



NEW KNOWLEDGE

Addressing Educational Inequality

Addressing Educational Inequality

THE BIG PICTURE

The debate about whether schools can eradicate gaps in educational achievement between students of different races and socioeconomic backgrounds has persisted for decades. On one side of the debate are those who argue schools cannot possibly eliminate educational inequality before society eradicates economic inequality—that economic and social inequalities *outside* of schools make closing achievement gaps *inside* of schools unlikely at best and impossible at worst. On the other side of the debate are those who point to a significant body of research, which provides strong evidence that schools can, in fact, foster high levels of achievement among disadvantaged students by increasing both the quantity and quality of instruction students receive: increasing instructional time, reducing class size, expanding access to high quality preschool, improving teachers' knowledge and skill, and so forth.

The paradox is that, despite promising evidence from quite a number of these discrete interventions, the whole has failed to exceed the sum of its parts; decades of school reform efforts have, on the whole, failed to produce schools that reliably educate disadvantaged students to high levels and achievement gaps persist. In fact, social class differences in educational achievement have increased over the past forty years (Reardon 2011).

Still, pockets of promise exist. The recently published book, *The Ambitious Elementary School*, presents evidence of how a radical reorganization of school structures and rethinking of instructional norms, values, and practices has resulted in a significant narrowing of the achievement gap for elementary students on Chicago's South Side.

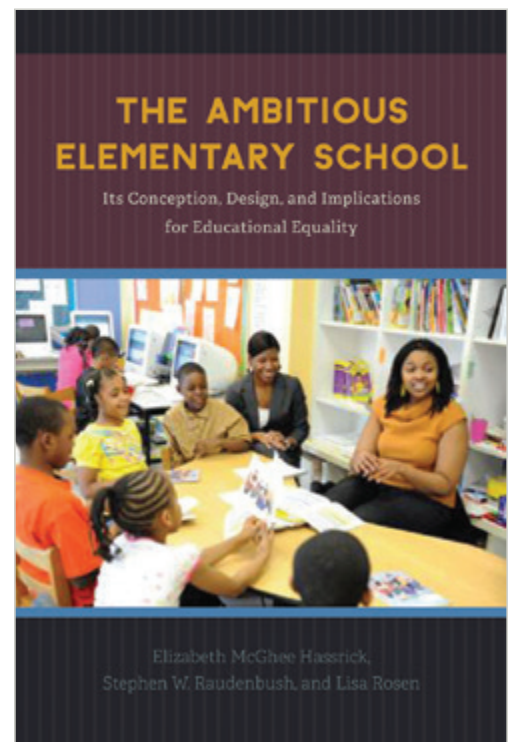
The book's authors, Elizabeth McGhee Hassrick, Stephen W. Raudenbush, and Lisa Rosen, argue that the reason discrete school reform efforts have not worked to close achievement gaps is a failure to account for *schools as organizations*. They argue that intervening to improve teaching and learning is not like plugging a new appliance into an electrical outlet. Rather, any new program, technique, curriculum, or practice needs to be purposefully integrated within an overall system of instruction that can provide a coherent and coordinated learning experience for students. And the authors argue that this, in turn, requires abandoning the traditional, private and autonomous model of school organization characterized by privatized instructional practice, significant autonomy for teachers with very little pedagogical guidance, and a conception of teaching as an idiosyncratic craft rather than a shared professional practice.

NEW KNOWLEDGE

Drawing on an in-depth study of the University of Chicago Charter School (UChicago Charter) on the South Side of Chicago, Elizabeth McGhee Hassrick, Stephen W. Raudenbush, and Lisa Rosen argue that the answer to the question of whether elementary schools can help to ameliorate educational inequality is yes—but only if they adopt ambitious learning goals for all children and re-organize teaching and learning to achieve those goals.

In their book, *The Ambitious Elementary School*, they examine a new elementary school model in which a shared and systematic approach to teaching is the norm. The model runs counter to many traditional school structures in which teachers operate autonomously with little interaction, intentional coordination, or guidance. It pulls teachers out of their isolated classrooms and places them into collaborative environments where they can share their curricula, teaching methods, and assessments of student progress with a school-based network of peers, parents, and other professionals. *The Ambitious Elementary School* describes how the UChicago Charter School operates and shares the dramatic results it has produced for children's reading and math achievement.

From 2008 to 2012, the authors interviewed UChicago Charter School founders, administrators, teachers, and parents while observing classrooms at two UChicago Charter elementary campuses. They



discovered that school leadership, teaching and learning, and parental participation followed a remarkably coherent model that differs substantially from how elementary schools are traditionally organized. Most of *The Ambitious Elementary School* is devoted to explaining the conception, design, and implementation of this model.

Nearly all of the students at the two campuses the authors studied were African American and 80 percent qualified for reduced-price lunch. Most were admitted to the UChicago Charter School by a random lottery. By tracking 438 winners and losers of this lottery on state reading and math tests, the authors were able to obtain unbiased estimates of the impact of attending the UChicago Charter School over students' elementary careers and into middle school. One key finding was that attending the UChicago Charter School enabled these students to achieve, on average, at a similar level to typical white students in Chicago. A second key finding was that this effect did not fade out when students left the elementary school and moved on to middle school. By clearly describing the theory and practice that produced these remarkable gains, the authors aim to challenge ingrained notions about school organization, teaching, and learning in elementary schools, and about the potential of schooling to reduce inequality.

The Ambitious Elementary School Model

The UChicago Charter School's elementary model was built upon three main imperatives: **1)** ambitious intellectual work for every child, **2)** organizing teachers' work to ensure every child is immersed in ambitious intellectual work, and **3)** mobilizing broader support for student learning.

1) Ambitious Intellectual Work for Every Child

At the heart of the UChicago Charter elementary model are ambitious learning goals for students. The UChicago Charter School's founders believed that school subject matter should be engaging, intellectually challenging, and relevant to students' lives, and that teachers should go beyond imparting information to elicit student thinking. In contrast to many conventional approaches to teaching, which emphasize the absorption of facts and procedures, the UChicago Charter School emphasized the development of "higher-order" abilities such as the capacity to synthesize and explain complex ideas, interpret and construct arguments, test hypotheses, discover patterns, evaluate claims, and support conclusions with evidence. UChicago Charter teachers functioned as facilitators of student learning by creating environments that stimulated processes of knowledge construction and sense-making in particular subject areas.

The UChicago Charter School's approach to fostering a culture of ambitious intellectual work yielded a shared and systematic approach to teaching that departed in significant ways from the traditional "egg crate" structure of schools—the cellular organization of classrooms that often keeps individual teachers isolated from one another for much of the day. It laid the groundwork for shared systems of assessment and tailored instruction that served to close significant student achievement gaps in literacy and math.

Adopting a School-Wide Literacy Framework and Math Curriculum

Historically, teachers have worked quite independently in the privacy of their classrooms, without objective evidence of their student's progress. In this setting, an effective teacher is one who can mobilize commitment and personal knowledge to respond to high levels of uncertainty that arise in day-to-day interactions with heterogeneous students. While some teachers are highly skilled at this, the collective effect of such private, autonomous, and idiosyncratic practice has been largely unexplained variation in teaching effectiveness, leading to amplified inequality in student outcomes.

To foster a shared and systematic approach to meeting ambitious learning objectives—and reduce variability in teachers' goals, practices, and effectiveness—the UChicago Charter School adopted a research-based, school-wide literacy framework and math curriculum. This fostered a school-wide commitment to shared and ambitious learning goals. It also laid the groundwork for teachers to collaborate and align their instruction around individual student needs based on shared materials, practices, and assessments.

Frequently Assessing Student Learning and Tailoring Instruction to Students' Skills

The UChicago Charter School's founders believed that teachers often rely too heavily on one-size-fits-all

Addressing Educational Inequality

approaches to teaching. In contrast, they adopted school-wide approaches to reading and math instruction that involved tailoring instruction to students' needs based on frequent assessments of students' learning.

In the literacy realm, the UChicago Charter School became an early adopter of a literacy framework and assessment system designed to dynamically guide students through different stages of learning to read, based on their individual and continuously evolving skills. One of the hallmarks of UChicago Charter's literacy framework was "dynamic grouping"—an approach to building rich vocabulary and critical thinking skills that involved frequently assessing students' literacy skills, placing them in small groups based on their individual skill levels, and frequently regrouping them based on assessments of their progress through various literacy levels.

UChicago Charter leaders adopted a similar approach to reducing inequality and improving students' achievement in math. They partnered with experts from the University of Chicago's Center for Elementary Mathematics and Science Education (CEMSE) to implement a school-wide math curriculum designed to foster "mathematical sense-making"—proficiency in mathematical thinking and problem-solving—as opposed to simply rote memorization of mathematical calculations and procedures. They used daily, lesson-embedded assessments to gauge students' progress and flexibly arrange them for small group instruction in ways that fostered their individual growth.

Expanding Instructional Time

Expanding instructional time and using that time effectively has been critical to the UChicago Charter School's efforts to foster ambitious instruction and learning in reading, math, and other subject areas. For example, UChicago Charter elementary students received sixty to ninety minutes of math instruction per day compared to the average of forty-five minutes of daily math instruction a typical U.S. elementary school student received. This allowed ample time for teachers to foster a high level of proficiency in mathematical thinking and problem solving among students of all skill levels.

The UChicago Charter School also aimed to accelerate, reinforce, and augment academic instruction for each student through a deliberate alignment of regular- and extended-day programming. School leaders and teachers worked together to develop a particular portfolio of programs for each student based on their instructional needs. Extended-day staff members overlapped their work shifts between the regular day and extended day, allowing extended-day staff members and regular classroom teachers the opportunity to share information about each student's daily problems, progress, and needs. Teachers and other regular school day staff trained all extended-day staff in the same academic and behavioral expectations and practices that were in place during the regular school day. Finally, campus directors ensured that all extended-day partners aligned their programming to support the social and academic goals of the school. For example, UChicago Charter used an after-school math curriculum developed by the creators of their regular school-day math curriculum. Many other schools around the nation also offered after-school programs, but rarely integrated the activities of their after-school programs with the regular instruction carried out during the day.

2) Organizing Teachers' Work to Ensure Each Child is Immersed in Ambitious Intellectual Work

Providing Teachers with Ongoing Pedagogical Support

UChicago Charter's founders aimed to reduce the variation in teaching effectiveness that can contribute to educational inequality. In contrast to the traditional approach to teacher evaluation that involved school leaders "dropping in on" classrooms a few times per year, the UChicago Charter School made ongoing teacher evaluation the norm. They also combined ongoing teacher evaluation with ongoing pedagogical support. Rather than offering sporadic and "one-size-fits-all" professional development opportunities, UChicago Charter leaders provided ongoing, tailored pedagogical support based on evidence collected from frequent assessments of student learning. UChicago Charter teachers coordinated to develop individual instructional plans for each child—working closely with school leaders, social workers, tutors, and extended-day staff over the whole of each child's school career—based on frequent assessments of students' learning.

Developing shared practices for fostering student learning and tailoring instruction to students' individual skill levels based on ongoing assessments are ambitious goals that cannot be met without sufficient time for coordination

and collaboration. In recognition of this, the school's founders built in 90 minutes of time each day for teachers to engage in collaborative professional learning and planning.

Creating Leadership Roles For Expert Teachers

Expert teachers played a key role in the provision of ongoing pedagogical support. In contrast to the historically flat trajectory of teachers in which promotion and compensation are based on seniority and credentials, the UChicago Charter School created leadership roles for teachers with promotion and compensation based on expertise in shared instructional systems.

Fostering Individual and Collective Responsibility

In contrast to the private, autonomous model of schooling in which teachers practiced autonomously with sporadic monitoring by school leaders, UChicago Charter School directors engaged in ongoing, close analysis of teacher practice and evidence of student learning. All of the UChicago Charter school's senior leaders, subject-specific coaches and teachers, and special education teachers met biweekly to analyze and collectively problem-solve around student learning data aggregated at the classroom, grade, and school levels. This created increased public accountability for student learning, increased scrutiny of teacher practice, and increased expectations on—and support for—teachers to develop and share expertise.

3) Mobilizing Broader Support for Student Learning

Continuously Engaging Parents

The UChicago Charter School's founders believed partnerships between parents and teachers mattered—not just during a crisis or when a student experiences serious learning difficulties, but on a daily, ongoing basis, to ensure each child was on track to meet the school's ambitious learning goals. Consequently, UChicago Charter leaders and teachers made continuous engagement and coordination with parents a central part of their efforts to foster ambitious learning. Each UChicago Charter elementary campus had a director of family and community engagement devoted to developing strong relationships with students and families, and connecting them with local community resources when needed.

Teachers also regularly called parents to share updates on students' progress, and worked to build parents' understanding of the UChicago Charter School's approach to literacy and math instruction. For example, parents were trained on how to interpret their students' progress on the STEP literacy assessment and work with them on reading at home. UChicago Charter also used parent/teacher conferences and “family math nights” to help parents understand the school's approach to math education. As parents became conversant in the UChicago Charter School's approach, they were encouraged to share their knowledge with other parents who may be new or less familiar with it, providing a network of knowledge to help children grow and achieve. In short, the UChicago Charter School prioritized and deliberately created roles and structures for continuous parent engagement.

Providing Social Supports to Enhance Learning

Children's social and emotional skills provide a foundation for later success in schooling and beyond. Children who regularly attend school, show up on time, work hard on assignments, meet deadlines, and collaborate well with others experience considerable advantages later in life. In recognition of this, the UChicago Charter School mobilized resources to support each student's individual social and emotional needs. Both leaders and teachers emphasized the importance of *knowing* their students—understanding both their academic and social-emotional needs through a combination of formal and informal structures such as leadership meetings and regular, informal observation. Each UChicago Charter elementary campus also employed a lead social worker devoted to supporting students' social and emotional development. Lead social workers were core members of the leadership team at each campus and coordinated with the both the campus director and the family and community engagement director to track the social, emotional, and academic development of all students, not just those assigned to special education. The ultimate objective was to intervene early and often to prevent small social or emotional problems from becoming big problems that may interfere with academic progress and help each student develop the social and emotional skills required to be successful in school and beyond.

Addressing Educational Inequality

Results and Implications

The central finding of the book is that students who attended the UChicago Charter School by virtue of winning a random lottery achieved substantially more in reading and mathematics than those who lost the lottery and were unable to attend the school. Specifically, children who lost the lottery and therefore were unable to attend the school scored, on average, at about the 26th percentile of the white distribution in Chicago. That means that 74 percent of the white students in Chicago would outscore those children. In contrast, children who won the lottery and therefore were able to attend the school scored at the 44th percentile of the white distribution. This means that only slightly over half of the white students in Chicago would outscore those children. Thus, attending the UChicago Charter School closed most of the gap between these students and white students in Chicago. This result holds up for reading as well as math and is one of the largest effects of innovative schooling in the published literature. Importantly, these results do not fade out but in fact grow as children leave elementary school and move into the middle grades.

What are the implications of these findings for traditional (non-charter) public schools? The authors do not take a position on the question of school type but rather assert that the UChicago Charter School has lessons to offer for schools of all types.

A great deal can be learned from these schools, and we hope readers will learn from our book. But it does not necessarily follow that creating a very large number of charter schools will produce powerful schooling on a large scale, or that relying on conventional public schools cannot produce such powerful schooling at scale... Networks of charter schools may be powerful equalizers, but so may networks of outstanding public schools. What seems to matter most is that adults in the ambitious schoolhouse work relentlessly toward the success of every child, and that those adults have access to the knowledge, resources, incentives, and tools that can enable them to realize this commitment.

(Hassrick, Raudenbush, and Rosen, *The Ambitious Elementary School: Its Conception, Design, and Implications for Educational Equality*, 177-178.)

For decades, researchers have asked, “Are kids who face challenges economically, in their neighborhoods and sometimes in their homes, capable of achieving at high levels academically?” *The Ambitious Elementary School* indicates the answer is yes.

DEVELOPMENTS TO WATCH

As evidence for more systematic, shared approaches to schooling mounts, we’re beginning to see more schools shift from traditional “private and idiosyncratic” approaches to schooling and promote greater collaboration among school leaders, teachers, social workers, and others who play a pivotal role in students’ education.

One emerging approach to reducing educational inequality in a more shared and systematic way involves integrating health services into the schoolhouse. Built on the observation that low-quality education *and* limited healthcare access for underserved populations amplify each other and stack up disadvantages, schools following integrated health models, such as [The Primary School](#), provide both comprehensive healthcare and schooling starting at an early age. Some also incorporate family and community education programs to create a holistic support network for the wellness and education of each child.

We’ve also seen more schools adopt “blended learning” models designed to catalyze the personalization of learning and, theoretically, close achievement gaps. The concept of blended learning is highly variable in its implementation, but involves engaging students in a mix of supervised, scheduled learning along with self-paced or personalized learning using digital technology.

The body of research on the potential of digital technology to promote educational equality is growing, but questions and concerns about its usefulness for closing achievement gaps remain. [A recent article](#) published in the Russell Sage Foundation Journal of the Social Sciences posed the question, “Can technology help promote equality of educational opportunities?”

Addressing Educational Inequality

The authors (Jacob, Berger, Hart, and Loeb) suggest the answer is yes and no. “Advances in artificial intelligence technology now allow teachers to differentiate instruction, providing extra support and developmentally appropriate material to students whose knowledge and skill is far below grade-level norms. The latest ‘intelligent’ tutoring systems are able to not only assess a student’s current weaknesses but also diagnose why the student is making the specific errors (Graesser, Conley, and Olney 2012). Related to this development, the explosion of ‘big data,’ in theory, can allow researchers and program developers to utilize the experience of thousands or even millions of learners to determine more effective instructional approaches.”

However, the authors also note that technological advances such as these aren’t silver bullets for reducing educational inequality. “Although technologies such as virtual instruction and the suite of programs known collectively as intelligent tutoring offer great promise, they are not guaranteed to improve educational equality. Use of these technologies often reduces oversight of students, and that can be particularly detrimental for children who are less motivated or who receive less structured educational supports at home. These technologies may also be less effective in engaging reluctant learners in the way a dynamic and charismatic teacher can, suggesting that even if educational technology improves quality overall, any ‘peak’ education experience it provides may fall short of a ‘peak’ face-to-face experience. Perhaps more importantly, technologies such as intelligent tutoring and systems that blend online and face-to-face (FtF) instruction are notoriously difficult to implement well. There is a substantial risk that they could be ineffective or even harmful in places that lack the capacity to implement the technologies with fidelity.”

Amid all of the experimentation with technology and different approaches to leveling academic playing fields, a consensus seems to converge around the point that more work remains, not only with respect to closing the longstanding Black-White achievement gap, but also the pervasive gender gap—the gap between male and female students’ achievement. The UChicago Charter School and others are beginning to turn their attention to addressing this gap and others that conspire against an equitable education, and equitable access to economic opportunity, for students of *all* backgrounds and identities. And they are doing so with more student achievement data at their disposal than ever before. The question now is whether this data access can translate to strategies that work to close achievement gaps. We believe that will require investment in not only data infrastructure, but in good old-fashioned human capital: coaching and professional learning designed to build school leaders’ and teachers’ capacity to apply data to developing actionable strategies for improvement in student outcomes.

To download the University of Chicago Urban Education Institute’s full New Knowledge in Public Education Report, visit: <https://www.ueiknowledge.org/newknowledgereport>