the range of student and educator needs, and often quixotic demands for quick fixes from multiple and competing stakeholder groups – have given rise to a host of practical problems in district system change and improvement. Based on practitioner input, we have organized those concerning system learning into the three pressing “problem spaces” outlined earlier: developing evidence-based practices throughout the district, managing external partnerships to build system capacity, and sustaining learning through leadership changes. While these problem spaces overlap and interact, each has its own sets of tensions, issues, and potentially productive avenues for research to improve practice.

### *I. Building Evidence-based Practice in School Systems*

Organizational learning happens all the time in school systems when people make sense together of events or shared problems. Sometimes the resulting beliefs and knowledge translate into better instruction or supports for students and sometimes they dampen effort and diminish students’ opportunities. For example, a team of NYC high school teachers expressed frustration over the Chancellor’s new policy to use inquiry to focus instructional interventions; they “knew” from stories of individual students’ hardships that no amount of assessment data could fix their students’ home lives. This shared knowledge pits them against the system improvement initiative and discourages their efforts. Similarly, the film *Freedom Writers* tells the story of an English department chair and veteran teacher who sabotaged a successful young teacher because the teacher had challenged their deeply held belief that low-income students of color could not succeed. In contrast, a California math department in an urban high school has for a decade learned to continually improve teaching and learning with their diverse student population; teachers work together daily to create and refine rigorous, engaging lessons for students in heterogeneous classes. They also participate in the state’s Council of Teachers of Mathematics, network with math educators in local colleges and universities in order to keep up on research, and consult with experts about instructional innovations.

Why do some communities of practice in education – of teachers, school or district administrators, education specialists, school boards and parents – use evidence to continually improve their success with all students while others give up on nontraditional students? A research agenda on organizational learning in districts would identify conditions, mechanisms, and practices at all levels of the system that drive and support evidence-based practice to improve education.

### **Multiple meanings and sources of evidence**

The idea of using evidence to inform educational practice generally means one or more of three rather distinct things: 1) individual teachers, schools, or districts using data on

student performance to focus improvements in instruction or related policies; 2) schools or districts using research on “best practices” to decide which instructional programs to adopt; or 3) a professional community in a school or central office using systematic inquiry to assess and improve its practices. Here we sketch these different meanings of evidence-based practice in order to frame research problems concerning district system improvement through evidence use.

### *Using data to focus and evaluate improvement efforts*

The notion that data on student outcomes should drive decisions and actions in districts and schools pervades state and federal education policy, education reform trends, and public beliefs about good practice. The federal No Child Left Behind Act of 2001 calls upon districts to disaggregate state assessment data by students’ race, language, and socioeconomic status and holds them accountable for making steady improvements in test scores for each group. Schools and districts that fail to make pre-determined levels of “adequate yearly progress” (AYP) are subject to sanctions. Schools and districts across the country are failing at high rates, especially those serving poor urban communities, and teachers are under considerable pressure to raise their students’ scores on state tests.

Education accountability systems and reform models that feature evidence-based practice have roots in corporate systems and routines to monitor and manage quality and drive decision making (e.g., Deming, 1982). Research on business organizations shows how data can leverage changes in work routines and infrastructure to promote learning and greater organizational effectiveness (Nonaka, 1998). In medicine, doctors have used data on patient outcomes in specialty areas to improve clinical practice guidelines (Gawande, 1999, 2004, 2007). In this institutional context, schools and districts, along with external support organizations and foundations, are working to develop their capacity to achieve success in using data to improve success in education.

In theory, teachers and administrators should be able to use data on student learning outcomes to guide their decisions about school programs and policies and about instructional practices. However, this assumes that they have the inclination and ability to use data effectively and that districts and schools have adequate data systems, expertise, and leadership to support evidence-based practice. It also assumes that the linkages between outcomes and educational practice are fairly straightforward. In fact, the complexity of teaching and learning and of educational organizations makes the attribution of causality for observed outcomes difficult even in the best of conditions (e.g., see O’Day, 2002). Recent research suggests that the best of conditions are rarely present in schools or districts (Ingram, Louis, and Schroeder, 2004; Kerr, Marsh, Ikemoto, Darilek, and Barney, 2006). Indeed, numerous challenges stemming from existing conditions in school districts impede evidence-based practice. Structural factors like insufficient collaboration time, technical challenges such as cumbersome databases, cultural conditions including disagreements over valid and useful data hamper the in-depth data analysis and collective problem-solving needed for effective evidence-based practice (Talbert & Wood, 2007).

Moreover, there is mounting evidence that NCLB has created conditions in many districts and schools that diminish students' learning opportunities and success, especially by narrowing the curriculum so that student aptitudes are less broadly tapped and developed and by pushing for curriculum implementation rather than developing teachers' capacity to make sound judgments for their students. Thus, an agenda for research on data use should attend to unanticipated negative consequences of the movement as well as its promises and potentials. In particular, it will be important to identify the kinds of district leadership and policies that leverage positive change through federal legislation and state accountability systems. Research on high-performing districts illustrates ways in which prescriptions for data-based decision making can build professionals' capacity to continually improve teaching and learning. [fn: former NYC District 2 and Long Beach, CA evidence]. Consistent with research in non-education sectors, the case studies document social practices and organization systems that build capacity for continually improving teaching and learning for all students.

#### *Implementing research-based programs and practices*

Conceptions of evidence-based practice in education – and initiatives to support districts' movement in this direction – go beyond the idea of using student test data to focus improvement efforts. Another prominent conception centers on using evidence from rigorous research to evaluate educational programs and practices. In this vein, evidence-based practice involves screening curricular programs and instructional regimes on the basis of scientific evidence of their effectiveness in promoting intended student learning outcomes. For example, the state of California limited districts' choice of a K-6 reading program to either Open Court or Houghton Mifflin programs based on its evaluation of reading programs' success, withholding funds if a district selects a different program. Of course, debate swirls around questions of standards for evaluating curriculum programs, such as numbers and contexts of studies assessing their effectiveness.<sup>6</sup> Further, people in school systems disagree over the nature of scientific evidence that they take as sound (Coburn & Talbert, 2006). In some cases these differences represent differing perspectives among diverse communities of practice. Most notably, some favor evaluations of a particular program's impact on students and others looking to a cumulative research base for evidence of the effectiveness of principles and strategies embodied in a program. Decisions about what ELA and mathematics instructional programs to adopt for a whole school system have wide consequences and thus are often quite contentious; and using evidence in an effort to resolve a dispute often adds another layer to the debate.

The use of educational research to guide instructional decisions in school systems includes teachers' search for and use of research-based knowledge to guide their responses to student assessment data. For example, when a group of 4<sup>th</sup> grade teachers discovers that the English Learners in their classes perform poorly on particular reading test items, they seek information about how to respond. They need both to interpret the

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<sup>6</sup> For instance, a comprehensive study of Open Court published in 2008 found little evidence in support of the program's effectiveness, suggesting that the early evidence grounding program adoption in California and other states was inadequate on scientific grounds.

test items as evidence of students' learning needs, e.g., the pattern points to weak decoding skills, and to determine an appropriate instructional response. They need knowledge of research on learning to decode and appropriate teaching strategies. Their options include calling on their own deep knowledge of content instruction, tapping the expertise of a skilled colleague or ELA coach, searching the "What Works Clearinghouse," or seeking advice from an expert in their broader professional networks or local university. The use of research-based knowledge is a critical complement to the use of data to diagnose student learning needs. Yet, documentation studies of reform efforts promoting "cycles of inquiry" – wherein teachers use student assessment data to identify learning gaps, then design and use an intervention in their classroom, then use student data to evaluate the intervention, then refine the intervention – find that teachers generally struggle to develop instructional responses to the learning gaps they see in the data (CRC, 2002). Even when highly motivated to access and use research-based knowledge, teachers lack experience and skills in doing so. Meanwhile, district leaders struggle with how best to support teachers' in interpreting, evaluating, and using evidence from research.

#### *Using evidence from practice to create new knowledge*

The concept of evidence-based practice further embraces knowledge that emerges from and is used in practice. Practice-based knowledge to improve performance derives from individuals' and groups' experience with an approach or tool developed within the organization and their assessment of the results of that approach. Literature on professional learning in organizations, within and beyond education, describes the nature of organization cultures and designs that encourage innovation and risk-taking among employees and the development of "professional learning communities" (PLCs). A professional community can develop knowledge of practice by trying out an innovation – such as a strategy for grouping students in Algebra I classes or a rubric to scaffold students' essay writing – assessing its results, and refining it to achieve better results.<sup>7</sup> This works to the extent that the group has developed effective inquiry practices and sound standards of evidence – professional learning challenges in and of themselves.

The idea that organizations either promote or inhibit the inclination and effort of employees to learn together to continually improve their work has been embraced in business and education over recent decades. Most organization leaders across sectors have read such books as Peter Senge's *The Fifth Dimension* (1990), and Michael Fullan's series of books on educational change (cf., 1993, 1999, 2001) are staples in the libraries of district and school administrators. In recent years, districts across the nation have been launching "PLC initiatives" aimed at re-culturing schools and the system to become learning organizations. Research and practical guidelines on the process of developing

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<sup>7</sup> Cochran-Smith and Lytle (1999) make the useful distinction between knowledge *for* practice that is developed by researchers and knowledge *of* practice that is developed by professionals through inquiry into their practice. A third kind – knowledge *in* practice – is created as individuals practice their profession and can be thought of as "know how" which is tacit and rarely shared. Professional communities can develop knowledge *of* practice by trying out innovations, assessing their results, and refining them to achieve better results. This works to the extent that a community of practice has developed effective inquiry cycles and standards of evidence – professional learning challenges in and of themselves.



learning communities in organizations is growing and in considerable demand in education these days (e.g., Eaker, Dufour & Dufour, 2002; Lieberman & Miller, 2008; McLaughlin & Talbert, 2006; Wenger, McDermott & Snyder, 2005).

The use of practice-based evidence to improve performance also includes developing mechanisms and systems for sharing knowledge across communities in an organization. As noted in the introduction, Brown and Duguid (2001) argue that the advantage of an organization system over an open market – or federation of schools in the case of education – lies in its potential to “dynamically coordinate knowledge produced by communities of practice” (p.198). The question of how organizations, and school districts in particular, do this has been little explored. We regard this line of questioning – how districts can develop systems to identify effective community practices and then capture and communicate them in ways that others in the system can learn from them – as a compelling direction for district learning system initiatives and research. As summarized below, examples of these practices come from outside education – from business, the Army, medicine – and hint at design features and hypotheses that could be tested through practice-based research.

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We recommend that Spencer’s research agenda embrace the three broad meanings of evidence-based practice in organizations – using data to assess outcomes and focus improvements, using research to guide innovations and change in practice, and learning from practice-based knowledge in and beyond the organization. Each generates knowledge for improving professional practice. And each entails social processes of developing or accessing, interpreting, and acting on information in a community of practice. A district learning system thus would craft policies and organize supports for each mode of evidence-based practice within and across communities of practice.

### **Evidence-based system practice: professional community and system levels**

The research agenda that we propose in this area takes up fundamental problems faced by education practitioners trying to develop evidence-based practice to improve student achievement. Core problems for developing these practices widely in school systems center on questions such as:

- What kinds of guidance and tools support a professional community’s capacity to interpret and use data and research to improve its practice, and how does this differ across different practice communities in a school system?
- What are the developmental stages and processes through which a community becomes able to evaluate and improve its practices; and
- What sorts of organizational strategies and resources broker and spread knowledge for improving student achievement across diverse communities of practice in a district system?

These problems sit at the intersection of practical challenges for developing school systems’ capacity to improve student achievement, theory and multi-discipline research

on social practices and change in organizations, and the growing body of literature on evidence-based practice in education and non-education organizations.

The first two problems pertain to micro processes of change entailed in developing evidence-based practice in professional communities and will be taken up in the same section. Studies in these areas would inform the work of teacher leaders, school administrators, and other system leaders working to improve practice in their communities of practice. This research also will help to guide district approaches to supporting evidence use in communities of practice across the system. District system change in this direction must be understood as an educational problem (Ball & Forzani, 2007). How can a district organize effective conditions for professional learning and develop system leaders who are skilled in guiding improvement efforts in communities of practice?

The problem of organizational designs to broker and spread knowledge across communities of practice would be addressed through studies and convening(s) that document promising practices in high-performing or improving districts and in organizations and professions outside education.

#### *Developing evidence-based practice in communities of practice*

Teachers, administrators, and staff in school districts participate in communities of practice, be they formally defined by occupational roles and shared tasks, or informally defined by social networks. Yet with notable exceptions, communities of practice in schools and district offices lack the purposive structures and mechanisms to support strategic learning from data, research, and practice. Knowledge for local leaders to change school systems in this direction must be developed. As outlined above, two key problems frame the challenge for change and focus for strategic, practice-based research: 1) what guidance and tools support practitioners' use of data on their students' performance and research findings to make improvements in their practice?; and 2) through what developmental stages do professional communities become effective in using evidence from their own practice to make improvements?

These problem areas are close in terms of practice but draw upon different literatures and point to different kinds of studies to advance knowledge. In educational terms, the first problem concerns instruction to support educators' use of evidence and the latter problem focuses on the community of practice as learner and how to understand change from this perspective. The former is well-suited to design studies, in which different tools and approaches are investigated across many communities; the latter calls for naturalistic studies of communities developing sustainable evidence-use practices.

*Guidance and tools that help translate data and research findings into practice.* While growing numbers of school districts invest in state-of-the-art assessment systems in response to federal and state accountability pressures, the gap between data quantity and quality and educators' ability to use the data productively has surfaced as a major challenge to the ideal of evidence-based practice. Professionals at all levels of district

systems say that they are “drowning in data.” Moreover, individuals in different roles and practice communities often interpret the same data differently, based on the cognitive frames and practice-based needs they bring to the enterprise. Teachers question the value of standardized student achievement data to inform their practice (Ingram, Louis & Schroeder, 2004) and often draw different conclusions from assessment results than do district administrators. Few districts have developed an assessment system that provides teachers with data they can use to identify student skill gaps that focus interventions.<sup>8</sup> More important from a social-practice perspective, districts have not invested significantly in supporting teachers’ interpretation of student assessment data.<sup>9</sup>

At the same time, practitioners are not ready consumers of educational research, particularly the kind of discipline theory-oriented research that is prized in higher education. Disagreements about the nature of valid research-based evidence to inform practice abound in education. Some educators take as evidence conclusions reached through cumulative discipline-based research; others look to evaluations of program effectiveness (Coburn & Talbert, 2006). And, although federal standards for educational research have touted randomized controlled tests (RCTs) as the gold standard for evidence-based practice, district leaders have not found such studies to be feasible or useful for evaluating programs and practices in their district.<sup>10</sup>

Research on data systems, tools, and guidance for educators’ use of data and research evidence is critical to developing knowledge to support district learning systems. Also key in this line of research are questions of how teacher communities can use standards of evidence to assess their innovations and how they establish effective practices as standard operating procedures in their community of practice. This line of research would draw upon documentation research in school-based teacher learning communities and lessons gleaned from practice in teacher networks such as the National Writing Project and Breadloaf. The research also would be informed by practice-based research in non-educational sectors grappling with the same set of issues around sharing practice-based knowledge to improve system performance.

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<sup>8</sup> Some districts have invested heavily in developing their capacity to provide teachers and school administrators with periodic assessment data that tracks student skill development, but the implementation of such systems is generally behind schedule and fraught with technical problems. For example, after years of start up, the NYC system is judged by many educators as “too little, too late” – or not well connected to educational outcomes, especially at the secondary level, and not frequent enough to inform improvement efforts.

<sup>9</sup> An exception is NYC investment in the Scaffolded Apprenticeship Model (SAM), developed in 2003 through a partnership between Baruch College and New Vision for Public Schools. This model is designed to develop school leadership for using student achievement data to focus interventions that improve student success; all NYC schools have formed Inquiry Teams to develop these practices with guidance from trained facilitators.

<sup>10</sup> David & Green (2008) studied districts participating in an IES-funded project to promote district use of RCTs to evaluate their programs and practices; they documented daunting implementation challenges and a tendency for district leaders to discount results that were out of sync with their sense of best practice.

A broader set of questions concerns the development of a professional learning community's capacity to exploit data and research resources and sustain their learning to improve student achievement.

*Developmental stages for professional learning communities.* Research on professional communities in business and education organizations points to conditions for a group's capacity to learn to improve their practice. Documented conditions of learning communities in business organizations – joint work, mutual engagement, shared repertoire – define levers for their creation (Wenger, 1998; Wenger, McDermott & Snyder, 2003). Research on building teacher learning communities in schools provides examples of entry points for joint work and facilitator roles in supporting teachers' learning together (McLaughlin & Talbert, 2006). Findings on the role of facilitators in guiding the development of community practice dovetail with research on learning; the environments they establish for teachers are content-centered, attend to learners' prior knowledge and skills, provide ongoing feedback, and build community practice (Bransford, Brown & Cocking, 1999). Professional community's learning capacity develops over time; however the developmental stages and supports relevant to each are not well understood.

A key problem for district practice to develop professional learning communities is how to be strategic in supporting their use of evidence over time and across widely diverse communities. This line of research would systematically address this issue, with a focus on all levels and kinds of practice in the system. The central research questions are how to assess professional community capacities and learning needs and then to design supports for their collaborative learning.

#### *Creating systems for knowledge sharing across professional communities*

The challenge of developing a district system's capacity to continually improve student achievement centers on the dual problems of supporting evidence-based practice in communities of practice and designing strategies, mechanisms, and practices to capture and coordinate knowledge across communities within the system. In other words, how can a district system broker and spread knowledge for improving student achievement across schools and between units and levels of the system?

Education research thus far sheds little light on how strong learning communities institutionalize innovations they find successful. Even less is known about how knowledge gets shared. However, evidence from the California math reform of the early 1990's suggests that a combination of high-quality professional development and networks and teacher-developed "replacement units" carried knowledge of key ideas for math instruction that teachers could enact in their classrooms (Cohen & Hill, 2001). This instance suggests that, consistent with social-practice theory, artifacts developed and carried by professional networks are key means through which practices can travel between communities of practice. A central hypothesis to be tested in this line of research thus would be: a district's capacity to significantly improve student achievement depends

upon both the development of social networks that cross community boundaries and the investment in tools that carry knowledge and evidence for improved practice.

Research and practice in non-education organizations further inform challenges and potentials for capturing practice-based knowledge. Commenting on problems of organizational learning in Xerox, John Seeley Brown pointed to the challenge of tapping local innovation:

It goes on at all levels of a company –whenever employees confront problems, deal with unforeseen contingencies, or work their way around breakdowns in normal procedures. The problem is, few companies know how to learn from this local innovation and how to use it to improve their overall effectiveness (1991, p. 103)

A research agenda to inform the development of district learning systems would include capturing lessons from business and other sectors on ways of scaling up or spreading innovations that address a common practical problem and improve outcomes<sup>11</sup>. What organizational strategies are useful for coordinating knowledge produced by communities that differ in epistemologies and practices?<sup>12</sup>

Research in this area also would tap lessons from school districts that have been relatively successful in using practice-based knowledge to improve system outcomes, for example former NYC District 2 and Long Beach, California. Such districts established teacher authority and mechanisms to share knowledge developed and evaluated through their practice; for example, Long Beach supports pilot studies of innovations selected or developed by teachers and adopts those that are successful. Key to spreading successful innovations in these districts are “boundary-spanning” mechanisms – positions and roles that work between levels of the system and create interstitial communities of practices and forums that build professional networks across school-based communities of practice. Boundary spanning mechanisms also include partnerships and professional networks with external organizations –such as universities, subject area associations, local or national intermediary organizations – that bring new ideas and expertise into the system on a regular basis.

## ***II. Developing and Managing Partnerships for System Learning***

Organizations outside school systems increasingly play a role in advancing district learning to improve student achievement, especially in large urban school systems. External support providers can build professional and organizational capacity to improve student success by fostering professional learning and changes in practice at various levels of the system (see, for example, Honig and Ikemoto, 2008; Corcoran and

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<sup>11</sup> Documented examples include: the Center for Army Lessons Learned (CALL) design for “strategic learning” (Thomas, Sussman & Henderson, 2001; Kuwada, 1998); methods for error detection and analysis in medicine (Gawande, 1999); and the Toyota System’s strategies to support continuous improvement (c.f., Adler & Cole, 1993). Other documented and undocumented designs for system learning would contribute to a cross-sector knowledge base to inform designs for district system learning.

<sup>12</sup> Brown & Duguid (2001) elaborate on the challenges and potentials for systemic innovation through the firm’s ability to broker and coordinate knowledge across diverse communities of practices.

Lawrence, 2003; Resnick and Glennan, 2002). Partnerships provide a context for understanding the developmental trajectory of district learning, the processes through which external influences traverse organizational boundaries, and the ways in which external relationships advance the system's knowledge and capacity to improve practice.<sup>13</sup>

Partnerships between external organizations and districts present challenges for learning within the district, within the external organization, and across these boundaries within the partnership itself. Specific problems of practice will depend on the particular nature of the partnership and on the technologies, interventions or reforms being enacted. This section raises the overarching design and implementation problems viewed through the lens of a social practice framework. Specifically, we elucidate problems associated with designing and forming effective partnerships, assessing learning needs and spreading knowledge (two important aspects of the learning process), and sustaining partnerships.

### **Partner development focused on learning needs in the system**

#### *Selecting partners strategically*

Partnerships ostensibly form to meet districts' needs for professional knowledge and information, technical assistance, and/or evaluation. External organizations have a wide range of theories of action and employ a variety of strategies to support schools and districts. Some focus on instruction (e.g. Institute for Learning), others on leveraging data and inquiry (e.g. Scaffolded Apprentice Model or the Consortium on Chicago School Research), and still others on a central office redesign (e.g. Annenberg Institute for School Reform). Other partners provide resources and expertise according to districts' expressed needs. For example, one external provider we spoke with said the district needed a partner to provide outside staffing for work that was otherwise internally constrained by resources and time within the district. Ideally, a district will decide to enter a partnership based on whether it fits squarely within the district's learning needs. Sometimes, however, either because policy requires this form of external assistance or because the particular partner carries funding, districts will enter into partnering relationships without adequately considering the learning demands on the system. Research about the selection process could provide insight about how districts understand their own learning needs and how they manage external pressures.

Selection constraints and inadequate information can lead to situations in which the approach of the external provider actually runs counter to the prevailing theory of action held by a school or district. For example, a study of partnerships with external

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<sup>13</sup> For our purposes, our definition of external agents includes organizations and individuals that provide services to the district as a whole or to communities of practice within the district. Therefore, this definition excludes organizations that provide professional development to teachers on a one-on-one basis, organizations that assume authority and responsibility for running schools in the district, and organizations contracted to provide specific services to the district or a school, such as food or transportation services or after school programs.

agents to support Chicago's lowest-performing schools found that sometimes, providers' theory of action was diametrically opposed to the school's reform theory (Finnigan and O'Day, 2003). Similarly, Hatch (2000) noted that the work with New American Schools suffered from conflicting visions of the reform; external partners and practitioners thought they were talking about the same issue but discovered in the process of working together that they actually had very different theories of action. Most evidence suggests that external organizations and district leadership should share a vision and theory of action for their work together; however, the partnership may work adaptively to reorient the system towards potentially more effective theories in action and practice. Thus, under certain conditions, misaligned strategies for organizational change may actually enable, rather than inhibit, system learning.

#### *Forming partnerships at the right strategic moment*

External organizations enter districts with existing knowledge, repertoires of practice, and reform histories. The efficacy of partnerships may depend on the extent to which the partnership is formed at an appropriate stage in the district's developmental learning process, and the extent to which partners can access information about the system. One external partner noted that support organizations are "not always sophisticated at selecting good sites and knowing when to walk away." Noting the importance of understanding a district's history one external partner said, "You don't build a garden before you see where people walk." Yet external support providers may not have obvious access to relevant information, particularly since most districts lack mechanisms for capturing organizational memory.

#### *Working strategically with multiple partners*

School districts commonly layer multiple partnerships concurrently, often overwhelming practitioners. As one principal noted: "There are just too many initiatives." Too many consultants. Too much on our plate. No coherence. Everyone is vying to be the consultant. It is competitive. Who will be the lead dog? Institute for Learning? Great Schools? ESR? AP Strategies? Dana Center? You cannot marshal that many initiatives." Indeed, external support providers compete for scarce resources and often have competing agendas. As one external partner noted, "Everyone comes in with their own theory of action and it's up to the district to line them all up." In New York City, for example, one external support provider explained that the superintendent "recognized the different intellectual tribes at war within the district ... including the District 2 approach versus the approach of New Leaders for New Schools versus the Harvard Business School versus Parthenon ... All these organizations were evidence-based but reflected sharply different views about teaching and learning and organizational change."

Research suggests that insufficient communication and disparate theories of action among external support providers lead to fragmented support (Finnigan and O'Day, 2003). Districts may have difficulty making sense of competing signals from multiple partners. For example, Ravenswood Unified School District receives support from the New Teacher Center of UC Santa Cruz and a District Assistance and

Intervention Team (the San Mateo County Office of Education) under Program Improvement. While the New Teacher Center wants teachers to implement a balanced literacy program and use Open Court as a flexible tool for doing so, the DAIT providers want the district to implement Open Court with full fidelity. District administrators ended up having to negotiate competing interests and struggled to translate a clear message to teachers, who formed alliances based on their experiences with the support providers and personal beliefs. Support providers could form their own communities of practice and convene to discuss districts' challenges, exchange strategies and solve problems. However, collaborative efforts towards these ends are rare and mostly ineffective.

Research about the design of effective partnerships might include the following types of questions:

- How do partners assess whether a partnership fits within a district's "zone of proximal development" for optimal learning? How can districts and partners accurately assess whether a partnership matches a district's needs and priorities?
- How do districts and external partners interrogate the theories of action informing their work? Under what conditions can external partners transform districts operating under disparate theories of action and beliefs?
- How can districts become more strategic consumers of external partner support? How might research support the development of district administrators' and boards' capacities to assess compatibility among reform options and manage partnerships in complementary ways?
- Under what conditions can multiple partnerships within one district be successful? Where has successful coordination between external partners occurred? What can we learn from these successes? How can a district assess the appropriate "mix" of partners and reform initiatives?
- What lessons have external partners learned about the coordination of multiple initiatives from their work to date? How can other intermediary organizations and districts learn from these experiences for developing synergistic district partnerships?

### **Collaboration on reform design, evaluation, and scale up**

#### *Diagnosing district learning needs and assessing progress*

In early stages of a partnership, external organizations might work with districts to understand or "diagnose" districts' learning needs and develop goals for their work together. External partners need to assess the developmental stages of multiple communities practice within the system by uncovering the tacit aspects of districts' work, assumptions and beliefs, and design their work accordingly.

As districts work with partners, ongoing assessment and monitoring of system learning and the external partners' work can help inform partners' practice. Several leaders of partner organizations mentioned the challenge of developing indicators to assess district progress. Partners suggested that they tended to gauge efficacy on satisfaction indicators rather than on district learning outcomes, but sought to find better



measures. Research about how partners track learning across time and across multiple communities of practice could improve practice for both districts and external support providers, especially if providers can link district learning to specific interventions. Some external partners work specifically to assist districts with the technical and interpretive work of tracking their learning goals. Since most districts lack evaluation skills, these partnerships develop district capacity for assessing their own work. Research on district partnerships might cull and assess these partners' best practices.

The relationship between districts and external partners requires extraordinary levels of trust, and we know that building trust is challenging (Bryk & Schneider, 2002, Wenger 1998). In order for partners to accurately understand challenges within the district, practitioners have to expose their weaknesses to outsiders, and trust that the partner's solutions will help them improve. Under No Child Left Behind, districts face high stake accountability pressures. External partners might attempt to share accountability, but policies ultimately hold districts and schools responsible. When student achievement improves, district administrators and external partners might both want to take credit for successes, especially when competing for resources, potentially creating a power struggle between groups that ultimately share a common goal.

#### *Spreading learning throughout the system*

A partnership's effectiveness depends, in part, upon bridging communities of practices within a district to collaborate on the improvement effort. However, it is not always clear whose role it is to broker these relationships within a district. Honig and Ikemoto (2008) emphasize the important role that intermediary organizations can serve in sharing information across organization boundaries, translating this information to different communities of practice. However, external organizations may not necessarily view their role as one of spanning the boundaries of communities of practice internal to a district. Additionally, only a small proportion of external partners have an explicit theory of action to promote system-wide learning to continually improve teaching and learning. Typically, external partners engage with specific communities of practice, such as a group of math leaders in the district, targeting their work to a certain audience. This can result in little transfer of work and learning across boundaries of teacher communities of practice. In some cases, external organizations incorporate a "turnkey" model to scaling up reforms within a district, training a cadre of individuals within the district who will then work with their colleagues to impart knowledge. This model has been shown to have certain problems.

Even when the external partner has an explicit theory of action for sharing knowledge across the system, the effectiveness of their efforts will be influenced by the district's strategy for and approach to such knowledge sharing. Again, differences among partner and district strategies raise the possibility of conflict. Equally likely, however, are situations in which both the partner and the district lack a clear or coherent approach to moving knowledge across units or groups and instead depend solely on individual participants' desire and ability (both of which may be lacking) to cross practice boundaries. In short, when partnerships do not organize to bridge a district's communities

of practice or when districts do not have an explicit boundary spanning strategy to incorporate learning from external organizations, learning can be compartmentalized.

Research about the learning process between districts and partners might include the following types of questions:

- How can a district determine what types of support it needs to advance professional learning to improve student achievement? Using what criteria, tools, and consultations can the system and units within it assess the potential value added of a particular partnership?
- Under what conditions can trust and mutual accountability be developed to ground collaborative work that creates an effective environment for learning within communities of practice in the system?
- Are there predictable stages in the life cycle of a productive partnership to develop a learning system? Can shifts and strategic adjustments be identified?
- How can partners promote learning across the system and avoid the “siloeing” that often occurs within specific communities of practice in districts?
- What leadership strategies, incentives, and practices engage widening circles of system actors in learning from the partnership and cross practice boundaries to improve student achievement?

## **Partnership staging**

### *Sustaining learning practices*

Leaders of external organizations mentioned numerous challenges associated with sustaining their work with districts. Typical cycles of innovation in school systems and predictable challenges such as leadership turnover and accountability policies leave districts unable to deeply embed, build upon, or effectively spread learning throughout the system. High-stakes accountability pressures can undermine relationships between districts and external support providers, as external partners may not fully grasp the pressures districts face or be unwilling to make compromises accordingly. Districts report to many “masters”—including state and local governing bodies, foundations and external partners—and often change course according to pressure from these masters. In addition, political tensions between school boards, superintendents, union leaders, and external partners can stymie learning. One external agent noted that the “political chaos” in one city “created a context that was so reactive and so consumed with politics and with compliance that people couldn’t seem to become a learning organization. They couldn’t get out of the problem of the minute to create a space for learning.” A research agenda about district partnerships might explore whether and how administrators, board members and support providers can come together to exert pressure in a consistent direction.

### *Determining longevity and role changes*

External partners and districts often form temporary relationships in which the partner’s implicit or explicit charge is to build capacity and then transition out of the district. An

important question for districts and partners is whether, how, and when to transition the work being done by an external partner to the district itself. Transitioning the work to district leadership requires roles and responsibilities to shift over time and requires an understanding of current capabilities. Several intermediary organization leaders we spoke with outlined the challenge of building capacity without *substituting* capacity. On the other hand, several external partners wondered whether the district could do the work of learning, reflection, and improvement *without* the assistance of an external organization: “When they know [we] are coming to town, that galvanizes the district to meet and talk about where they are at. You would like to believe that they have their own internal structures, but sometimes it is about having to explain themselves to an outside actor.” Another external partner voiced a similar sentiment when explaining the work the organization does to share information across central office departments and build their capacity. “The district needs the outside to keep pushing them,” the leader of the intermediary organization noted.

Research about the sustainability of partnerships might examine the following questions:

- How can district and school administrators, board members, and external partners work strategically to sustain effective partnerships? How can systems maintain learning when external support ends?
- How can districts and partners make strategic decisions about the duration of partnerships? Under what conditions should partnerships be temporary?

Of course, sustainability of partnerships is also influenced by the stability of the district’s leadership. In the next section, we turn to the implications for system learning when districts experience leadership turnover and suggest research addressing these issues.

### ***III. Sustaining System Learning Amidst Leadership Churn***

The problem of recurring leadership turnover in districts poses a challenge to continuous learning and sustained improvement and illuminates the practical problems of distributing and managing knowledge across the system. Thus, research on leadership turnover advances knowledge on multiple facets of system learning. Two notes about this problem space: First, we define the term “leader” from a practice-based perspective; we do not mean for this line of research to focus on leaders as individuals or on superintendents in particular. Superintendents are the obvious focus for research on leadership turnover as a problem of organizational learning in districts. Recently, new superintendents have come on board in high-profile districts with relatively long histories of reform and leadership stability (e.g., Boston, San Diego, Long Beach). How these districts—as well as districts with more rapid turnover—manage leadership change may provide insight about system learning. However, we also take the view that key leadership positions are defined by their influence on practice (see Spillane, 2006) and suggest that changes in leadership in key middle management positions in the central office (e.g., directors of human resources, assistant superintendents for assessment or curriculum and instruction) could also have significant impact on teaching and learning. Further, a large amount of churn among principals poses significant challenges for school-based practice. Finally, changes in school board membership could provide

insight about the politics of leadership turnover and the role of the board members in sustaining a learning system.

Leadership turnover is a problem endemic to large school systems. The average tenure of an urban superintendent runs from 2.5–4 years (Datnow et al., 2002). Turnover in district leadership—from by the superintendent, to key central office personnel, or school administrators—disrupts practice, for better or worse. Research suggests new leaders can disrupt improvement work by introducing different and often conflicting reform priorities (Datnow, 2002; Fink and Brayman, 2004). For example, Datnow (2002) explains how a new superintendent uprooted whole school reform efforts after local industry leaders decided to champion vocational and secondary education over whole school reform models and wanted a superintendent aligned with their vision. The new superintendent removed district supports for reforms, signaling that schools should focus on the new district agenda. Similarly, our own documentation research shows how a new superintendent failed to support a capacity-building effort as part of MacArthur’s *The Learning Partnership*, derailing the previous leader’s efforts. Turnover in key leadership positions may slow reform progress by contributing to the attrition of practice-based, context-specific knowledge. Additionally, leadership turnover can erode trust and create cleavages in communities of practice. For example, our conversations with reform partners surfaced the difficulty of building trust and relationships anew.

Leadership turnover, while immediately challenging, may also push the system to learn by introducing variation—a small longitudinal case study of a private school in England suggests that discontinuous strategies and leadership styles may indeed build organizational capacity (Barker, 2006). How leadership turnover affects district learning likely depends on its antecedents. In instances of board or community conflict with the leader, turnover may alleviate tensions and allow communities of practice to flourish. Leadership turnover may also illuminate gaps in system capacity and encourage the development of roles, structures and routines that could enable sustainable improvement and minimize the impact of leadership turnover.<sup>14</sup>

Within our theoretical framework, instances of leadership turnover in high-level central office positions provide occasions to examine the location of practice-based leadership knowledge in different organizational units, the flow and transfer of knowledge, and the ways in which knowledge is rooted in the connections among and between communities of practice. Problems of practice for research on leadership turnover center on the following broad areas: (1) how does leadership turnover affect the developmental learning process of the system? and (2) how can systems strategically manage leadership turnover by sharing practice-based leadership knowledge across the system?

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<sup>14</sup> In a social psychology experiment Rukmini Rao and Linda Argote found leadership turnover may reduce organizational performance due to “forgetting” or the inability to access and make use of past learning, but only in organizations with poorly defined roles and structures. This suggests potentially wide variation in districts.

## **Leadership turnover effects on system learning**

We know that leadership turnover often derails reform, but most research in this area makes individual reforms the primary unit of analysis; studies rarely track the long-term impact of turnover on subsequent improvement efforts in districts or its affect on the continuity of learning. Research using a developmental lens would focus on how leadership turnover affects learning for various communities of practice in the system.

Organizational members learn by integrating new knowledge into their individual and shared repertoires, identities and cognitive frames in a developmental process. Because new learning builds upon prior knowledge (Bransford, Brown & Cockings, 1999) and organizational memory (Huber, 1991), all attempts to revamp the system face the difficulty of bridging with what has come before. When new ideas or frameworks are introduced without prior ones having a chance to get integrated, learning may stall. Further, when new leaders fail to acknowledge the professional capacity built through prior reform work they can spur resistance to new ideas. For example, teachers resisted and misinterpreted reforms introduced by the Bersin-Alvarado leadership in San Diego because teachers felt their knowledge and experience was discounted. The importance of bridging prior learning is made more difficult given that different communities of practice within a district likely have different learning histories and competencies. Research about how leaders come to understand learning needs across the system and differentiate supports accordingly would make a big difference for practice.

People at all levels of the system may experience turnover as threatening and frustrating. It can create conditions of fear, mistrust and reaction. These conditions may produce what one external support provider described as “amnesia” on the part of central office staff whenever leadership turnover occurs: “The people in the middle management level become passive and bring in outsiders to share the knowledge that people in the system already possess.” Research on the affective domain of leadership turnover could explore the conditions supporting central office staff in facilitating a learning-oriented transition.

Research on leadership turnover could also explore the ways in which new leaders affect existing communities of practice. Existing communities have established roles, structures and routines for their work, as well as political alliances, tacit agreements about their working relationships, and power relations. Leadership turnover likely disturbs common understandings, norms, and practices. Although new leaders might find explicit reference to some of these structures and routines, many of them are likely to be informal and difficult to identify. For example, a group of central office administrators might have a set of routines for developing an assessment plan based on unspoken understandings of individuals’ skills, preferred modes of working and informal relationships among participants. Without a way to learn about this process, a new leader might upset it by replacing staff or reconfiguring work responsibilities and job titles. Finally, how does leadership churn affect leaders’ communities of practice? Churn in membership likely disturbs common understandings, norms, and practices. Given hierarchical authority in districts, existing communities of practice might have to adapt to

a new leader's beliefs, priorities and ways of operating, potentially erasing a rich history of common practice. At the same time, leadership turnover could potentially create a clean slate for improvement of dysfunctional communities of practice.

To summarize, research about how leadership turnover affects system learning could include the following types of questions:

- Under what conditions can leadership turnover occasion learning and improvement?
- How do leaders come to understand learning needs across the system?
- How do individuals and groups experience leadership turnover? How does turnover affect their daily work? What decisions do they make about their commitments? How do the affective consequences (e.g., fear, excitement) of leadership turnover affect learning?
- How can new leaders learn about different communities of practice within the system, specifically in terms of their developmental learning stages?

### **Strategies for managing leader turnover**

#### *Learning from the knowledge stored in communities of practice*

The history of reform in districts—both successes and missteps—represents prior learning among individuals and communities of practice within the system. New leaders face a formidable task in culling diverse experiences and stories to construct a complete and representative picture of the past. Practitioners observed that new superintendents are bombarded with information from many different sources inside and outside the organization, and “what information they make use of is based on who they trust.” Unsure of what sources are trustworthy and aligned with their vision, a new superintendent faces the challenge of interpreting and making decisions from an overload of information.

A new superintendent may advance a district system's capacity for improvement by understanding and building upon the organization's prior learning and memory by using existing pathways to design change efforts and strategies. The traditional view of organizational memory is that knowledge gets stored in standard operating procedures and routines. In school systems, standard operating procedures and routines may not reflect the practice-based technical knowledge linked to teaching and learning. Instead, practical knowledge is found in informal conversations between and among teachers, principals and other staff—that is, within formal and informal communities of practice throughout the system. At the same time, existing routines serve as an ongoing source of knowledge and learning (Feldman and Pentland, 2003). New leaders have to identify the most important routines and have their finger on the pulse of the learning that takes place within multiple communities.

Consider the following example representing an amalgam of two districts' experiences: a new superintendent calls for a district-wide writing assessment and asks

the assessment director (whom she recently hired) to design a new protocol. The new leaders know the district had a writing assessment 5 years ago, but assumed it died because it was ineffective. They don't realize that teachers loved the old assessment because it effectively measured student progress and most importantly because they linked it to a process of deep inquiry and professional development, supported by the district with teacher release time. Teachers worked in groups to develop rubrics, identify benchmark samples and score the assessment. The assessment process served as the joint work that formed teachers' communities of practice. Administrators can access knowledge about the richness of this process by participating and observing, but new leaders need to find alternative methods, especially because politics, organizational silos and system complexity make it difficult to gain access.

New superintendents may find practice-based knowledge in under-tapped sources. Middle system leaders including central office specialists, principals and teacher leaders often span boundaries between school and district, and broker knowledge vertically and horizontally (Burch and Spillane, 2004). In the business literature "knowledge activists" are individuals without formal role and title who make it their job to make sure information lands in the right hands (Von Krogh, Ichijo & Nonaka, 2000). Unlike the technical view of knowledge management, the concept of knowledge activism sits within the social practice perspective: knowledge gleaned through practice can leak and spill across formal boundaries, particularly when knowledge sharing is viewed as an organizational priority and practical knowledge a key asset. External partners with links to communities of practice can play an important role in moving knowledge across boundaries, particularly from the bottom up, and helping new leaders make sense of information and gauge the credibility of different sources.

#### *Spreading practice-based leadership knowledge throughout the system*

District leaders hold practice-based knowledge specific to their roles and responsibilities and unique membership in communities of practice inside and outside the system. Leadership turnover is partly a problem of losing that executive knowledge. Noting the "fragility" of urban district leaders, one participant at our January convening noted that superintendent networks support the learning of individuals, but the learning is "detached from the organization." Research aimed at district improvement could examine the ways in which systems can distribute the knowledge held in individual memory and experience across traditional role boundaries.

#### *Planning leadership succession*

In business, succession planning represents a way to maintain continuity and sustain growth while minimizing turbulence caused by leadership turnover. In education there is very little research about succession planning, particularly from an organizational learning perspective. Existing literature is mostly of the how-to variety, including a recent piece in the National Staff Development Council journal arguing that effective leadership succession planning depends on developing professional learning communities (National Staff Development Council, 2008). In other words, the field seems to think succession

planning is a good idea, but researchers have not studied it in any systematic fashion. Traditional succession planning tends to focus on developing leaders from within through mentoring and coaching; few districts and boards of education seem oriented toward these practices, perhaps because superintendent turnover is not typically a planned event, and because new superintendents are often expected to “blow up” the system. Research in this domain might examine how districts identify, mentor and support promising leaders from within, and the extent to which internal candidates can cause transformative change as well as external candidates.

Key research questions about managing leadership turnover might include:

- How can system leaders manage leadership turnover in ways that acknowledge diverse developmental learning stages of communities of practice within the system?
- How do leaders use organizational history to make decisions about improvement? How do they make sense of diverse experiences and stories, nostalgic perspectives and concerns about change to inform their decisions?
- How do organizational routines and structures embed executive knowledge?
- What mechanisms exist for other system leaders to gain the practice-based knowledge of superintendents? What learning pathways exist between superintendents’ professional networks and other leaders in the district?
- How do leaders distribute organizational goals, strategic visions and priorities across multiple organizational units?
- How can systems promote boundary spanning in ways that support cross-system learning between distinct communities of practice?
- How do leaders access the knowledge and ongoing learning stored in formal and informal routines, much of which may be hidden from a leader’s view? Under what conditions do system actors serve as knowledge activists?



## CONCLUSIONS AND RECOMMENDATIONS

Districts are key players in efforts to effect meaningful improvement in teaching and learning, particularly for the one-third of U.S. children who attend school in large urban systems serving high proportions of traditionally underserved youth. Districts influence nearly everything that goes on in the schools in their jurisdiction, from the hiring of professionals, to the assignment of students and teachers to schools, to the allocation of fiscal resources, to the interpretation of standards and the provision of professional development. How district systems support the learning of individuals and communities of practice, and how lessons from practice are incorporated into the strategies and cultural fabric of the district, substantially affects the ability of teachers and other school personnel to generate, identify, refine, implement, and assess knowledge to improve outcomes for the young people in their charge.

Research that is focused on specific problems of practice in district learning holds great potential both for enabling more effective district and school practices and for enriching our understanding of fundamental processes of social learning and organizational change. The social practice framework we applied in our analysis of three major problems of district learning is grounded in cross-sector, multi-disciplinary theory and research on learning in organizations. It has the potential to shed light on some of the most perplexing problems that school organizations face as they struggle to accumulate, assess, and use evidence for improvement; to manage knowledge sharing across practice communities internally and with partners externally; and to sustain improvement efforts across major – and often too frequent – shifts in leadership.

Our recommendations for a Spencer Foundation program of research on district learning recognize the inchoate nature of problem-based research in this area and the limited resources available for initiating this new program. Even a relatively small investment, however, can create an opportunity for the Spencer Foundation to play a leading role in defining the field, in encouraging and leveraging joint efforts with other foundations, and in bridging knowledge-development activities on organizational learning across sectors (education, business, health, public service). We see this research program as complementary to the other work Spencer is funding in the area of organizational learning and as supportive of efforts to increase the impact of educational research on practice.

Our recommendations for this program of research include: general design principles; substantive foci; types of research activities to consider; and suggested next steps.

### **Design principles**

A social practice perspective on system learning suggests several principles to guide the research program design. In particular, activities in this program should:

1. Be problem-focused: Research and other activities funded through this program should address concrete and important problems of practice in district learning, while aiming also to illuminate more fundamental relationships of social organization and work. This implies that the research activities should be informed both by practice and practitioners and by discipline-based theory and cross-sector empirical research.
2. Incorporate researcher-practitioner partnerships: To the extent possible, research activities should be carried out as collaborations between researchers and practitioners working together to develop the research focus and design, review and interpret data, and refine the work under study. Such researcher-practitioner partnerships reflect the dual goal of informing practice and building knowledge in the field. Because the practice communities of researchers and district or school educators differ, bringing the knowledge and perspectives of both to the inquiry process can enrich that process and its outcomes.
3. Build capacity: Research activities should develop practitioners' capacity to sustain and deepen practice and inquiry for district learning in the future. Such capacity-building could take place on several fronts at once:
  - The collection of activities should be *field-building* in nature – that is, they should seek to further define the issues, approaches, and goals of work in this area.
  - Research activities should contribute to the creation or strengthening of *communities of practice* and to bridging practice communities. In addition to bridging researcher and practitioner communities, projects might forge new dialogue across districts, across sectors, or across program areas within the foundation. Such activities can be integrated into the research program itself.
  - The work should encourage and develop *young scholars* in the area, through involving young researchers in studies or possibly developing a fellowship focused explicitly on this line of research.
  - Finally, research activities might include the *development of tools* that will be useful in districts or in research after the particular study or activity is completed.
4. Incorporate multiple forms and approaches: Funding in this area should reflect a range of research and knowledge-building activities, including documentation research on district learning and change, design studies (interventions designed to test an hypothesis about change), and convenings of practitioners and researchers in and beyond education.

### **Substantive Research Foci**

The three problems for district learning described in this document emerged as particularly critical for moving system improvement efforts forward. We urge the Foundation to focus on one or more of these problem spaces to initiate this area of work. Examples of research issues for each include:

- Evidence-based practice:

- What kinds of guidance and tools support teachers' interpretation and use of various types of data on student learning?
- Through what experiences and stages do communities of practice at all levels of the system develop their capacity to use data to assess and improve their practice?
- How can a district broker knowledge across communities of practice to build on learning within the system?
- Partnerships:
  - What partnering practices (between a district and its partners or among multiple districts) are effective in spanning boundaries to build district capacity?
  - What knowledge of district reform history is essential to capacity-building partners' leadership for change and how can that knowledge be tapped and used effectively?
- Leadership turnover:
  - Under what conditions can leadership turnover occasion learning and improvement? What knowledge of a district's reform history is essential to new superintendents' success in designing a course for system improvement, and how can that knowledge be tapped and used effectively?
  - How are communities of practice in districts impacted by leadership turnover? What strategies and processes are effective in buffering them from impacts that derail ongoing learning and improvement efforts?
  - In what ways and under what conditions can a strong "middle system" of district specialists, principals, and teacher leaders develop and function to continually develop the system's improvement capacity, even amidst turnover at the superintendent and school board levels?

The Spencer Foundation could take several different approaches to allocating research resources among these large problem areas. One approach would be to select one problem space (e.g., evidence-based practice) to focus on exclusively, soliciting all activities to address that area. The decision regarding *which* area to select could be based on its ability to leverage other work or funders and/or on staff judgments about the critical importance of a particular problem area. One difficulty with this approach is that no one problem appears to be the logical choice for the Foundation to select. For example, although efforts to develop evidence-based practice are obviously of critical importance to district learning, this area of inquiry is probably the richest with respect to existing or beginning research, thus potentially attenuating the leverage of new Spencer dollars. Also, the three problem spaces interact and overlap. A key issue in partnerships, for example, is the transfer of knowledge across practice communities, which is also central to problems of evidence-based practice; and both partnerships and attempts at evidence-based practices are often interrupted and derailed by leadership changes.

Another approach would be to circulate a Request for Proposals outlining the prospective line of inquiry and the three targeted problem spaces and then to select the

most promising proposals submitted (perhaps two per area). This has the advantage of increasing the likelihood of obtaining and selecting strong proposals but the disadvantage of defining less of a “niche” for the Foundation’s investment. A third alternative would be to blend the two approaches by having one main focus but funding small projects in the other two areas. A key consideration in the decision about which approach to pursue is the fit of each practice problem with other goals and work of the Foundation.

### **Research activities**

The kinds of *research and activities* we recommend for funding under this program together would yield a rich knowledge base on district learning systems. Each incorporates its own mechanisms for building knowledge about effective change processes and practices, and together they reflect the design principles outlined above.

***Documentation research*** investigates the unfolding of practice in real time and is focused by the participants’ theory of action, or their shared assumptions about how particular investments and actions result in desired outcomes. Such research activities take advantage of districts’ efforts to develop their capacity to continually improve student achievement and could zero in on any of the practice problems outlined above. Unlike much of the existing documentation research, these case studies would focus on the *system*, rather than on a particular reform initiative, and would examine the interplay of reform history and prior knowledge in parts of the system and concurrent reform efforts underway. In order to address developmental facets of system change, it may be desirable to purposively select sites with more and less experience with capacity-building initiatives and that are more and less developed as a learning system, e.g., Garden Grove or Long Beach and Oakland or Bakersfield; Montgomery County or Boston and Baltimore or Cleveland. Of course, appropriate case selection would depend upon the problem being addressed and the learning opportunities afforded by particular districts’ efforts.

Of particular interest might be novel boundary-spanning approaches to district learning. For example, the Long Beach Unified and Fresno districts in California have recently developed a formal learning partnership with shared goals, joint work in three instructional and organizational arenas, cross pollination of tools and strategies across districts, and even collective waivers and accountability agreements with the state. Documenting the processes and results of this boundary-spanning partnership could be particularly enlightening. Other cross-district networking and learning activities may also be useful subjects for documentation (e.g. the Aspen superintendents, literacy, and mathematics networks or the California Collaborative on District Reform.) to determine what strategies and conditions foster knowledge transfer and use across district lines.

***Collaborative inquiry*** with district practitioners to design and implement tools or strategies for tackling specific problems in any of the three problems spaces outlined above could also be illuminating. An example of such an effort would be the work of several researchers working with the Hayward School district in California to develop and use a set of leading indicators tailored to the specific instructional reforms being

implemented in that district. This is a relatively inexpensive joint project designed to build the capacity of the district to learn from its own practice but which has also led to new insights of the researchers working on the collaboration. In keeping with the goal of developing usable knowledge for other districts and the field, however, it would be important to incorporate documentation of the effort as part of the funded project. An example of such documentation would be Supovitz's recent publications about the dashboard initiative in Duvall County (Supovitz and Weathers, 2004).

**Design studies** would develop and test specific hypotheses about district learning and capacity building through a planned intervention and research to document its implementation and inform refinements. These could be initiated and led by an external partner and/or a leader in the system; a researcher in the team would collaborate to develop indicators and measures and occasions for documenting the work and reviewing the data. The goal of the design study would be to test and refine ideas for change strategies that are grounded in social practice theory and research.

Ideas for design studies might come from approaches being used outside education that hold promise for district system learning. For example, a team might replicate the design used by surgeons to debrief medical errors to test its transfer to a school faculty debriefing a student drop-out or pattern of low test scores. Or a team might replicate the "strategic learning" design used by the Army (Center for Army Lessons Learned, or CALL) to identify and study strategic issues facing an urban school system. What the design studies would have in common is their grounding in social practice theory and attention to challenges that professional organizations face when attempting to surface and interpret data on failures or troubles in ways that develop proactive responses.

The Spencer Foundation could lead the field toward an approach to district reform research that is "experimental" in testing core ideas about system change but practical in documenting how they play out under normal conditions and working to refine them.

**Convenings.** Bringing people together from varying disciplinary perspectives, organization sectors, district contexts and roles can foster dialogue and joint work that pools knowledge across the various practice communities and develops new understandings and knowledge for the field. Toward the goal of crafting design experiments and building shared knowledge across sectors, we recommend that the Foundation undertake at least one convening of practice-focused researchers and change leaders that spans sectors. The conversation would assume a shared social practice perspective on the problems of change toward learning organizations and would focus mainly on a) strategies developed to build systemic capacity for continual improvement (e.g., the "envisionary laboratory" created for Xerox to enable people to experience new knowledge and practices) and b) lessons drawn from using them in organizations. With the common purpose of developing one or more design experiments for testing strategies from other sectors in school districts, such a convening (or series of convenings as a "task force") also would develop collaborative work that might lead to more long-range networking across sectors.

Other kinds of convenings could create or build on existing collaborations. Spencer might utilize networks that already exist to synthesize lessons or develop ideas for new work regarding particular practice problems. For example, superintendents in the Aspen Urban Superintendents Network, which Spencer has supported for a number of years, could take on the question of superintendent turnover and develop or refine ideas for practice-based collaborative research on strategies to sustain learning across leadership changes. Similarly, Spencer might work with the Broad Foundation to convene past Broad fellows, many of whom are in key administrative positions in major school districts. In the arena of evidence-based practice, Spencer might consider convening its own grantees to discuss experiences in the use of their Spencer-funded and other research in school districts and to suggest activities in this domain. One outcome of such a meeting could be an increased awareness of Spencer grantees about issues involved in the spread, interpretation, and use of research findings in districts and schools and even some tools or processes to incorporate strategies for addressing these issues in the context of the other research efforts in which Spencer is engaged.

***Fellowships and support for young scholars:*** A further set of activities that Spencer might consider is support of young scholars interested in research in this domain, e.g., through a pre- or post-doctoral fellowship focused specifically on problems of practice related to district learning. Along these lines, the Foundation might create a small targeted fund to support junior researchers in developing or implementing ideas for research projects in this area.

## **Next Steps**

While each of these activities has merit and could be pursued as part of an agenda focused on problems of practice in district learning, we recommend the following two as more immediate priorities to get the work underway:

1. **Request for Proposals:** The work could begin with the development and release of an RFP soliciting research in the three pressing problem areas outlined above: developing evidence-based practices in school districts, managing internal-external partnerships to build district capacity to improve student achievement, and sustaining and deepening learning across turnovers in district (and school) leadership. We favor the approach of including all three areas at this time and funding the strongest of the proposals because we believe this approach would provide the greatest leverage down the road for pursuing a specific problem area that emerges as the most promising.
2. **Cross-sector convening:** An early activity to build this research area would be a convening of researchers and practitioners from education and non-education sectors who have knowledge of and experience using strategies and practices for organizational learning. This convening could lead to a cross-sector task force to generate and follow one or more design studies as discussed above.

Finally, we suggest that this program area could be more than just a collection of individual projects. Rather it could become a hub for dialogue on useable knowledge across Spencer programs areas that fund research in K-12 or post-secondary education. As argued in the introduction to this document, one purpose of a problem-based line of research on district learning would be to strengthen the uptake and use of research findings related to the improvement of instruction and student learning. Much could be learned through dialogue across program areas about problems and strategies for translating research into practice. For example, districts' use of findings from Spencer's research on educational assessment could be tracked through documentation research in the district learning program area; principles for organizational learning from this area could inform the development of resources to support the translation of findings from assessment research into district practice. This program area could be an effective and powerful vehicle for enhancing the practical value of the Foundation's current and future investments in educational research.

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## **Appendix: Informants for Research Agenda on School Districts as Learning Systems**

The following individuals participated in discussions leading to the preparation of this research agenda. Participation included one or more of the following: interviews conducted in December 2007; a convening of researchers, district practitioners and support providers at the Spencer Foundation in January 2008, and a symposium on the project at the Annual Meeting of the American Educational Research Association held in New York in March 2008. The views and analyses contained in the research agenda, however, are those of the authors and do not necessarily represent the views of any individuals consulted in its preparation.

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