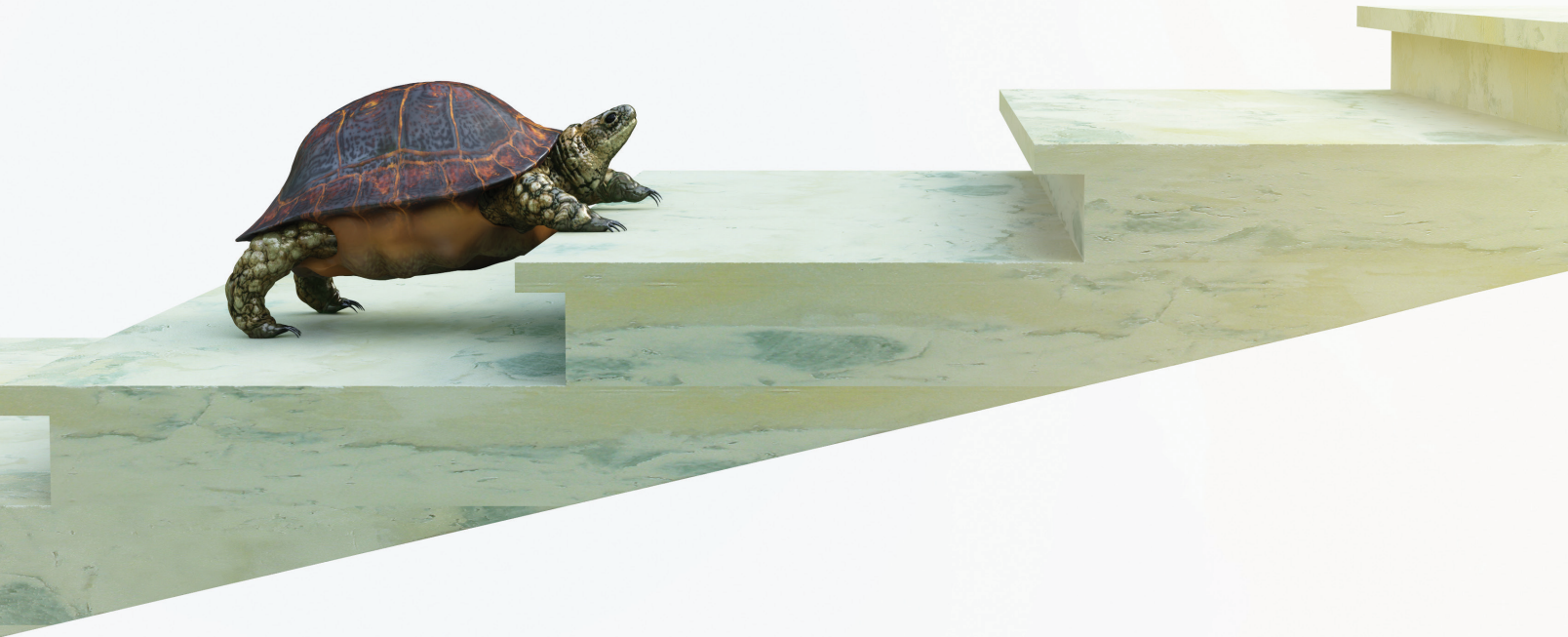


# Changing the school system improvement narrative



Progress made by Chicago Public Schools shows that successful change takes time, focus, and patience.

**By Sharon Greenberg & Anthony S. Bryk**

**F**ollowing the pandemic, many school districts are struggling to figure out how best to accelerate students' academic growth, support their health and wellness, and close the achievement gap. Programs to address these issues are being implemented rapidly. Unfortunately, we can predict how many of these efforts will end. The history of American education is replete with good ideas and a cascade of reforms that may work for some students in some places but generally fail to deliver on initial claims. Each cycle takes time, will, and resources. On repeat, they also breed cynicism and doubt among educators and the public that dramatic improvement is even possible. This time around, can we avoid that postmortem?

A “premortem” analysis, developed by Robert Sutton and Huggy Rao (2014), can get things off to a better start and lead to better outcomes. It asks people to imagine what success or failure would look like *before* they implement a change. While supporting groups of school faculty, central office staff, decision makers, and parents through this activity, we have found that when they pool their experiences and knowledge, they quickly identify the major factors that must come together across their district and community for the reform to succeed. They also realize that they did not consider many of these factors in their initial roll-out plan. Similarly, when asked to imagine failure, they can identify likely roadblocks. Districts and schools sorely need the systems perspective developed through this exercise.

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**SHARON GREENBERG** (sharong930@gmail.com) is a former high school English teacher in the Chicago Public Schools and is now an improvement science adviser and literacy consultant. **ANTHONY S. BRYK** (abryk@carnegiefoundation.org) is president emeritus of the Carnegie Foundation for the Advancement of Teaching, Stanford, CA.

We recently published with our colleagues a history of Chicago school reform, *How a City Learned to Improve its Schools*, which offers some lessons in this regard (Bryk et al., 2023). In 1987, then U.S. Secretary of Education William Bennett labeled the Chicago Public Schools (CPS) “worst in the nation.” Decades of systemic racism and segregation, inadequate funding, fiscal malfeasance and corruption, and community disinvestment had taken its toll. Thirty years later, in 2017, research documented that the district was among the nation’s most improved. Elementary students were gaining 1.2 years of learning for each year of instruction. English learners were making rapid progress. Graduation rates had climbed from 50% to 80%, even as academic requirements became more rigorous. Students of color and those from low-income families made the biggest gains.

What accounted for Chicago’s progress — especially when it experienced the same racial battles, political upheavals, and economic downturns as other urban districts? In the book, we delve into what happened and how coherent, consequential action emerged, evolved, and was sustained. The story of Chicago’s transformation offers many lessons about system change. Three of the more important ones are:

1. Seeing the system that produced unsatisfactory outcomes helped CPS leaders target a small number of high-leverage processes for change. Rigorous, reliable research evidence helped them identify these processes and informed ongoing efforts to improve them.
2. This problem-solving orientation called attention to the capacity-building needed to move from promising practices to quality enactment reliably and at scale. Chicago was not short on good ideas about improving schools, but the expertise necessary to execute them had to be developed.
3. Achieving meaningful change at scale takes time. Chicagoans learned that school system transformation is a long game — more akin to navigating an evolutionary strategy than implementing a fixed plan or program.

Two examples — one on developing school leaders and one on improving algebra instruction — illustrate these lessons.

### Targeting a high-leverage role: The principalship

In the late 1980s, a coalition of city parents, business and civic leaders, and community-based groups demanded change. Their actions brought about the 1988 School Reform Act by the Illinois state legislature. It created in Chicago local school councils (LSCs) mostly made up of parents and community members. LSCs had authority to hire their principal on a four-year performance contract. Through an annual school improvement plan that the principal developed, councils

## AT A GLANCE



- Chicago Public Schools were labeled the “worst” in the nation in 1987. Thirty years later, they were among the nation’s most improved.
- The story of Chicago’s transformation offers many lessons about system change.
- Those lessons include: Seeing the system that produced unsatisfactory outcomes and building capacity for change are essential, and meaningful change at scale takes time.
- The authors use two examples of Chicago’s reform efforts to illustrate these lessons: focusing on principalships and targeting Algebra 1 instruction.

approved their school’s curriculum choices and how discretionary money, which now flowed directly to schools, was spent. By legislating these provisions, in tandem with eliminating thousands of central office positions, reformers decentralized the district and bet on the local school site as the primary unit for change.

### ***A need to build capacity***

The consequences for the principalship were profound. In addition to working with their LSCs, principals now had authority to hire teachers, revitalize connections with families and the community, and guide instructional improvement. Little in their professional training and previous experience prepared them for these responsibilities, and little expertise existed in the central office to help them.

To begin to fill this gap, a center opened at the University of Chicago explicitly focused on supporting CPS principals to lead change. Operating as a small-scale innovation group, it embraced a learning-by-doing orientation around one question: What would it take for principals to advance improvements in Chicago’s most-challenged schools? A partnership subsequently emerged between the University of Chicago’s Center for School Improvement and the Chicago Principals and Administrators Association (CPAA).

About the same time, the Illinois legislature enacted a second reform for Chicago: the 1995 Amendatory Act. It gave the mayor control over the board of education and senior-level appointments. The newly appointed district leaders acknowledged the importance of principals but also recognized that they had no in-house capacity to support them. They turned to CPAA to design and operate new programs to further develop already certified principal candidates, mentor new principals, and provide advanced training for experienced principals.

Eight years later, drawing on the capacities developed at CPAA, the district opened a specialized Office of Principal Preparation and Development.

Early studies by the Consortium on Chicago School Research had brought attention citywide to principals' central role in local school improvement (Bryk et al., 1993). Wide variability in the quality of these principal hirings also was apparent. The Amendatory Act emboldened system leaders to try to regain control over principal appointments — the LSCs' most significant authority. The battle that ensued pitted reformers and LSC members against the district. A point of agreement — that the pool of qualified principal candidates needed to be stronger — enabled a compromise. LSCs retained their hiring rights, and the district was authorized to strengthen requirements on principal eligibility beyond the standard state endorsement. CPS partnered with a broad base of groups, including professional education providers, business leaders, and CPAA, to establish a rigorous set of principal competencies. They launched an independent Principal Assessment Center, where candidates demonstrated those competencies.

Continuously informing these changes was the consortium's sustained program of research, reporting, and convenings. These studies identified key elements in *how* effective principals were leading school improvement. At the same time, consortium studies continued to elaborate the Five Essential Supports for School Improvement (5Es) — a framework that detailed *what* school leaders should attend to (Bryk et al, 2010). First developed in the mid-1990s, the 5Es still guide improvement efforts in Chicago and have been adopted by many other districts.

### **Changes in principal preparation**

The initiatives described above revealed weaknesses in principal preparation programs at Chicago's colleges of education. In the past, CPS had been a passive consumer of candidates coming through these programs, and the colleges considered their tuition-paying students their primary clients. When the nonprofit organization New Leaders and the Urban Education Leadership Program at University of Illinois Chicago (UIC) began operating in this space, that calculus changed.

These innovators saw the school system as their client. They organized their work around a single question: What would it take to develop principals who significantly improved student outcomes in their schools, not as the exception, but as the rule? Both organizations focused explicitly on the work of leading school improvement, and an intensive clinical apprenticeship was a core component of their programs. Early on, however, they were challenged by the limited number of experienced principals who could effectively coach new leaders toward a continuous improvement learning orientation.

As UIC responded to system needs over time, its college of education transformed. New clinical faculty lines were created, and criteria for hiring academic faculty included research and practice-based experiences relevant to school

leadership. UIC built a database that provided ongoing information about how their principals and schools were doing. Incoming evidence raised new challenges that led to changes in key processes, including:

- How program candidates were selected.
- How the skills, tools, and roles for clinical apprentice mentors were developed.
- How the district's network chiefs could best support the continued development of new principals.

UIC's commitment to evidence-based continuous improvement became a hallmark of the program. National recognition followed (Davis & Darling-Hammond, 2010; Walker & Tozer, 2021).

During this period, a local philanthropic organization, the Chicago Public Education Fund, emerged. It quickly established itself as a key partner to principal preparation providers and system leaders and as an advocate for additional improvement initiatives.

### **Systemwide results**

As Chicago's programs began to succeed, recruiters from other districts came calling. Retaining the system's best principals became a new priority. This was important for both the schools and the central office because an increasing number of these educators were transitioning into district leadership positions. They were taking what they had learned leading local school change into roles that aimed to further develop the system supports for such improvement. On-the-ground voices were increasingly shaping actions at the top. A key quality improvement loop had closed.

Longitudinal surveys from teachers about the quality of their school's leadership show the cumulative impact of Chicago's investments in principal development. The consortium tracked two key indicators over more than two decades. (Figure 1). Over that period, teachers report increasing coherence in their own program improvement efforts and higher levels of trust in their principals. These systemwide results attest to the meaningful changes that stronger principals have brought about in the day-to-day work lives of school-based educators.

### **Targeting a gatekeeper to student opportunity: Algebra instruction**

When new leaders came into central office in 2001, the district confronted a major instructional problem: 40% of CPS 9th graders were failing Algebra 1. This outcome was the strongest predictor of students' dropping out. A Chicago Math and Science Initiative (CMSI) was formed. Central office capacity was limited, so leaders looked to individuals in area university math and science centers who had been working with CPS teachers to develop new instructional materials funded by the National Science Foundation (NSF). Select teachers,



who had worked in those centers as “teachers on loan,” also joined the team, as did a handful of central office staff.

### Understanding the problem

The team started by analyzing longitudinal student data. They worked backward from the 9th-grade course failures to identify root causes and focused on four drivers of poor outcomes. The route to failure was multifaceted and started early:

1. Most middle school teachers were generalists who lacked the content knowledge and pedagogy to teach middle grades math well. This weakness in instruction was especially apparent when students moved into pre-algebra.
2. Only selective admissions middle schools offered Algebra 1. This denied access to thousands of qualified 8th graders who attended neighborhood schools. Less room in their high school schedules for advanced coursework rendered them less college-competitive.
3. Many students entering 9th grade were at risk for failing algebra given weaknesses in their prior instruction. They needed targeted support.
4. Over two dozen Algebra 1 curricula were in schools at that time — a consequence of local control (Bryk et al., 2023).

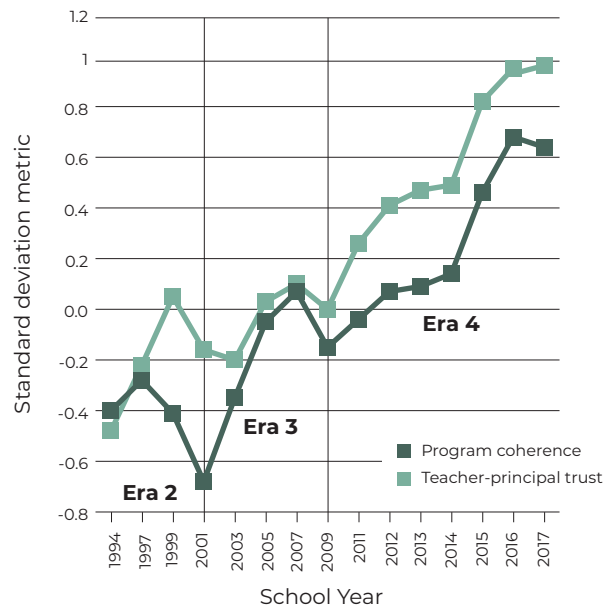
### Supporting teachers and students

To address the first problem, CMSI aimed to develop fully qualified math teachers in every middle school. A new endorsement was created. When the cost of the college course impeded enrollment, CPS extended a subsidy to the colleges of education. Several accepted, competition among them for students further reduced cost, and hundreds of teachers were certified over several years. Connections among Chicago’s colleges of education and with CPS also deepened through this work.

In 2002, when 35% of students nationally were passing algebra in 8th grade, the CPS rate was 4%. To address this, leaders aimed to offer a rigorous algebra course in every middle school. This aspiration depended on having a qualified teacher in every building. Here again, CPS invested in its workforce and looked to local colleges to partner; three stepped up. Two design features characterized the collaboration among these colleges and with the district: They agreed to create and administer common final exams and to schedule courses to accommodate working teachers. This reform took several years to scale and, in fact, remains ongoing. Hundreds of teachers had been credentialed by 2017, and the 8th-grade algebra pass rate climbed to about 20%. Still below the national average, but a substantial improvement.

To better support 8th graders entering high school, a summer transition program offered counseling, literacy, and math support. This program broke new ground because it was holistic in design, supportive rather than punitive, and

**Figure 1.**  
Trends in teacher reports about the quality of their school-based leadership



Source: UChicago Consortium of School Research, 2021.

students opted in. Additionally, schools offered “double-dose” algebra in which freshmen at risk for failing Algebra 1 received one period of general math support addressing their knowledge and skill gaps and an algebra class to help them understand new material. Double-dose algebra was jettisoned after a few years, however, because improved academic outcomes had not been documented yet, and administrators complained that it complicated course scheduling rooted in established teacher preferences. This was unfortunate, since research subsequently documented long-term benefits, including improved pass rates, high school graduation rates, and college enrollments (Nomi, Raudenbush, & Smith, 2021).

The last problem to tackle was the number and uneven quality of Algebra 1 curricula used in CPS. This variability was a consequence of Chicago’s local control, and leaders had to be sensitive and tactful in developing a solution. CMSI organized all its professional development around NSF instructional materials and National Council of Teachers of Mathematics standards. Both were new and considered best practice. By taking this approach, CMSI was stepping toward what now would be called curriculum-based professional development. In contrast to past curricular mandates that were often resented and weakly implemented, this was offered to teachers and schools who wanted district support to get better.

### Experiencing improvement

Impressive overall gains in student achievement resulted from this set of reforms. In 2003, city schools stood well below the national average on the 8th-grade National Assessment of

As Chicago's programs began to succeed, recruiters from other districts came calling. Retaining the system's best principals became a new priority.

Educational Progress (NAEP). By 2017, two-thirds of the gap had been eliminated with the biggest improvements realized by Chicago's Black and Latinx students. Initially, these students fell below their Black and Latinx peers on state tests, but by 2017 they were out-performing them statewide (Bryk et al., 2023). They also were experiencing fewer course failures in 9th grade, and increasing numbers were on track to graduate high school.

In sum, CPS had initiated broad-scale improvement in mathematics learning at a critical juncture in students' academic lives. It took time for these efforts to scale — for the colleges of education to revamp their offerings and for enough teachers to then become endorsed and sufficiently experienced to provide stronger instruction. But CPS and its partners stayed the course. Twenty years later, the Algebra Initiative is still going strong, and improvement efforts continue (Vevea, 2023).

### No quick fixes

Chicago's 30-year journey toward improving its schools offers important lessons about how the education field might change the narrative on system transformation. Our two examples challenge the traditional premium placed on rapid, broad-based implementation of a new program or initiative. While such actions respond to a shared need to act quickly and decisively, this strategy generally promises more and faster results than is realistically possible. Achieving quality equitably at scale becomes the casualty. And when such cycles repeat, citizens lose faith that public systems actually can get better at what they do.

In our examples, system leaders, partnering with civic organizations, eschewed quick fixes. Instead, they learned how to grow capacity over time. As slow and painstaking as this was, leaders acknowledged that they couldn't get to the end without going through the middle. This way of working transformed CPS from a command-and-control bureaucracy, largely isolated from its community, to one that worked in service to a system of schools in partnership with its community.

We have highlighted how "seeing the system" played a central role in Chicago's transformation. In principle, many different processes combine to create outcomes. In our examples, reformers focused on the primary drivers of

weak outcomes and then designed, tested, and refined core processes to get better. When initial improvements were realized, they then moved the goalposts to get even better. Having reliable research evidence to inform these continuous improvement efforts was key to their problem solving. And keeping the public informed along the way built trust in the work and patience for the time it took.

This approach wasn't limited to these two examples. Another major improvement priority pioneered in Chicago — On Track to High School Success — followed a similar storyline. The initiative was anchored in research that identified students falling through the cracks in the transition into high school as another high-leverage problem to solve (Bryk et al., 2023; Heath, 2020; Krone-Phillips, 2019). That research offered evidence about the importance of students being on track at the end of 9th grade. The real work of improvement began in a partnership of a small group of Chicago educators working with those researchers. Over time, the system joined in to further this improvement in learning and support its spread systemwide. What had been for decades a 50% graduation rate in Chicago eventually exceeded 80%.

These accounts, and still others described in our book, illustrate the power of the Pareto Principle from improvement science (Bryk et al., 2015; Langley et al., 2009). Sustainable and effective change involves identifying the primary drivers of weak outcomes, targeting a small number of high-leverage processes for change, and then devoting attention to their continuous improvement over time. Chicago reformers, both inside and outside the district, focused on the improvement of core processes, while continuing to learn together from this ongoing work how to get better. Former U.S. Secretary of Education Arne Duncan, who led CPS from 2001 to 2009, put it succinctly in an interview:

You can't have 50 different priorities. Trying a few things in a world-class way ... was really important. Your priorities may change over time, but you can only have a handful — three, maybe four — where you really push yourself to spend the time needed to execute as best you can before you move onto anything else. (Bryk et al., 2023)

### Ongoing efforts, lasting results

Interestingly, about the same time that these reform efforts were unfolding in Chicago's schools, the mayor announced the need to transform another public service system. O'Hare Airport needed a new runway, terminal, and airport entry. Chicagoans were told the changes would take 12 years and several billion dollars, and nobody blinked an eye. Arguably, building such physical infrastructure is a lighter lift than transforming the human capital of a school system, reforming how instruction is organized to advance student learning, and changing how individuals and organizations collaborate to bring about all of this.

When educational reform began in Chicago, ambitious goals were announced, timelines were short, patience was thin, money was tight. And a few years later, when results were not yet evident, discontent set in. Most districts bring in new leaders with new priorities at such a juncture, and Chicago certainly burned through many leaders in this 30-year period. What set the district apart, however, was the power of its broad-based reform community, their persistence in sustaining key initiatives, and a continuous evidence stream that guided the work and kept the public informed. The principal development work that began in the early 1990s is ongoing. The research that led to On Track to High School Success started then as well, and it has been implemented in the system for more than 20 years. Likewise, the Algebra Initiative started about 2002 and continues today (Vevea, 2023).

As for the terminal at O'Hare? It took almost twice the time promised and incurred huge cost overruns. When it was completed, the mayor announced it was time for its next major improvement project.

CPS was no different from many other big urban districts in the late 1980s when its reform journey began. Thirty years later, the record is clear: The district realized major improvements, and the gains were equitably advanced. Much remains to be done following the pandemic and in schools that continue to struggle, and that is perhaps Chicago's broadest lesson for our field: Getting better is not an end state but rather a way of thinking and working. Chicago's story illustrates what living improvement looks like. ■

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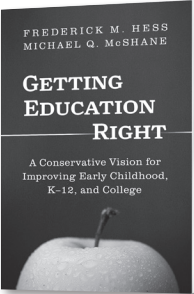
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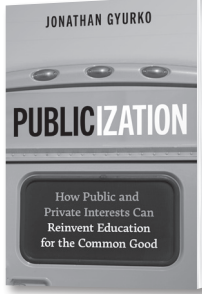
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