

# TOWARD A GOLDEN AGE OF EDUCATIONAL PRACTICE

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**INTRODUCTION:****THE END OF EDUCATION POLICY**

Exactly thirty years ago, in February 1989, the political scientist Francis Fukuyama gave a talk that was later turned into an article that was later turned into a book, with the provocative title *The End of History?* With the collapse of the Soviet Union and the end of the Cold War, western-style liberalism had triumphed over Communism and had already fended off Fascism. As [a recent article in the \*New Yorker\*](#) noted:

If you imagined history as the process by which liberal institutions—representative government, free markets, and consumerist culture—become universal, it might be possible to say that history had reached its goal. . . . There would be a “Common Marketization” of international relations and the world would achieve homeostasis.

It’s a strange time to be using the End of History as an analogy because, as we now know, the end of the Cold War was not the End of History at all, but the end of just one chapter.

But it *is* fair to say that for a decade or two, the world did achieve some sort of homeostasis, perhaps a break from history instead of its end. Democracy was on the move, global trade boomed, and the world became a freer, more prosperous place.

So what does this have to do with education?

We are now at the End of Education Policy, in the same way that we were at the End of History back in 1989. Our own Cold War pitted reformers against traditional education groups; we have fought each other to a draw and reached something approaching homeostasis. Resistance to education reform has not collapsed like the Soviet Union did—far from it. But major changes were institutionalized that won’t be easily undone, at least for the next decade.

Namely, we are not going back to a time when urban school districts had the “[exclusive franchise](#)” to operate schools within their geographic boundaries. Public charter schools [now serve over three million students](#), many of them in our large cities, where [20, 30, 40, and even 50 percent](#) of the students are now in charter schools. These charter schools are not going away. Another [half a million students are in private schools](#) thanks to the support of taxpayer funding or tax credit scholarships. Those scholarships are not going away either. At the same time, [the meteoric growth of these initiatives has slowed](#). Numbers are no longer leaping forward but are merely ticking up.

Meanwhile, [alternative certification programs now produce at least a fifth of all new teachers](#). We are not going back to a time when traditional, university-based teacher preparation programs had the exclusive right to train teachers.

And even testing—that hated policy with no natural constituency—is now entrenched, at least until the Every Student Succeeds Act comes up for reauthorization. It appears that [the testing backlash is starting to recede](#), thanks—I would argue—to [policymakers addressing many of the concerns of the testing critics](#). The underlying [academic standards are stronger and clearer](#); [the tests are more sophisticated and rigorous](#), and encourage better teaching; [the state accountability systems that turn test results into school ratings are fairer and easier to understand](#); and teacher evaluation systems have been [mostly defanged](#). And truth be told, school accountability systems no longer have much to do with “accountability,” but are really about “transparency”—telling parents and taxpayers and educators the truth of how their schools and students are performing, but mostly leaving it to local communities to decide what to do about underperformance, if anything. All this has made testing and accountability, if not popular, at least less unpopular.

So we have reached a homeostasis in education policy, characterized by clearer and fairer but lighter touch accountability systems and the incremental growth of school choice options for families—but no appetite for big and bold new initiatives.

To be sure, there are still fights—battles in state legislatures between reform advocates and their opponents, and sometimes little skirmishes in Congress—but they are at the margins. Should we spend a little more, or a little less? Grow the charter sector a bit, or shrink it a smidge? Add some regulations, or reduce some? Throw out PARCC, or keep it? Use A–F grades, or something less clear? Add indicators around social and emotional learning, or stick mostly to test scores?

Those are important, but—compared to the broad policy shifts of the ed reform era—small ball. What’s important to acknowledge is that the period of big new policy initiatives stemming from Washington or the state Capitols appears to be over, at least for now.

Our End of History will not last forever. It is fleeting. But it provides a real opportunity while it is here.

The opportunity is, for us as a field, to finish what we started, to usher in a Golden Age of Educational Practice. To implement higher standards with fidelity. To improve teacher preparation and development. To strengthen charter school oversight and quality. To make the promise of high-quality career and technical education real.

It’s not a moment too soon. As my colleague Robert Pondiscio has long argued, a focus on education practice is sorely needed. That’s because, despite real progress in recent decades, we are still so far from where we need to go. Reading and math achievement rose dramatically in the late 1990s and early 2000s, especially for the lowest-income and lowest-performing students. But it’s been mostly flat since then; the latest NAEP scores marked a “Lost Decade” for educational progress. And while high school graduation rates are higher than ever—in part because of those achievement gains ten or fifteen years ago—more than half of our students graduate from high school without the academic preparation to succeed in what’s next. More than half. They aren’t ready for a four-year university program, a one- or two-year technical training program, or a well-paying job. They are *not ready*.

So while policymakers might be taking a break from education policy, we cannot afford to take a break from educational improvement.

But how can we get 14,000 local school systems and 7,000 charter schools rowing in the direction of better outcomes for kids if big new policy initiatives are off the table?

I will explore those questions in the following pages. The challenge is to think big enough so that initiatives might have an impact at scale—to move the needle on the Nation’s Report Card; to lead a significant increase in postsecondary completion rates, especially for low-income students and students of color; or to boost the number of young people prepared to earn a family-sustaining wage, thanks to strong education and training. Once you start thinking about continental scale and take policy off the table, there are no easy answers—though I do believe there are some possibilities, especially if philanthropists are willing to come to the table.

**While policymakers might be taking a break from education policy, we cannot afford to take a break from educational improvement.**

But it can't just be wishful thinking. Let's go back to Francis Fukuyama: Imagine if we had spent the 1990s helping Russia make a successful transition to a real democracy, or working to cushion the working classes in the U.S. and Europe from the ill effects of global trade, or paying more attention to the growing risks from radical fundamentalists around the world? If we had, then we might not be facing our current predicaments.

So too with *our* opportunity. If we take a break from the hard work of educational improvement or accept another "lost decade" of academic achievement, we will be giving up on the futures of millions of kids while setting the stage for another era of top-down policies that may or may not help our schools. We cannot afford to fritter away these years. We must continue to act.

The leadership for this Golden Age of Educational Practice is not coming from Washington, and it's not coming from the states. It needs to come from each of us.

## SECTION 1:

# LET RESEARCHERS PEEK INTO THE BLACK BOX OF THE CLASSROOM

When it comes to what's actually happening in the classroom, key decision-makers are flying blind. And it's not just policy wonks or education scholars who lack information; leaders at state and local levels have too little insight into classroom practice as well. Whereas the world outside our schools has been transformed by information technology, the data we collect on classroom practices is somewhere between nonexistent and laughably rudimentary. In other words, *we know almost nothing about almost everything that matters.*

To be sure, education research improved dramatically starting in the early 2000s with the creation of the Institute of Education Sciences, the federal mandate for annual tests in grades three through eight, and the concurrent development of longitudinal data systems in most states. Scholars suddenly had the money and the data to examine a variety of educational interventions and their impact on student achievement, significantly increasing our understanding of what's working to boost student outcomes.

Yet the vast majority of such studies rely on state "administrative data"—information collected to enable our systems to keep humming along, but that can also be happily recycled as markers of various inputs or programs whose effectiveness might be studied. Lots of this relates to teachers' characteristics—their years of experience, race, training, and credentials. Other data capture bits of students' experiences—their attendance patterns, course-taking habits, family background—and that of their peers.

This is all well and good, but it's still very limited. We end up studying the shadow of educational practice rather than the real thing. What we don't see is what's actually going on in the classroom—the day-to-day work of teachers and their students—the curriculum, the assignments, the marks students receive, the quality of instruction itself. We simply don't know what kids do all day: the books they read, the tasks they're asked to perform, the textbooks teachers use—if they're used at all or sit unopened in the closet—or whether programs are implemented with fidelity, haphazardly, or not at all.

**We end up studying the shadow of educational practice rather than the real thing.**

Examining practice has always been a difficult and expensive proposition. The most respected approach involves putting lots of trained observers—often graduate students—in the back of classrooms. There, they typically watch closely and code various aspects of teaching and learning, or collect video and spend innumerable hours coding it by hand. This is incredibly labor-intensive and costs gobs of money, so it's relatively rare.

Alternatives to observational studies are much less satisfying. The most common is to survey teachers about their classroom practices or curricula, as is done with the background questionnaires given to teachers as part of the National Assessment of Educational Progress (NAEP). Though useful, these types of surveys have big limitations, as they rely on teachers to be accurate reporters of their own practice—which is tough even with positive intentions. It's also hard to know whom to survey about some information; for example, Morgan Polikoff, associate professor of K–12 policy at the University of Southern California, has been trying to understand which textbooks schools are using and is finding that, in many districts, nobody can give him a straight answer.

So that's the challenge: We lack the systems to collect detailed information about classroom practice that might help us learn about what's working and what's not, and inform changes in direction at all levels of governance.

There are potential solutions:

1. Take advantage of data already being collected by online learning providers and services, such as Google Classroom, to gain insights into our schools;
2. Systematically collect a sample of student assignments, complete with teacher feedback, to learn more about the "enacted curriculum," its level of challenge, and its variation; and
3. Use video- or audio-recording technology in a small sample of schools to better understand instructional practice in America today.

The first possibility is a cousin of using administrative data to power research studies. Online learning platforms, like Khan Academy, and services, like Google Classroom, are already collecting reams of data about teaching and learning, but to my knowledge, these data remain largely proprietary and locked away. Surely it would be possible to protect student privacy and any trade secrets while allowing researchers to gain insights into what's working in our schools.

Google Classroom seems particularly promising, given that, by some accounts, more than two-thirds of districts use it today. Imagine if scholars could view, anonymously, student essays and other assignments. With the help of machine learning, we could figure out how much variation there is in the level of challenge of the assignments and in the grading standards. And we could glimpse if schools with tougher assignments and higher grading standards were getting better results in terms of student learning, after controlling for background factors. We might also be able to tell which curriculum a given teacher or school was using and the degree of alignment between student assignments and grade-level standards.

This approach would be particularly useful for middle and high schools, given that many assignments are now completed online. But what about elementary schools, where paper-and-pencil worksheets still largely rule the roost? That brings us to our second big idea. Imagine if we could identify a nationally representative sample of elementary schools where researchers would collect a sample of student work—worksheets, quizzes, tests, etc.—on a regular basis. The research initiative would develop an easy-to-use mechanism for digitizing these materials, adding value to the teacher and the school. For example, a provided scanner could make copies of marked-up worksheets and quizzes, automatically enter the grades into teachers' electronic grade books, put an electronic copy in a students' online portfolio, and send the image to parents' emails. Meanwhile, the information is sent to the researchers, connected securely to

each students' profile, and anonymized. (Xerox's XEAMS initiative experimented with some aspects of this; [Class Dojo](#) has some of these functionalities, too, with students scanning their work with iPads.)

Just as with Google Classroom, we'd make a quantum leap in our understanding about the curricula our schools are using, the level of rigor in student assignments, teachers' grading standards, and much more.

The third big idea—and also the most controversial—is to record what's happening in a sample of our classrooms. (Audio is less intrusive than video and gives just as much information.) Using a smart speaker, like an Amazon Echo or a Google Home Mini, researchers could capture the play-by-play of instructional practice and then train algorithms to make sense of what's recorded. This is no longer the stuff of science fiction; researchers are already doing this to glean insights into what questions teachers are asking—and which approaches work best to drive student engagement and learning.

They start by capturing high-quality audio, and then they run the audio files through several speech-recognition programs, producing a transcript. Then their algorithm goes to work, looking at both the transcript and the audio files (which have markers for intonation, tempo, and more) to match codes provided by human observers.

The computer program has gotten quite good at detecting different types of activities—lectures versus group discussion versus seatwork, for example—and is starting to be able to differentiate between good and bad questions. Humans are still more reliable coders, especially for ambiguous cases. But the computers are getting better and better—good enough that, with sufficient data, they can already produce some very reliable findings at a fraction of the cost of a people-powered study.

**The biggest hurdles aren't technological, but political: Such an effort must earn the trust of teachers and parents.**

Connect all this to state administrative data and student achievement data, and we would finally have an accurate picture of what's actually going on in U.S. schools. (We'd know, for example, the degree to which schools are narrowing the curriculum and squeezing out science and social studies.) And we'd have vastly more information with which to study the effectiveness of various instructional and curricular approaches.

Big hurdles remain. The biggest aren't technological but political: Such an effort must earn the trust of teachers and parents. We must be able to promise that none of the data will be used to evaluate or punish teachers; it must also be protected with the highest level of data security. None of that would be easy, but by allowing schools to opt in, and by starting with a small pilot, such an initiative might earn the trust of key stakeholders over time.

To be clear, this is a different idea than putting a camera or microphone in every classroom—akin to body cameras or dashboard cameras for police. [I've written about that notion too](#) and see potential value in it, but it raises Orwellian questions that are a whole order of magnitude higher.

The goal here is to accelerate the R&D process by improving our ability to learn about instruction. For that purpose, a relatively small number of schools or classrooms—in communities that volunteer to participate—would do the trick.

**SECTION 2:****IDENTIFY “WHAT WORKS,” WHICH IS STILL A WORK IN PROGRESS**

If we are going to take advantage of the End of Education Policy and usher in a Golden Age of Educational Practice, we need our field to start taking rigorous evidence much more seriously. Getting inside the black box of the classroom is a necessary first step. But the big payoff will come if we can more accurately and constructively identify “what works” (and when it works, and what it costs)—and get it implemented more widely across the country.

That’s not a particularly revolutionary notion. People have been trying to figure out what works in education for at least fifty years. But we still haven’t come close to cracking this nut, and if we want to make progress, we need to figure it out.

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Many debates in education *policy* will never be settled by science because they mostly involve values, priorities, and trade-offs. (Should parents get to choose their children’s school, and if so, should religious schools be in the mix? How much should we spend on education versus other activities that compete for our limited resources? Should our schools focus equally on preparation for college, career, and citizenship?) Evidence can inform policy debates, but it is hardly dispositive.

Instructional *practices*, on the other hand, are different—or should be. Consider elementary schools: those magical places where we work to turn pre-literate, pre-numerate kindergarteners into avid readers, writers, and problem solvers, ready to tackle the Great American Novel in middle school, capable of writing a clear and persuasive essay, and possessing a mastery of math facts and an early understanding of algebraic reasoning.

None of this is controversial. Everyone agrees that all students need to have these basic skills, none of which come naturally to *homo sapiens*, and all of which must be taught to them in school. But this stuff is *complicated*. Questions of practice that elementary educators must address include ones such as:

- How can little children make sense of the code that is the alphabet? How can we help them move smoothly from sounding out words to reading fluently and confidently?
- How does “reading comprehension” develop? Is it a skill to be learned? Or is it more like a process—driven by how much students know about the world via subjects like history and geography and science?
- How can children be taught to write effectively? Should we worry about spelling, grammar, and punctuation, or can that come later? How do you teach children to write strong sentences, paragraphs, and essays?
- What about math? Should we simply teach kids that  $9 + 6 = 15$ —memorize it now!—or is there a phase when it’s helpful to teach them various strategies to figure this out and understand *why*  $9 + 6 = 15$ ? Are there some ways to teach fractions that work better than others?



For all these specific skills and processes, science can help us understand what’s happening inside kids’ brains when they’re working, when they’re not, and what that implies for specific instructional practices. To be practical, we also need to understand what works in a classroom setting. All this is surely easier to do one-on-one, between a single teacher and a single student, but we can’t afford to employ 25 million tutors for our 25 million elementary-age students. That prompts questions like these:

- Should we place students in small groups with peers at their same level in reading, writing, or math? What if those peers aren’t the same age?
- Should students practice their reading skills with books at their current reading level, or at their grade level?
- What’s the role of homework?
- How can teachers best “manage” their classrooms and keep an orderly yet friendly environment?

The best part about these questions is that their answers are knowable. In an ideal world, it would go something like this:

1. Educators identify key instructional questions for which they would like empirical answers—like those above.
2. Scientists design studies to test various hypothesis and approaches and answer educators’ queries. Some of these might focus on discrete skills and processes, and others might test out complete programs or curricula.
3. Committees of professional educators, using a rigorous process, regularly sift through the research and develop clear guidelines for practitioners based on the available evidence. The stronger the evidence, the stronger their recommendations. They also identify unanswered questions for additional study.

This is how it works in other fields, most notably medicine. It doesn’t go perfectly: Doctors still debate vociferously about various approaches to treating certain illnesses, and the medical field worries about the long time lag between the publication of evidence-based practice guidelines and their widespread use. (One study put it at seventeen years on average!) Still, most of the components are in place, and it is one reason why we continue to get better at treating illnesses.

I have a book on my desk from the American Academy of Pediatrics, *Pediatric Clinical Practice Guidelines and Policies, 14th Edition*. These folks serve the same kids that our teachers and administrators do. And on a wide range of topics, from attention deficit disorder, to diabetes, to sinusitis, and beyond, they have a set of clinical practice guidelines that professionals have endorsed *and expect to be followed*. They’re all based on rigorous studies and form the basis for medical education. They don’t expect doctors to figure out treatments for these illnesses on their own. And they don’t expect them to Google “sinusitis” or turn to Pinterest, like so many of our teachers do.

I understand that plenty of people don’t like the medical analogy. Teaching is an art *and* a science, goes the argument. Fair enough. Cognitive scientist Dan Willingham prefers to point to architecture. There is a lot of art in architecture, a lot of freedom, different styles, approaches, and traditions. But there’s also a set of engineering principles that architects simply cannot ignore, not if they don’t want their buildings to fall down.

So too in education. There will always be, and should be, a lot of room for creativity and artistry in teaching as well as a wide range of approaches, from Montessori to classical models and beyond. But there are also some design principles that cannot be ignored, not if we don't want our children to fall behind.

The teaching of foundational reading skills is one of those areas. It's crazy that twenty years after the National Reading Panel report, we still have teachers who believe that kids learn to read naturally, just as they learn to speak—and that education schools are still teaching that! (Not that it's easy to get experts to agree on what precisely the research says on the topic.) It's like architecture professors positing that gravity is just a theory.

Surely there are a handful of other areas where strong research studies can guide instructional practice. So let's begin there: Why don't we have a professional organization producing "clinical practice guidelines and policies" for education, ones that would be embraced by all educators and enforced by the profession?

It wouldn't need to start from scratch. In recent years, the federal What Works Clearinghouse has published some excellent practice guides that come close to this vision. But they have neither buy-in from the profession, nor, frankly, any teeth. It's hard to know if anyone is reading them, much less using them. A recent IES "listening tour" does not provide much optimism on that front.

Turning back to elementary schools, there's an opportunity: An accident of history has bequeathed us no professional association for elementary school teachers. So let's create such a group, one with a membership among elementary school teachers, principals, and instructional coaches. Its board should comprise accomplished educators and respected scholars and other practitioners; the Americans involved in ResearchED may be a good place to look for initial leadership.

Then philanthropists could get such a group off and running on developing a set of evidence-based practice guidelines, limited to the few areas with the strongest research. This organization might also partner with companies that administer state licensure tests to revise the assessments to align with their recommendations. Here, too, the idea isn't to invent something out of whole cloth; Massachusetts's test for prospective teachers has covered much of this ground, especially around early reading, for years.

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To be sure, none of this solves the problem of getting better practices in use in our classrooms. (I'll tackle that below.) But just as better research on classroom practice is dependent on better data about classroom practice, so is the implementation of evidence-based practices dependent on our ability to identify what is evidence based and what is not. We have bits and pieces of that today, but we need the whole enchilada.

**There will always be, and should be, a lot of room for creativity and artistry in teaching.**

**SECTION 3:****GET SCHOOLS TO USE PRACTICES THAT WORK**

It was more than thirty years ago that the U.S. Department of Education, under the leadership of Bill Bennett and Chester Finn, published the first “What Works” guides. Much of what they identified is still legitimate today but is also still widely ignored in our schools. Flagging evidence-based practices is clearly just half (or a quarter, or an eighth?) of the battle. We also have to convince the field, especially ed schools, to value evidence over ideology and beliefs, plus we have to battle what educator Peter Greene recently called “the thirteenth clown problem”—the challenge caused by shady vendors hawking various educational products as “evidence based” even when they clearly aren’t. Simply put, if we want our schools to make progress, we need the educators working inside and around them to embrace practices with the best likelihood of improving outcomes for kids.

This, of course, has been the point of more than three decades of education reform. We accountability hawks hoped that by holding schools and their leaders accountable—with school ratings, threats of painful interventions, and so forth—they would work harder and smarter to find evidence-based solutions to their problems. That’s also been an important goal of the school-choice movement—to pressure traditional public schools via competition to get better, or at least get better at serving their customers.

There’s some evidence that it worked, at least a little. The test-based accountability reforms of the late 1990s and early 2000s appear to have boosted the math scores of low-income and low-performing students significantly; NAEP scores also show a bump in reading for the same students in the early grades. Meanwhile, many school-choice studies show positive findings with respect to “competitive effects.”

But as everyone knows, how schools achieved those better results has raised a lot of questions. Did they actually improve teaching and learning, adopt proven curricula, and provide better training and support to teachers? Or did they just narrow the curriculum, focus on test prep in its several guises, and tighten the screws on overburdened teachers? The honest answer is probably “both” or “it depends on the school”—but I sure can’t spot any signs that schools nationwide suddenly got religion about finding proven curricula and evidence-based practices and implementing them faithfully in large numbers of their classrooms.

How might we do better going forward? Let’s assume that our lighter-touch accountability systems and slow-growing choice sectors are here to stay, and that there are at least a few examples of “evidence-based practices” that could make a significant difference in improving student outcomes if implemented well in our schools. (Though let’s also be humble—there may not be more than just a few.) How might we dramatically increase the chances that our schools scale up the most effective practices, resulting in significantly better outcomes for students?

There are a few actions that would make sense in a sane world but seem unlikely to happen in the world we actually inhabit. At the top of the list would be convincing schools of education to teach evidence-based practices and a respect for the science of learning. Maybe various efforts to reform ed schools will succeed where others have failed, but I’m not holding my breath.

I’m also not expecting the ESSA requirements for schools to use “evidence-based practices” to add up to much. That term is plenty elastic, so our institutions can do pretty much anything they want and still claim to be in compliance with the law.

So what might actually work? I see two major approaches—one that is bottom-up, and the other that is top-down. Let’s explore both.

### 3.A: THE BOTTOM-UP APPROACH

## BUILD A CULTURE OF IMPROVEMENT

Many ideas for [how to get educators to use evidence-based practices](#) are inherently top-down or “supply side” approaches—build tools, products, or school models on top of the evidence base, and then market them to schools. Focus a lot on the fidelity of implementation, which also implies engineering solutions that can be used in the real world, with real teachers, without making the instructor’s job even harder than it is today. I will explore all of that a bit later.

But there’s another take on the challenge, one that’s bottom-up and focused on the “demand side.” It’s intuitively appealing, as it builds teacher buy-in from the get-go: It’s about developing a “culture of improvement” in a school or school system.

The basic notion is simple, if tough to actuate: Rather than start with *answers*—like a new curriculum, assessment system, or digital learning program—begin with *questions*. Develop systems and processes that encourage educators to ask: How can we get better at our craft? How can we solve a specific problem that we’re seeing in our own classrooms? And how might we team up with similar schools or systems as we embark upon this quest?

This is the approach popularized by [Tony Bryk and his colleagues](#) at the [Carnegie Foundation for the Advancement of Teaching](#). His notion of [School Improvement Networks](#) has been embraced by districts far and wide, and it’s now at the center of the [Bill & Melinda Gates Foundation’s education strategy](#). It’s got real momentum.

I encourage you to read up on this approach and decide whether you think it holds promise. It seems clear to me that, in schools and systems with a drive to get better, the Bryk model offers a great structure and process for improvement. Because it has educator engagement at its core, it can overcome the buy-in challenge that is the death of so many other reform efforts. And it can lead to local solutions that make sense for a given school’s context, solutions that deal with the inherent nuance and complexity of instructional practices and the evidence that might inform them.

But can it succeed at helping our schools improve at a national scale and in a measurable way? I’d love to be proven wrong, but I have three specific concerns.

The first is perhaps easiest to solve: When educators go looking for solutions, sometimes they end up off track. The best example is around early reading. The Carnegie folks often point to the Literacy Collaborative as a fine model of a school improvement network. And yet, as Core Knowledge advocate Lisa Hansel pointed out in a [book review](#) several years ago, that collaborative has embraced practices that early-reading researchers view with deep suspicion, like the use of “leveled texts.” As Hansel cautioned, “. . . you don’t know what you don’t know.” At the least, we need to figure out how to better marry the “bottom up” zeal of “improvement science” with the top-down expertise of the larger research enterprise. Today there’s a disconnect.

The second and much tougher problem with the “culture of improvement” approach is that it assumes there are lots of schools or systems out there with the drive to improve. We would all hope for that to be the case—that most superintendents, senior central office staff, principals, and teachers wake up every day wondering if there’s something they could do to improve their practices, even a little but maybe a lot. But in my experience, that sort of drive is exceedingly rare, not because there’s something wrong with the people in our education system so much as because of the system itself. After 150 years, it’s big, bureaucratic, creaky, hopelessly fragmented, and risk-averse. People who have spent time inside it have seen young whippersnappers

come and go with all their new ideas for improvement and fresh solutions to old problems. Indeed, many of those long-timers were once whippersnappers themselves! But they've seen The System, time and again, wear down the change agents, sap their energy, and snap their newfangled practices back to the tried-and-true.

This cycle breeds cynicism and defeatism, if not despair, leading people to spend their time going through the motions and putting out fires. It does not provide hospitable ground for leaders willing to ask how their schools might get better at getting better.

Which brings us inexorably to the third problem: the political barriers to change within the system itself. Even with great leaders and administrators, even with a cadre of teachers fired up about finding answers to tough problems, even when better approaches can be identified, there remains the challenge of implementing change within a change-averse system. Improvement networks can't wish away collective bargaining agreements, budget limitations, the residue of district or state policies, or longstanding (and often cozy) relationships between certain vendors (of curriculum, technology, etc.) and district bureaucrats. Overcoming inertia is hard enough; slaying real vested interests is battle royal.

**Overcoming inertia is hard enough; slaying real vested interests is battle royal.**

However, there's one sizable sector of American K–12 education where I see promise in the "culture of improvement" approach: charter schools. Here we've watched a set of high-quality charter management organizations—like KIPP, Success Academy, Uncommon Schools, and IDEA—build a culture that is serious about continuous improvement. None of those networks has a school model today that is the same as it was ten years ago; they all continue to learn and tweak and evolve, even as they remain focused on their mission of helping students make the steep climb out of poverty and into the middle class. And we also have a crop of new charter schools, every year, with the opportunity and mandate to look around for best practices, to learn from the best of the best, to start with a fresh canvas and fill in the picture with answers to the questions that Bryk et al. (myself included) would like all schools to posit.

Charters have the operational autonomy to think fresh and implement new ideas, free from the usual constraints. And they have a strong incentive, thanks to real accountability, to get better results. They must perform or die.

Maybe I'm overly pessimistic about traditional districts; perhaps there are thousands out there that can use improvement networks to escape the gravitational forces that make change within their schools so difficult.

At the same time, however, I would urge the Tony Bryks and Melinda Gateses and other boosters of "improvement science" to focus their efforts on the sector best positioned to take this bottom-up reform to scale: our nation's charter schools, which continue to show a real commitment to getting better at getting better.

### 3.B: THE TOP-DOWN APPROACH

## DEVELOP, AND SELL, EVIDENCE-BASED PRODUCTS (BECAUSE THEY WON'T SELL THEMSELVES)

While the [Golden Age of Education Practice](#) might still be a distant dream, the Golden Age of High-Quality Curriculum is here and now. That's because a number of promising curricula have come onto the market in recent years, driven by the opportunity window opened by the Common Core. (And no, despite what you may have heard, that window has not yet closed. Most state standards are still very close to the Core.)

Here's how Jared Myracle, chief academic officer of the Jackson-Madison school district in Tennessee, [puts it](#):

[A] few years ago, there weren't many curricula aligned to the new standards. Fortunately, that has changed—education leaders [describe a "curriculum renaissance."](#) I've seen that firsthand: All four curricula that we adopted in Jackson-Madison County became available in the last few years.

He's right: According to [EdReports](#), thirteen products have met its high standards for alignment and usability in elementary or middle school English language arts; ten in math. These include programs by nonprofit upstarts, like Great Minds' [Wit and Wisdom](#) and [Eureka Math K–5, EL Education Language Arts](#), and [Open Up Resources Math](#), authored by Illustrative Mathematics, as well as offerings from for-profits and legacy publishers, including American Reading Company's [ARC Core](#), Pearson's [ReadyGen](#) and [MyPerspectives](#), and McGraw-Hill's [StudySync](#).

To be sure, reasonable people may dispute whether validation from EdReports, or [other entities that review instructional materials](#), makes a curriculum "evidence based." These new curricula haven't been around long enough to have gone through experimental-design studies and demonstrated impacts on student achievement. But they are [aligned to state standards, which themselves are informed by evidence](#), and have also been found by educators to be teachable in real-world settings. That's something.

This raises a key question about what we mean when we reference "evidence based practices." Do we mean discreet teacher behaviors, like how best to instruct students on phonemic awareness? These are the sorts of practices you'll find in the [What Works Clearinghouse practice guides](#), or the [National Reading Panel](#) reports.

But another approach is to bundle a bunch of evidence-based practices and insights together into a coherent and teachable whole. When this is also aligned to academic standards—the what plus the how—we call that a high-quality curriculum. Of course, there's a risk that curriculum designers will stretch the evidence and make claims that can't be defended; [who doesn't say that their pet curriculum is based on the best evidence?](#) So until we can subject new curricula to experimental studies and check on the effectiveness of the whole package, the best we can probably do is rely on expert and educator reviews, like those from EdReports.

*If you build it, they won't come—not without a marketing budget.*

So let's stipulate that schools and districts have an increasing number of high-quality curricula to choose among, the kind that solidly incorporate evidence-based practices and track the academic standards states have adopted. Surely these programs are sweeping the country, right?



Sorry. As far as I can tell, only 10–15 percent of districts are using the good stuff today. And while that portion may rise somewhat with time, as textbook adoption cycles come around, or as states follow Louisiana’s lead and make buying the good stuff easier, we’d be nuts to think that the non-profit upstarts in particular can compete without a serious investment in sales and marketing.

Even medicine, which many evidence-based-practice enthusiasts look to with envy, has a challenge with the adoption of new and proven methods. And that’s even though doctors number in the hundreds of thousands, not millions; they operate with a high degree of professional autonomy; and they received lengthy, rigorous pre-service training in scientific fields.

That’s why, as you may have noticed, pharmaceutical companies spend zillions of dollars advertising to doctors and patients—because medical practice doesn’t automatically change because of new findings in respected journals, either.

But just running more ads in *Education Week* or the *ASCD SmartBrief* won’t be enough to get great curricula adopted by schools. The new providers need massive sales forces, too. Consider this passage from a great Atul Gawande piece in the *New Yorker* on the challenge of changing doctors’ and nurses’ practices. (Thanks to Ben Riley of Deans for Impact for pointing it out to me; I’ll return to more of this article later.)

I once asked a pharmaceutical rep how he persuaded doctors—who are notoriously stubborn—to adopt a new medicine. Evidence is not remotely enough, he said, however strong a case you may have. You must also apply “the rule of seven touches.” Personally “touch” the doctors seven times, and they will come to know you; if they know you, they might trust you; and, if they trust you, they will change. That’s why he stocked doctors’ closets with free drug samples in person. Then he could poke his head around the corner and ask, “So how did your daughter Debbie’s soccer game go?” Eventually, this can become “Have you seen this study on our new drug? How about giving it a try?” As the rep had recognized, human interaction is the key force in overcoming resistance and speeding change.

The legacy textbook firms have sales reps all over the country—often former superintendents with personal relationships with the people they are marketing to, with budgets for steak dinners, golf games, and such—not to mention, less salaciously, big-time budgets for free samples of books, which can get expensive quickly given the large size of many districts’ selection committees.

So if funders and advocates want to see a dramatic uptick in the uptake of high-quality materials, especially those produced by the nonprofits, they need to face these facts. We can’t just invest in building great curricula—we need to invest in marketing them, too. To my knowledge, only Great Minds has committed serious money to constructing this sort of sales force, and it’s one reason why Eureka Math is grabbing significant market share. Other new entrants will need to do the same if they want to play in the big leagues.

There is another approach, which is to get legacy publishers to create and sell high-quality curricula. Some of that’s already happening, according to EdReports—at least in some cases. Or the nonprofits can dance with the devils, as Illustrative Mathematics did with its new deals with McGraw-Hill and Kendall Hunt. Rather than compete with the legacy companies, team up with them. Unleash their armies of sales reps to promote good stuff.

**We can’t just invest in building great curricula—we need to invest in marketing them, too.**

This too is not without risk, though. Stories are legion of high-quality titles getting abandoned by corporate publishers when not enough copies sell fast enough.

There are also big question marks about how traditional publishers support the professional development needs of districts. Districts and schools risk “implementation failure” if they adopt new curricula that tee up major shifts in practice for teachers, as the high-quality curricula do, without supporting teachers with implementation. Historically, publishers have included professional development “free with the purchase” of a curriculum, and the running joke among districts is that it’s worth about what they pay for it. Shallow “spray and pray” PD won’t help teachers improve their practice, and it remains to be seen whether traditional publishers will build quality services around this need.

So the challenge of getting high-quality, standards-aligned, evidence-infused instructional materials into schools is daunting. But let’s end on a positive note: Ten years ago, most of these materials didn’t even exist. We’ve made real progress thanks to the hard work of thousands of developers and educators over the past decade. Compared to many other reforms in education, getting more schools and districts to adopt one of the growing numbers of strong programs is eminently doable.

### 3.C: INSTRUCTIONAL COACHES

## THE HEROES OF THE GOLDEN AGE OF EDUCATIONAL PRACTICE

Whether initiated from the bottom-up or the top-down, any effort to help educators align their practice with the best evidence is going to succeed or fail on the strength of its implementation. As my colleague Robert Pondiscio wrote recently:

Shifting ed reform’s focus to improving practice is an acknowledgment that underperformance is not a failure of will, but a lack of capacity. It’s a talent-development and human capital-strategy, not an accountability play. Forcing changes in behavior, whether through lawmaking or lawsuit, may win compliance, but it doesn’t advance understanding and sophistication. Teachers need to understand the “why” behind evidence-based practice to implement it well and effectively.

He’s right, of course. But how can schools and systems do this—build capacity and teachers’ understanding in a way that will alter what they do in their classrooms?

Scholars and reformers have been struggling with this question for basically forever. (See, for example, this classic thirty-year-old article by my University of Michigan thesis advisor, David Cohen, “A Revolution in One Classroom: The Case of Mrs. Oublier.”) Bundling evidence-based practices into a coherent, highly teachable curriculum can help, as can videos of teachers delivering the material with real groups of students. But ultimately, the transmission of evidence-based practices is a slow, steady, and social grind, not something to be achieved entirely by articles, videos, or reports.

That’s the takeaway from this excellent Atul Gawande article in the *New Yorker* called “Slow Ideas.” The whole article is worth a (slow) read, but let me highlight some key passages about various attempts to change medical practice, and save lives, in poor, low-tech parts of the world.



Every year, three hundred thousand mothers and more than six million children die around the time of birth, largely in poorer countries. Most of these deaths are due to events that occur during or shortly after delivery. A mother may hemorrhage. She or her baby may suffer an infection. Many babies can't take their first breath without assistance, and newborns, especially those born small, have trouble regulating their body temperature after birth. Simple, lifesaving solutions have been known for decades. They just haven't spread...

The most common approach to changing behavior is to say to people, "Please do X." Please warm the newborn. Please wash your hands. Please follow through on the twenty-seven other childbirth practices that you're not doing. This is what we say in the classroom, in instructional videos, and in public-service campaigns, and it works, but only up to a point.

Then, there's the law-and-order approach: "You must do X." We establish standards and regulations, and threaten to punish failures with fines, suspensions, the revocation of licenses. Punishment can work. Behavioral economists have even quantified how averse people are to penalties. In experimental games, they will often quit playing rather than risk facing negative consequences. And that is the problem with threatening to discipline birth attendants who are taking difficult-to-fill jobs under intensely trying conditions. They'll quit.

The kinder version of "You must do X" is to offer incentives rather than penalties. Maybe we could pay birth attendants a bonus for every healthy child who makes it past a week of life. But then you think about how hard it would be to make a scheme like that work, especially in poor settings...

Besides, neither penalties nor incentives achieve what we're really after: a system and a culture where X is what people do, day in and day out, even when no one is watching. "You must" rewards mere compliance. Getting to "X is what we do" means establishing X as the norm. And that's what we want: for skin-to-skin warming, hand washing, and all the other lifesaving practices of childbirth to be, quite simply, the norm.

To create new norms, you have to understand people's existing norms and barriers to change. You have to understand what's getting in their way. So what about just working with healthcare workers, one by one, to do just that?

Working with people one by one was the approach taken by a Bangladeshi nonprofit in the 1980s in a remarkably successful initiative to combat cholera:

The organization didn't launch a mass-media campaign—only 20 percent of the population had a radio, after all. It attacked the problem in a way that is routinely dismissed as impractical and inefficient: by going door to door, person by person, and just talking.

It started with a pilot project that set out to reach some sixty thousand women in six hundred villages...The workers were only semi-literate, but they helped distill their sales script into seven easy-to-remember messages: for instance, severe diarrhea leads to death from dehydration; the signs of dehydration include dry tongue, sunken eyes, thirst, severe weakness, and reduced urination; the way to treat dehydration is to replace salt and water lost from the body, starting with the very first loose stool; a rehydration solution provides the most effective way to do this...

Initially, the workers taught up to twenty mothers per day. But monitors visiting the villages a few weeks later found that the quality of teaching suffered on this larger scale, so the workers were restricted to ten households a day. Then a new salary system was devised to pay each worker according to how many of the messages the mothers retained when the monitor followed up. The quality of teaching improved substantially. The field workers soon realized that having the mothers make the solution themselves was more effective than just

showing them. The workers began looking for diarrhea cases when they arrived in a village, and treating them to show how effective and safe the remedy was...

The program was stunningly successful. Use of oral rehydration therapy skyrocketed. The knowledge became self-propagating. The program had changed the norms.

No, the analogy is not perfect for K–12 education. Implementing a high-quality English language arts or mathematics curriculum requires a much higher level of intellectual dexterity than treating cholera. But the tale resonates on several levels. It illustrates the power of social learning, the importance of active learning, the willingness of program designers to adapt their approach based on what they were hearing in the field, and ultimately the incredible impact on real outcomes that can come from a peer-to-peer approach. All of this is applicable to implementing evidence-based practices in American schools.

This, however, requires someone to play the role of the healthcare workers, the peers, the conduits. Thankfully, the vast majority of American schools—especially elementary schools—already have such people today. We call them instructional coaches.

One of the most significant yet least noted developments in the recent history of American schooling is the advent and scaling of this whole new class of educators. According to the [National Center for Education Statistics](#), three-fourths of all primary schools and two-thirds of all high-poverty schools have someone in a coaching role. A [recent meta-analysis by Matthew Kraft and his colleagues](#) indicates that coaching is very effective at changing instruction and somewhat effective at improving outcomes, [especially when programs are relatively small-scale](#).

Obviously, giving someone the title of “instructional coach” doesn’t suffice; this is another case where [implementation is everything](#). The coaches themselves need to be highly effective educators—of both students and fellow teachers. Helping other instructors improve their craft takes a high degree of social and emotional skill, technical expertise, and patience. It can’t be generic, lest it proves no more effective than conventional professional development. Coaching tied to specific, high-quality curricula is probably best. And it’s not inexpensive; as Diana Quintero pointed out in [a recent article for the Brookings Institution’s Brown Center](#), these coaches are precisely the sort of positions that have [inflated the ranks of “non-teachers” working in our schools](#), which in turn has squeezed out other priorities, like higher teacher pay.

If deployed well, however, instructional coaches show great potential. So state and local leaders should ask themselves, when trying to implement a high-quality curriculum or other evidence-based practices:

- Am I using instructional coaches effectively?
- Have we picked the best people for that role?
- Have they been properly trained on the new curriculum?
- Do they have a manageable number of teachers to work with?
- Do we have a way to collect their feedback so that we might make changes to the curriculum or program in response?

**Three-fourths of all primary schools and two-thirds of all high poverty schools have someone in a coaching role.**

This solution isn’t sexy or particularly “disruptive.” It’s hard work. But whether we want to save children’s lives from cholera or illiteracy, there are no shortcuts.

**CONCLUSION:****ON THE PRECIPICE OF A GOLDEN AGE**

If anything is clear from this monograph, it's that we can take concrete actions that would make evidence-based practice a likelier reality in our schools. That's especially the case for philanthropists, many of whom are looking for good ideas during this down period in education policymaking. They include:

- Supporting efforts to collect richer information about classroom practice;
- Funding the development of new organizations of educators to identify and disseminate evidence-based practices;
- Scaling up networks of schools committed to using evidence-based practices in their classrooms, especially in the charter sector;
- Investing in the sales and marketing of high-quality instructional materials; and
- Creating a national infrastructure for improving the work of instructional coaches.

Thankfully, several philanthropic organizations are already tackling parts of this agenda today. But they need partners if we are to take advantage of the current opportunity to "finish what we started." America's children are waiting.

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