

# *Contextual Influences on Inquiries into Effective Teaching and Their Implications for Improving Student Learning*

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*In this article, Anthony Bryk, Heather Harding, and Sharon Greenberg report on a roundtable jointly sponsored by Teach For America and the Carnegie Foundation for the Advancement of Teaching. The authors brought together a group of scholars and practitioners with a broad range of perspectives and asked them to explore several questions related to the emerging national narrative on effective teachers: What is an effective teacher? How do we leverage this moment of enormous energy in producing more effective teaching to advance meaningful improvements at scale? Where are the current sites of success? What can we learn from what is working? The article is organized around the edited transcript of the roundtable discussion and is supplemented by author commentaries. The authors seek to illuminate and reimagine the current “nonsystem” in order to accelerate progress toward a wholly new approach to developing the teaching force our nation and our children need.*

## *An Invitation to Be in Dialogue: Why a Roundtable?*

HEATHER HARDING

A growing and hopeful theme is taking hold in education media, policy, and research: teachers matter. This narrative asserts that how teachers lead their

classrooms can have a transformative impact on students' lives and that access to teachers with the most impact—those who have mastered artful and effective instruction—offers a promising pathway to closing the achievement gap. Alongside and because of this expanding narrative, we are also witnessing an explosion of activity around defining effective teaching. The education community—across all its many sectors—is seeking to define and measure effective teaching, to reward that effectiveness, and to use data and various metrics to improve how we select, develop, celebrate, and retain the teachers we want.

Sadly, at times these conversations have been fraught with conflict and are too often hijacked by a focus on identifying and weeding out the “bad” teachers. Yet, even in the face of this troubling subtheme in the narrative of “teachers matter,” the level of energy we are seeing around the subject of effective teaching is unprecedented and worthy of reflection. It was this spirit—an attempt to harvest some of the excellent and innovative thinking that is happening in all corners of the education landscape—that inspired the roundtable discussion out of which this article comes.

We began this project with a simple foundational premise: a lack of cross-perspective communication about teacher effectiveness has led to a debilitating lack of clarity. We are all tackling the question of teacher effectiveness from different vantage points. Many people are focused on recruiting and selecting talented individuals. Some have invested in preparing teachers, while others consider strategic placement or systems of extrinsic incentives. Still others have relied on approaches to continuous learning through professional development or careful attention to the work environment and collegial community. Too often those of us working from these different vantages do not discuss our insights with each other. Despite the blizzard of activity around teacher effectiveness, thoughtful leaders in education are not always aligned on what “effective teaching” is or on the actual problems that we are trying to solve.

As the discourse about effective teaching takes shape and gains momentum, we need to understand that *why* each of us is investigating the nature of effective teaching is often influencing the answers we formulate for that question—that is, whether the interest in the question derives from concerns about teacher professional development, policy making, high-stakes teacher evaluation, teacher selection, or teacher certification/qualification is shaping, to varying degrees, the methodologies we use to answer the question and the answers that are generated. By acknowledging and exploring these different vantage points, we can accelerate our collective progress.

My own perspectives on teacher selection, recruitment, training, and support have been shaped by several experiences. As a novice teacher in a rural classroom in North Carolina, straight out of my Teach For America (TFA) summer training, I was assigned the seventh-grade Title I language arts class, which was filled with nonreaders. My second year I was assigned high school U.S. history and African American history, making better use of my undergraduate minors in sociology and African American studies and leading to

greater success. This opened my eyes to the importance of novice teacher placement and development and how our current system can fail us in these areas. Later, as a doctoral student at Harvard Graduate School of Education and fledgling teacher educator, I worked with a small cadre of colleagues and Katherine Merseeth to refocus the small and elite Teaching and Curriculum (TAC) program on preparing teachers for the challenges of urban schools. The underlying premise we developed was that context matters and that the university could do more to partner with K–12 schools to create seamless clinical experiences that would allow for more competent teachers on day one.

My lens was also shaped by my experiences working at Teach For America. TFA's pedagogical training foregrounds the demands of schools serving children from low-income backgrounds, illuminating the principle of "working relentless." Its selection and admissions process produces a population of pre-service teachers who are well steeped in their content areas, a fact we at TFA leverage when designing their training experiences. Similar themes arose in my research on "successful" urban white teachers. As stylistically different as the research participants were, they all developed strategies or recalled learning experiences that helped them navigate the dilemma of both knowing what to teach and figuring out how to do so effectively.

My coauthors, Tony Bryk, of the Carnegie Foundation for the Advancement of Teaching, and Sharon Greenberg, an independent consultant currently working with Carnegie, have worked from almost every angle to improve teaching and student learning. They were engaged for more than twenty years in seeking to improve instruction in some of Chicago's most disadvantaged elementary schools. This work led them to initiate a professional development charter school that has subsequently grown into a network of charter schools sponsored by the University of Chicago's Urban Education Institute. Teaching improvement was at the core of this work, with initiatives such as literacy coaches, professional school-based communities, and a formative assessment system for charting students' literacy learning and informing teaching improvement. This school also formed the basis for an innovative, clinically based, urban teacher education program. Undergirding all of their efforts has been one organizing concern: applied research can and should stand in a more effective relationship to practice and efforts to improve it. Bryk, Greenberg, and their colleagues are now exploring how rudiments of improvement science can be engaged within networked communities to accelerate social learning about advancing teaching.

While our experiences are varied, Tony, Sharon, and I share a profound curiosity and optimism as well as the belief that all of us who are pursuing effective teaching at scale can learn from each other to accelerate progress for the children of this nation.

This was the context for our roundtable discussion, this shared concern for improving teaching and learning at scale. If the policy mantra is that teachers matter, we came to the table with the understanding that there is great

variation among teachers and the quality of instruction they provide, and so we find ourselves enmeshed in a debate about how to define, measure, and develop more of the teachers we need.

We sought to bring together leaders in the field to discuss both the big ideas regarding effective teachers and the nuts-and-bolts questions that plague practitioners. Given our desire to foster cross-perspective communication, we composed our roundtable with as many different perspectives as possible. We wanted to hear from district leaders who were grappling with the challenge of building a strong human capital strategy for a particular local context. We wanted to hear from both traditional teacher-preparation programs and newly emerging residency models. We included social scientists who have been central to developing systems of measurement and evaluation of teacher quality and effectiveness. We also wanted to hear the voices of academics who had both scholarly and practical knowledge about teacher learning, teacher development, and the conditions that support and hinder both. The result was a strong chorus of diverse voices representing most of the perspectives we envisioned.

- Ann Clark is chief academic officer for the Charlotte-Mecklenburg School District. Having served in multiple leadership roles in the district, Ann has worked shoulder-to-shoulder with a reform-minded superintendent in Charlotte-Mecklenburg to grapple with an urban district in the New South to strengthen teacher pipelines and professional development.
- Jane Hannaway is a vice president at the American Institutes for Research (AIR) and director of the National Center for Analysis of Longitudinal Data in Education Research (CALDER). She is an organizational sociologist whose work focuses on the study of educational organizations, including the value of a “good” teacher and the various ways accountability has been manifested in schools. Jane’s work in North Carolina and in other states helped to illuminate the need for more robust data systems connecting personnel data with student achievement data to pursue important policy questions.
- Edward Liu is a former assistant professor at Rutgers University who has since joined the Boston Teacher Residency program as director of organizational learning. Ed’s work with the Next Generation of Teachers Project and his subsequent research has focused on teacher hiring, school improvement and organizational change, leadership, education policy, and the non-profit sector. A former high school teacher, Ed has been guided by his concerns regarding schools serving children in low-income neighborhoods.
- Jesse Solomon is founder of the Boston Teacher Residency (BTR) and executive director of the Boston Plan for Excellence. Jesse is a nationally board-certified educator who was part of the founding faculty for City on a Hill charter school. He came to his work at BTR convinced that community needs and local context were important foundations for teacher training

and development—that what you need from teachers isn’t generic but intimately connected to the students they teach and the communities in which they serve.

- Steven Farr, chief knowledge officer at Teach For America, is a longtime staff member and a 1993 alumnus of the program who taught in the Rio Grande Valley in Texas. Steven authored *Teaching as Leadership: The Highly Effective Teachers Guide to Closing the Achievement Gap* based on his and his colleagues’ studies of highly effective teachers in low-income communities.
- Pam Grossman is the Nomellini Olivier Professor of Education at Stanford University. Pam’s expertise includes pathways to teaching, professional development, teacher education policy, and teacher quality. Her study on cross-professional preparation of clergy, teachers, and clinical psychologists, alongside her research on New York City’s teacher population, have provided her with a powerful look at the lifespan of teaching and the various leverage points for engagement, growth, and sustainability.

We settled into a formal boardroom in the fiftieth-floor office of the Carnegie Foundation in Manhattan. The room was set up with a bountiful breakfast on one side of the room, and a horseshoe of chairs. Our participants sat in an inner circle, exchanging pleasantries and introductions. Other colleagues joined as an audience to the conversation.

With Tony facilitating, the roundtable discussion attempted to tackle a few central questions, including: What is an “effective teacher” and what sense do we make of this theme? Why does our current system produce unsatisfactory outcomes? How might the diversity in roles, perspectives, and experiences in our group—our own wisdom of crowds—meld into a more coherent and detailed vision of improvement than the current cacophony of public discourse might suggest is possible?

Following is an edited transcript organized around a set of analytic themes drawn from two hours of roundtable conversation. We rely heavily on the voices of the participants to enliven these themes. In some cases, we have consolidated quotes and/or reassembled them to make talking points more succinct. We’ve interspersed commentary that introduces individual sections and draws out summary implications. These remarks characterize the general sense of the proceedings and are distinct from the direct contributions of individual participants during the roundtable discussion. As a coda to the conversation, Tony and Sharon offer provocative summary comments.

## Opening the Conversation

### *A Need for More Effective Teaching*

The current explosion of interest in teacher effectiveness brought a diverse group of participants to the roundtable. Our conversation was deliberately

designed to probe competing ideas about the nature of the problem and what might constitute promising solutions. Early in the conversation, a key distinction arose that shaped subsequent discussion: the importance of more effective *teaching* versus more effective *teachers*.

*Steven Farr:* In the context of schools in low-income communities, a small but growing revolution of success is happening on the ground. Ten years ago, we could have counted on one hand the number of schools that were putting an entire population of low-income students on a different life trajectory. Now we are able to investigate what's happening in these classrooms and schools where things are working well. What does it take for a teacher to transform kids' lives? What does it take to create a school that supports teachers who are actually putting kids who statistics tell us may otherwise be dropping out of school instead on a pathway to take Advanced Placement classes and go to college? This is an exciting puzzle. We did not have enough proof points to study this ten years ago or even five years ago. We do today.

Clearly, at the core of these successful schools are successful teachers. Sadly, what we see in less-successful schools is a very diluted definition of "great teaching." In some schools where we place TFA teachers, our teachers are told they are "great" simply because their students are generally on task and the room is generally quiet. The definition of "great" is really, really watered down and too often is about what kids are not doing instead of about dramatic student progress. I suspect this dilution of "great" is the reason why some people think that you cannot articulate what great teaching is. There are many competing paths to mediocre, but if you set the bar for student achievement high, you do see common patterns in the hard work of teachers meeting that bar. We see patterns of action that are replicable. The idea that great teaching is somehow magic is crazy! I cannot get over how *wrong* that is.

*Pam Grossman:* At the core, this is an issue of identifying the kind of teaching that's going to lead to students' success and then how to make this much less rare, to really decrease in some ways the variability that exists across classrooms so that we can ensure that every child, and particularly children in the highest-need schools, has a well-prepared teacher efficacious at a very high level, even in their early years in the profession. We must identify the kind of teaching that really makes a difference for student outcomes and then be much more systematic about how we prepare people for that kind of work so we can ensure that they're prepared.

*Ed Liu:* I think it is an issue of effecting *teaching* rather than teachers. We need to think more broadly. Teachers are coworkers. They are in a joint social enterprise, and I think that is what makes teaching quite unique and especially challenging as a profession. So I think the challenge is how do we spread effective teaching practices, and how do we build supportive context, organizations, and policies for the development and use of these practices with focus on increasing effective teaching to reach the neediest kids and all kids as well?

*Generalizable Attributes Versus Content- and Context-Specific Knowledge and Skills*

As the roundtable questions delved deeper, our discussion turned toward a fundamental question about the nature of effective teaching: How much is generic? How much is particular to subject, grade, instructional materials, and methods? And to what extent is effective teaching shaped by differences in student populations and community context?

*Pam:* I think some aspects of effective teaching are generic. I mean, I think good classroom management is foundational, and I think the elements of that don't vary much across grade level and subject matter. Some specifics do vary. The way you set up classroom routines in an English class versus a chemistry class—there's difference in those details. But I think we would generally agree on which classrooms are functioning, which ones have a classroom community and which do not. You can see this across classrooms.

But when you look more deeply, when you begin to dig down to "What does it look like? What do you expect it to look like in a math classroom or an English classroom?" things get more complicated. When we get to the grain size where I think you have the most leverage in helping teachers learn how to do things, then I think some of those things turn out to be subject-specific—the ways in which you'd run literature circles, for instance, the ways you have people actually deeply understand some of the roles [of a literature circle] and what the activity is all about. Similarly, I think the ways we represent content have implications for how we prepare people. How much of this could we do with all of our teachers together, and at what point do you have to break people out? Teaching reading is yet another example. There is a professional body of knowledge and skill that is quite specific to the teaching of reading. And you have to know it; you absolutely need to know it.

I've watched people watch teaching where they think, "Oh, this is fabulous teaching!" And they miss the fact that the content is wrong. It's not fabulous teaching if the content is wrong, and you *need* to know the content in order to assess the content. And that's what scares me sometimes about having generic protocols or generic observers, particularly as you move up grade levels. And even at the level of, say, teaching of elementary reading, the teaching of elementary science—it takes a particular kind of expertise.

*Steven:* At a high level of altitude, we do see some common patterns among teachers who are truly changing their kids' lives. These teachers think differently about teaching than some of their fellow teachers. They believe that academic achievement is possible, and they've set ambitious goals and invest their kids in wanting to work hard. They plan in similar ways. They reflect and improve in similar ways. Our model says, "Here are the common patterns of dramatically effective teachers."

However, I also do agree with Pam that strong teachers want and need deep content pedagogical knowledge and skills, because even when they're mastering

generalizable skills, they realize, “I’m not going to get there if I don’t understand how my fifth-graders make mistakes when I’m teaching them XYZ concept. I have to get to that level.”

*Jane Hannaway:* Teaching is one of the most difficult jobs out there. I think that some of the characteristics that are necessary to effectively teach are best achieved through selection. Other characteristics that are essential may be best achieved through training, and still other characteristics primarily through practical experience.

*Steven:* Every year, at the end of the year, we look at our teachers’ student achievement data and other indicators, and we identify the teachers who we think are the most effective. I totally agree with Ed’s earlier point on the importance of school context for effectiveness. We are working with teachers who are generally placed in pretty challenging—too often not supportive—settings. In these contexts, what are most predictive of excellent teaching are personal traits and dispositions rather than specific prior knowledge or specific prior experiences. It’s not that the latter are unimportant, but succeeding in the contexts where many of our teachers work places especially high demands on perseverance, critical thinking, organization skills, and the ability to influence and motivate people.

*Jesse Solomon:* We try to be Boston in our development of new teachers. We try to get people who are from Boston and live in Boston . . . and part of the work of developing teachers is to get to know the communities. There is a difference when teachers live with their kids and see them in the grocery store or go to church with them or see their parents. That’s just a different relationship between communities and schools, and so that’s something we’re looking for.

*Tony Bryk:* I find myself lining up with Jesse’s views. Thinking back to our two decades of work supporting school improvement in Chicago, effective teaching in a port of immigration second-language community makes different demands, for example, than teaching in a racially and economically isolated African American community, which is, again, worlds apart from integrated, middle-class contexts. It strikes me that the challenge to effectiveness almost surely increases as the span of difference expands between a teachers’ background and the specific context of instruction.

### *Commentary*

The roundtable came to endorse the idea that certain aspects of effective teaching are indeed general. These include concerns about teachers’ belief in students’ capabilities, personal commitments of time and effort to advance student learning, basic practices around the organization and management of classroom activity, routines for promoting student engagement, and norms about classroom work. Participants also generally agreed that as we focus in on the essence of quality instruction, especially as we aim for deeper learning and challenging intellectual work for all students, specific knowledge and skill around subject matter and how to teach it (i.e., pedagogical content knowledge) become critical.

In contrast, the differing priorities of roundtable participants became more manifest as discussion moved to consider the role of context. If context really matters, the implications are far reaching. It would force us to reconsider how teacher candidates are recruited, how new teachers are prepared, and what assignments they are asked to take on. It also has implications as we consider policies that seek to identify highly effective teachers to be reassigned to turn-around schools. Do we really know that they will be equally effective if transferred to a very different community context?

### Our Nation's Nonsystem for Recruiting, Developing, and Supporting Teachers

As the conversation proceeded, another convergence emerged. Improvement at scale is not principally a question of "Who do we hire?" or "Who do we fire?" With almost four million teachers in the United States, we confront a massive human resource development problem. How do we develop everyone's capacity to be the most effective teacher possible? Right now, we leave this more or less to chance. As Pam Grossman put it, currently we have a "nonsystem" for preparing new teachers, mentoring them as they learn to practice, and supporting them to continuously improve. From this angle, the enormous variability in students' learning gains, documented across schools and classrooms, is not surprising. Manifest weaknesses in the preparation of novice teachers, especially in their clinical apprenticeship, exacerbate the challenges in learning teaching. This concern is especially problematic as we place and seek to support novice teachers in the most difficult settings.

*Jesse:* The country relies on a patchwork of ways to prepare teachers, so you don't really know when a teacher comes into your classroom whether they're reliably going to be able to do certain things that you need them to be able to do well. We also ask each individual new teacher to come up with way too much of the content of teaching him- or herself. We are never going to get to quality at scale as long as each person must reinvent what's important. We, as a field, are conflicted about what's important and what we should be teaching these folks, and that provides a pretty confusing message.

*Pam:* When you look at other professions, novices don't have sole responsibility the moment they walk in the door. There's somebody else there who's closely supervising them doing the work and who's ultimately responsible. We put new teachers in an incredibly difficult situation where they think that they have to create instruction from scratch, and we don't provide the rich materials and support that they really need to be effective.

In these early years, let's give new teachers the basics to achieve efficacy. Let's make sure those teachers are very solid in their basics and that they have the kinds of supports necessary to continue to improve. As teachers grow in experience and expertise, they are going to want to change instruction and be able

to develop additional materials. However, I think that the expectations we now have for beginning teachers are simply unrealistic. I truly believe that new teachers could be much more effective if we actually organized around this problem.

*Steven:* While we are seeing that individual teachers working at almost superhuman levels to create islands of excellence in an otherwise dysfunctional setting can have an enormous impact on the life-path of a child, this is so clearly not the way the world should be. The idea that we are currently, in effect, compensating for our nonsystem of teacher support and development by putting everything on the shoulders of teachers is just so frustrating. These rare teachers are leading their children to dramatic progress despite the lack of vision, management, support, development, and school culture. It's our responsibility to learn from that and figure out how to shift the burden of that work from the solo teacher to the school and community more broadly.

### *Taking Down the Wall Between Preservice Preparation and Practice*

At this point in the discussion, participants described their own silos of work within the fragmented nonsystem. It was clear that little attention or collective will has historically been focused on bridging activities across these institutional divides. An obvious disconnect between how teachers are prepared in preservice and then how they are hired and initially assigned by districts was illuminated. Some shared the challenge of working to improve the preparation of novices when you don't actually know the specific tasks they will be asked to take on and where little data feedback occurs about the true efficacy of extant preservice preparation efforts.

*Steven:* Most of our preservice training takes place in the Teach For America world, where we often don't know what our teachers are going to teach until soon before they get placed. That puts a particular premium on the more generalizable skills and methods that we discussed earlier. Even so, we are now working hard to infuse more content pedagogical skills and knowledge into our training and support.

*Tony:* This is a core problem for schools of education as well. For the most part, they don't know where their students will be hired and which specific subjects and grades that they will be assigned to teach. This forms part of the rationale for a more general, theory-based, standards-based approach to teacher preparation. So while we may acknowledge that developing instructional expertise means tailored preparation and support for teachers around subject matter, grade level, and pedagogical approach, what we currently do is just the opposite.

*Jesse:* There's no *law* that says, "We have to prepare teachers to go all over the place." We could actually get more focused. That's certainly what we try to do in Boston, but it's not what most programs are doing. Aspire Charter Schools are preparing people to teach for Aspire, right? We can reduce the uncertainty on the front end. There are clear advantages to knowing the context and the set of instructional materials that you're using.

*Pam:* One of the striking things from our study of preparation in New York City schools was the fact that most of the graduates were teaching in a single district, and yet very few programs were actually having them study the New York City curriculum. As teacher educators, we have a responsibility and obligation to prepare people to use well the curriculum and instructional materials that they are going to be encountering in those schools, even if it's something we don't particularly like. If that's what our new teachers are going to be using, then it's our responsibility to prepare them to use it well.

*Jesse:* We aim to solve this problem by trying to make school improvement and teacher development one and the same effort. However, it's hard work, and the two goals are not always immediately compatible. Building strong systems for developing teachers into the way schools are run would require a great deal of intentionality—and changing a lot of current systems. We either have to make the choice to do it ourselves—whether that means running our own schools—or change the way that the district as a whole and individual schools do their work. It's not just going to happen by continuing to do what we've always done.

*Ann Clark:* I would just offer one thing that we've done with some success [in Charlotte-Mecklenburg School District]. We now have a cooperative agreement with two different colleges of education where we jointly select cohorts of candidates for teacher preparation. They go through the regular admission process for the university and then through an additional screening process that we operate. The teacher preparation curriculum is developed around our strategic plan, our curriculum, our interventions, our use of data, and professional learning communities. We're only three years into it, so we only have three cohorts that have come through, but so far the results have been extremely positive.

So it's limited in terms of its scope and scale right now, but I think it has huge potential to inform colleges of education to better align with particular districts. So then you eliminate some of the entry challenges, some of the acclimation challenges. New teachers understand the evaluation instrument from the very beginning; they understand the big view of the district in terms of the strategic plan. They know that when they come into the districts, all those sorts of overarching guiding principles as well as the day-to-day, on-the-ground kinds of approaches. In the end, the school system has had input into the licensing of that teacher. It's not just the college of education and the state board that make that decision, because we've got some skin in the game. So it's really a blended model of taking what we've been learning about selection from the alternative, nontraditional programs, including Teach For America.

*Pam:* I think these blended models are the future. We need to ensure that the critical features in these models are part of all teacher preparation, wherever it takes place. Strengthening the link between what they are learning and the places that they're going to be teaching is critical wherever we prepare teachers, including professional development schools partnering with colleges of education. The more that there is a common system around supervision and the mentoring that wraps around that, and the more that you can be preparing people for the actual curriculum, the stronger the preparation.

*Tony:* The field needs accountable entities for improving the entry and efficacy of new teachers entering the profession. Such entities would have the full range of responsibilities: to select, prepare, and then mentor, support, evaluate, and provide feedback as novices learn to teach. With this full range of authorities, they would also be accountable for novices' subsequent teaching performance. There would be no one else to blame. The institutional walls that now separate formal teacher preparation in colleges of education from the school district contexts in which novices actually learn to teach divide these responsibilities in nonproductive ways. This allows us to continue to produce a set of outcomes that no one intends, yet few seem able to redress.

### *Strengthening Those Who Teach Our Teachers*

The conversation then turned in an unexpected direction—the absence of standards for teacher educators and research on how to improve their practice. A portion of this follows.

*Pam:* I think people are radically underprepared for the work of helping other people learn to teach. We don't prepare people well for the task of coaching to improve human performance. I think about the coaching of any skilled performance; learning to give really clear, targeted feedback isn't something we can learn on the fly. We have a lot of people doing it, but I'm not sure they're all doing it well.

Too much mentoring of teachers is very generic. And so the mentors and supervisors aren't necessarily able to give the feedback that may make the most difference because it's not at the right grade level or content specificity.

Teacher educators need to learn how to do this work, how to work better with districts and be sure that they understand the needs of the schools and districts so they are focusing on those things. What I'm hoping is that as we move toward better systems, of both preparing and assessing teachers, we're also building capacity—people who really have expertise and who can go in and say, "This is a really good math lesson and let me tell you why." As well as people who can go in and say, "This is a very well-managed classroom with lots of effective classroom routines."

Thinking about the kind of teachers, highly effective teachers, that we've been discussing, and what I know about both school districts and schools of education, as far as I can tell, it's one of those things that good people make up on their own.

*Tony:* I have seen the same thing, school-based professional development organized through coaching. Huge investments have been made here, but I am stunned by the absence of conceptual frameworks, measures, empirical evidence about what it means to mentor well. While I think there are some clinical exemplars—the old work in District 2 and an occasional program here or there that actually has some empirical underpinnings, like the Literacy Collaborative—the field is surprisingly thin given how much we have invested in these practices. To be clear, I think school-based coaching is important. I do wonder where we could be as a field now if we had some tradition of empirically grounded practice development. There is a big R&D agenda here.

### *Commentary*

The outcome of the nonsystem was evident in the way participants registered no surprise at the outcomes we see: enormous struggle among new teachers, high levels of frustration at the gap between what they would like to accomplish and what they actually know how to do, and high burnout and turnover rates. The current nonsystem for developing and supporting new teachers maximizes the great variability in performance that we witness across our nation's classrooms. This is manifest in the weak mechanisms that socialize novices into teaching, the often irrational nature of their initial assignments, and, more generally, in what we signal that this profession is all about (e.g., everyone is supposed to invent his or her own lessons). Our nation's schools regularly overwhelm novice teachers while at the same time underutilize genuine expertise among more accomplished, experienced colleagues.

So what would a more productive system for teacher development look like? Each roundtable participant offered a distinct piece to the puzzle. And they did achieve consensus on one important conclusion: the clinical apprenticeship is the weak underbelly in our current system. Redressing this entails strengthening schools as places of learning for adults as well as students, reframing the roles and responsibilities for novices entering the profession, and paying sustained attention to developing clinical capacities among teacher educators. An improvement agenda, stunning in its systemic scope, came into view.

### Strong Schools as Engines for Teacher Learning to Practice and Improve

Conversations about instruction naturally focus on the work of individual teachers as they engage students around subject matter. Not surprisingly, most of the research on teaching is organized around the individual teacher as the unit of analysis. Pressed by Ed Liu's comments that teaching is a social enterprise carried out within school communities, the roundtable also considered the key role that school-based professional communities play. Research over the last decade tells us that the organization of schools as a workplace for teachers really matters. It is strongly linked to teacher retention in the profession, to schoolwide improvements in student learning, and to how well new teachers perform in their classrooms. This same research also points to the centrality of principal leadership in supporting such professional learning communities. Schools with quality leadership and a professional work environment are easier places to teach and to learn to teach.<sup>1</sup> So the traditional maxim reciprocates: it takes good teachers to have good schools, and good schools also make good teaching easier.

*Ed:* I was struck by Steven's book and Doug Lemov's book about how much they focus on establishing the classroom culture, beliefs, systems, and norms. Those elements are in turn supported by the school, the norms of the school, and its cul-

ture. And so if you just look at specific moves inside the classroom, you may be ignoring important social resources that the teacher is drawing upon.

*Ann:* We started thinking that we would help induct teachers into unique pieces of our instructional approach—for example, sheltered instruction or inclusive practices. What we found over time was that we had to back up and take a more basic look at how we actually develop and support teachers.

We are listening to our highly effective teachers who we've invited to go to challenging schools. We asked, "What would it take?" And everyone thinks that it's money that's up there at the top; but no, it's number five. What they say is, "I want to go as part of a team of highly effective teachers, and, by the way, I want you to take some highly toxic teachers out of that school before I get there." We believe that we can get teachers to go to our most challenging situations if they can go together and if there's a professional learning environment there that's going to support them.

*Jane:* Faculty peers make a difference. Our value-added analyses indicate that having effective peers around you affects your productivity.

*Steven:* You can mitigate individual weaknesses in dispositions and skills by having a good culture around people, so people who may not be able to do it on their own can do it in a collaborative world. I don't think that the TFA studies of teachers in particularly challenging settings who are creating these islands of excellence should in any way imply that we don't think the overall context is important. Healthy, supportive context is what turns this work from heroic to sustainable. Great leadership, especially at the campus level, creating a culture of excellence is how we will take great teaching to scale.

*Ann:* We operate under the premise that there are two levers: an effective principal and effective teachers, but that principal leadership comes first. We have 178 schools in Charlotte, and over the last four years we've made 140 changes in principals. We knew we had to start there. It all starts with an effective leader who is able to hire effective teachers, nurture a school professional community, and coach new teachers as they come in. We did not have effective principals who could recognize effective teaching, and, in fact, we saw that many ineffective teachers were congregated with an ineffective principal.

*Pam:* This is consistent with new research, based on value-added data, that looks at the effects of school placements on the productivity and retention of new teachers. Being placed in a school with quality leadership and a professional work environment not only predicts student achievement in the first years of teaching but also has an impact on retention. The latter is important because keeping people in teaching long enough to be truly effective will have an impact on student learning.

*Ann:* We have found that the best way to support our teachers in this regard is through an alliance structured by grade level and subject. It really gives them that coaching support. They get a coach who's been in their classroom and who's then meeting with clusters of teachers in different regions of the district and provid-

ing that “just in time” professional development and coaching. This has probably stretched our teachers more than anything else that we’ve ever done—rather than just hoping it’s going to happen within the school context.

### *Commentary*

Taken together these observations suggest that teacher development requires a blend of school-based professional community and networked learning organized around subject matter, grade levels, and student learning needs. Two quite different considerations are embedded here. One focus is directly on novice teachers: the need for careful tracking of their progress, identifying problems as they arise, and designing personal interventions. The second is organized around enhancing knowledge and skill in specific subject matter and how best to teach it. These two different considerations suggest a need for human resource development across multiple dimensions. School-based teams can be a powerful organizer for the first dimension. However, the second dimension may necessitate something more akin to a cross-school network.

### Technical Dilemmas: Measurement and Accountability

#### *You Cannot Improve at Scale What You Cannot Measure, but . . .*

At the core of our current nonsystem of teacher preparation and support is a basic ambiguity about what we really want children to know and be able to do and how we can know if our educational systems are actually accomplishing this. Although the emergence of the Common Core State Standards may eventually improve matters, we live today in a world that is uncertain about the measures we currently use to assess student learning. Accompanying this, we are also uncertain about what teachers should actually do in classrooms to advance this learning.

Thus, the roundtable asked, how do we skillfully improve teacher learning absent good measures of student learning and quality instruction?

*Pam:* I think good teaching sets ambitious goals for student learning, provides students with the kinds of tools they need to reach those goals, and provides a lot of support around what students are able to do. I think that it’s also that ability to keep the demand high. Watching a lot of classrooms, in general, I think there is a lack of intellectual challenge. Even when kids are busy and doing work, they’re not being pushed, and at other times there is that push without the kind of support to help them be successful.

*Jesse:* The level of intellectual demand in pretty much every classroom that I go into is nowhere near where I think it needs to be. So I worry, actually, that the stuff that we’re talking about in terms of success—getting people ready for some clear tests and standards—will not actually be considered success in twenty years, when we see what sort of intellectual, cognitive, social skills, and habits are required at

that point. I actually don't think we're even close to what we need to be doing to get people ready for these sorts of intellectual demands.

*Steven:* We need to start by accepting that our current proxies for academic success are incomplete and imperfect. What we *really* want to measure is the extent to which our children have a full range of opportunities, and in fact a sense of fulfillment, five to ten years from now. Clearly, academic achievement is a necessary element of that path, but it is not the complete path. At the same time, I worry about our tendency to take refuge in our lack of perfect measures as an excuse for a lack of real progress with our students.

*Ann:* I think about the pre-K students in Charlotte that will graduate in 2024. I think we need to operate with the here-and-now of what's available. I look forward to the authentic, intellectually challenging assessments and instruction that will come with that. We have an achievement gap that is very real, and what are we going to do about that? I agree with Steven that we've got folks doing it well now, and we need to learn and figure out what it is they're doing. But we also have some highly ineffective teachers. And that's absolutely untenable. So it's about striking that balance in the short term, while looking forward to the promise of what this conversation will do for us as a nation down the road.

*Ed:* I do worry about the narrowing of teaching around what's measured. We have to look at the context. There are some interesting new results from early childhood longitudinal data looking at the role that elementary school teachers play in developing social and behavioral skills and how that correlates to their ability to teach math and English. The correlation of these elementary teachers' effectiveness in teaching math and English was about 0.4. The correlation between their academic instructional ability and their effectiveness in developing social skills was 0.15. So some of the teachers that may be effective in teaching subject matter may not be as effective in the social behavior development, which I would argue is equally important for long-term success in the classroom as well as outside in the economy and the labor force. And so I worry about what's not being measured and the wrong incentives this may create for teachers.

*Jesse:* There's a complexity inherent in this question. Anybody that says "we're just about teaching you the love of learning" is doing children a disservice. On the other hand, I am ambivalent about the structure that increasingly surrounds how we teach people to teach. We have a set of instructional rubrics and frameworks, and "good teachers" are good at getting kids to do what those rubrics ask. I wonder, though, if we are training people to teach in a way that ultimately won't match up with what their students really need.

In most of life, no one gives you the rubric ahead of time. You have to make decisions in real time without complete information. So as we develop new tests, assessments, and instructional systems, are we doing it in a way that's mirroring the realities that we expect our kids to face later in life, or are we offering them something less? I also don't think we teach our own teachers well enough how to manage in this regard, how to become effective decision makers. Sometimes I'm worried that we're doing a disservice to our own teachers in that way too.

*Tony:* I think about these concerns in the context of the increasing use of teacher observation rubrics too. To the extent that you think about teaching assessments as defining what you want to see in classrooms, but do not simultaneously recognize them as fallible indicators, we again run the risk of deifying them as the operating objectives we seek to achieve. I do worry about the thinness of some of the protocols being adopted or adapted by districts. Will this information help move teachers from good to great? Is there capacity here to inform the improvement of virtually all teachers, or are these really designed primarily to identify and document a bottom subgroup that you want to get out of classrooms? This is the mirror image to concerns about overreliance on traditional standardized test scores while simultaneously espousing more ambitious learning goals for students. Do the assessments actually signal what good instruction looks like? Similarly, if you get more of what you measure, will you get more of what you want?

*Steven:* Ultimately, every organization in the business of teaching children needs to itself be a learning organization with well-developed learning loops that are evolving the vision of excellent effective teaching in that context. During Race to the Top and Investing in Innovation (i3) [federal grants programs], we would have people call up Teach For America and ask can we just take the rubric we've developed and apply it in this context or that district. Well, that misses the entire point. If a rubric is not evolving internally based on what you're doing and who you're seeing as successful, then it's not doing a fraction of the work that it needs to be doing for kids. What we're talking about is building an effective organization that does what it says it's doing with 100 people or 1,000 people or 10,000 people.

*Tony:* I recognize that learning from practice to improve must begin with what we can currently measure. Over time we need to improve the measures themselves. I do believe that extant fallible measures can be productively used in seeking to learn from and improve practice, so long as we remain aware of the quality limits of the measures.

On the other hand, if we move to define instructional quality based on narrow fallible measures and then proceed to build systems that reward and incent people to do more of what is measured, troublesome consequences may well result. Under high-stakes accountability, we will almost surely get more of what we measure in schools, but in the end we might well be pushing teaching in the wrong direction. We actually can do harm, a reality that I fear many well-intentioned reformers are too quick to dismiss.

So here lies the dilemma. Instruments potentially useful for improving teaching, when placed at the center of high-stakes accountability, may undermine the validity of the measures for precisely this use. They may even have the unintended consequence of dumbing down teaching and learning. I think this is true for both teaching rubrics as well as standardized tests.

So yes, we need to use the measures in hand, but we must also be prudent and wise. How best to proceed is neither simple nor straightforward.

*Aligning a Burgeoning Teacher Accountability Movement to Improve Teaching*

Education is a social resource-intensive enterprise. Yet, oddly, we give little credence to school-based teams and how individual teachers contribute to team effectiveness. To use a sports analogy, you can have good individual players but not necessarily a great team. Likewise, a good team makes everyone better.

This idea of strong school-based professional teams sits at the center of the reforms discussed above for strengthening the preparation and continued development of teachers. Similarly, it is important for students because they experience the totality of a school and not just an aggregate of discrete classrooms. Yet, this observation is ignored in many teacher accountability systems. If we consider effective team participation a twenty-first-century skill for students, shouldn't we also value this in the work of our teachers?

*Pam:* In my work with English departments, it's really the collective work that's going to contribute to student learning, and we all need to be responsible for this and provide the rewards to teams—grade-level teams or departments as opposed to individuals. This might press for more collective accountability, because part of what you want to see is teachers pushing each other to get better, teachers being responsible for the improvement of a colleague's practice. Right now, that is so far from the norm in teaching. You know the teacher down the hall maybe isn't doing a good job, you get her students, so you actually have evidence . . . but most teachers would say, "That's not my job, that's not my problem." So I do think that all the focus on individual accountability misses the fact that in many successful schools there is collective work on many of these things, and the extent to which people are able to agree on what good practice looks like, share the resources, and work together to get these, I think kids benefit.

*Ed:* I think teacher education programs should do much more to socialize teachers into this type of working approach. Business schools do a much better job of thinking about the soft skills, socializing individuals, encouraging them to network, coaching them on giving presentations, and embedding team projects throughout every single classroom. So, if we think this is important—an essential complement to individual classroom performance—then we need to think strategically about how we socialize new teachers and give them opportunities to develop these skills.

*Ann:* Professional learning communities are embedded in every standard in North Carolina's new teacher evaluation instrument. It's impossible to be evaluated as an accomplished teacher without demonstrating this. Our colleges of education are grappling with these very issues. How do we include this as a part of the experience? We can't simulate it sitting over here in a college of education. This has to be a regular part of what novices experience during their student teaching. This means more time in schools and less in the college classrooms. But again, we need strong school-based professional communities to support this learning in practice.

*Closing Commentary: Accelerating Our Collective Capacities  
to Learn from Practice to Improve It*

ANTHONY S. BRYK AND SHARON GREENBERG

As Heather described in her opening commentary, a diverse group of educators came to the roundtable deeply concerned, but also hopeful, about the pursuit of more effective teaching. We joined in their conversation with great admiration for the diverse voices assembled. In designing the event, Carnegie and Teach For America deliberately sought to explicate a wide variety of perspectives on both the problems we confront and the landscape for promising solutions. While different points of view emerged at several points, conversation also cohered around a core theme: we need systemic change in how we recruit individuals into the profession, how we prepare and support novices as they learn to practice, how we evaluate their performance, and how we support their development over time. This convergence struck us as remarkable. In digging deeply into our diverse individual work, we found common ground.

*See the System*

The noun *system*, along with its related adjective *systemic*, is so frequently used in writings about reform that its precise meaning is often obscured. It is worth noting that, by definition, a system consists of a set of elements that stand in strong interaction with one another. Systemic change entails coordinated action across this set of elements where deliberate attention to each element is essential. A serious weakness in any one system component can easily undermine the efficacy of the overall enterprise.<sup>2</sup> This understanding permeated the roundtable deliberations. Participants agreed that no one simple, new policy initiative waits to be identified. There is no silver bullet for reform.

Participants sketched out key interconnections among a set of essential elements to improve how novices are initially prepared to teach and continue to develop. There was a broad endorsement for improving teaching by requiring a sharper focus on candidate selection, teacher knowledge and skill development, the immediate contexts where teachers work and learn to practice, and the larger institutional environment in which all of this is embedded.

First, it demands recruiting individuals who are passionate about teaching and who have demonstrated persistence in responding to setbacks and resilience in coping with uncertainty. These are *essential dispositions* necessary to maintain the constant press toward more ambitious learning for all students. A systemic strategy also entails more *explicit preparation and support* for the actual clinical work that each individual teacher is asked to undertake. And it means deeper attention to the instructional triangle: (1) the specific pedagogical content knowledge of the subject/grade to be taught; (2) the academic and cultural backgrounds of the students who comprise the particular classroom assignment; and (3) an understanding of how best to use the specific

instructional resources (curriculum, pedagogies, assessments, etc.) provided by the employing district. Expert teaching involves a skillful orchestration of activity within this instructional triangle.

Advancing these learning-teaching goals, in turn, presses toward much *greater coherence between the efforts of schools of education and the actual context where novices learn to teach*, in schools and districts. It focuses a spotlight on the most critical weakness in teacher preparation: the clinical apprenticeship. The cooperating teachers, coaches, and mentors engaged in this work typically receive little, if any, formal training for these roles. Their efforts are largely informal and guided at best by cursory standards of performance. Improving learning-teaching entails developing a much stronger cohort of teacher educators. Finally, designing systemic reform entails the *integration of measurement and accountability systems* that inform and incent the development of the teaching expertise necessary to engage all students in more challenging intellectual work.

The ideas set out in the roundtable are just that—ideas. Transforming them into an institutional system that achieves efficacy with reliability is a core improvement problem that we face in education today. At base, we have weak capacities to learn from practice to improve. Addressing this concern is the new mission of the Carnegie Foundation for the Advancement of Teaching. We sketch below the approach we are taking in response.<sup>3</sup>

### *Teacher-Centered Design*

Despite more than twenty-five years of reform efforts in teacher education, dating back to the Holmes Group,<sup>4</sup> the pathways for teacher development from novice to expert practice remain largely unmapped. Professional organizations, as well as states and districts, have promulgated teaching standards as lists of best practices. Courses of study and goal frameworks for preservice programs are increasingly expansive in terms of content to be covered. Districts operate a wide range of professional development initiatives, including mentoring, induction, and subject-based coaching. School-based professional communities aimed at local improvement also are on the rise. But what it means for teaching to improve, and how we might more systematically guide its development, remains a mystery.

Increasingly, attention is moving toward design-based efforts to improve educational practice (see, e.g., Penuel, Fishman, Cheng, & Sabelli, 2011). A key idea in much of this work is that organizational improvement should be user-centered.<sup>5</sup> Teacher-centered design would be rooted in the specific experiences of new teachers as they move along a development trajectory toward learning to practice expertly. As described by those at the roundtable, novices have much to learn. But what does development actually look like as teachers progress from their first day in the classroom toward sustained expert performance? We need to detail in practical terms effective learning progressions for new teachers just as we now are attempting to do for our students.

*Networked Communities Engaging Improvement Science*

Next, we need to develop practical measurement tools by which schools, districts, and human resource development organizations can introduce change, track progress, revise-retry, and continuously improve. In other fields, these practices of systematic organizational learning have come to be called a science of improvement (Berwick 2003, 2008; Langley et al., 2009).

Coupled with this learning orientation, we must have a critical perspective on the social organization of reform efforts in education. Silos of practice, silos of inquiry about practice, and silos of efforts to improve practice characterize our field. Much of the profession shares a set of largely tacit beliefs that teaching is an individual craft, that each classroom, school, and district is unique and therefore each must invent all practice anew. Likewise, schools of education are silos too. Little evidence regularly feeds back from teaching practice to formal clinical education. On the research side, academia prizes the new idea rather than how to engineer extant ideas and materials into integrative systems of thinking and action that might broadly advance efficacy in teaching.<sup>6</sup>

This view has led us to conclude that we need much stronger capacities in our field to learn in and through practice to improve. Individual educators can and regularly do innovate, but we have weak capacities to learn collectively from it. Great effort, energy, and dynamism are at work every day in our classrooms, schools, and districts; however, these occur within an institutional environ akin to a Tower of Babel. Like the Genesis story, this is not primarily a problem of laggards and “bad apples.” Rather, we lack a common language for describing problems, shared frameworks for guiding hypothesized solutions, and common measures for testing progress, guiding revisions, and iterating toward higher standards. Absent these, the harder we work, the more dissonance we seem to create. Grand aspirations are frustrated and valued results are few.

But these are reasons to be optimistic. A growing number of organizations now actively inquire about their practices and use what they learn to drive change.<sup>7</sup> Each seeks to learn from its practice to improve.<sup>8</sup> As we heard in the roundtable, for example, the Charlotte-Mecklenberg school district is studying its most successful teachers, keeping track of how those teachers have been recruited, selected, and supported as well as thinking critically about how to spread what’s working. Teach For America has changed its framework of excellent teaching and its selection model virtually every year based on which factors have been more and less predictive of a teacher’s students’ learning. To have a conversation with the Boston Teacher Residency is to see a learning organization in action: Jesse Solomon and his colleagues are continually adjusting their model in pursuit of better results for children.

To date, however, most of this activity is occurring within individual organizations, absent institutional arrangements and incentives to federate this knowledge building. While select individual organizations are learning, accel-

erating improvement at scale entails organizing this social practice in ways that might exploit the innovative dynamics of a “wisdom of crowds” (Surowiecki, 2004). Decades of basic research in organizational learning undergirds this perspective.<sup>9</sup>

We at the Carnegie Foundation seek to catalyze the emergence of networked communities engaged in such improvement research.<sup>10</sup> By deliberately organizing as clinical improvement communities, we believe that the field’s diversity, which currently produces cacophony about practice, can be transformed into systematic learning to improve.<sup>11</sup> We are now incubating two such networks, one of which is organized around a topic similar to that of the roundtable: addressing the weak and incoherent systems that bring novices into teaching and then fail to support them in developing and persisting in the profession. We are also encouraging others to incubate similar networked improvement communities and to join with us as a network of networks, seeking to learn together by doing together. This is yet another reflection of the wisdom of crowds, believing that together we can accomplish more than even the best of us can alone. How our field might structure such networks, catalyze their formation, and chart their evolution is our social learning agenda. As a foundation committed to the advancement of teaching, we welcome your thoughts, reactions, and engagement.

## Notes

1. See, for example, Berry, Smylie, and Fuller (2008); Boyd, Grossman, Ing, Lankford, Loeb, and Wyckoff (2011); Hirsch, Emerick, Church, and Fuller (2007); and Johnson, Kraft, and Papay (2011).
2. For a further elaboration of this systems-theory argument and its use in guiding inquiry about school reform, see Bryk, Sebring, Allensworth, Luppescu, and Easton (2010).
3. For a more detailed discussion of the ideas introduced here, see Bryk, Gomez, and Grunow (2011).
4. The Holmes Group formed in the early 1980s to improve the quality of teacher education programs. It consisted of a consortium of education deans and chief academic officers from the major research universities across the United States and produced a number of reports, including *Tomorrow’s Teachers: A Report of the Holmes Group* (1986). The Holmes Group precipitated widespread changes in teacher education, including the expansion of five-year (master’s degree) programs.
5. The idea of user-centered design is central to the work of highly prized commercial design firms such as IDEO. It is also a key organizer for the new Hugo Plattner Institute of Design at Stanford University.
6. For a more detailed introduction to the institutional issues in educational R&D, see Bryk and Gomez (2008).
7. Englebart (1992) details a multilevel model for accelerating social learning to improve: level A is what individuals learn on the job floor as they seek to carry out their work tasks; level B is intraorganizational learning of the type referenced here. This closely aligns with the idea of single-loop learning developed by Argyris and Schön (1978).
8. See, for example, Farr (2010).

9. For a compelling account of the role of crowds in innovation, see the TED talk by Chris Anderson at [http://www.ted.com/talks/lang/eng/chris\\_anderson\\_how\\_web\\_video\\_powers\\_global\\_innovation.html](http://www.ted.com/talks/lang/eng/chris_anderson_how_web_video_powers_global_innovation.html)
10. We note that strengthening intraorganizational learning (e.g., new collective understanding shared by a faculty) creates new opportunities for individual learning in carrying out their daily practice. Likewise, strengthening interorganizational learning, Englebart's (1992) level C, improves activity at both levels A and B.
11. This is the level C interorganizational activity described by Englebart (1992) as learning to learn. It is closely related to ideas about double-loop learning from Argyris and Schön (1978). It is important to note that such level C learning is not self-forming. Englebart (1992), for example, details the need for integrative hubs to guide such network learning. Likewise, the activity of networked improvement communities is different from the more loosely structured idea bazaars that characterize many contemporary learning communities in education. While such learning communities typically share common concerns, common conceptual frameworks and measures for charting progress are less well developed and mechanisms for empirically testing less visible. Ideas are shared and individuals may learn, but the field is not systematic about testing its ideas against evidence and warranting claims about knowledge.

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