The Social Side of Education Reform

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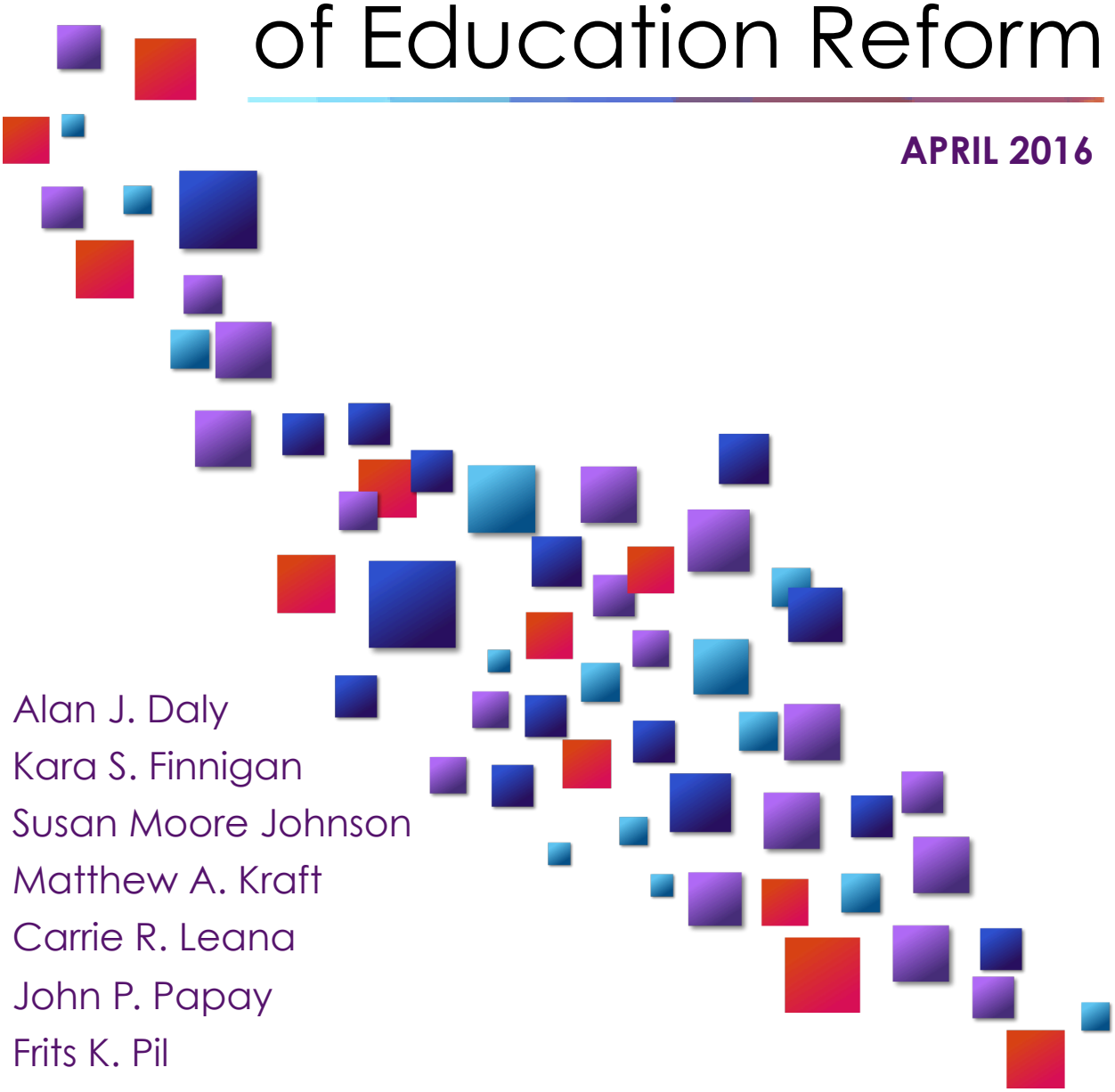

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THE ALBERT SHANKER INSTITUTE, endowed by the American Federation of Teachers and named in honor of its late president, is a nonprofit, nonpartisan organization dedicated to three themes—children's education, unions as advocates for quality, and both civic education and freedom of association in the public life of democracies. Its mission is to generate ideas, foster candid exchanges and promote constructive policy proposals related to these issues. The institute commissions original analyses, organizes seminars, sponsors publications and subsidizes selected projects. Its independent board of directors is composed of educators, business representatives, labor leaders, academics and public policy analysts.

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THE SOCIAL SIDE OF EDUCATION INITIATIVE

The Social Side of Education is a lens for examining and bringing insight into a critical oversight in the mainstream debate on educational reform and its policies: The idea that teaching and learning are not primarily individual accomplishments but rather social endeavors that are best achieved and improved through trusting relationships and teamwork, instead of competition and a focus on individual prowess. This approach is anchored by a growing evidentiary base that can inform policymaking and educational interventions.

The approach's key ideas include:

- Shifting the focus from the individual attributes of stakeholders (e.g., teachers, principals) to the broader context in which individuals operate;
- Highlighting the importance of connections and interdependencies at all levels of the system – e.g., among teachers within a school, leaders across a district, schools and the community;
- Recognizing that valuable resources are exchanged through relationships within and across the overlapping networks of schools and districts;
- Monitoring and strengthening this social infra-structure is necessary for improvement.

RESOURCES

- The primary manifestation of the Social Side initiative has been a series of essays (24 as of 12/2015) published in the Shanker Blog: http://www.shankerinstitute.org/socialsideseries
- Two conference sessions at NBPTS 2015 Teaching & Learning Conference and AFT's 2015 TEACH Conference.
- Short video summarizing the approach: http://www.shankerinstitute.org/program/socialside
- A one-day, public research and policy conference during the American Educational Research Association 2016 annual meeting: shankerinstitute.com/event/socialside2016
- Research syntheses and policy publications: http://www.shankerinstitute.org/program/socialside
- *Teaching In Context* (Quintero, Ed.) an edited volume, that will be published in early 2017 by *Harvard Education Press*, exploring these topics in a systematic way.

If you'd like to learn more about this work or think your work is related to this effort, please get in touch with us at socialside@shankerinstitute.org

Preface

The Hidden Power of Our Social Worlds

Esther Quintero

ALBERT SHANKER INSTITUTE

"Whatever level of teacher human capital schools acquire through hiring can subsequently be developed through formal and informal professional interactions. As teachers join together to solve problems and learn from one another, the school's instructional capacity becomes greater than the sum of its parts."

This quote from Harvard professor Susan Moore Johnson (p. 15 of this volume) may make perfect sense to you. Our systems and organizations, however, are largely structured around individualistic values. As such, a primary goal is to optimize and reward performance at the individual level. So, while some of us (perhaps many of us) might agree that a team's capacity can exceed the sum of individual members' capacity, we generally have a difficult time translating that knowledge into action – e.g., rewarding individual behaviors that enhance team dynamics. Part of the problem is that there's still a lot to learn about how teamwork and collaboration are properly measured.[1]

No matter how challenging, understanding the social dynamics that underpin our work organizations seems particularly timely given the interdependent nature of the modern workplace. According to a recent *Harvard Business Review* article, "time spent by managers and employees in collaborative activities has ballooned by 50 percent or more" over the past two decades. At many companies, the article notes, "more than three quarters of an employee's day is spent communicating with colleagues."[2]

In sum, the increasing disconnect between what organizations need/do (i.e., collaboration and teamwork) and what they support and reward (i.e., individual performance) underscores the need to develop a better understanding of the social-relational dimension of work. What makes some groups work better than others? How does one build an effective team? Are the best teams made up by combining the "best" individuals? These questions are as important for schools and education practitioners as they are for other work organizations and professionals in other fields.

A study by Roderick I. Swaab and colleagues (2014)[3] sheds light on some of these questions. The researchers examined data from various types of sports and demonstrated that, when a sport requires coordination among team members, having too many superstars on the field can actually hurt overall team performance. If, as indicated earlier, much of today's work is precisely about coordination and working with others effectively, this focus on top talent may do a disservice to the overall organization and its performance.

Over a decade ago, Charles A. O'Reilly and Jeffrey Pfeffer cautioned about the pitfalls of seeking to employ only extraordinary employees, but for different reasons. If every business were to follow this strategy, the scholars argued, we would all be headed to an escalating "war for talent."[4] Furthermore, there's hidden value in ordinary people; in the right environment, most people can thrive and contribute significantly to their organization's performance and growth. A smarter strategy, argued O'Reilly and Pfeffer, would be to focus on improving work organizations so that regular people, people like you or me, can perform at a high level. This research, summarized in their book *Hidden Value*, offers examples of organizations that have achieved extraordinary levels of success "with people who really aren't that much different or smarter than those working in the competition."

While research has strengthened our knowledge of how organizational performance increases and as firms increasingly seek out employees who work effectively with peers, collaborative behaviors aren't necessarily measured or monitored, least of all *rewarded*, in the modern workplace. In fact, a recent study by Rob Cross, Reb Rebele, and Adam Grant suggests that, while collaborators are in high demand, they feel overwhelmed and overloaded and their good deeds often go unnoticed.[5]

Cross, Rebele and Grant conducted research across more than 300

organizations and found that those "seen as the best sources of information and in highest demand as collaborators in their companies—have the lowest engagement and career satisfaction scores." In addition, the distribution of collaborative behavior can be extremely unbalanced: "In most cases, 20 percent to 35 percent of value-added collaborations come from only 3 percent to 5 percent of employees." Also, "roughly 20 percent of organizational 'stars' don't help; they hit their numbers (and earn kudos for it) but they don't amplify the successes of their colleagues."

Paradoxically, as skilled collaborators are drawn into more and more projects and the volume and diversity of work they do with others increases, their contributions become less and less noticed. "When we use network analysis to identify the strongest collaborators in organizations," the researchers explain, "leaders are typically surprised by at least half the names on the list."

The solution? We must learn to identify and reward employees who both perform well individually and also contribute to the success of their peers. As Cross, Rebele and Grant put it: "effective sharing of informational, social, and personal resources should also be a prerequisite for positive reviews, promotions and pay raises." The researchers think that, just as we have human resources officers, in the future we will have "collaboration officers," which would signal the importance of thoughtfully managing teamwork. But we are not there yet.

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What's now happening in schools and with education practitioners is not very far distant from the picture described above. For the past two decades, teachers and their individual effectiveness have been the primary focus of education reform in the United States. Most measures of teacher effectiveness, however, ignore the social and organizational factors that are foundational to teaching quality. There is solid evidence that strong professional environments (e.g., collaborative colleagues, a culture of trust) increase teacher effectiveness (Kraft and Papay, essay 1 in this volume), and that teachers' professional interactions with colleagues (Leana and Pil, essay 2 in this volume) as well as teacher collaboration (Ronfeldt, essay 3 in this volume) produce student test-score gains. While these social aspects of teaching are starting to receive some attention as a vehicle for teacher and student growth, there is still much to learn about how to understand, incentivize, support, and reward the cooperative practices and norms that would sustain reforms based on these tenets.

Outside the United States, in high performing systems, such as British Columbia, Shanghai and Singapore, the system focus is on creating structures and processes that help teachers (collaboratively and continuously) learn about how students learn.[6] We don't have to copy these models exactly, but it would make sense to look closely at these systems which already identify and reward practitioners and leaders who (as described above) perform well individually *but also* contribute to the success of their peers – thus, to the improvement of the entire system.

A mentor teacher in Shanghai, for instance, is held accountable for how well he or she mentors new teachers, the teaching practices of the new teacher and the performance of the new teachers' students. If these indicators do not improve, the mentor will miss out on promotion. (p. 17)

Context, relationships, and collaboration aren't magic but, as the research by the scholars in this volume shows, these factors are at least as important as individual (e.g., teacher quality) and technical (e.g., standards) aspects of education reform. It is for this reason that we need to lift our gaze above a model focused on the qualities of *individuals*, and embrace one that focuses on the value that can be created *among them* – at the school and the system levels.

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[1] Jones, Nathan, E. Bettini & M. Brownell. Competing Strands of Educational Reform Policy: Can Collaborative School Reform and Teacher Evaluation Reform Be Reconciled? (2016) Washington, D.C. Albert Shanker Institute.

[2] Cross, Rob, Reb Rebele, & Adam Grant. "Collaborative Overload." Harvard Business Review 94.1-2 (2016): 74-79

[3] Swaab, Roderick I., et al. "The Too-Much-Talent Effect Team Interdependence Determines When More Talent Is Too Much or Not Enough." Psychological Science 25.8 (2014): 1581-1591.

[4] O'Reilly, Charles A., & Jeffrey Pfeffer. Hidden Value: How Great Companies Achieve Extraordinary Results With Ordinary People. Harvard Business Press, 2000.

[5] Cross, Rob, Reb Rebele, & Adam Grant. "Collaborative Overload." Harvard Business Review 94.1-2 (2016): 74-79.

[6] Ben Jensen, Julie Sonnemann, Katie Roberts-Hull & Amélie Hunter, "Beyond PD: Teacher Professional Learning in High-Performing Systems" (Washington, DC: National Center on Education and the Economy, 2016).

Introduction

Esther Quintero

ALBERT SHANKER INSTITUTE

About a year and a half ago, the Albert Shanker Institute began a blog series on what we have termed the "social side" of education reform. The series seek to shine a light on recent and compelling research which suggests that, while education policy has focused primarily on technical and individual level solutions to educational challenges, school improvement has a collective, social dimension that is often overlooked.

Most essays in the series focus on teachers and teaching; the central idea is that educators' work is shaped by their larger social-organizational circumstances – e.g., their school system, supervisors, colleagues, students, and the broader community surrounding the school. Thus, identifying those individual teachers who are especially effective or ineffective may be less important than designing schools and school systems that set the stage for teachers to continuously and collaboratively learn and improve, enabling them collectively to meet the needs of all students.

The idea that school improvement has a social-relational dimension grows out of a rich and deep body of research, spanning disciplines such as social psychology, organizations, sociology, and economics. Findings from various fields, however, can seem somewhat isolated from one another. Our goal is to bring this body of work together under one umbrella to (a) better understand the social-relational dimension of school improvement and (b) turn this knowledge into actionable policies and strategies. This collection begins do this by pulling together six[1] essays that help capture some important themes and newest research evidence around these ideas.[2]

1. *Developing Workplaces Where Teachers Stay, Improve, and Succeed* by Matthew A. Kraft and John P. Papay (Brown University) presents recent evidence showing that teachers improve at faster rates when their school environment is set to support them (e.g., collaborative colleagues, helpful administrators).

2. *A New Focus On Social Capital in School Reform Efforts* by Carrie R. Leana and Frits K. Pil (University of Pittsburgh) examines the relative contribution of teachers' individual human capital and team social capital (i.e., the extent to which teachers work with and trust one another) to student achievement.

3. *Improving Teaching Through Collaboration* by Matthew Ronfeldt provides an overview of the latest evidence, including two new studies by Ronfeldt and colleagues, on how collaborative structures increase teacher learning and effectiveness, as well as student achievement.

4. *Broadening the Educational Capability Conversation*, by Northwestern professor James Spillane, looks at how and when teachers form ties with colleagues within and across schools and explains how knowledge of these mechanisms could be used to create social capital at both the organization and school system levels.

5. *All the World's a Stage: How Churn Undermines Change,* by Kara S. Finnigan (University of Rochester) and Alan J. Daly (UC San Diego), examines the importance of leadership networks when implementing complex change and the consequences of high leadership turnover in urban school systems.

6. Finally, Susan Moore Johnson (Harvard University) reflects on the importance of attending to the intended and unintended consequences of policy reforms. In *Will VAMs Reinforce the Walls of the Egg-Crate School*, Johnson focuses on the growing use of value-added methods for high-stakes decisions, arguing that they might perpetuate teacher isolation rather than coordination among staff, collective instructional capacity, and a sense of shared responsibility for all students.

Collectively, these short essays describe compelling evidence that the school environment influences teacher effectiveness (Kraft and Papay), that teachers' social capital is a vehicle to increase schools' instructional capacity (Leana and Pil), and that teaching can be improved through effective professional collaboration (Ronfeldt).

We must look at the mechanisms and specific conditions that encourage the development of professional relations within and across schools (Spillane). Stable, trusting relationships are key to implementing complex change (Finnigan and Daly); and it is important

to anticipate when policies may be eroding such relationships by examining their unintended consequences on the social fabric of schools (Johnson).

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1. Essays do not appear in the order in which they were originally published. The full collection can be accessed at www.shankerinstitute.org/socialsideseries

2. A forthcoming edited volume – Quintero, Esther. Teaching in Context. Harvard Education Press. 8 Story Street First Floor, Cambridge, MA 02138 – will pull this research together in a more systematic way.

Developing Workplaces Where Teachers Stay, Improve, And Succeed

Matthew A. Kraft and John P. Papay

BROWN UNIVERSITY

An emerging body of research now shows that the contexts in which teachers work profoundly shape teachers' job decisions and their effectiveness.

When you study education policy, the inevitable question about what you do for a living always gets the conversation going. Controversies over teacher unions, charter schools, and standardized testing provide plenty of fodder for lively debates. People often are eager to share their own experiences about individual teachers who profoundly shaped their lives or were less than inspiring.

A large body of research confirms this common experience – teachers have large effects on students' learning, and some teachers are far more effective than others. What is largely absent in these conversations, and in the scholarly literature, is a recognition of how these teachers are also supported or constrained by the organizational contexts in which they teach.

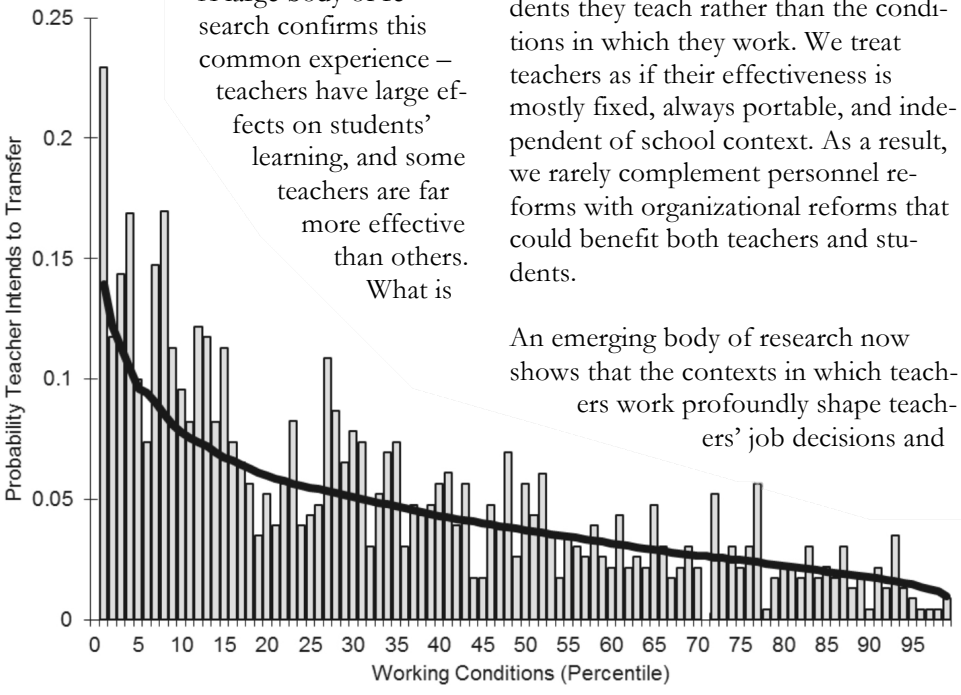

Figure 1: Probability that Massachusetts teachers intend to transfer away from their school by percentile of working conditions with predicted relationship overlaid.

The absence of an organizational perspective on teacher effectiveness leads to narrow dinner conversations and misinformed policy. We tend to ascribe teachers' career decisions to the students they teach rather than the conditions in which they work. We treat teachers as if their effectiveness is mostly fixed, always portable, and independent of school context. As a result, we rarely complement personnel reforms with organizational reforms that could benefit both teachers and students.

An emerging body of research now shows that the contexts in which teachers work profoundly shape teachers' job decisions and their effectiveness. Put simply, teachers who work in supportive contexts stay in the classroom longer, and improve at faster rates, than their peers in less-supportive environments. And, what appear to matter most about the school context are not the traditional working conditions we often think of, such as modern facilities and well-equipped classrooms. Instead, aspects that are difficult to observe and measure seem to be most influential, including the quality of relationships and collaboration among staff, the responsiveness of school administrators, and the academic and behavioral expectations for students.

School Context and Teacher Turnover

Schools are complex organizations. Classic studies by Dan Lortie and Susan Moore Johnson, based on intensive observations and interviews, bring to life the "constellation" of organizational features that shape teachers' and students' daily experiences. In recent years, large scale teacher surveys have provided researchers with new data to quantify these organizational features. These data have revealed that the high rates of teacher turnover we observe in schools that serve large populations of

low-income and minority students are largely explained by the poor working conditions in these schools – not the students they serve.

Figure 1 demonstrates how, in Massachusetts, teachers are over three times more likely to report intentions to transfer away from a school with poor working conditions (bottom percentiles) than one with strong working conditions (top percentiles). The finding that teachers' views of their working conditions are strong predictors of whether or not they stay in a school[1] has been replicated in a wide range districts and states, including Massachusetts, as we show in the figure below, as well as California, North Carolina, New York City, and Chicago.[2]

School Context and Teacher Development

In supportive schools, teachers not only tend to stay, but they also improve at much greater rates over time. In a recent study we tracked teachers in Charlotte-Mecklenburg Schools for up to ten years and examined how their individual effectiveness (as measured by contributions to student achievement) changed over time.[3] As shown below (Figure 2), we found that teachers working in schools with strong professional environments improved, over 10 years, 38 percent more than teachers in schools with weak professional environments.

Teachers working in schools with strong professional environments improved, over 10 years, 38 percent more than teachers in schools with weak professional environments.

Here, we used six measures drawn from teacher surveys to characterize the environment: consistent order and discipline; opportunities for peer collaboration; supportive principal leadership; effective professional development; a school culture characterized by trust; and a fair teacher evaluation process providing meaningful

feedback. Researchers from the University of Michigan and Vanderbilt have since used a similar research design to show that teachers in Miami-Dade County Public Schools improved at substantially faster rates.[4]

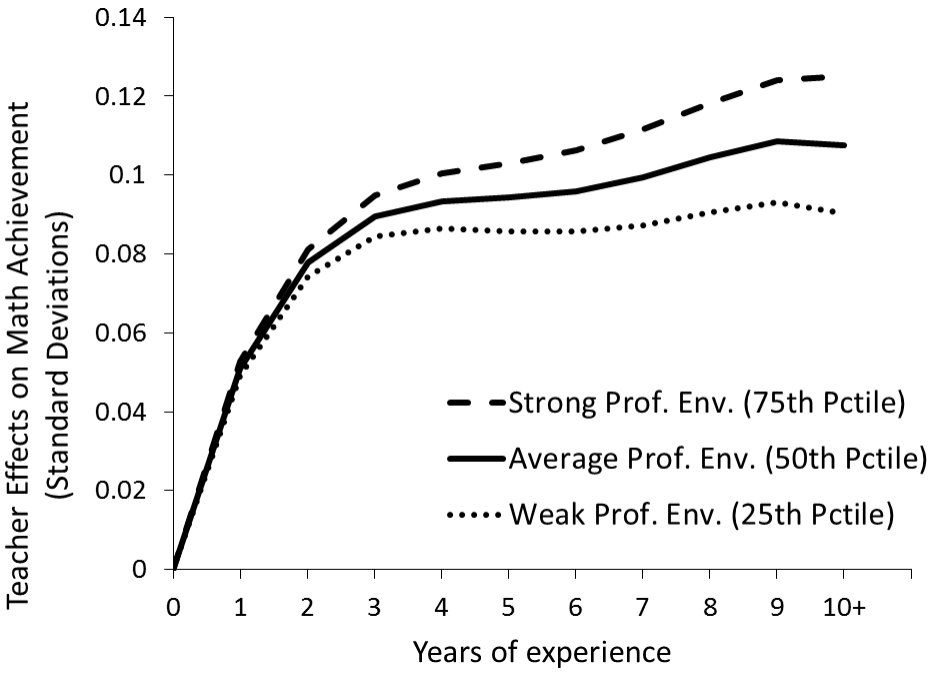

Figure 2: Predicted returns to teaching experience across schools with strong, average, and weak professional environments.

How should policymakers and practitioners act on these findings?

These findings, and a growing body of evidence, make clear that the school context matters a great deal for teachers and, as a result, for their students. Furthermore, school contexts are not set in stone – new evidence documents that working conditions in schools can improve over time, and that teachers are responsive to these changes.[5]

However, simply saying that contexts matter and can change does not give policymakers and practitioners clear guidance about how to strengthen organizational practices in schools. Although the collective and interpersonal nature of school contexts makes quick policy fixes unlikely to succeed, research suggests several concrete ways in which educators and policymakers can take on this challenge.

A recent study within Susan Moore Johnson's Project on the Next Generation of Teachers at Harvard University (of which we were a part) provides some potentially promising levers. The study involved in-depth case studies of teachers' experiences in six high-poverty, high-minority, urban public schools. Across the schools, teachers spoke about how specific supports facilitated their ability to succeed with their students.[6]

Teachers described the value of establishing an orderly, disciplined learning environment, student support services to attend to social and emotional needs, and efforts to engage parents. Furthermore, research suggests that peer collaboration, feedback (from both peers and administrators), and instructional support can all be effective tools for building strong work environments and promoting teacher development.

Importantly, school principals play a key role in establishing productive professional environments in schools. They are the ones who establish these organizational supports and build school-wide cultures. Hiring principals who have the ability to identify organizational weaknesses, establish school-wide systems to support teachers and students, and galvanize the collective buy-in and involvement of all teachers is a central lever for improving the teaching and learning environment.

Analyses of large-scale teacher surveys confirm what educators and qualitative researchers have long known, school contexts matter. We hope this new evidence will push public debate and policy about education reform to recognize and be responsive to this reality of working in schools. It's time to change the conversation.

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1. Johnson SM, Kraft MA, Papay JP. How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. Teachers College Record. 2012;114(10):1-39.
2. Simon N, and Johnson SM. Teacher turnover in high-poverty schools: What we know and can do. *Teachers College Record* (2013).
3. Kraft MA, Papay JP. Can Professional Environments in Schools Promote Teacher Development? Explaining Heterogeneity in Returns to Teaching Experience. Educational Effectiveness & Policy Analysis. 2014;36(4):476-500.
4. Ronfeldt, M., et al. "Teacher Collaboration in Instructional Teams and Student Achievement." *American Educational Research Journal* 52.3 (2015): 475-514.
5. Kraft MA, Marinell WM, Yee D. School organizational contexts, teacher turnover, and student achievement: Evidence from panel data. Working Paper.
6. Kraft MA, Papay JP, Charner-Laird M, Johnson SM, Ng M, Reinhorn S. Educating Amidst Uncertainty: The Organizational Supports Teachers Need to Serve Students in High-poverty, Urban Schools. Educational Administration Quarterly. 2015.

A New Focus On Social Capital In School Reform Efforts

Carrie R. Leana and Frits K. Pil

UNIVERSITY OF PITTSBURGH

The current focus on teacher human capital will not yield the qualified teaching staff so desperately needed in urban districts.

Most current models of school reform focus on teacher accountability for student performance measured via standardized tests, "improved" curricula, and what economists label "human capital" – e.g., factors such as teacher experience, subject knowledge and pedagogical skills. But our research over many years in several large school districts suggests that if students are to show real and sustained learning, schools must also foster what sociologists label "social capital" – the value embedded in relations among teachers, and between teachers and school administrators. Social capital is the glue that holds a school together. It complements teacher skill, it enhances teachers' individual classroom efforts, and it enables collective commitment to bring about school-wide change.

We are professors at a leading Business School who have conducted research in a broad array of settings, ranging from steel mills and auto plants to insurance offices, banks, and even nursing homes. We examine how formal and informal work practices enhance organizational learning and performance. What we have found over and over again is that, regardless of context, organizational success rarely stems from the latest technology or a few exemplary individuals.

Rather, it is derived from: systematic practices aimed at enhancing trust among employees; information sharing and openness about both problems and opportunities for improvement; and a collective sense of purpose. Over a decade ago, we were asked by a colleague in the School of Education about how our research might be applied to improving public schools. Since then, we've spent a good deal of time trying to answer that question through several large-scale research studies.

One thing we noticed immediately in our work with schools was the intense focus on the individual educator. This is prevalent not just among school reformers but in the larger culture as well, as evidenced in popular movies ranging from "To Sir with Love" in the 1960s to "Waiting for Superman" nearly fifty years later. And every self-respecting school district has a version of the "Teacher of the Year" award, which has now risen to state and even national levels of competition. In recent years, however, we have also witnessed a darker side to accountability, as districts around the country publicly shame teachers who do not fare well on the accountability scorecards.

Accountability models find their roots in the discipline of economics rather than education, and are exemplified in the value-added metrics used to evaluate teacher performance. These metrics assess annual increments in each student's learning derived from standardized tests in subject areas like math and reading. These are then aggregated to arrive at a score for each teacher – her "value added" to students' learning. Anyone with access to the internet can find teacher rankings based on these scores in many districts across the country.

Needless to say, many teachers, and the unions that represent them, argue that value-added measures of student performance fail to capture the complex factors that go into teaching and learning. At the same time, reliance on such metrics may undermine the collaboration, trust, and information exchange that make up social capital and, in this regard, do far more harm than good.

What is Social Capital?

Human capital encompasses a teacher's cumulative abilities, knowledge, and skills developed through formal education and on-the-job experience. For many years, teacher human capital was assumed to be assured through a combination of formal education, certification, and on-going professional development. Building human capital was an individual endeavor undertaken by each teacher. Social capital, in comparison, is not a characteristic of the individual teacher but instead resides in the relationships among teachers, between teachers and principals, and even between teachers, parents and other key actors in the community. In response to the

question, "Why are some teachers better than others?" a human capital perspective would answer that some teachers are just better trained, more experienced, or more innately gifted.

A social capital perspective, conversely, would answer the same question by looking not just at what a teacher knows, but where she gets, vets and builds that knowledge. If she has a problem with a particular student, where does she go for information, advice, and sometimes just support? Who does she use to sound out her own ideas or assumptions about teaching? Who does she trust to confide gaps in her own understanding of the subject knowledge she is supposed to be imparting to students? Our research shows that when a teacher needs information or advice about how to do her job more effectively, she goes to other teachers.

Research Findings

In one of our research studies we followed over one thousand 4th and 5th grade teachers who were all using the same curriculum in a representative sample of 130 urban elementary schools.[1] We examined one-year changes in their students' achievement scores in mathematics. That is, we looked at how much each student's actual knowledge of mathematics advanced in the year they spent with a particular teacher. We also took into account factors like the economic need, attendance, and special education status of each child, since these affect not just the level of student learning, but also the rate of growth. We examined several facets of teacher human capital, including experience in the classroom and educational attainment, as predictors of student achievement gains. We also had all teachers respond to a series of real-life classroom scenarios that measured each teacher's ability to instruct children in the logic of mathematics.[2] Thus, our human capital indicators included teacher education, experience, and ability in the classroom. In addition to these more objective indicators, we asked teachers to report subjectively how prepared they felt to teach particular aspects of math that are part of an elementary school curriculum, such as fractions, proportions, and measurement.

We found that many elementary school teachers reported that they did not like to teach math and did not feel particularly confident teaching it, even though they were all required to do so on a daily basis. So we asked teachers to whom they spoke when they had questions or needed advice on teaching math. Do they go to other teachers, to the school principal, or to the coaches hired by the district specifically to help them to be better math teachers? And how much did they trust the source of the advice they received? What we found is that in most instances teachers sought advice from one another. They were about twice as likely to turn to their peers as to the "experts" designated by the school district, and four times more likely to seek information from one another than from their principals.

Our research shows that when a teacher needs information or advice about how to do her job more effectively, she goes to other teachers.

Most strikingly, students showed higher gains in math achievement when their teachers reported frequent conversations with their peers that centered on math, and when there was a feeling of trust and closeness between the teachers. Teacher social capital was a significant predictor of student achievement gains above and beyond teacher experience or ability in the classroom. And the effects of teacher social capital on student performance were powerful. If a teacher's social capital was just one standard deviation higher than the average, her students' math scores increased by almost 6 percent compared to students of teachers with average social capital. And social capital was a more powerful predictor of student achievement gains than any of the measures of teacher knowledge, ability, or experience. But what happens when you combine human and social capital? What if teachers are skilled at their jobs, and also talk to one another frankly and on a regular basis about what they do in class? Here we would expect even larger gains in student achievement, and our results confirmed this expectation.

We found that the students of high-ability teachers out-performed those of low-ability teachers, as proponents of human capital approaches to school improvement would predict. More significant, however, were the interactions between human and social capital. Students whose teachers were both more able (high human capital) and had stronger ties with their peers (strong social capital) showed the highest gains in math achievement. Equally significant, we found that even low-ability teachers can perform as well as teachers of average ability *if* they have strong social capital.

Applying Research to Practice

What do these findings tell us about effective education policy? Foremost, they suggest that the current focus on teacher human capital – and the paper credentials and accountability metrics often associated with it – will not yield the qualified teaching staff so desperately needed in urban districts. Instead, policy makers must also invest in efforts that enhance collaboration and information sharing among teachers. In many schools, such social capital is assumed to be an unaffordable luxury or, worse, a sign of teacher weakness or inefficiency. Yet

our research suggests that when teachers talk to and substantively engage their peers regarding the complex task of instructing students -- what works and what doesn't -- student achievement rises significantly. Building social capital in schools is not easy or costless. It requires time and, typically, the infusion of additional teaching staff into the school. It requires a reorientation away from a "Teacher of the Year" model and toward a system that rewards mentoring and collaboration among teachers. It also asks school principals and district administrators to spend less time monitoring teachers and more time encouraging a climate of trust and information sharing among them.

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1. Pil, Frits K., and Carrie Leana. "Applying organizational research to public school reform: The effects of teacher human and social capital on student performance." *Academy of Management Journal* 52.6 (2009): 1101-1124.
2. Hill, Heather C., Stephen G. Schilling, and Deborah Loewenberg Ball. "Developing measures of teachers' mathematics knowledge for teaching." *The Elementary School Journal* 105.1 (2004): 11-30.

Improving Teaching Through Collaboration

Matthew Ronfeldt

UNIVERSITY OF MICHIGAN

Learning to teach is an ongoing process. To be successful, then, schools must promote not only student learning but also teacher learning across their careers.[1] Embracing this notion, policymakers have called for the creation of school-based professional learning communities, including organizational structures that promote regular opportunities for teachers to collaborate with teams of colleagues.[2] As the use of instructional teams becomes increasingly common,[3] it is important to examine whether and how collaboration actually improves teaching and learning. The growing evidence, summarized below, suggests that it does.

For many decades, educational scholars have conducted qualitative case studies documenting the nature of collaboration among particular groups of teachers working together in departmental teams, reading groups, and other types of instructional teams. This body of work has demonstrated that the kinds and content of collaboration vary substantially across contexts, has shed light on the norms and structures that promote more promising collaboration, and has set the stage for today's policy focus on "professional learning communities." However, these studies rarely connected collaboration to teachers' classroom performance. Thus, they provided little information on whether teachers actually got better at teaching as a result of their participation in collaboration.

More recently, a number of large-scale studies have looked across many schools to investigate whether teacher collaboration specifically improves teaching and learning.[4] Goddard et al. (2007) found that elementary schools in which teachers reported more extensive collaboration on surveys also had better student achievement, even after controlling for a set of student and school characteristics.[5] In a follow-up study, Goddard and colleagues similarly found a direct relationship between collaboration and achievement and an indirect relationship, mediated by teacher collaboration, between principal leadership and achievement.[6]

Though these correlational studies provide initial, suggestive evidence that teacher collaboration causes student achievement to improve, other explanations are also possible. First, unobserved factors could explain observed relationships; for example, schools that are better at retaining teachers may be likely to have both better achievement and better collaboration. Second, more collaborative teachers might non-randomly sort into higher achieving schools. Finally, it is possible that stronger achievement causes teachers to collaborate rather than the other way around. To rule out these alternative explanations, experimental and quasi-experimental research is needed.

A pair of recent, quasi-experimental studies provide credibly causal evidence that supporting instructional teams to engage in inquiry around student data increases student achievement.[7] The researchers designed a school-level intervention that trained instructional leaders to promote frequent teacher collaboration based upon an inquiry-focused protocol. Treatment schools showed substantially greater achievement gains than control schools. These studies begin to build the case that collaboration causes instructional effectiveness to improve, but it is difficult to ascertain whether collaboration specifically, other aspects of the intensive intervention (e.g., trained instructional leaders, structured protocols), or both caused the observed improvement. Even if collaboration were responsible, finding such carefully orchestrated collaboration to spur improvement does not necessarily mean that more typical forms of collaboration are equally beneficial.

My colleagues and I investigated the various, naturally occurring forms of collaboration that exist among teachers in instructional teams across Miami-Dade County Public Schools, one of the largest, urban districts in the U.S.[8] Our goal was to better understand the

Learning to teach is an ongoing process. To be successful, then, schools must promote not only student learning but also teacher learning across their careers

landscape of the more typical forms of collaboration that exists across a district and its relationship to student achievement and teachers' effectiveness at raising achievement, as signaled by value-added measures. We collected over 9,000 surveys across two years, including 18 questions about the extensiveness and helpfulness of teachers' collaboration in different instructional domains (e.g., discussing specific student needs, state test results). Using these items, we constructed a general measure for the quality of collaboration across all instructional domains, as well as a set of domain-specific measures for collaboration – about students, instruction and assessment – to investigate whether collaboration about specific instructional topics might be especially beneficial. We then linked collaboration measures to value-added measures of school and teacher effectiveness at raising math and reading achievement.

Consistent with prior research, we found that schools in which teachers reported better quality collaboration – regardless of the content of the collaboration – had better average achievement gains in math and reading. Assuming that collaboration quality is actually causing schools to be more effective at raising achievement, how did it do so? The most likely explanation is through improving the quality of instruction among the teachers participating in this collaboration. Were this the case, then we would expect: (1) teachers who report engaging in better quality collaboration to be more effective than peers who report engaging in worse quality collaborations, and (2) teachers to improve at faster rates when working in schools with stronger collaboration. We found evidence on both fronts. Students of teachers who reported experiencing better quality collaboration across a wide range of instructional topics (domain-general), as well as specifically about assessment, had better achievement gains in math than students of teachers who reported engaging in worse quality collaboration in these areas; students of teachers who reported better quality collaboration about instruction experienced achievement gains in reading. Additionally, teachers' effectiveness at raising math achievement increased significantly more each year when employed in schools with better quality collaboration about multiple instructional domains (domain-general) and about assessment than when employed in schools with worse collaboration in these areas.[9]

Consistent with prior research, we found that schools in which teachers reported better quality collaboration had better average achievement gains in math and reading

These findings suggest that collaborative schools can function as organizations for teacher learning. If so, we would expect the same kinds of schools to make ideal settings for training prospective teachers during initial preparation, when they are just beginning to learn to teach. In a separate study, I tested whether teachers who learned to teach in field placement schools with better collaboration quality were more effective after graduating and becoming a full-time teacher of record.[10] The results suggested that they were. Teachers who completed their clinical training in schools with one standard deviation better collaboration quality had 9 percent of a standard deviation better math achievement gains. In other words, compared to their newly hired peers who had completed their pre-service preparation in less collaborative settings, on the first day of class these teachers performed as though they already had about half a year more of full-time teaching experience under their belts. I found no significant differences, though, in terms of reading achievement gains.

If the evidence summarized above isn't enough to sway skeptics about the benefits of teacher collaboration, then a new randomized control trial in Tennessee should.[11] The intervention consisted of pairing teachers who scored highly on particular dimensions of the state's observational evaluation rubric with colleagues from the same school who scored lower on those same dimensions. After these teacher pairs were encouraged to work together on instruction for a year, the authors found that the schools assigned to the treatment had meaningfully greater achievement gains than other schools. On average, teachers who participated in the intervention had better performance. These findings offer some of the strongest causal evidence to date that encouraging teachers to work together on instruction directly improves the teaching quality of all involved.

It has become increasingly common for practitioners and policymakers to build opportunities for teachers to collaborate in instructional teams, including the creation of professional learning communities, as a way to promote instructional improvement, combat isolation, and increase retention among teachers. Existing research evidence, which I summarized here, overwhelmingly supports these efforts. Collaboration appears to be good for teachers as well as for the students that they teach.

1. Feiman-Nemser, S. (1983). Learning to teach. In L. S. Shulman & G. Sykes (Eds.), Handbook of Teaching and Policy (pp. 150-170). New York: Longman.

2. Carroll, T. G. (2007). Teaching for the future. In B. Wehling & C. Schneider (Eds.), Building a 21st century U.S. education system, (pp. 46-58). Washington, D.C.: National Commission on Teaching and America's Future. Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). Using student achievement data to support instructional decision making (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, USDOE. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides. National Staff Development Council. (2001). Standards for Professional Learning. Retrieved from http://learningforward.org/standards/learning-communities#.UogfCGTk_R0

3. MetLife Foundation (2009). The MetLife survey of the American teacher: Collaborating for student success. Retrieved from http://files.eric.ed.gov/fulltext/ED509650.pdf

4. Vescio, V., Ross, D., and Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. Teaching and Teacher Education, 24(1), 80-91.

5. Goddard, Y. L., Goddard, R. D., & Tschannen-Moran, M. (2007). A theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. Teacher College Record, 109(4), 877-896.

6. Goddard, Y., Miller, R., Larsen, R., Goddard, G., Jacob, R., Madsen, J., & Schroeder, P. (2010). Connecting Principal Leadership, Teacher Collaboration, and Student Achievement. Paper presented at the American Educational Research Association Annual Meeting, Denver, CO.

7. Gallimore, R., Ermeling, B. A., Saunders, W. M. & Goldenberg, C. (2009). Moving the learning of teaching closer to practice: Teacher education implications of school-based inquiry teams. Elementary School Journal, 109(5), 537-553. Saunders, W., Goldenberg, C., & Gallimore, R. (2009) Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title 1 schools. American Educational Research Journal, 46(4), 1006-1033.

8. Ronfeldt, M., Farmer, S., McQueen, K. & Grissom, J.A. (2015). Teacher collaboration in instructional teams and student achievement. American Educational Research Journal, 52(3), 475-514.

9. We used a teacher fixed effects approach to compare the rate of improvement of a given teacher working in a school with better collaboration to the rate of improvement of the same teacher in a school with worse collaboration.

10. Ronfeldt, M. (2015). Field placement schools and instructional effectiveness. Journal of Teacher Education, 66(4), 304-320.

11. Papay, J., Taylor, E. S., Tyler, J., & Laski, M. (2015). Learning job skills from colleagues at work: Evidence from a field experiment using teacher performance data. Retrieved from: http://www.nber.org/papers/w21986.

Broadening The Educational Capability Conversation: Leveraging The Social Dimension

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To reap the benefits of social capital, we need a better understanding of how to invest in it. A first step is to design organizations and systems that facilitate social interactions among school and school-system staff.

We are well into a new century – 15 years and counting! Yet, we continue to fixate on last century notions about human capability. Specifically, we still dwell mostly on the individual teacher or school leader, on investing in and developing their individual human capital so as to improve their productivity and in turn generating higher returns to the individual, school organization, school system, and society. The empirical evidence has established educational professionals' human capital is undoubtedly important for school and school-system productivity. At the same time, however, by fixating primarily on human capital, we miss or undermine the significance and potential of social capital.

Social capital captures the idea that capability (and by extension productivity) is not simply an individual matter but also a *social* matter. In other words, in addition to individual capability, there are (often untapped) resources that reside in the relations among people within organizations, systems, or society – a social capability. These social relations can be a source of and a channel for crucial resources such as trust, information, expertise, materials, security, obligation, incentives, and so on.[1,2,3,4,5] In a given system or organization, social capital is much more than the aggregate of members' human capital.

A number of studies over the last couple of decades have theorized and documented the returns from investments in social capital to both individuals and organizations, including schools and school systems. Yet, the factors associated with the development of social capital remain largely unexplored: We know that social capital matters for important outcomes (e.g., teacher effectiveness, student achievement, school improvement), but we have much to learn about how to generate or strengthen it when it isn't present or is weak. It is important that we figure this out because, as the late Pierre Bourdieu noted, social relations -- a necessary condition for social capital development -- are neither "a natural given" nor "a social given."[6] Social relations don't *just* happen; instead, they are a function of individual and collective action. Thus, to reap the benefits of social capital, we need a better understanding of how to invest in it.

A first step is to design organizations and systems that facilitate social interactions among school and school-system staff. And, to do this, it is essential that we understand the factors associated with the presence (or absence) of social ties.
Recent research suggests that we can intervene to shape social relations in organizations and systems. Cynthia Coburn and Jennifer Russell, for example, show how school district policy shapes relations among school staff.[7] In his recent book, *Unanticipated Gains: The Origins Of Network Inequality In Everyday Life*, Mario Small shows how organizational arrangements influence relations among people.

In a series of recent studies, my colleagues and I not only describe social relations, but we also identify the factors associated with the formation and existence of social ties in schools and school systems. We report on this work in several manuscripts[8,9,10,11] but we summarize below key findings that

should be relevant for those interested leveraging the power of social relations in school improvement efforts.

Social Capital Within Schools

Within schools, leaders' and teachers' individual characteristics such as race and gender are positively associated with the existence of a relationship related to instruction. This is not surprising, as socio-logists have long documented the principle of 'homophily' - in everyday life, the familiar notion that "birds of a feather flock together." That is, we generally prefer to hang out with people who are like us.

Second, and importantly, while our work suggests that personal characteristics of individuals influence their advice and information seeking behavior, these characteristics are not nearly as important as organizational factors that school and system leaders can intervene on. Specifically:

1. Having an instruction-related relationship in a prior year is predictive of a current year relationship, which suggests that social ties persist over time;
2. Teachers who teach the same grade are more likely to develop a relationship about instruction. There are several possible explanations. First, teachers in the same grade tend to be located physically close to one another, potentially facilitating contact. Second, they teach the same material, which might incentivize relations among them. Third, they are more likely to participate in the same organizational routines, thus increasing opportunities for interaction;
3. School staff who occupy formal leadership positions are more likely to provide instructional advice and information than staff who don't.
4. The more professional development a school staff member receives, the more likely he/she is to provide and receive instructional advice and information. This suggests that the returns from professional development are not simply direct (i.e., improving the skill of those who attend), but that they may also contribute indirectly to other staff members on the job learning.

Social Capital Between Schools

Our work suggests that the role of the formal organization also supersedes individual characteristics in forging ties at the system level. Specifically:

- More than anything else, occupying a leadership position predicted instructional advice and information interactions between schools. Further, *subject-specific* leaders were more likely to be sought out *and* to provide instructional advice to staff in other schools than any other type of leader.
- School subject matters when it comes to instruction-related interactions among school staff: Interactions among school staff about reading language arts are more plentiful than about mathematics or science instruction both *within and between* schools. This suggests that efforts to develop social capital should take the subject into consideration.

Taken together, this body of work indicates that schools and school system leaders who are keen on developing social capital should weigh carefully decisions about leadership and teaching assignments, as well as those regarding professional development. Decisions about teaching assignments are often based on teachers' experience or ability working with a particular age group. But, if our analyses are correct, administrators should *also* consider how to distribute teachers across grades in a way that ensures that "exemplary" teachers are dispersed to maximize their potential influence on colleagues.

Furthermore, by selectively re-assigning teachers to different grades from one year to the next, leaders may be able to forge new instructional ties (without eroding existing relations, which, we found, persist overtime) that cut across grades among their staff. Finally, being strategic and intentional about assignments to leadership positions and investments in professional development can shape instructional interactions among school staff.

Administrators should *also* consider how to distribute teachers across grades in a way that ensures that "exemplary" teachers are dispersed to maximize their potential influence on colleagues.

Overall, though, the take home message is simple: As system and organizational leaders we can influence who talks to whom about instruction, which we know is crucial to school improvement efforts. So, let's strategically rise to the task.

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1. Bryk, Anthony, and Barbara Schneider. Trust in schools: A core resource for improvement. Russell Sage Foundation, 2002.
2. Coburn, Cynthia E. "Collective sensemaking about reading: How teachers mediate reading policy in their professional communities." Educational evaluation and policy analysis 23.2 (2001): 145-170.
3. Daly, Alan J., et al. "Relationships in reform: The role of teachers'

social networks." Journal of educational administration 48.3 (2010): 359-391.

4. Frank, Kenneth A., et al. "Focus, fiddle, and friends experiences that transform knowledge for the implementation of innovations." Sociology of Education 84.2 (2011): 137-156.
5. Louis, Karen Seashore, Helen M. Marks, and Sharon Kruse. "Teachers' professional community in restructuring schools." American educational research journal 33.4 (1996): 757-798.
6. Bourdieu, Pierre. "The forms of capital. (1986)." Cultural theory: An anthology (2011): 81-93.
7. Coburn, Cynthia E., and Jennifer Lin Russell. "District policy and teachers' social networks." Educational Evaluation and Policy Analysis 30.3 (2008): 203-235.
8. Spillane, James P., Chong Min Kim, and Kenneth A. Frank. "Instructional advice and information providing and receiving behavior in elementary schools exploring tie formation as a building block in social capital development." American Educational Research Journal (2012).
9. Spillane, James P., Megan Hopkins, and Tracy Sweet. "Intra-and Inter-School Interactions about Instruction: Exploring the Conditions for Social Capital Development." Accessed online on October 9 (2014): 2014.
10. Hopkins, Megan, et al. "Infrastructure Redesign and Instructional Reform in Mathematics." The elementary school journal 114.2 (2013): 200-224.
11. Hopkins, Megan, et al. "Infrastructure Redesign and Instructional Reform in Mathematics." The elementary school journal 114.2 (2013): 200-224.

All The World's A Stage: How Churn Undermines Change

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All too often in districts under intense accountability pressures, exits and entrances happen frequently and repeatedly. One might conceptualize the work of district reform as a play in which actors are beginning to learn their lines and block places on the stage but, just as the play is underway, some key actors leave and others join, causing disruption to the performance. Now, if all of those who leave or join have smaller roles, the disruption may be less extreme, but if most are lead actors or the director or even the head of costume design, you'd likely have to push back opening night.

Now in the theater there are often "understudies," but in education, given the specialization in roles and reduced resources, rarely are individuals ready to step in should the lead actor or actors leave. Obviously this simple scenario doesn't quite capture the complexity of churn we see in districts, but it shows how educators, like actors, must rely on each other to achieve results. Merely writing better lines or having a new theater does not account for the critical role of practitioners and their interdependencies and yet, these relations receive scant attention in education reform.[1]

We know that complex change requires trusting partnerships, strong leadership, and collaborative relationships, and yet we see policies and practices that often run counter to what empirical study suggests. Policies have been implemented all too often without a strong understanding of the internal and relational struggles facing urban systems, particularly those experiencing high levels of churn.

"Churn" is often associated with individuals leaving an organization, but that is only half of the story, because systems churn when new individuals enter as well. Social interactions, institutional memory, and the flow of knowledge and information can be significantly disrupted when a high percentage of actors leave and enter the system. Put a different way, there are significant "costs" to a school district associated with the exit and entry of educators through a loss of training and development costs, often referred to as "human capital". There is also, however, an added cost in terms of knowledge, social support, and organizational memory, which we argue is just as detrimental and, perhaps, harder to repair, since the nature of those interactions is informal and, therefore, not codified. As such, constant churn can impose significant fiscal, human and social capital costs on a school district.

But how do we gauge this other type of cost? To make the social cost explicit, we use social network data and examine the underlying relationships of schools and central office leaders. While many people focus on the churn of teachers in urban systems, in this case we focus on the churn of leaders in the district – both at the school and central office level – because leaders are critical to large-scale, complex change. Here we share part of our analysis[3] and our social network maps to show the gravity of the situation in low-performing districts. Figure 1 shows all of the school leaders in the district in the outer clusters and central office leaders in the district are shown in the center group. The yellow nodes represent those who joined or left during a 3-year period while this district was under accountability policy sanctions. This map shows that more than 30 percent of leaders shifted in and out of this district. Imagine the

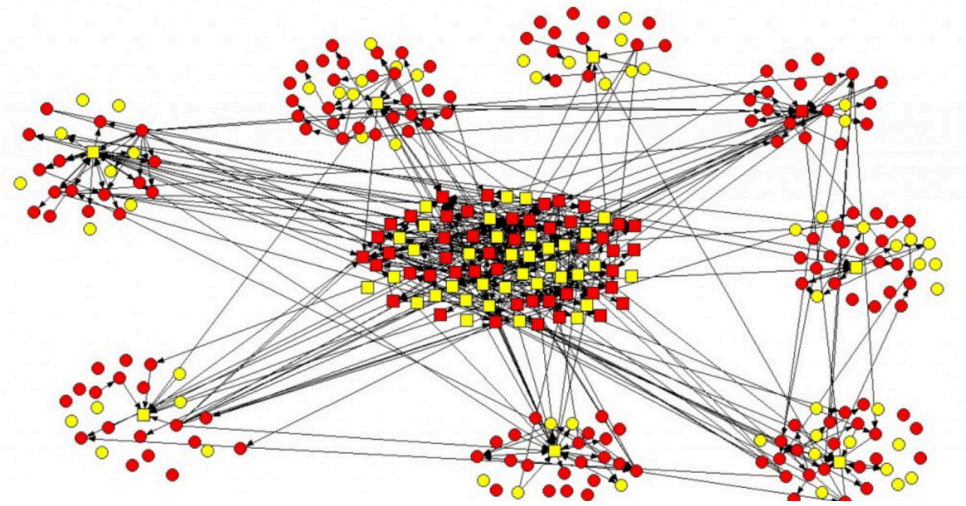

Figure 1: School leaders ties with central office leaders. Yellow nodes represent leaders who joined or left during a 3-year period.

implications of this: A third of the top leaders and principals rotating through a system. The disruption and ability to cohere around a reform would be dramatic.

Beyond this overall churn, it is important to consider who the "connectors," or brokers, are in the system, because these people play an important role in the movement of ideas and practices across the district -- even if they don't have a formal leadership role or title. In Figure 2 we show these same data displayed a little differently – here the bigger nodes are the "brokers" in the system – people who connect otherwise disconnected people - and the blue colored nodes are the ones who left. What this map illustrates is that many key people, the system connectors (shown by the larger nodes in the picture), left the district, causing fragmentation to the underlying relationships that exist. In other words, when brokers leave the disruption is especially great – similar to the departure of the lead actors or the director in the theater scenario above.

Although others have reported the human capital costs of churn, few discuss the social capital costs, which potentially are significant, as demonstrated by the analysis above. Churn creates an instability of relationships that undermines organizational learning and trust.[6] Think about what things would be like if every time you turn around there is someone new with whom to work or from whom you take direction. Our research suggests that some policy instruments are particularly detrimental.

Churn creates an instability of relationships that undermines organizational learning and trust.

First, high-stakes accountability policies have increased levels of stress in these challenging urban systems, and as stakes have increased, the already high amount of movement in and out of the leadership team (including principals and central office administrators) has also increased. Second, "turnaround" policies have directly added to network churn through the replacement of principals in schools under sanction. This creates a type of vicious cycle in which districts work to improve and develop a consistent reform approach across the system, while at the same time operating under policies that create the conditions for leaders to leave, which inhibits improvement and coherence, thus causing more policies that likely increase departure, and so on.

There is, however, some promising news in our work. It appears that strengthening the quality of relationships between leaders, as well as building leadership capacity, can enhance the trust available to do the difficult and often times dangerous (at least in terms of staying employed) work of district improvement. But we rarely see policies that place the quantity and quality of relationships at the forefront of reform. Instead, the continued (though perhaps recently shifting) emphasis of educational policies in the U.S. is on the necessary, but not sufficient technical fixes in our educational system.[1] Capacity building is not an easy policy solution, but it has a much better chance of strengthening (rather than destroying) these urban systems that bear the brunt of our broader educational inequities.

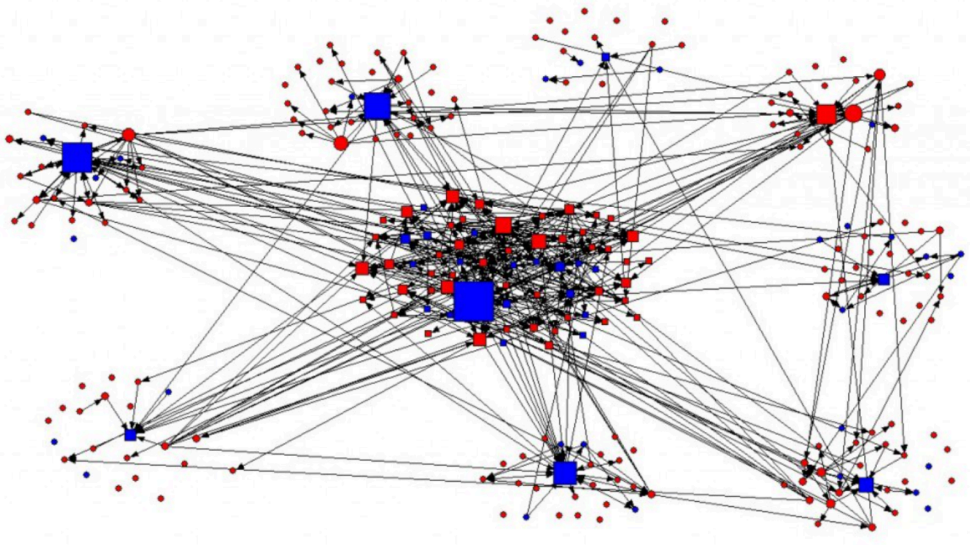

Figure 2: School leaders ties with central office leaders. Blue nodes represent individuals who left and larger nodes the "brokers" in the system.

1. Daly, Alan J. Social Network Theory and Educational Change. Harvard Education Press. 8 Story Street First Floor, Cambridge, MA 02138, 2010.
2. Karnstedt, M., Hennessy, T., Chan, J., Basuchowdhuri, P., Hayes, C., & Strufe, T. (2010). Churn in social networks. In Handbook of Social Network Technologies and Applications. Springer US.
3. Finnigan, K, Daly A.J., and Liou, Y. (In Press). How Leadership Churn Undermines Learning and Improvement in Low-Performing School Districts. In A. J. Daly & K. Finnigan (Eds.) Thinking and Acting Systemically: Improving School Districts Under Pressure (pp.189-214). Washington DC: American Educational Research Association.

Will Value-Added Reinforce The Walls Of The Egg-Crate School?

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Academic scholars are often dismayed when policymakers pass laws that disregard or misinterpret their research findings. The use of value-added methods (VAMS) in education policy is a case in point. About a decade ago, researchers reported that teachers are the most important school-level factor in students' learning, and that that their effectiveness varies widely within schools.[1,2,3,4] Many policymakers interpreted these findings to mean that teacher quality rests with the individual rather than the school and that, because some teachers are more effective than others, schools should concentrate on increasing their number of effective teachers.

Based on these assumptions, proponents of VAMS began to argue that schools could be improved substantially if they would only dismiss teachers with low VAMS ratings and replace them with teachers who have average or higher ratings.[5] Although panels of scholars warned against using VAMS to make high-stakes decisions because of their statistical limitations (American Statistical Association, 2014; National Research Council & National Academy of Education, 2010), policymakers in many states and districts moved quickly to do just that, requiring that VAMS scores be used as a substantial component in teacher evaluation.

While researchers continue to analyze and improve VAMS models, it is important to step back and consider a prior set of questions:

1. Does the wide variation in teachers' effectiveness within schools simply mean that some teachers are inherently better than others, or is there a more complex and promising explanation of this finding?

2. Is the strategy of augmenting human capital one teacher at a time likely to pay off for students? Or will relying on VAMS for teacher evaluations have unintended consequences that interfere with a school's collective efforts to improve?

In this column, I bring an organizational perspective to the prospect of using VAMS to improve teacher quality. I suggest why, in addition to VAMS' methodological limitations, reformers should be very cautious about relying on VAMS to make decisions that have important consequences for both teachers and their students.

Why Is There Variation In Teacher Effectiveness Within Schools?

In his classic analysis, "Social Capital in the Creation of Human Capital," James Coleman (1988)[6] argues that individuals' human capital is transformed for the benefit of the organization by social capital, which "inheres in the structure of relations between actors and among actors" (p. S98). In education, this suggests that whatever level of human capital schools acquire through hiring can subsequently be developed through activities such as grade-level or subject-based teams of teachers, faculty committees, professional development, coaching, evaluation, and informal interactions. As teachers join together to solve problems and learn from one another, the school's instructional capacity becomes greater than the sum of its parts.

Unfortunately, U.S. schools were never designed to benefit from social capital. In fact, over 40 years ago, historian David Tyack (1974)[7] and sociologist Dan Lortie (1975)[8] depicted the school as an organizational "egg crate," where teachers work in the isolation of their classroom. In egg-crate schools, teachers focus on their own students largely to the exclusion of others, and they interact minimally and intermittently with their colleagues. As a result, their expertise remains locked within their classroom.[9,10,11,12,13] This egg-crate model was efficient for managing the "factory school," but did not serve students well; nor does it support the instructional needs of today's teachers.

Therefore, when teachers in the same school continue to work in isolation, they cannot benefit from the social capital that their school might provide. As a result, wide differences in teachers' effectiveness persist over time.

The Evidence On School-Based Improvement Efforts

Studies have persuasively documented the benefits of systematic efforts to improve student learning through school-based improvement initiatives.[14,15,16] Successful efforts increase norms of shared responsibility among teachers and create structures and opportunities for learning that promote interdependence—rather than independence—among them. That is social capital at work.

Many who dismiss the potential of social capital to improve schools doubt that teachers can improve significantly over time. However, a recent study by Kraft and Papay (2014)[17] showed that teachers working in more favorable professional environments—as rated by a school's staff—improved throughout the ten years they analyzed, while those who worked in environments judged to be less supportive stagnated. This and other studies challenge the conventional view that teachers reach a "plateau" in their development relatively early in their career.[2] Creating a school context that supports teachers' work can have important, lasting benefits for students and faculty throughout the school, whereas simply swapping out low-scoring for a high-scoring individuals without changing the context in which they work probably will not.[18,19,20]

Threats To School-Based Improvement Efforts

Not only are personnel polices based on VAMS scores likely to have, at best, modest effects on a school's success, they may inadvertently undermine improvement efforts that are already underway. How so? Here, I suggest several possible unintended consequences of increasing reliance on VAMS.

1. ***Making It More Difficult to Fill High-Need Teaching Assignments***

   Teachers' confidence in VAMS as an evaluation method ultimately depends on whether these measures adequately control for demographic differences among students. Many experts report that VAMS do not yet do so. Although teachers may not have read these scholarly critiques, they generally are not convinced that VAMS are evenhanded. Thus, heavy reliance on VAMS may lead effective teachers in high-need schools and subjects to seek safer assignments, where they won't risk receiving low, unwarranted VAMS scores.

Successful [reform] efforts increase norms of shared responsibility among teachers and create structures and opportunities for learning that promote interdependence—rather than independence—among them. That is social capital at work.

2. ***Discouraging Shared Responsibility for Students***
   Often teachers within a grade level capitalize on one another's strengths by regrouping their students for better instruction in each subject. For example, an excellent math teacher will teach math to all students in the grade, while others specialize in their area of expertise. Using VAMS to determine a substantial part of teachers' evaluations threatens to sidetrack such collaboration by providing a perverse incentive for the most effective teachers to concentrate solely on their assigned roster of students.

3. ***Undermining the Promise of Standards-Based Evaluation***
   Those who recommend using VAMS for personnel decisions often contend that this approach is superior to the "counterfactual"—evaluations conducted by administrators. Admittedly, those evaluations had a poor track record in the past. Recently, however, many districts have adopted sophisticated and informative standards-based assessments. Recent research demonstrates that teachers' instruction improves in response to standards-based observations and high-quality feedback.[21] But how will administrators respond when discrepancies between VAMS and observations arise? If they are uncertain about judging instruction or think that VAMS are more precise than their own professional judgment, value-added scores may unduly influence how principals rate teachers' instruction.

4. ***Generating Dissatisfaction and Turnover Among Teachers***
   Those who promote the use of VAMS to make decisions about rehiring, firing, or awarding tenure often suggest that the best teachers will be more satisfied and decide to remain in their school once ineffective teachers have been dismissed. However, if the dismissal process requires more testing or diverts teachers from collaborating, skilled teachers—who arguably have the most to offer the school—may lose confidence in administrators' priorities and decide to go elsewhere, even if that takes them out of education.

There is reason, therefore, for policymakers and administrators to carefully weigh the potential costs and benefits of relying on VAMS for evaluating teachers. Some states now require using VAMS scores for 30% to 50% of a teacher's final evaluation, an approach that is unsupported by research. It may be that eventually such policies will have their intended effects—raising professional standards to make teaching more attractive and reducing the variability in teachers' effectiveness through

dismissals. However, it is also quite possible that relying on VAMS in evaluation will make it more difficult to staff high-need classes, promote and sustain collaborative work, and develop shared responsibility among teachers for supporting students' learning and improving the school. In response to these effects, turnover rates may increase, even among the very teachers whose expertise and commitment could generate improvement among their colleagues.

I'm certainly not suggesting that schools continue to employ ineffective teachers. As I have argued elsewhere,[22] "neither individual teachers nor the schools in which they work can be ignored if students are to have the instruction they deserve" (p. 119). However, reformers should lead the way with efforts to improve the school throughout, making it an organization that supports effective teaching and rich learning in every classroom.[23]

Research thus far has focused almost exclusively on the technical side of VAMS, determining under what conditions these models can safely and sensibly be used. Although these efforts have been worthwhile, it is time for other researchers to focus on how using VAMS affects what teachers actually think and do. There may be no strong evidence that the intensified use of VAMS interferes with collaborative, reciprocal work among teachers, but we should not assume that such consequences do not exist.

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1. McCaffrey, D., Koretz, D., Lockwood, J. R., & Hamilton, L. (2004). Evaluating value-added models for teacher accountability. Santa Monica, CA: RAND.
2. Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement, Econometrica, 73(2), 417–458.
3. Rockoff, J. E. (2004). The impact of individual teachers on studnt achievement: Evidence from panel data. American Economic Review, Papers and Proceedings, 94(2), 247–252.
4. Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2004). Why public schools lose teachers. Journal of Human Resources, 39(2), 326–354.
5. Coleman, J. S. (1988). Social capital in the creation of human capital. American Journal of Sociology, 94, S95-S120.
6. Tyack, D. B. (1974). The one best system. Cambridge, MA: Harvard University Press.
7. Lortie, D. (1975). Schoolteacher: A sociological study. Chicago, IL: University of Chicago Press.
8. Darling-Hammond, L. (2001). The right to learn: A blueprint for creating schools that work. San Francisco, CA: Jossey-Bass.
9. Hargreaves, A., & Fullan, M. (2012). Professional capital: Transforming teaching in every school. New York, NY: Teachers College Press.
10. Johnson, S. M. (1990) Teachers at work: Achieving success in our schools. New York, NY: Basic Books.
11. Kardos, S. M., & Johnson, S. M. (2007). On their own and presumed expert: New teachers' experience with their colleagues. Teachers College Record, 109(9), 24.
12. Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. Teachers College Record, 91(4), 509–536.
13. Bryk, A. S., Sebring, P. B., Allensworth, E., Easton, J. Q., & Luppescu, S. (2010). Organizing schools for improvement: Lessons from Chicago. Chicago, IL: University of Chicago Press.
14. McLaughlin, M. W., & Talbert, J. E. (2001). Professional communities and the work of high school teaching. Chicago, IL: University of Chicago Press.
15. Rosenholtz, S. (1989). Teacher's workplace: The organizational context of schooling. New York, NY: Teachers College Press.
16. Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. Educational Evaluation and Policy Analysis, 36(4), 476–500.
17. Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement, Econometrica, 73(2), 417–458.
18. Ladd, H. R., & Sorensen, L. C. (2014). Returns to teacher experience: Student achievement and motivation in middle school (Working paper 112, CALDER). Washington, DC: CALDER.
19. Leana, Carrie R. "The missing link in school reform." Stanford Social Innovation Review 9.4 (2011): 30-35.
20. Lohr, S. L. (2012). The value Deming's ideas can add to educational evaluation. Statistics, Politics, and Policy, 3(2), 1–39.
21. Taylor, E., & Tyler, J. H. (2012). The effect of evaluation on teacher performance. American Economic Review, 102(7), 3628–3651.
22. Johnson, S. M. (2012). Having it both ways: Building the capacity of individual teachers and their schools. Harvard Educational Review, 82(1), 107–122.
23. Johnson, S. M. "Will VAMS Reinforce the Walls of the Egg-Crate School?" Educational Researcher 44.2 (2015): 117-126.

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