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COMMENTARY

Schooling as a Knowledge Profession

By Jal D. Mehta, Louis M. Gomez, & Anthony S. Bryk

The first in a seven-part series

Our thesis is straightforward: Schools need to transition from the bureaucratic industrial-age structures in which they were created a hundred years ago into modern learning and improvement organizations that are suitable to the needs of today. To do so will be excruciatingly difficult, because it will require a change in mind-set, creation of new infrastructure, and changing patterns of authority and power. But this change is what is required if we truly seek to achieve our goal of educating all students to high levels.

The contemporary school system bears the imprint of the industrial age in which it originated. The model was the factory, and the aim was to set up a system of command and control in which the superintendent specified ends and means that schools and teachers were supposed to implement. Over the course of the 20th century, attached to this factory model was a notion that university-based social science could inform educational progress. The idea here was that university researchers would identify good practices, policymakers would mandate these practices at scale, and again teachers would implement them.

While rational on its face, this model has proved to be flawed at each link of the chain: University-based research is more suited to advance disciplinary understanding than to solving problems of practice; policymakers are too removed from schools to know what practitioners need; and teachers have been highly resistant, since the early 20th century, to imposition from above.

More broadly, the factory model makes a categorical mistake about the nature of the enterprise: When work is highly routinized and standardizable, a command-and-control regulatory structure can be appropriate; but when work is complex and requires significant skill and discretion, a more professional structure is preferable. In professional

organizations, across a variety of sectors, the emphasis is on front-line practitioners systematically learning in practice to improve and developing structures through which localized knowledge is continuously tested and refined, accumulated over time, and spread across the field.

The need for this shift in American education is buttressed by the Organization for Economic Cooperation and Development international research on the performance of high-scoring nations on the Program for International Student Assessment. Unlike the United States, countries like Singapore, South Korea, Canada, and Finland all draw their teachers from the top third of their college test-score distribution, train them extensively, and then enable them to work with one another on problems of practice within schools to develop better pedagogical practices and deeper content knowledge. As the head of the Indicators and Analysis Division of the OECD and the international director of PISA, Andreas Schleicher, recently noted in [“Lessons for the United States,”](#) common to these leading nations is a move away from the command-and-control bureaucracy and toward a more professional-style workplace.

While much of U.S. policy and practice remains trapped in the bureaucratic model, there are glimmers that indicate the possibility of a better future. A number of school districts have begun to move away from a focus on compliance to see their role as creating the conditions under which a system of schools can learn and improve.

At the cutting edge is New York City, which, under former Schools Chancellor Joel I. Klein, sought to disrupt the usual hierarchies and create “inquiry teams” within schools to investigate problems of practice. These inquiry teams, for example, identify struggling students within a school, use data to analyze why these students are struggling, and craft an intervention for them with the hope that this work can be a building block for schoolwide improvement. What’s distinctive about this model is its emphasis on seeing schools less as implementers of programs from above, and more as coherent learning and problem-solving organizations that analyze and address problems of practice.

What we do not see yet is a new model of research and development that could serve as the institutional infrastructure for the creation of this knowledge profession. In a recent essay, [“Getting Ideas Into Action,”](#) two of us—Anthony Bryk and Louis Gomez—advanced the idea that networked communities should engage in improvement research.

We argue that enhancing the efficacy of our educational institutions at scale is a social-learning problem.

Networks, focused on improvement, encourage people with different perspectives to work together on common problems. Unlike the factory model that envisions research being driven into practice from the outside, a network model opens up the process of R&D. It acknowledges that constructive change can come from many different sources, and that improvement at scale will involve coordinated efforts across those sources. In the world we envision, researchers, practitioners, and commercial partners will enter into a new and vibrant partnership where each contributes its distinctive expertise.

How might such networks of diverse expertise be structured to spur innovation aimed at improvement? Fundamentally, there must be a shared commitment to disciplined inquiry about improvement. To organize the efforts of the networked improvement community, four questions should inform all inquiries:

- How do we understand the problem(s) we seek to solve and system(s) in which they are embedded? Productive solutions entail consideration of how an intervention integrates adaptively in some larger social system.
- What specifically are we trying to accomplish? This involves identifying specific measurable targets that unite efforts of diverse participants in the R&D community.
- What changes might we introduce, and what is the rationale for each? We are aiming toward a science of improvement. Like scientific communities generally, this requires theorizing together about the logic of proposed solutions.
- How will we know if the changes we introduce are actually an improvement? Any proposed solution is in essence a set of hypotheses that must be tested against evidence.

Standing behind this is a quality-improvement position that has developed over the past half-century and now operates routinely in many nonprofit and for-profit sectors. We must solve the problem of variability in performance if we are to achieve better educational practices and schooling systems with reliability at scale.

While these principles may appear straightforward, they can be devilishly difficult to realize. To operate as a professional community engaged in such work will entail

challenges to prevailing norms about local autonomy, the widespread belief that every solution must be “invented here,” and the expectation that every local site will accomplish this on its own.

In July of 2010, the Carnegie Foundation for the Advancement of Teaching catalyzed the formation of a networked improvement community involving 30 community colleges with a broad range of academic scholars and commercial partners. The focus is on the high failure rates of students who enroll in developmental-mathematics courses. In principle, these courses are designed to remediate gaps in student learning and open up opportunities for entry into occupational-preparation programs and higher education. They fail, however, to achieve this goal for most students.

The network’s aim is to double the number of students who earn college math credit within one year of continuous enrollment. The network’s initial efforts focus on developing a consolidated one-year course pathway by providing materials, instruction, and social-emotional supports.

Three aspects of the network’s work deserve to be highlighted:

- First, faculty teams both within and across the colleges have joined together with developers and researchers focused on a common, measurable improvement target. Their work includes progressing toward a shared practical theory of the problem, having a common language to vet progress, and operating within common protocols of inquiry and measurement.
- Second, each of the networked colleges will do its work somewhat differently as it seeks to adaptively integrate change into its local contexts. In this way, the colleges become a larger natural experiment at learning from practice to improve practice. That is, a network-improvement community exploits the wisdom that is present within its diverse collegiality, elevating both intra- and *inter*-organizational learning with the understanding that inter-organizational learning is key to accelerating the members’ progress.
- Third, new organizational and institutional arrangements must be established for this social learning to unfold. A network-improvement community requires the emergence of a new problem-centered hub that details an initial problem; recruits a cadre of leaders and champions into the work; establishes rules, roles, and responsibilities for

participation; creates an initial conceptual framework; and offers an analytic and technical infrastructure for the their work. In short, these hubs establish the initiating conditions for the subsequent growth of a self-generating learning community.

The closest we currently have to these kinds of networks in K-12 education are leading charter networks. Charter-management organizations, or CMOs, that differ widely in their pedagogy, from KIPP to Expeditionary Learning, are moving in directions more consistent with what we are advocating here: hiring talented practitioners, giving school sites power to make important front-line decisions, and trying to work from practice-out (as opposed to outside-in) to discover what is working, share it across contexts, and, as a community, continue to test and refine it further. Importantly, these efforts within K-12 will also have to develop the discipline to create specific, feasible, and networked-shared performance targets that guide their efforts. The challenge ahead is whether these structures can be created as a regular feature of public schools in the United States.

Transforming schooling into a knowledge profession will not be easy. Many people would need to rethink their roles. A knowledge profession would require states and districts to move away from their focus on compliance and toward building an infrastructure that supports learning across schools. It would invite unions to take on leadership roles as active agents of systematic learning from practice to improve it. It would ask university researchers, businesses, and teachers to work outside their traditional roles and collaborate as collective problem-solvers.

It is deeply ironic that contemporary schooling is so ill-equipped to learn, develop, and improve. Making the changes discussed here would make the educational field worthy of its name.

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