GOVERNANCE CHALLENGES TO INNOVATORS OUTSIDE THE SYSTEM

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Abstract: Beginning in the early 1990s, a growing number of reformers concluded that the "operating system" of large school systems—elected school boards, three-hundred-page teacher contracts, sclerotic district offices, and notoriously weak teacher-education programs—was irretrievably broken. Rather than attempt reform from within such systems, they chose to work from outside. Hard-won legislative beachheads—charter-school laws, alternative-certification pathways, virtual schools, and more—opened the door for entrepreneurial initiative. "Disruptive innovations" in three specific sectors—charter schools (specifically, so called "No Excuses" schools), teacher training, and digital learning—are likely to erode longstanding governance arrangements. Demonstrating larger achievement effects and lower costs than the traditional practices they replace, they will attract increasing public attention and add to the pressure on underperforming institutions—local school boards, unionized schools, state education agencies, and teachers' colleges—and the interest groups and governance structures that sustain them. Central tenets of these interests, such as the salutary effects on schools of unions, maximum student-to-teacher ratios, and formal barriers to the teaching profession, will be undercut. Change will come incrementally to the governance of American education, spreading across state jurisdictions over a period of many years. However, as entrepreneurial initiatives benefit from seemingly modest governance reforms and gather momentum, they may unleash a broader transformation. To give steam to the three disruptive innovations, the states and the federal government should consider taking several short-term actions. Meanwhile, education entrepreneurs will need to attend to apparent weaknesses in their own plans, weaknesses that threaten their impact and in turn the broader reform of school governance.

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Just north of Central Park in New York City, two schools share a building. Public School 149 is operated by the New York City Department of Education, and Harlem Success Academy, a No Excuses charter school, is run by the Success Charter Network. Both serve students from the surrounding community, which is overwhelmingly black and low-income.[1] In 2010, Harlem Success third graders (the earliest grade tested by the state) scored in the top one percent of schools in the state (outperforming their performing peers from wealthy suburbs) on the state's English Language Arts exam, while P.S. 149 scored in the bottom two percent.[2]

Eva Moskowitz, who founded Success Charter Network, is one of a growing number of education entrepreneurs who aim to post academic results starkly superior to those of traditional district-run schools. The longstanding governance arrangements of primary and secondary education, they contend, are inimical to fundamental change. Rather than attempt reform from within, they have chosen to work from outside. Taking advantage of hard-won legislative beachheads—charter-school laws, supplemental educational services provisions, alternative certification pathways, and more—they have formed new organizations delivering a wide range of services and products, all aimed at demonstrably boosting student achievement.

For years, prominent reformers contended that, barring wholesale social change that would equalize school funding across districts and reduce racial and socioeconomic segregation, only modest improvements in urban student achievement could be expected.[3] Now, KIPP and other charter-school networks are posting academic outcomes that bridge the racial and economic achievement gaps—but cost less to operate than district-run schools.[4] For decades, our primary and secondary schools, especially in our central cities, have been staffed by teachers who graduated from the bottom of their high school class and attended nonselective schools of

[1] In PS 149, 70 percent of students qualify for free or reduced-priced lunch, 13 percent are limited English proficient (LEP), 75 percent are black, and 22 percent are Hispanic. In Harlem Success Academy, 76 percent of students qualify for free or reduced-price lunch, 2 percent are LEP, 79 percent are black, and 15 percent are Hispanic. For demographic information, see https://reportcards.nysed.gov/view.php?county=yes&year=2010.
[2] Jenny Sedlis, "Getting the numbers right on Harlem schools," *Reuters*, August 31, 2011, http://blogs.reuters.com/great-debate/2011/08/31/getting-the-numbers-right-on-harlem-schools/.
[3] See, for instance, Jonathan Kozol, *Savage Inequalities: Children in America's Schools* (New York: Crown Publishers, Inc., 1991).
[4] KIPP: 2010 Report Card," Knowledge is Power website, http://www.kipp.org/reportcard/2010. For a comparison of funding in charter and district public schools, see *National Alliance for Public Charter Schools: Charter School Funding.* http://dashboard.publiccharters.org/dashboard/policy/page/funding/year/2010. Charter School Funding," National Alliance for Public Charter Schools website, http://dashboard.publiccharters.org/dashboard/policy/page/funding/year/2010. "Charter School Funding," The Center for Education Reform website, http://www.edreform.com/charter_schools/funding/.

education.[5] This year, eighteen percent of seniors at Harvard and other top colleges and universities vie for admission to Teach For America; bypassing traditional teacher training, they will instead undergo an intensive summer preparation to teach in impoverished urban and rural communities.[6] Since the start of the "common school," education has meant a teacher, students, and a classroom. Today, more than a million elementary and secondary students take at least one course on-line.[7]

The efflorescence of entrepreneurship in public education engages many components of schooling. For-profit companies and social entrepreneurs are building advanced information systems for integrating student and academic data, launching new programs for sourcing and preparing principals, devising electronic assessments, providing tutoring to children in failing schools, offering outsourced guidance counseling to high schools, establishing on-line banks of exemplary class lessons, and managing schools and districts under contract. How entrepreneurs in each sector engage—or, variously, avoid—the governance structure of K-12 education is well beyond the scope of this chapter. Most such initiatives will fade from view, either because they lack the capacity to transform public education or because the system proves impervious to their advances. But "disruptive innovations" in three sectors—charter schools (specifically, so called No Excuses schools), teacher training, and digital learning—are likely, this chapter will argue, to erode longstanding governance arrangements.

Entrepreneurial initiatives in these sectors are likely to demonstrate stronger achievement effects and lower costs than the longstanding practices they replace. The growing public attention they are attracting will add to the pressure on underperforming institutions—local school boards, unionized schools, state education agencies, and teachers colleges—and the governance structures that sustain them. If their claims withstand scrutiny, they will gradually erode the power of education interests, chiefly the teachers' unions, but also the array of other education lobbies that have long dominated state houses across the country. Central tenets of these interests, such as the salutary effects of unions on schools, maximum student to teacher ratios, and barriers to the teaching profession, will be undercut. Governors and state legislators will be emboldened to challenge these institutions and their lobbies through legislation, regulatory reform, and the appointment of outspoken reformers to key rule-making positions—as has already begun.

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[5] Hamilton Lankford, Susanna Loeb, and James Wyckoff, "Teacher Sorting and the Plight of Urban Students: A Descriptive Analysis," *Educational Evaluation and Policy Analysis* 24, no. 1 (2002): 48. Dan Goldhaber, Michael DeArmond, Albert Liu, and Dan Player, *Returns to Skill and Teacher Wage Premiums: What Can We Learn by Comparing the Teacher and Private Sector Markets?*, (Seattle: School Finance Redesign Project, Center on Reinventing Public Education, University of Washington, 2007): 6-7.

[6] Patrick Galvin, "Teach For America Applications Hold Steady," *The Harvard Crimson*, March 1, 2011.

[7] Anthony Picciano and Jeff Seaman, *K-12 Online Learning: A 2008 Follow-up of the Survey of U.S School District Administrators* (New York: Graduate Center and Hunter College, City University of New York; Wellesley: The Sloan Consortium, Olin and Babson Colleges; 2009).

The vulnerability of the K-12 system heightens the three sectors' disruptive potential. Already, the United States has a smaller percentage of twenty-five to thirty-four-year olds with a college degree than eleven other countries.[8] Our schools place twenty-sixth in the World Economic Forum's global rank of educational systems.[9] Many Americans fear their children will not be equipped to compete with their peers from an ascendant East. As an anxious public confronts grim evidence of the slack performance of American schools, few politicians of either party rise to their defense. A weak system of primary and secondary education is seen as a threat to American prosperity—and with that comes a new willingness to challenge the governance structures that sustain and protect that system.

Change will come incrementally to the governance of American education, spreading across state jurisdictions over a period of many years. But as entrepreneurial initiatives benefit from seemingly modest governance reforms and gather momentum, a broad transformation of primary and secondary education may be unleashed.

Governance Obstacles to Reform from Within

Laws in every state authorize local education agencies to establish and operate public schools at taxpayer expense. In the nation's more than fifteen thousand school districts, there is typically a school board or committee, a superintendent, and a district office. The school board is the district's legislative body and the superintendent its executive, and the school board's policies and programs are fulfilled by the district office and school staff. Most states also have a board of education or the like, a state education officer (variously titled), and an education bureaucracy, all of which enjoy specific powers to regulate the local school districts. Government not only finances but also owns and operates the public schools, whose services are provided free of charge to parents. Primary and secondary education has been the responsibility of state and local governments; the federal government has, prior to the No Child Left Behind Act of 2001, traditionally played only a secondary role.

Yet the most powerful actor in the governance of public schools is none of these parties. Collective bargaining laws in forty-three states permit teachers to vote to form a union and bargain collectively with their district employer. Upon such a majority vote, all teachers must accept the union as their exclusive representative and the district must negotiate exclusively with it.[10] (In large districts, most every other worker, from custodians to lunch workers—and, until recently, principals—also bargained collectively.) Over time, teacher contracts have swollen to

[8] John Michael Lee, Jr. and Anita Rawls, *The College Completion Agenda: 2010 Progress Report* (Reston: College Board: Advocacy & Policy Center, 2010) http://completionagenda.collegeboard.org/sites/default/files/reports_pdf/Progress_Report_2010.pdf: 8.
[9] *The Global Competitiveness Report 2011-2012* (Geneva, Switzerland: World Economic Forum, 2011), http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf: 363.
[10] Terry M. Moe, *Special Interest: Teachers Unions and America's Public Schools* (Washington, D.C.: Brookings Institution Press, 2011): 277.

cover not only compensation, but virtually every aspect of employment, including the assignment and layoff of teachers based on seniority and the maximum ratio of students to teachers. Dismissing even the most manifestly incompetent teacher in many urban districts can take two years and over $200,000 in legal costs. Understandably, few principals try. One study found that of 95,000 tenured teachers in Illinois only two teachers were dismissed for poor performance over an eighteen-year period.[11] District school governance has established an adversarial system where the union's role is to protect teachers from administrators who are assumed to be their adversaries. In turn, in the largest urban school systems, a culture of chronic distrust, inflexibility, and grievance has taken hold that has proven incompatible with nearly every effort to dramatically increase school quality.

Teacher unions are the most influential lobby in state legislatures, where legislators are hesitant to take positions opposed to the lobby for fear of losing their support at reelection. Unions routinely oppose statutory, regulatory, and contractual reforms that streamline tenure; strengthen the power of the school's executive over teacher evaluations, assignments, and duties; or that increase teacher accountability for the academic gains made by their students as measured by standardized tests. Voter turn-out at school board elections is frequently so poor that union-run candidates are assured of prevailing. At the bargaining table, board-appointed superintendents have over the last fifty years surrendered their power to lead. Regaining it is a practical impossibility.

Beginning in the early 1990s, a growing number of reformers concluded that, absent fundamental chance to this governance structure, the nation's largest school systems were unfixable. The "operating system" of district schools—elected school boards, three-hundred page teacher contracts, sclerotic district offices, and notoriously weak teacher education programs—was irretrievably broken.

No Excuses Charter Schools

In 1991, Minnesota became the first state to enact charter-school legislation. The innovation quickly spread to other states and was to prove the most radical governance reform in K-12 in decades. Charter schools in effect proposed a new definition of "public school": Charter schools are public schools open to, paid for by, and held accountable to the public. No longer need schools be governed by a district school board, overseen by a superintendent and central office bureaucracy, and staffed with government employees. Teachers, businesspeople, activists, and parents—all could be education entrepreneurs, founding new, publicly funded schools and serving on their governing boards. The idea struck a deep chord with educators, school reform activists, and politicians long frustrated with the public education system and skeptical that it could ever be reformed from within. Today, more than 5,600 charter schools enroll 1.8 million

[11] *Special Interest:* 186-187. Investigative report by journalist Scott Reeder available at www.thehiddencostsoftenure.com, accessed November 8, 2011.

students in 40 states and the District of Columbia. While this represents only 3.7 percent of public school students nationally, charter enrollment is growing rapidly.[12] In six districts, thirty percent or more of public school students are today enrolled in charters, and in New Orleans, 70 percent are.[13]

While the legal framework of charters varies widely from state to state, the underlying mechanism is the same. Each statute authorizers at least one state body—the state board of education, a newly formed charter authority at the state level, one or more public universities—to review charter proposals and authorize new schools. Generally, local school districts are also authorized to charter. If approved, the governing board of the new school enters into an agreement with the authorizer for a period, typically five years, under which the school is eligible to receive public funds in proportion to the number of enrolled students. The schools generally enjoy a high level of autonomy; they are set free from district school board policies and many state and local education regulations (though not special education laws or safety codes), although they must adhere to state education standards and participate in state testing regimens. Parents choose the new school for their children; students are not assigned to the school on the basis of geography, as in most districts. While details vary, charter laws require that the schools be open to all students within the district or a specific region, and if there are more applicants than seats, that the school conduct a lottery for admission.[47] Teachers, too, work in the school by choice and generally are not governed by the union contracts of the district in which the school is located but are free to unionize if they so choose. If at any time the school fails to meet the terms of its charter, the authorizing agency may revoke it. At the end of the agreement's term, if the academic results have been unsatisfactory, the authorizer may decline to renew the charter. In either instance, the school closes.

In principle, authorizers would hold schools accountable for meeting the academic outcomes set out in their charter applications. In actuality, the new laws spawned many schools not better and at times worse than district schools, and authorizers, like district school boards, have proved reluctant to close academically underperforming schools in the face of angry parents. Over the first 18 years of the charter-school movement, 5,250 schools opened, of which only ninety-two were shuttered for poor academic performance.[14] Lax authorizer oversight has been a primary contributor to the mixed performance of the schools.

As charter legislation swept the states in the late nineties, charter enthusiasts neglected that their hard-won laws were merely a vehicle for creating strong schools, not a guarantee. Advocates

[12] http://dashboard.publiccharters.org/dashboard/students/page/overview/year/2011 and http://dashboard.publiccharters.org/dashboard/students/page/growth/year/2011, accessed November 8, 2011.
[13] "A Growing Movement: America's Largest Charter School Communities, Sixth Annual Edition," National Alliance for Public Charter Schools, October 2011, 1.
[14] "Charter Connection," The Center for Education Reform website, "http://www.edreform.com/Issues/Charter_Connection/, accessed September 14, 2011.

expected that the governance advantages of charters—the new bargain extended to founders of authority and autonomy in exchange for accountability for results; the shared purpose that would result from faculty and students who had chosen the school, rather than being assigned to it; and the freedom from tenure and union contracts—would by themselves fuel sharply better outcomes than district schools. But these privileges alone did not unleash a new generation of dramatically superior schools, as many charter proponents had hoped.

Especially in the early years of the charter movement, many schools were long on aspiration and short on results. Charter school founders often proposed school designs that adhered to the progressivist orthodoxies of the schools of education and set out for the central cities, where they identified the greatest need. There, they watched in dismay as their utopian models proved no match for the harsh realities of urban poverty and chronic underachievement. Courtney Sale Ross, the widow of Steve Ross, the former C.E.O. of Time Warner, founded the successful Ross School in East Hampton, New York as an alternative to homeschooling for her daughter. With a progressive curriculum, lavish facility, and an annual tuition of $30,700 for the middle grades, the school educates the children of the elite.[15] In 2006, she founded a charter school to bring the Ross model to New York City. The school promised to teach the history of civilization across cultures, with instruction in yoga and eating organically. In 2011, the New York City Department of Education closed the school; 75 percent of its primarily black and Hispanic students had failed the state's English test, making it the lowest-performing charter school in the city.[16] Children with every advantage require little to prosper, but children from poverty, who must overcome years of social and intellectual deprivation, thrive when they are first afforded abundant structure and explicit teaching.

As a whole, charter schools have posted equivocal results. The most comprehensive recent evaluation of charter schools nationally, by the Center for Research on Education Outcomes (CREDO) at Stanford University, examined the longitudinal gains in reading and math of more than 70 percent of charter-school students nationally. The 2009 study compared their performance to that of their peers in "twin" traditional public schools matched by students' demographics. Almost half of the subject charter schools posted results no different from their district twins and more than one-third had academic outcomes that were worse. Only 17 percent delivered academic results superior to their district counterparts.[17] Looking deeper, however, the CREDO researchers also found that students from poverty fared better than in district schools. "Charter schools that are organized around a mission to teach the most economically disadvantaged students in particular seem to have developed expertise in serving these

[15] "Tuition and Fees," Ross School website, http://www.ross.org/admissions/tuition, accessed October 9, 2011.
[16] David W. Chen, "Charter School Loses Bid to Stay Open," *The New York Times*, January 21, 2011. For academic performance and demographic information, see https://reportcards.nysed.gov/files/2009-10/AOR-2010-310200860905.pdf.
[17] *Multiple Choice: Charter School Performance in 16 States* (Stanford: Center for Research on Education Outcomes, Stanford University, 2011) (http://credo.stanford.edu/reports/multiple_choice_credo.pdf.

communities."[18] In fact, a subsequent CREDO study completed in 2010 found that students in New York City charter schools learned more than their peers in district schools in both reading and math, and the effects were most pronounced for black and Hispanic students.[19] A growing body of evidence suggests that suburban charter schools perform no better, on average, than their district counterparts, but that urban charters do—especially as they mature.[20]

If charters were intended to foster experimentation in schooling, then it is unsurprising that results were on average undistinguished and that it would take time for effective models to emerge and be replicated. Twenty years into the movement, a growing number of urban and rural charter schools have posted arresting results, with their low-income students, primarily African-American and Hispanic, outperforming students statewide—and in some cases, their white peers from affluent suburban districts.

Among this smattering of "gap-closing" schools, one broad approach, frequently called No Excuses schooling, dominates. The approach has been dubbed No Excuses schooling because teachers adopt high expectations for their pupils and stoutly reject explanations for low achievement from any quarter, whether from a child for failing to complete an assignment or from a district apologist's appeal to demographic destiny.[21]

The model combines elements that are all but impossible to adopt within the constraints of a district school: long school days and years, rigorous teacher-led instruction, frequent assessment, explicit efforts to shape values and attitudes, a relentless drive to high achievement, and teacher accountability for results. Evidence of the achievement effects of No Excuses schooling is growing rapidly, with black and Hispanic students from low-income families in many such schools not only beating state averages but outperforming their peers in surrounding affluent districts.[22] The Knowledge Is Power Program (KIPP) network of schools is the exemplar, but the approach is proliferating in other networks, including Achievement First and Uncommon Schools, and in standalone schools, many of which plan to replicate themselves in the coming years.

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[18] *Multiple Choice*, 2011: 7.
[19] *Charter School Performance in New York City*, (Stanford: Center for Research on Education Outcomes, Stanford University, 2010), http://credo.stanford.edu/reports/NYC%202009%20_CREDO.pdf.
[20] *Multiple Choice*, 2011: 6. A third CREDO study examining the performance of charter schools in New Orleans finds that more than half of the schools are posting gains significantly greater than that of district schools, and 23 percent are making gains at about the same rate as district schools. http://credo.stanford.edu/reports/MULTIPLE_CHOICE_CREDO.pdf, accessed October 2, 2011.
[21] David Whitman calls schools like these "paternalistic." See David Whitman, *Sweating the Small Stuff: Inner City Schools and the New Paternalism* (Washington, DC: Thomas B. Fordham Institute, 2008).
[22] Steven F. Wilson, *Success at Scale in Charter Schooling* (Washington, DC: American Enterprise Institute, 2008). Samuel C. Carter, *No Excuses: Lessons from 21 High-Performing, High-Poverty Schools* (Washington, DC: Heritage Foundation, 2000).

KIPP now has 109 schools nationally serving more than 32,000 students in twenty states and the District of Columbia.[23] A 2010 study by Mathematica Policy Research of twenty-two KIPP middle schools found "educationally substantial" impacts on state scores from the program. Three years after entering KIPP schools, many students are experiencing achievement effects that are approximately equivalent to an additional year of instruction, enough to substantially reduce race- and income-based achievement gaps.[24] While the Mathematica study offers the most rigorous examination of the No Excuses model, other charter management organizations employing the No Excuses approach cite evidence of closing the achievement gap. Uncommon Schools has twenty-five affiliated schools in New York and New Jersey.[25] In 2011, on average across the network's fifteen New York schools, 84 percent of test-takers in grades three through eight (98 percent of whom were black or Hispanic) scored Proficient or Advanced on state tests in math, compared with 73 percent of white students statewide. Achievement First, which manages nineteen schools in New York and Connecticut, has posted similar results at its New York schools: 61 percent of fourth graders scored Proficient or Advanced in ELA and math, compared with 40 percent in the local districts.[26]

These results are unlikely to be the result of the selection effect of motivated parents, as evidence from Massachusetts bears out. The second state to pass a charter-school law, Massachusetts has benefited from among the best of these laws, many years of high-quality charter-school authorizing, and a strong supply of education entrepreneurs coming out of Boston's many universities. A Harvard/MIT research study of Boston's charter schools compares the performance of students in four No Excuses middle schools and two high schools with students who applied in the enrollment lottery but were not admitted. With an experimental design eliminating selection effects and establishing a true control group, this study found "strong evidence that the charter model has generated substantial test score gains" for students in the No Excuses schools in comparison to students who remained in the Boston Public Schools.[27] The reverse selection effect, from the attrition of low-performing students, could also distort No Excuses outcomes. Yet a 2011 study by Mathematica, following up on its study of twenty-two KIPP schools (which reported substantial educational impacts from the program), found attrition

[23] "KIPP: About KIPP," Knowledge is Power website, http://www.kipp.org/about-kipp, accessed September 14, 2011.
[24] Christina Clark Tuttle, Bing-ru The, Ira Nichols Barrer, Brian P. Gill, and Philip Gleason, *Student Characteristics and Achievement in 22 KIPP Middle Schools: Final Report*, (Princeton: Mathematica Policy Research, Inc., 2010).
[25] "State Test Results," Uncommon Schools website, http://www.uncommonschools.org/usi/ourResults/, accessed September 14, 2011.
[26] "Achievement First Results New York," Achievement First website, http://www.achievementfirst.org/results/in-new-york, accessed September 14, 2011.
[27] Atila Abdulkadiroglu, Josh Angrist, Sarah Cohodes, Susan Dynarski, Jon Fullerton, Thomas Kane, and Parag Pathak, *Informing the Debate: Comparing Boston's Charter, Pilot, and Traditional Schools* (Boston: The Boston Foundation, 2009): 39. A strength of the study is also a limitation: Comparing the performance of students who are admitted to a charter school in an admissions lottery against those who applied but were not admitted eliminates the selection effect of parent motivation, but it also limits the universe of schools to those where they are more applicants than seats. These popular schools may also be the academically strongest schools.

rates were on average no higher at the KIPP schools than at a comparison group of local district schools. Nonetheless, given that students who stayed in the program were likely to be doing better than those who left, researchers eliminated the possibility of bias by continuing to count students who withdrew as part of the study's treatment group.[28]

Of seventeen charters in Boston in 2009, seven posted striking results on the state's highly regarded MCAS test, with 75 percent or more of students in their final year at the schools proficient in math and English language arts (averaged across the two subjects).[29] All seven dramatically outperformed the Boston Public Schools in English and math, where proficiency levels range from 33 percent to 50 percent, depending on the grade and subject. In the three highest exit grades—seven, eight, and ten—all seven schools also outperformed the statewide average (students of all income levels) in all three tested subjects of English, math, and science, except for tenth-grade English language arts and eighth-grade science. Further, four of the schools outperformed students in the neighboring affluent Brookline Public Schools, where only 12 percent of students are from low-income families.[30] All but one of the seven high-performing schools hew to the No Excuses model. With a citywide cap on Boston charters recently lifted, at least five of the seven schools are replicating, backed by the New Schools Venture Fund.[31]

A 2011 study of Massachusetts charter schools by MIT researchers Joshua D. Angrist, Parag A. Pathak, and Christopher R. Walters found that students enrolled in urban charter schools in the state are typical of the urban student population, yet their schools boost achievement well beyond non-charter levels. The effectiveness of these schools, the researchers conclude, "can be explained by adherence to a No Excuses approach to urban education that emphasizes instruction time, comportment, and focuses on traditional math and reading skills."[32] Seventy-one percent of the urban charter-school administrators identify somewhat or fully with the No Excuses model, while none of the non-urban charters identified with this approach.[33]

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[28] Ira Nichols-Barrer, Christina Clark Tuttle, Brian P. Gill, and Philip Gleason, "Student Selection, Attrition, and Replacement in KIPP Middle Schools, Working Paper Presented at the 2011 Annual Meeting of the American Educational Research Association," Mathematica Policy Research, Inc., April 8, 2011.

[29] The schools are the Academy of the Pacific Rim Charter Public School in Hyde Park, Edward Brooke Charter School in Roslindale, Boston Collegiate Charter School in Dorchester, Excel Academy Charter School in East Boston, Boston Preparatory Charter Public School in Hyde Park, the Media and Technology Charter High School in Kenmore Square, and the Roxbury Preparatory Charter School in Roxbury.

[30] "2008 MCAS Report (District) for Grade 10 All Students," Massachusetts Department of Elementary and Secondary Education website, http://profiles.doe.mass.edu/state_report/mcas.aspx, accessed March 4, 2009). "Selected Populations (2008–09)," Massachusetts Department of Elementary and Secondary Education website, http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=00460505&orgtypecode=6&leftNavId=305&&fycode=2009, accessed September 14, 2011.

[31] "Boston, MA," NewSchools Venture Fund website, http://www.newschools.org/ventures/city/boston-ma, accessed October 2, 2011.

[32] Joshua D. Angrist, Parag A. Pathak, and Christopher R. Walters, *Explaining Charter School Effectiveness* (Working Paper No. 17332) (Cambridge: The National Bureau of Economic Research, 2011): 3.

[33] Angrist et al, 2011: 5.

Governance Obstacles

Education entrepreneurs who seek to open and replicate No Excuses schools are constrained by the complex web of governing institutions that exists at state and local levels, the K–12 regulatory regimen that this web establishes and to which charters remain subject, and defects in the charter-school governance model.

First, charter laws vary widely, and even those most accommodating to charters subject them to regulations that thwart the creation and growth of effective schools. Charters were predicated on autonomy from the accretion of rules made over decades by state and federal agencies, union contracts, and the courts, but many such rules remain in place. In twenty-two states, district and state laws and regulations are automatically or broadly waived; six others waive only certain provisions, and in the remaining fourteen states with charter laws each school must petition the state education agency for exemptions.[34] In nine states, teacher tenure laws still apply, depriving operators of agility in responding to underperforming teachers, and yet perhaps the most essential privilege for charter operators is the freedom to hire, compensate, promote, and terminate school personnel. Many charter schools remain subject to district collective bargaining agreements. Beginning in the 2005-06 school year, the No Child Left Behind Act (NCLB) requirement of "highly qualified teachers" in every classroom where a core academic subject is taught forced charter schools to adhere to each state's licensure and credential policies, which are promulgated by state legislatures , state boards of education, and in some cases, teacher licensing boards.[35]

Teachers unions are generally antagonistic toward charter schools, and they wield their influences by a variety of means. In states with the most powerful public-sector unions, state education agencies (SEAs) may be staffed by administrators hostile to charters, who use their discretion to impose debilitating constraints. In New Jersey, for instance, the SEA ruled that instructional coaches provided by a school management organization could not be counted toward the agency's requirement that 70 percent of school spending be "instructional." In New York, charter founders whose schools had been chartered after an eighteen-month vetting process by city and state officials were then required by the SEA to submit elaborate "needs assessments" as part of their application for federal charter school start-up funds—and were often declined. When applications were approved, the SEA imposed elaborate and arbitrary rules on how the funds could be spent.[36]

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[34] Bryan C. Hassel, *Studying Achievement in Charter Schools: What Do We Know?* (Public Impact for the National Alliance for Public Charter Schools 2005).

[35] *Charter School Laws Across The States: Rankings and Scorecards 12th Edition* (The Center for Education Reform, 2010).

[36] "Federal Charter Schools Program Planning and Implementation Grant Application: Request for Proposal," State University of New York, March 2010.

However, the recent appointment to top regulatory positions in key charter jurisdictions of charter-school entrepreneurs (including TFA alumni) is certain to diminish such regulatory hostility. Christopher Cerf, former president of Edison Schools, is now acting commissioner of education for New Jersey; New York State Commissioner of Education John King co-founded Roxbury Preparatory Charter School in Boston and was managing director at Uncommon Schools; and John White, TFA alum and veteran of the New York City school district's school turnaround and Innovation Zone efforts, is now superintendent of the New Orleans Recovery School District.

Second, the charter laws themselves impose important constraints on schools. Few agencies are authorized to issue charters, and of those that are, many are unlikely to use their authority. Some 90 percent of the present 600 authorizers nationwide are school districts, which are often reluctant to approve schools that will compete for their students and funding.[37] Across the country, there are only about sixty non-district authorizing agencies, whether universities, state education agencies, or not-for-profit organizations. Many authorizers lack the resources or skills to perform their duties effectively, and approve poor school plans, provide lax oversight, or fail to close chronically under-performing schools. Effective authorizing requires access to a broad range of expertise, including education leadership; curriculum, instruction, and assessment; special education; performance management and accountability; law; finance; facilities; and nonprofit governance and management.[38] Generally, only state agencies, universities, and large districts had the capacity to perform these functions effectively. School districts have generally not made effective authorizers. By contrast, states with a small numbers of authorizers serving a large number of schools have fared well, due to an uncompromised agenda and a scale that affords expert staff and sophisticated oversight of portfolio schools.[39]

Charter-school laws were forged in often fierce state house battles. Governors and legislators favoring the legislation were opposed by established education interests, including school boards and teachers unions. A common compromise was caps, imposed by twenty-six states, on the number of schools in the state (and sometimes in specific cities), or on the number of charters that can be granted each year (as in North Carolina).[40] For example, Massachusetts's original 1993 legislation limited the number of schools statewide to twenty-five. When lawmakers have subsequently raised caps in Massachusetts and elsewhere, the price was often changes to the law that undermined school autonomy. For instance, New York raised in 2010 its cap on the number

[37] Karen Girolami Callam and Alex Medler, *The State of Charter School Authorizing: 2010* (Chicago: National Association of Charter School Authorizers, 2010), http://www.qualitycharters.org/images/stories/publications/2010_facts_report.pdf.
[38] Alex Medler, William Haft, and Margaret Lin, *Principles and Standards for Quality Charter School Authorizing* (Washington, DC: National Association of Charter School Authorizers, 2010): 11.
[39] Louann Bierlein Palmer, Rebecca Gau, "Charter School Authorizers: Are States Making the Grade?" Thomas B. Fordham Institute, June 2003, 1.
[40] Andrew J. Rotherham, *Smart Charter School Caps* (Washington DC: Education Section, 2007),http://www.educationsector.org/usr_doc/CharterSchoolCaps.pdf.

of schools permitted statewide from 200 to 460. The original law required a school that enrolled 250 students or more in its first year to adopt all the collective bargaining agreements of the district in which the school is located; the new law extended this period to two years.[41] Most CMOs regard work rules and other features of district contracts as incompatible with their programs and policies.

Other states limit the percentage of a district's spending that can be diverted to charters—or "reimburse" districts for their loss of funds when students leave for charters, resulting in taxpayer expense for two schools for each student while insulating districts from competitive pressures that might spur reform. Most states offer charters significantly less money than regular schools; the disparity ranges from 5 percent in New Mexico to 40 percent in South Carolina.[42] By one estimate, charter schools receive on average 21 percent less than district schools.[43]

Still more important to charter-school operators is that little provision was made in charter laws for facilities. Unlike district schools, which generally occupy school buildings paid for by state or municipal bond issues, charter schools have had to lease privately owned facilities and pay rent out of operating funds, reducing the funds available for instruction by 20 percent or more. Three states—Florida, Minnesota, and California—complement their per-pupil operating grant with a per-pupil facility allocation. By 2004, twenty-four states and the District of Columbia provided some form of facility assistance to charter schools, but these arrangements, whether in the form of loans, grants, bond issues, or tax breaks, are nearly always inadequate.[44] Charter schools, barred from securing public debt to build schools, tried turning to private capital markets. But limited operating histories, weak balance sheets, and the requirement for periodic renewal of charter were all underwriting obstacles. In 2002, the federal Department of Education devised a credit enhancement program to spur private lending to charter schools, but federal grants to Community Development Financial Institutions that issued the partial guarantees were limited; with the economic recession, they have nearly stopped.

Regulations regarding governance at the school level make replication of effective schools, including high-performing No Excuses schools, needlessly difficult. In nearly every state, each charter school must have its own independent governing board, whose authority cannot be delegated. To build a network of schools, school entrepreneurs have had to establish management organizations that enter into multi-year contracts to provide a broad range of educational and operational services to each board, to which they are ultimately accountable.

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[41] "Changes in the Charter Schools Law," New York City Charter School Center website, http://www.nyccharterschools.org/learn/about-new-law, accessed September 28, 2011.
[42] Chester E. Finn, Jr. and Eric Osberg, *Charter School Funding: Inequity's Next Frontier* (Washington, D.C., Thomas B. Fordham Institute, 2005).
[43] Shaka Mitchell and Jeanne Allen, *Solving the Charter School Funding Gap* (Washington, DC: Center for Education Reform, 2005), www.edexcellence.net/charterfinance.
[44] Kim Smith and James Wilcox, "A Building Need," *Education Next* 4, no. 2, Spring 2004: 44-51.

Managers organized as for-profit corporations are known as "education management organizations" (EMOs), and not-for-profits "charter management organizations" (CMOs).

Most authorizers initially approached replication with hostility—replications were disparaged as "cookie cutter" schools. The two-hundred-year tradition of localism in primary and secondary education contained two expectations that were at odds with replication and centrally managed networks of schools: local control and differentiation. Charter-school laws, authorizers and SEAs often contended, were intended to spawn community-based schools, each with its own lay board, each tailored to the unique needs of its students, and each a laboratory for an innovative model—not to foster a system of schools that implemented a common design and was operated by an out-of-state corporation. For-profit EMO's responses to these expectations in the late 1990s approached the disingenuous; they assembled boards to meet these requirements. When trustees later asserted their authority over the EMO, bitter conflict often ensued. Further, rather than dispute the premise that each school need be unique, many EMOs publicly embraced it while attempting to do as little actual customization as possible. Customization increased costs and often lowered academic outcomes. CMOs have approached the requirement of individual boards earnestly, but the structure remains cumbersome and inefficient.

School entrepreneurs must recruit accomplished volunteer board members for each school in the network; the authorizer's reception of the application depends on the skill and capacity of the members. But the trustees' loyalty to the management organization is also essential, both to ensure the protection of the organization's investment in starting the school and ensure that the school remains faithful to the network's mission and educational design. Founders quickly exhaust their network of such individuals. Capable trustees generally expect meaningful service, and grow disenchanted when performing ministerial duties, approving recommendations from the CMO and reviewing reports on the school's implementation and results. As CMOs grow, managing increasing numbers of boards and ensuring their sustained commitment to the centralized model becomes increasingly unwieldy.

Not only do such governance requirements waste effort, they interfere with sound management practice. Maintaining legally separate entities for each school and the CMO weakens the chain of command and makes precise implementation of the school's academic, cultural, and operational practices less likely. Authorizers and local education agencies (LEAs) have interpreted such statutes as prohibiting the board from delegating authority to hire and fire the school's chief executive (the principal) to the CMO, and requiring all school staff to report to that principal. This introduces organizational tensions between the CMO and the schools, as the CMO, the school's board, and the principal vie for control over the school, and it raises irresolvable questions about the level of discretion schools are afforded and where compliance with central policies of the CMO is required.

The governance structure also radically increases the complexity of doing business. Each school in the network has to maintain separate books and accounts, obtain its own tax-exempt status, conduct its own audits, apply for separate grants, and comply with elaborate reporting requirements. A major impediment to securing and developing facilities—always the greatest challenge facing charters—is the inability to pool their assets; the balance sheets and operating histories of established schools cannot aid new schools in securing credit.

Lastly, it prevents schools in the network from feeding middle school students into a single, integrated high school, or combining efforts to serve students with special needs, such as those requiring highly restricted settings. To create a high school serving students from a cluster of middle schools, for example, CMOs have to create a jury-rigged system in which each feeder middle school operates high school grades at a co-located facility where teachers are employed by multiple entities. For example, at KIPP NYC College Prep KIPP educates high school students who formally remain students of four separate middle schools: KIPP Academy, KIPP STAR, KIPP AMP, and KIPP Infinity middle schools.[45]

Governance Reforms

The effective governance of charters will promote the formation of educationally effective, rather than unique, schools, by fostering CMOs and other networks of schools. Charter experimentation and differentiation will occur *between* charter networks rather than *within* them. As news of KIPP's and other No Excuses school networks' success has spread, authorizers are newly focused on easing replication rather than ensuring that each applicant's proposal offers a unique design tailored to its community. At least one leading authorizer, the Charter Schools Institute of the State University of New York, along with the New York City Charter School Center, has interpreted recent amendments to the New York charter law as permitting charter schools to merge, resulting in a single surviving governing board. The Center decried the requirement that a CMO enter into a management contract with each school in its network; "it is hard to estimate precisely," its executive director wrote, "the number of wasted hours and money that result from inefficiencies; it is clear that they are significant and avoidable."[46] While merged schools can now be governed by a single board, they are still accountable for fulfilling the commitments of their individual charters. If this governance initiative proves practicable and survives legal scrutiny, it will dramatically simplify the tasks of expanding No Excuses networks, including securing school facilities, maintaining fidelity to the educational model, and complying with regulatory and reporting requirements.

[45] "KIPP NYC College Prep," Knowledge is Power website, http://www.kipp.org/school-content/kipp-nyc-college-prep, accessed November 9, 2011.
[46] Memorandum from New York Charter School Center to Sally Bachofer, New York State Education Department et al., April 18, 2011, 2.

Parental choice, charter renewal requirements, and accountability to SEAs for academic outcomes are strong mechanisms for ensuring both school quality and responsiveness to the needs of parents. Local advisory boards could afford a formal mechanism for community and parent voice.

Human Capital Providers

If we are to improve the performance of America's schools, we must have better teachers. Teacher effectiveness has a greater effect on a student's achievement than any other school characteristic, including class size, and race, poverty, and parent's education.[47] Cohorts of students with comparable abilities and initial achievement levels post dramatically different academic outcomes as a result of the teachers to whom they are assigned. In one well-known study, William L. Sanders and June C. Rivers classified teachers in quintiles of effectiveness based on the gains their students made in reading and math over one year, and then compared the performance of students exposed to sequences of these teachers of varying quality. Students taught for three successive years by teachers in the top quintile performed on average 50 percentage points higher than students taught by the teachers from the lowest quintile on the Tennessee Comprehensive Assessment Program Achievement Test in math.[48]

It is widely known that America's education system sources its teachers from among its least successful students. The problem has worsened over the past few decades: in the period from 1964 to 1971, 20 to 25 percent of female teachers scored in the top decile of high school achievement tests; by 2000, less than 13 percent did.[49] The top-performing education systems in the world attract top students to the teaching profession. Countries that consistently score at the top of the two respected international assessments, TIMSS and Programme for International Student Assessment, such as Finland, South Korea, Singapore, and Hong Kong, draw their teachers not from the bottom third of their high school classes, as in the United States, but from the top 5 to 30 percent, depending on the country.[50]

It is not an accident that our schools are staffed by teachers who themselves were poor students. States enact teacher licensure systems, Congress mandates that teachers be "highly qualified," and unions bargain for still more restrictions on who may teach. Together, their policies govern who is allowed to teach and how teachers are recruited and trained. Other human capital policies,

[47] Kevin Carey, "The Real Value of Teachers: Using New Information About Teacher Effectiveness to Close the Achievement Gap," *Thinking K–16* 8, Issue 1, Winter 2004. (http://www.edtrust.org/sites/edtrust.org/files/publications/files/Spring04_0.pdf).
[48] William L. Sanders and June C. Rivers, *Cumulative and Residual Effects of Teachers on Future Student Academic Achievement*, (Knoxville: Value-Added Research and Assessment Center, University of Tennessee, November 1996), http://www.cgp.upenn.edu/pdf/Sanders_Rivers-TVASS_teacher%20effects.pdf.
[49] Sean Corcoran, William Evans, and Robert Schwab, "Changing Labor Market Opportunities for Women and the Quality of Teachers 1957-2000," 94, No. 2 (May 2004).
[50] Programme for International Student Assessment, *Assessing Scientific, Reading, and Mathematical Literacy: A Framework for PISA 2006* (Paris, France: OECD, 2006).

including statutes, regulations, and union contracts, govern how teachers are assigned, promoted, and terminated. To receive a license to teach, teachers in forty-five states must complete a teacher-preparation program approved by the state and run by a school of education.[51] Seventy percent of the nation's teachers attended as undergraduates one of the country's 1,400 schools of education, which, supported by teachers unions, lobby state higher education boards and accreditation bodies to maintain their exclusive franchise and to oppose genuinely alternative paths to certification that bypass their institutions.[52] The quality of these programs has been much criticized; standards of admission are low, the curriculum is lacking in rigor and of questionable utility, and requirements for graduation are lax. SAT and GRE scores of education school students who go on to become elementary school teachers are very low; GRE scores are 100 points below the national average.[53] Education school coursework centers on theories of learning and the sociology of education rather than on developing teaching techniques and honing teachers' skills.[54] Faculties, curricula, and research are disconnected from practitioners and schools; for example, students are rarely videotaped and critiqued. Research by faculty members is widely regarded as lacking in academic rigor by their peers in other university programs.[55] School principals are overwhelmingly prepared by the same institutions; 95 percent of principals rise from the ranks of teachers.[56]

In the last two decades, social entrepreneurs have sought to devise new institutions for recruiting and training teachers and school leaders. Most such programs aim to draw prospective teachers and principals from varied educational and professional backgrounds rather than graduates of a state certification program. New Leaders for New Schools, Building Excellent Schools, The New Teacher Project, Troops for Teachers, and the American Board for the Certification of Teacher Excellence Program are among the best known of these.

The largest such program, Teach For America (TFA), founded in 1990, selects and prepares recent graduates of selective colleges and universities to teach in urban and rural schools across the country. The program has become extraordinarily popular on college campuses nationwide and is highly selective; in 2010, 4,500 corps members were selected from 50,000 applicants. As of 2011, the program has placed 33,000 teachers and reached more than 3 million students in forty-three communities; between 10 and 15 percent of new teachers hired in high-poverty

[51] Andrew J. Rotherham and Sara Mead, "Back to the Future: The History and Politics of State Teacher Licensure and Certification," *A Qualified Teacher in Every Classroom?* eds. Frederick M. Hess, Andrew J. Rotherham, and Kate Walsh (Cambridge: Harvard Education Press, 2004): 11-47.
[52] David Steiner, "Skewed Perspective," *Education Next*, Winter 2005.
[53] Arthur Levine, *Educating School Teachers*, (Washington, D.C.: The Education Schools Project, 2006).
[54] Steiner, 2005.
[55] Steiner, 2005.
[56] Susan Gates, Jeanne Ringel, Lucrecia Santibanez, Karen Ross, Catherin Chung, *Who is Leading Our Schools? And Overview of School Administrators and the Careers* (Arlington: RAND Education, 2001).

schools in the thirty-five regions in which TFA operates are TFA teachers.[57] In the 2011-12 school year, the program's 9,300 current corps members are teaching 600,000 students.[58] Corps members do not attend a school of education but rather are prepared in TFA's six-week summer training program. Independent research finds that in their first year of teaching they perform as well as or better than other beginning teachers, and are as effective as veteran teachers.[59]

TFA's less obvious impact, however, is in developing education leaders. A study of the work history of the management teams of the forty-nine most influential entrepreneurial education organizations found that TFA had spawned more members of the organization's top management teams than any other. The organization that appears second most frequently in the team members' histories is KIPP, which itself was founded by two TFA alumni, Mike Feinberg and David Levin.[60] Other TFA alums include Sarah Usdin, who launched New Schools for New Orleans, and Michelle Rhee, former schools chancellor for Washington, D.C., and founder of The New Teacher Project.

But even TFA has not entirely bypassed the schools of education's lock on teacher licensure. During their teaching commitment, corps members must complete pedagogical coursework—in most states, through a school of education, and in a few states, through a school district. Only rarely can TFA or another nonprofit organization provide such training.[61] After exceptionally long days, corps members must attend night courses on education theory at a significant cost.[62] Furthermore, teacher compensation policy is governed by school districts, and unions have succeeded broadly in conditioning pay promotions on the acquisition of course credits and advanced degrees—largely from schools of education. Corps members have no choice but to enroll in a master's program to be eligible for increased pay.

Frustration with conventional teacher preparation led to the founding of Teacher U, an alternative master's degree program at Hunter College. Now an independent, degree-granting

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[57] Application to the Investing in Innovation (i3) Fund of the U. S. Department of Education Office of Innovation and Improvement, "Scaling Teach For America: Growing the Talent Force Working to Ensure All Our Nation's Students Have Access to a Quality Education," Teacher for America, May 11, 2010: 3.

[58] "Our Organization," Teach For America website, http://www.teachforamerica.org/our-organization, accessed September 15, 2011.

[59] Zeyu Xu, Jane Hannaway, and Colin Taylor, *Making a Difference? The Effects of Teach For America in High School*, (The Urban Institute and CALDER, 2009); *Teach For America Evaluation Report*, (Charlotte: Center for Research & Evaluation Office of Accountability, Charlotte-Mecklenburg Schools, 2009); *Teach For America National Principal Survey* (Washington, D.C., Policy Studies Associates, Inc., 2009); George H. Noell and Kristin A. Gansle, *Teach For America Teachers' Contribution to Student Achievement in Lousiana in Grades 4-9: 2004-2005 to 2006-2007*, (Pineville: Louisiana State University, 2009).

[60] Monica Higgins, Wendy Robison, Jennie Weiner and Frederick Hess, "Creating a Corps of Change Agents," *Education Next*, Summer 2011.

[61] "Why Teach For America?," Teach For America website, http://www.teachforamerica.org/why-teach-for-america/training-and-support/teacher-certification, accessed September 15, 2011.

[62] Kate Walsh and Sandi Jacobs, *Alternative Certification Isn't Alternative*, (Washington, D.C.: Thomas B. Fordham Institute and National Council on Teacher Quality, 2007): 8.

institution known as Relay Graduate School of Education, the school focuses on mastery of specific teaching techniques known to work, rather than on the canon of Piaget, Vygotsky, and other pedagogical theorists. The program claims to be the first to require its students to demonstrate proficiency and achievement in the classroom in order to earn the degree.[63] Unions have strongly opposed certification, recertification, and tenure eligibility policies that consider a teacher's efficacy as measured by the gains made on standardized tests. Unsurprisingly, then, Relay's application to the New York State Board of Regents for degree-granting authority was opposed by many colleges and universities in New York City canvassed by the Board.[64]

Relay's radical emphasis on technique and practice is based on the work of the school's founders, Norman Atkins and Doug Lemov, of Uncommon Schools. Lemov observed the highest-performing teachers at Uncommon's own schools and other high-achieving schools and developed a taxonomy of their teaching techniques: discrete classroom management and instructional skills that, strangely, are neglected by teacher training programs yet, he found, are consistently practiced by the best teachers. Instructional techniques include the effective use of cold calling, "right is right" (teachers break the ubiquitous habit, when calling on students, of endorsing incorrect answers), and "stretch it" (where teachers reward "right" answers by asking follow-up questions that extend student knowledge). Each of these skills can be taught and practiced; together, Lemov argues, they can lift a classroom from mediocrity to excellence. "Teaching is a performance profession, and in any other performance profession, be it the arts, or athletics, or surgery, the thing that people do before the performance is they practice….You would never have the temerity to walk on center court of the U.S. Open without practicing 10,000 backhands. We are socializing teachers to practice in schools, beginning with simple techniques in front of their peers."[65]

In 2010, Lemov published the forty-nine techniques, along with video clips on the techniques in action, in a book. Within barely more than a year, it had sold 350,000 copies and was one the top-selling education books, second only to dictionaries and writing manuals.[66] The book has become the heart of professional development at nearly all No Excuses schools and charter management organizations, where teachers gradually master the most essential of the techniques in summer teacher training programs and throughout the year. In these schools, the Lemov taxonomy and its pithy labels have become the language of teacher observations, the diagnosis of classroom problems, and the feedback to teachers on how to overcome them.

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[63] Sarah Otterman, "Ed Schools' Pedagogical Puzzle, *The New York Times*, July 21, 2011, http://www.nytimes.com/2011/07/24/education/edlife/edl-24teacher-t.html?pagewanted=all.

[64] http://www.regents.nysed.gov/meetings/2011Meetings/February2011/211hea2.pdf, accessed November 17, 2011.

[65] Interview with Doug Lemov, April 13, 2011.

[66] Doug Lemov, *Teach Like a Champion: 48 Techniques That Put Students on the Path to College* (San Francisco: Jossey-Bass, 2010). Interview with Doug Lemov, April 13, 2011. For Amazon.com ranking see http://www.amazon.com/Teach-Like-Champion-Techniques-Students/dp/0470550473/ref=zg_bs_10605_13, accessed September 16, 2011.

Signs of Progress

The excitement over Lemov's techniques-based teacher training has not been limited to charter schools or high-poverty schools; erasing ideological divides, teachers from schools of every sector and community have embraced the book, and principals from districts, large and small have reached out to Lemov. But education schools, with few exceptions, have been silent. "The difference in response has been striking between the operating and training sectors," Lemov says. "There have been precious few inquiries." But, he adds, "there isn't a single school of education in the country that can clearly and discernibly point to the fact that what it teaches its teachers results in better outcomes for the students in their classroom. That schools are accountable for results has resulted in educator's interest in acting on the book, but schools of education aren't accountable; they are the last cartel. They are the promulgators and beneficiaries of the narrative that what we do can never be measured."[67]

But change may come quickly. Beginning in 2013, New York State, like Relay Graduate School of Education, will hold all graduate students in education accountable for what students learn in their classrooms. A complete redesign of teacher and principal certification will focus "on the practice of teaching," and involve performance assessments, value-added standards, and video analysis. Twenty-two states, including New York, are testing accountability standards under a pilot program out of Stanford University. Along with other states, New York is piloting a program backed by the National Council for Accreditation of Teacher Education that reshapes teacher education around not academic study but teacher practice.[68]

Digital Learning

The revolution in information technology that is sweeping the globe is only beginning to penetrate our schools, but there its impact will be no less transformative. Computers and the Internet have already made it possible for people anywhere on the planet to communicate, exchange information, and access knowledge—instantaneously and at virtually no cost. Communication and knowledge are at the heart of learning. In time the promise of digital learning will be realized in our schools: Students will be able to access the finest teachers and most effective instruction anytime and anywhere. The cost of education will decline, while quality and access improve. The governance structures of public education can thwart digital learning's progress, but it cannot stop it. The right actions by government can speed it along.

Already, online learning, where learning takes place partially or entirely over the Internet, is well established in higher education. By 2010, 5.6 million students (30 percent of the total) were

[67] Interview with Lemov, 2011.
[68] Rick Hess, "Straight up Conversation: Former New York Commissioner David Steiner," *Education Week*'s Blogs, August 15, 2011, http://blogs.edweek.org/edweek/rick_hess_straight_up/2011/08/straight_up_conversation_former_new_york_commissioner_david_steiner.html.

taking at least one online course, an increase of 21 percent over the previous year.[69] Digital learning has been slower to take hold in primary and secondary education, but its use is accelerating. The International Association for K-12 Online Learning (iNACOL) estimates that more than 1.5 million K-12 students were engaged in online and blended learning in the 2009-10 school year,[70] and that number is expected to grow by more than 40 percent a year.[71] Online schooling takes several forms. In 2010-11, virtual charter schools were operating in twenty-seven states and the District of Columbia and enrolled 217,000 students, who took some or all of their classes online.[72] Many such schools are run by for-profit companies, including K12, Connections Academy, and Advanced Academics. The Pennsylvania Cyber Charter School, opened in 2000, enrolls more than 10,000 students.[73] By 2009, thirty-nine states had established state-level online schools or learning initiatives;[74] the largest, Florida Virtual School (FLVS), served more than 122,000 students in 2010-11.[75] Michigan and Alabama require all high school students to take at least one course online to graduate. Florida requires all schools to make online courses available to students.[76] Lastly, hybrid schools combine traditional bricks-and-mortar schooling with online components. One leading hybrid operator, Rocketship Education, aims to eliminate the achievement gap in its charter elementary schools. By engaging students for a portion of the day in online learning, with less adult supervision, Rocketship is able to pay its teachers more. Its flagship school, Mateo Sheedy Elementary, ranked first in Santa Clara County (CA) in 2011 among low-income elementary schools.[77]

Meta-studies of the efficacy of online learning find that it is as effective as face-to-face traditional instruction, but the conclusion is fragile because studies do not account for other

[69] I. Elaine Allen and Jeff Seaman, *Class Differences: Online Education in the United Sates, 2010* (Babson Survey Research Group and the Sloan Consortium, 2010) (http://www.compassknowledge.com/wp-content/uploads/2010/11/2010-11-Sloan-Report-Class-Differences-Online-Education-in-the-US.pdf).
[70] Picciano and Seaman, 2009.
[71] Susan Patrick and Tom Vander Ark, *Authorizing Online Learning* (Chicago: National Association of Charter School Authorizers, 2011) 1, http://www.qualitycharters.org/images/stories/publications/Viewpoints/Vander_Ark-Patrick_Cyber_Learning_Viewpoint_August_2011.pdf.
[72] *2011 Learning Technology Research Taxonomy: Research Methodology, Buyer Segmentation, Product Definitions, and Licensing Model*, (Monroe: Ambient Insight, June 2011), http://www.ambientinsight.com/Resources/Documents/AmbientInsight_Learning_Technology_Taxonomy.pdf.
[73] "PA Cyber and Midland," PA Cyber: The Pennsylvania Cyber Charter School website, http://www.pacyber.org/about.jsp?pageId=216139224060129129784603 3, accessed September 17, 2011.
[74] John Watson, Amy Murin, Lauren Vashaw, Butch Gemin, Chris Rapp, *Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice*," (Durango: Evergreen Education Group, 2010) (http://www.kpk12.com/cms/wp-content/uploads/KeepingPaceK12_2010.pdf).
[75] "Quick Facts," Florida Virtual School website, http://www.flvs.net/areas/aboutus/Pages/QuickFactsaboutFLVS.aspx, accessed September 17, 2011.
[76] Terry M. Moe, *Special Interest: Teachers Unions and America's Public Schools* (Washington, D.C.: Brookings Institution Press, 2011): 277.
[77] "Mateo Sheedy Elementary," Rocketship Education website, http://rsed.org/index.php?page=mateo-sheedy-elementary, (accessed September 17, 2011).

differences, such as the amount of learning time.[78] The efficacy of online learning is likely to sharply increase in coming years, with improvements in content, technological tools, and connection bandwidth.

As digital learning develops, costs are likely to fall, with increasing amounts of content available free of charge. Khan Academy, a nonprofit corporation, has posted online some 2,400 video lessons on topics ranging from addition to differential equations that have been watched more than 75 million times by students around the world. Salman Khan presents concepts explicitly with extraordinary clarity using a simple white board and audio format; adaptive testing gauges student mastery. Khan, who recorded all the lessons himself, aims to help educate billions of students around the world.[79] At Stanford University, two renowned computer scientists inspired by Khan's work will teach an online course on artificial intelligence free of charge this fall. Word of the course spread virally, and by August 2011, 58,000 students from 175 countries had signed on to take the course—more than four times the size of the student body of the university. Testing will allow for automatic grading, and students will vote on questions to be answered by the professors online.[80]

Governance Obstacles

To realize the full promise of online learning will require broad changes to the governance structure of K-12 education. The current regulatory regime of bricks-and-mortar schools has impeded the long-awaited substitution of capital for labor and, in turn, educational improvement.[81] Other governance obstacles include the heterogeneity of states' learning standards and assessments; funding rules; caps on the number of students who may enroll in online class or attend virtual schools, including virtual charter schools; teacher licensure requirements; student/teacher ratios and interaction rules; portability of student credits; obsolete accreditation standards; and access to federal funding (E-rate) for high-bandwidth connections.[82]

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[78] Barbara Means, Yukie Toyama, Robert Murphy, Marianne Bakia, and Karla Jones, *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*, U. S. Department of Education, September 2010, xviii.

[79] "Frequently Asked Questions," Khan Academy website, http://www.khanacademy.org/about/faq, accessed September 16, 2011.
[80] John Markoff, "Virtual and Artificial, but 58,000 Want Course," *The New York Times,* August 15, 2011.
[81] Paul E. Peterson, *Saving Schools: From Horace Mann to Virtual Learning* (Cambridge, MA: Belknap Press of Harvard University Press, 2010): 256.
[82] Meris Stansbury, "Virtual schools in a fight for adequate funding," *eSchool News*, October 14, 2010. Becky Vevea, "Virtual school advocates call for removal of enrollment cap," *Journal Sentinel*'s blogs, December 2, 2010. Terry Stoops, *Virtually Irrelevant: How certification rules impede the growth of virtual school* (Raleigh: John Locke Foundation, 2011), http://www.johnlocke.org/acrobat/spotlights/Spotlight412VirtualSchools.pdf. John Watson, *The State of Online Learning in California: A Look at Current K-12 Policies and Practices*, (Santa Cruz: University of California College Prep, 2006): , http://www.k12hsn.org/files/research/Online_Learning/SOLC.pdf. Ray Parker, "Online students find problems with credit transfer policy," *The Arizona Republic*, October 16, 2009,

The adoption by state education agencies of the Common Core standards and the development of corresponding assessments by two state consortia will radically simplify the development of online content and courses, and lower the cost of operation for online providers. (K-12, the largest provider of online curricula, was saddled with very high development costs because curricula and assessment had to be adapted for each state.)[83] Historically, schools have been funded on the basis of seat time; each school receives an appropriation for educating a number of children over the course of a year—regardless of their academic outcomes. In principle, when all instruction was delivered by a teacher in a classroom and students had to progress at the same pace, seat time worked as a basis for organizing and funding education. Today, online learning and assessments enable student competency to be measured and this, rather than seat time, should serve as the basis for funding, industry advocates contend. Individual rates of progress are essential to the model; students need to be able to progress at their own pace to ensure that all are successful.[84] Applied to virtual schools, this fee structure raises thorny questions. For one, should virtual schools receive the same amount per pupil as a traditional school, if they produce the same or better outcomes but their costs are lower? Should a school district receive the full allocation for a pupil who is enrolled for one or more courses at the state's virtual school? Should local school districts lose money to virtual charter schools located hundreds of miles away? Such questions have been hotly contested in both legislatures and the courts. Each state has arrived at its own tentative resolution. In some states, virtual charter schools receive significantly less money than regular charters. Funding follows the student to some state virtual schools; in other cases, the schools are funded by separate appropriation, which avoids any impingement on school district revenues but also limits enrollment and stymies the innovation. Florida Virtual School is now funded on the basis of course completion (students must receive at least a D for the school to receive any funding), and other states have followed suit. Paying for outcomes is more efficient than paying for seat time, but it could create incentives for teachers to lower standards to maintain the institution's financial health. Externally proctored exams might be a solution, but are operationally challenging and costly.[85]

Teacher licensure systems are particularly ill-suited to online education. Unions have insisted that teachers in virtual schools be state-certified, but limitations in teacher licensure reciprocity often prevent teachers licensed in one state from teaching a virtual course to students in another.

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http://www.azcentral.com/community/mesa/articles/2009/10/16/20091016mr-distance1017.html. Gene Glass and Kevin Welner, *Online K-12 Schooling in the U.S.: Uncertain Private Ventures in Need of Public Regulation*, (National Education Policy Center, 2011): 9, http://nepc.colorado.edu/files/NEPC-VirtSchool-1-PB-Glass-Welner.pdf.

[83] Chester E. Finn, Jr., "Lessons Learned: Technology, Reform, and Replication," *What Next? Educational Innovation and Philadelphia's School of the Future*, eds. Mary Cullinane and Frederick M. Hess(Cambridge,: Harvard Education Press, 2010): 201.

[84] Susan Patrick, response letter to a public letter released by the Federal Communications Commission on November 3, 2009, (Washington, D.C.: International Association for K-12 Online Learning, 2009), http://www.inacol.org/research/docs/FCC_Filing_121109.pdf.

[85] Peterson, 2010: 257.

Moreover, university professors and other manifestly competent teachers who have not attended education school should not be prohibited from teaching online courses. Other rules mandate the ratio of online teachers to students or the minimum number of interactions between teachers and students over a period of time. Such constraints do little or nothing to ensure educational quality while they thwart innovation and prevent the power of digital learning from being realized.

Governance Reforms

As governments at all levels continue to grapple with the challenges and opportunities digital learning creates, they should bear in mind some basic principles:

All students should have access to online learning. To ensure unfettered access, states should not cap enrollment in statewide online schools, limit enrollment in virtual or blended charter schools to students who live outside a region, or prohibit schools from establishing multiple campuses.

Providers must be free to devise new efficiencies, especially in how teachers are deployed. States should not attempt to prescribe how online schools are staffed and organized. Rules that mandate the minimum ratio of teachers to students or prescribe the amount of interaction between teachers and students should be eliminated. Current teacher licensure systems do nothing to ensure quality and restrict access to qualified teachers; until they can be comprehensively reformed, states should at a minimum ensure full licensing reciprocity.

Learning should be measured by outcomes and funded accordingly. Current funding and accountability systems presume same-age cohorts of students proceeding in lockstep. If a student fails a grade, he or she must repeat the full year. As Tom Vander Ark and Susan Patrick have argued, students should be encouraged to learn as rapidly as they can, and schools should be rewarded for accelerating student progress. States should experiment in their online schools, credit recovery programs, and blended schools with student competency-based funding, where funding follows the student and schools are paid for learning outcomes, as at FLVS.[86]

What will K-12 look like once digital learning is pervasive? Increasingly, online learning will lead to the "unbundling" of school services, as Vander Ark and Frederick Hess have noted. Students will seek out the best educational choice for each area of study, enrolling in courses from a number of different providers, taught by far-flung teachers employed by remote entities. The student's transcript will reflect this assemblage of coursework. Instead of compensating schools for educating students in all courses of study for one year, providers will need to be paid on fractional basis, as presently do Florida, Minnesota, and Utah.[87] A primary provider could be

[86] Patrick and Ark, 2011.
[87] Patrick and Ark, 2011: 3; Frederick M. Hess, *Quality Control in K-12 Digital Learning: Three (Imperfect) Approaches*, (Washington, D.C.: Thomas B. Fordham Institute, July 2011) (http://www.edexcellencemedia.net/publications/2011/2011_CreatingSoundPolicyforDigitalLearning/20110727_QualityControlinK12DigitalLearning_Hess.pdf).

selected for managing students' transcripts, granting credits, providing guidance, and compensating other providers. [88]

Pedagogical Choices

One additional obstacle to the success of digital learning in the near term may be, as it was with charter schools, enduring pedagogical biases. Digital learning products are rarely rooted in education science or rigorously evaluated; the technologists and educators who design them are highly susceptible to prevailing ideologies and fads. Products today frequently cater to students' supposed "learning styles" even though recent research finds no empirical evidence that students learn more when curricula are customized to such styles.[89] Progressivist designs, where concepts are not presented explicitly but rather discovered through interactions with artifacts or other students, are strongly favored. Didactic instruction, in which concepts are presented explicitly, is held to be retrograde.

A U. S. Department of Education study categorized the "learning approach" of digital learning programs into one of three types: expository (didactic) learning, independent or active learning (the student "builds knowledge through inquiry-based manipulation of digital artifacts, such as online drills, simulations, games or microworlds"), and interactive learning (the student "builds knowledge through inquiry-based collaborative interaction with other learners; teachers become co-learners and act as facilitators").[90] Buried in the report was the observation that the greatest achievement effects were found for expository approaches, followed by collaborative or interactive approaches, and the lowest for independent or active approaches.[91]

Industry associations that seek to advance providers' interest may in fact imperil them by promoting standards that reflect these progressivist biases. The International Association for K-12 Online Learning, iNACOL, has adopted as standards for online courses those developed by the Southern Regional Education Board's and the Partnership for 21st Century Skills (P21).[92] These requirements include that "the course instruction includes activities that engage students in active learning" and "provides students with multiple learning paths to master the content, based on student needs"; that "the teacher engages students in learning activities that address a variety of learning styles and preferences"; and that "assessment materials provide the teacher with the flexibility to assess students in a variety of ways."[93] Knowledge of the traditional disciplines of

[88] Hess, 2011.
[89] Harold Pashler, Mark McDaniel, Doug Rohrer, and Robert Bjork, "Learning Styles: Concepts and Evidence", *Psychological Science in the Public Interest* 9, no. 3: 105-119.
[90] Means et al., ibid, 3-5.
[91] Means et al., ibid, 28-29.
[92] Matthew Wicks, *A National Primer on K-12 Online Learning*, (International Association for K-12 Online Learning, 2010), http://www.inacol.org/research/docs/iNCL_NationalPrimerv22010-web.pdf.
[93] *National Standards of Quality for Online Courses*, International Association for K-12 Online Learning, 2007, 4, http://www.inacol.org/research/nationalstandards/NACOL%20Standards%20Quality%20Online%20Courses%202007.pdf.

literature, history, math, science, the arts, and fluency in a foreign language is marginalized, and "learning and innovation skills," "creativity and innovation," "critical thinking and problem solving," "communication and collaboration," "information, media, and technology, skills," and "life and career skills" are emphasized.[94] A diverse group of education leaders, including Diane Ravitch, Randi Weingarten, and Chester Finn, Jr., who support the Common Core standards that forty-five states have adopted, have assailed the Partnership's proposals. "Skills are important," the group wrote, "but P21's approach to teaching those skills marginalizes knowledge and therefore will deny students the liberal education they need. … Skills can neither be taught nor applied effectively without prior knowledge of a wide range of subjects."[95]

Implications for School Governance

This chapter has examined three of the most consequential incursions by education entrepreneurs in public schooling. Never more than a platform for change, charter legislation initially spawned many schools that were barely better—and sometimes worse—than district schools. Yet, after a decade of experimentation, a model for educating children from poverty emerged, No Excuses schooling, which is now at the core of most charter schools that are bridging the achievement gap. New initiatives for sourcing and preparing teachers that focus on rapidly equipping well-educated and highly motivated new teachers with teaching techniques, rather than pedagogical theories, are challenging schools of education and their lock on who gets to teach in public schools. Teach For America and Relay Graduate School of Education together look remarkably like the system for sourcing, training, and credentialing teachers in top-performing Finland, where teachers are selected from the top of their high school classes, and training focuses on intensive practice in developing and deploying lessons.[96] Lastly, the potential of digital learning to deliver low-cost, effective, and engaging instruction to students anywhere anytime is beginning to be realized—as a new generation of children arrives to school wedded to their digital devices.

As word spreads of these disruptive innovations and the educational opportunities they create, especially for disadvantaged families, public support for the powerful alliance of interest groups that maintains the governance status quo is beginning to erode. This trend is likely to continue, bolstered by two major governance reforms of the last two decades: State and federal accountability systems, which the move to the Common Core standards and corresponding

[94] Partnership for 21st Century Learning, "Framework for 21st Century Learning, http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120 (accessed September 16, 2011).

[95] Common Core, "A Challenge to the Partnership for 21st Century Skills," http://www.commoncore.org/p21-challenge.php (accessed September 16, 2011).

[96] *Attracting, Developing and Retaining Effective Teachers: Country Background Report for Finland*, (Helsinki, Finland: Ministry of Education, 2003).

assessments will sharpen, starkly reveals what is working and what is not.[97] Choice—of what school to attend, or where to teach, or what online course to take—diverts talent and public and private funds out of mainstream institutions and into entrepreneurial initiatives. Political actors, like Democrats for Education Reform and big city mayors traditionally loyal to the teachers unions, are adopting an increasingly jaundiced view of their aims.[98] Existing institutions, shackled by institutional inertia and dysfunctional governance, will be unable to compete successfully in the new currency of academic outcomes.

Change will take time. Incremental governance reforms will be enacted in one jurisdiction, and then gradually spread to others. To give steam to the three disruptive innovations, the states and the federal government should consider taking several short-term actions.

To encourage the proliferation of highly effective urban charter schools, states should limit authorizing to a small number of large-scale statewide authorizers. Each would be subject to caps that increase automatically as a function of the academic performance of their portfolio's schools as compared to demographically comparable schools. Charter schools that make up a network of schools should be permitted to merge under a single governing board. To boost private lending for charter-school facilities, the federal government should dramatically expand the federal charters school credit enhancement program.

To build a new generation of capable teachers, states should both authorize new teacher training institutions that focus on technique and practice and reform state licensure systems. The door should be open to teachers who have not attended education schools but can demonstrate content knowledge and have shown value-added gains for their students.

To realize the potential of online learning, states should lift arbitrary caps on enrollment in virtual state and charter schools, fund schools based on fractional payments for mastery of each course, using external proctored exams, ensure state reciprocity in teacher licensure, and cease prescribing class size and teacher interaction frequencies.

Each such change will enhance the reach and impact of the three initiatives, and in turn build the case for deeper reforms to the nation's antiquated system of school governance. At the same time, education entrepreneurs in each of the three sectors will need to attend to apparent weaknesses in their own plans, weaknesses that threaten their impact and in turn the reform of school governance. The No Excuses charter-school model relies on a small pool of teachers from top undergraduate institutions, and management organizations often make unsustainable work

[97] The adoption by the states in the next five years of the Common Core standards and corresponding assessments now being developed by state consortia will make outcome data generated by state accountability systems much more meaningful than today.
[98] Moe, 2011: 379-383.

demands on them; both components limit the model's capacity to scale.[99] For their part, teacher training providers need to confront the limits of the "teacher as hero" premise; teachers, no matter how motivated or well prepared, parachuting into broadly dysfunctional urban schools, cannot by themselves regularly produce gap-closing results. Lastly, digital learning entrepreneurs risk squandering a decade to faulty educational designs, as did the charter movement. Repudiating the Partnership for 21st Century Learning Skills (an organ of large technology companies) and the misguided standards of their industry association, they should resist seductive pedagogical fads and focus instead on what is known to work—lucid, explicit, and engaging instruction in the liberal curriculum.

Ultimately, reforming the governance of K-12 education requires breaking the exclusive franchises of school districts and schools of education. No longer would they dictate where children may go to school and who may teach them. Cities and towns, after contributing within their means to the financing of public schools statewide, could elect to operate their own schools, as today, or contract with one or more school operators. Funding would newly be a function of enrollment, and other operators not under district control, including virtual schools, could be chartered by one of several statewide authorizers and compete for students. Many schools, both district-operated and charter, would elect to hire fewer teachers at higher pay than today, to tap digital learning technologies to increase educational productivity, and even to manage the enrollment of their students in online course delivered by third-parties. Other than the requirement of a college degree and demonstrated subject-matter knowledge, schools would be free to hire teachers holding the credentials they deemed important; schools of education would educate and train teachers in the capacities operators found most valuable. All schools would be accountable for academic outcomes to the state education agency, which would assess performance using nationally recognized and validated assessments.

[99] Wilson, ibid. *Growing Pains: Scaling Up the Best Charter Schools in the Nation*, (Washington, D.C.: Education Sector Report, 2009): 8. Robin Lake, Brianna Dusseault, Melissa Bowen, Allison Demeritt, and Paul Hill, *The National Student of Charter Management Organization Effectiveness: Report on Interim Findings*, (Seattle: Center on Reinventing Public Education, 2010).